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The Impact of E-Service Quality on Customer Satisfaction and Trust in Online Purchases

F. Souri^{1,*}¹ Management Group, Faculty of Management and Marketing, American Liberty University, California State, Los Angeles

ARTICLE INFO	ABSTRACT
<p>Article History: Received 3 May 2021 Received in revised form 15 July 2021 Accepted 26 August 2021 Available online 1 September 2021</p>	<p>Background and Objective: With the increasing growth of e-commerce worldwide, attracting and retaining customers has become crucial for companies. The utilization of e-services enables companies and organizations to gain a sustainable competitive advantage, providing unique opportunities for businesses. Previous studies have indicated that the quality of e-services can significantly impact customer trust and satisfaction. Therefore, this study aims to examine the influence of e-service quality on customer satisfaction and trust in online purchases. Research Methodology: The statistical population of this research includes 4200 purchasers of clothing, bags, shoes, food, and beverages throughout Iran. Due to no significant differences in the type of online purchasing methods among customers, a simple random sampling method was employed, and the sample size was determined to be 352 individuals. The required data were collected through the standard questionnaire developed by Rita et al. (2019). The collected data were analyzed using SPSS version 23, employing correlation and regression tests. Findings: The results of the research analysis revealed a significant positive relationship between e-service quality and website design and customer service. Additionally, a positive and significant correlation was found between e-service quality, privacy security, and service fulfillment. Other findings indicated the impact of e-service quality on customer satisfaction and trust. Conclusion: Based on the obtained results, it can be inferred that companies aiming to enhance profitability should invest in improving customer satisfaction and loyalty through e-services. Focusing on enhancing the quality of e-services is recommended to achieve this goal.</p>
<p>Keywords: Website Design, Competitive Advantage, Privacy Security, Customer Service, Fulfillment.</p>	

1. INTRODUCTION

In today's competitive world, many companies and organizations are increasingly relying on innovative technologies and providing electronic