Online Service Quality Measurement Models:
A Comparative Study

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Abstract:

The increase on the number and value of the online purchases has transformed the online environment as one of the most competitive environments to sell products and services. The value of having a strong loyal customer base has proved to be pivotal in the online context. This loyalty is mainly achieved by carefully considering the user expectations and preferences. This field has seen vast focus from scholars and practitioners to better understand how to measure adequately the service quality in the online context. In this paper, the focus is on presenting the current models that have been introduced in the field. Two of the main models that have seen wide acceptance in practice are E-S-Qual presented by Parasuraman [1] and eTail Quality presented by Wolfinbarger and Gilly [2]. Both models cover similar dimensions such as Fulfillment, Privacy, Security and Website Design. To judge which model covers best the overall service quality measurement, the study focuses on analysis of the dimensions during pre-during-post purchase focus on the customer. The eTail Quality model seems to offer a more comprehensive tool to measure the electronic service quality, mainly due to its dimension as Customer Service and Security. Dimensions which are not covered in the E-S-Qual Model.

Key words: e-commerce, online service quality, comparative study, eTail Quality model

INTRODUCTION

As a common understanding of what the Electronic Commerce means academics have usually referred to it as all the exchanges between an organization and its shareholders conducted through electronic means of technology [3]. According to Tassabehji and Ebrary [4], customer's benefits that accrue when using e-commerce are: 24/7 access, ease of switching from one supplier to another through a live price comparison between the offerings and a wider variety of products being offered. This market is becoming more and more competitive, hence organizations are understanding the importance of delighting customers. The loyalty has proven to be a strong weapon on the online context, due to its impact on repurchasing behavior and increase in word-of-mouth to other potential customers [5]. Studies of the online environment and its relation with service quality have been studied as well from other prisms: website satisfaction [6]; website success [7]; purchase and revisit intentions [8]; online experience [9] and customer loyalty [10]. These studies have mainly focused on certain attributes within the total online service quality that the company offers. Studies presenting a thorough understanding of the service quality have been introduced by several authors. Parasuraman [1], introduced a model named E-S-QUAL, which derives from the SERVQUAL model, and its applicability is suited to the online customer. This tool presents a 22-item scale along four dimensions, being efficiency, fulfillment, system availability, and privacy. Wolfinbarger and Gilly [2], introduced the eTail Quality scale, which features four dimension tool conceptualized in security/privacy, fulfillment/reliability, customer service and website design.

Loiacono, Watson [8], introduced WEBQUAL, which consists of a twelve dimension model being informational fit-to-task, tailored information, trust, response time, ease of understanding, intuitive operations, visual appeal, innovativeness, emotional appeal, consistent image, on-line completeness and relative advantage. Before going in detail and comparing these proposed measurements of the service quality, I see it fit to focus on the genesis of service quality definitions and then understand the difference between the offline and online ways to measure service quality alongside focusing on the online context service quality.

SERVQUAL – THE EXTENSIVELY USED TOOL OF THE OFFLINE WORLD

Parasuraman, Zeithaml [11], introduced SERVQUAL, a 22 item scale designated to measure service quality on the Retailing industry. A tool which very soon became the most widely used on measuring customer service quality. According to Parasuraman and Berry [12], service quality focuses on the measurements between what the consumer expects from a service operator in terms of service quality and the experienced quality after having consumed the service. This gap between the two is considered as the perceived service quality. Therefore perceived quality signifies an overall attitude; judgment towards the service quality for its superiority compared to competitors [13]. The SERVQUAL scale measures service quality along five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. Some of the basic reasons why these five dimensions are considered as valid for defining the gap between expected and experienced quality are: [i] The 5 dimensions have represented to score highly on validity when considering the overall spectrum of service quality; [ii] the difference between actual and improved service performance is needs to assessed differently in each dimension considering

that different shareholders within an organization are related to them.

ELECTRONIC COMMERCE SERVICE QUALITY MEASUREMENTS

There have been several studies introducing service quality dimensions and scales relating the online context. Electronic service quality has been defined from different perspectives: efficiency and effectiveness that a website offers along the shopping and delivery process [1]. Positioning the consumer as the focal point of the study and offering a good service quality online is a key determinant on enhancing web sales and profits. Alongside the quality of goods or services offered, other determinants in being successful are the website presence and a low price of goods or services offered. Cronin Jr and Taylor [14], have proved that businesses recognize such determinants, especially the quality of services, and develop them aiming to increase the profits on the long -run. On e-commerce, similarly as in every market in which brands compete, essential winning element is the ability to deliver a better service quality compared to competitors [15]. Measuring services quality compared to goods quality is mostly determined by its characteristics: intangibility, heterogeneity, and inseparability of production and consumption [12]. The abstractness and vagueness of the service quality make it a construct which is hard to measure, hence the existence of multiple measurements arguing on which are the main determinants to measure the electronic service quality of a website. An overall evaluation of the service quality online has been proposed by Wolfinbarger and Gilly [2], called electronic retailing service quality [eTail Quality], which focuses into measuring the service quality in an e-commerce platform holistically at all stages of the customer interaction with the website. They used online and offline focus groups, a sorting task, and an online-customer-panel survey to

develop a 14-item scale to measure service quality. This scale consists of four dimensions: Fulfillment / Reliability, Web Site Design, Privacy / Security, and Customer Service. *Fulfillment / Reliability* is "[i] the accurate display and description of a product so that what customers receive is what they thought they ordered, and [ii] delivery of the right product within the time frame promised." So, fulfillment and reliability is a consequence of a couple of implications such as the representation of the adequate product which is shown on the website and what is going to be delivered; technology which is used in the e-commerce framework and its functionality of receiving orders correctly and forwarding these orders in time; and finally the relationship between the online retailer and the delivery services in order that the consumer receives the products that are purchased at a certain time within the deadline that was stated in the website. *Website Design* includes all elements relevant to the customer's experience with the website [except for customer service]. It includes dimensions as navigation, information search, order processing, appropriate personalization and product selection. According to Schaffer [16], it is the inability to navigate a website and failure to find their way through to get the needed information. This issues happens to nearly 30% of customers, who leave the website without purchasing anything. According to Pastrick [17], elements such as fast loading, uncluttered and easy to navigate websites characterize the best dimensions for a satisfying e-commerce experience. Because, e-commerce platforms that are characterized with these elements offer the benefit for consumers to shorten their shopping time compared to the offline world. *Customer Service* refers to the care that the online retailer has shown towards situations where customers face challenges with the framework. According to Wolfinbarger and Gilly [2], employees' skills or technological tools that offer prompt solutions to customers facing these challenges play a crucial role at this point. Thinking of it, the customer service is

regarded as the process of not allowing any problem occurrence within the system, however if challenges are faced, the efficiency and effectiveness to solve these issues is measured. With the social media frameworks people can easily share bad reviews to thousands of people within seconds. Therefore, the impact that customer service has on the whole experience and behavioral consequences towards brand loyalty is considered of immense importance. Customer service as defined by Wolfinbarger and Gilly [2] is the "responsive, helpful, willing service that responds to customer inquiries quickly." *Security/Privacy* relates to the level of credit card payments security and privacy of users shared information. Even though privacy and security are used as an expression together, they tackle different elements within the experience online. Privacy is related to the safety level of how information is gathered from customers, how the data are stored and finally for what purposes the data will be used. Another point to make with regards to privacy is that of asking from the visitor of the platform on approving the data usage conditions [18]. Whereas security is related to the financial risks that consumers might face throughout their online transactions. Such as how the credit card information will be handled and the protection level of conserving that information from vulnerable acts [2]. According to Hoffman, Novak [19] information privacy is listed as the top concern for web visitors. Based on his study, people that do not buy online appear not to be taking this decision based on functional reasons but it is mostly with regards to the frightening fact of giving personal information away. Miyazaki and Fernandez [20], consider that privacy and security issues represent the crucial barriers for the consumers not using e-commerce activities. Moreover, potential online customers are very aware of the implications of privacy and security in an environment which contains potential threats for vulnerability acts [21].

Loiacono, Watson [8] had a different approach in their measurement proposal that they named WebQual. It consists of 12 dimensions: informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow-emotional appeal, integrated communication, business processes, and substitutability. Having in mind all the scales, we can easily understand that apart from the service quality measurement, this scale offers as well purposeful information for Web site designers. The scale was introduced by using non purchasers on evaluating a certain transaction, it used students that were part a focus group that had the scope to evaluate which criteria's they consider as most important for defining service quality of a certain electronic commerce website. On the other side Yoo and Donthu [22] developed a nine-item service quality model named SITEQUAL based on four dimensions, being ease of use, aesthetic design, processing speed, and security. As well on the development of this model, students were used as participants in focus groups to evaluate the main criteria on evaluating the overall service quality experience. Both WEBQUAL and SITEQUAL suffer on the validity of the dimensions, considering that no purchasers opinions where evaluated along the journey of creating the model.

Parasuraman, Zeithaml [23], identified eleven dimensions that impact the perception building process within the website service quality: reliability, responsiveness, access, flexibility, ease of navigation, efficiency, assurance/trust, security/privacy, price knowledge, site aesthetics and customization/personalization. A follow up of this study, is presented by the same authors offering a holistic model named Electronic Service Quality [E-S-Qual] and consisting four dimensions: Efficiency, Fulfillment, System Availability and Privacy. *Efficiency* has been considered as the easiness with which the user can access and use a certain website. This relates to the aesthetics, design and experience that the user

has with the technology. *Fulfillment* relates with what is the pre vs post opinion that the user has related to the promises that the website communicated and offered. It as well relates with finding the goods/services which the user needs. *System availability* relates with the functionality and the performance of the website. The speed with which it opens the pages required and the correctness on doing so. *Privacy* relates with the level of safeness that the website is characterized with.

Most of these models cover the overall experiences that the user faces with various websites. The importance of these models is stressed by the fact that customers want to experience same or better than expected services by a certain organizations website.

CONCLUSIONS

This is a comparative study on how different authors have studied and approached the service quality notion in the online context. Understanding that humans in the online context have to deal with complex technologies which might fail along the way, measuring service quality has been seen as an important pillar for success. Various service quality models have been introduced in this study, where strong and weak points of most of them have been exposed. Still the main models that seem to be of high relevance on the field are the eTail Quality Model presented by Wolfinbarger and Gilly [2]. This model focuses on four dimensions, being Fulfillment/Reliability, Customer Service, Website Design and Privacy/Security. This model offers a model to measure the pre-during and post purchase experiences that the user has with the platform. Another important model in the field is the E-S-Qual which has been introduced by Parasuraman [1] and comprises of Efficiency, Fulfillment, System Availability and Privacy as measurement dimensions. Both models have a lot in common when it comes to measuring the construct of service quality. The Efficiency in

the E-S-Qual Model is considered as a sub-element within the Web Site Design dimension in the eTail Quality Model. Moreover, Fulfillment and Privacy measures the same element in both models. One element which seems of high importance and which makes eTail Quality Model stand out, is the Customer Service dimension, which measures the failure in the process and the promptness of company's employees to help improve the malfunction.

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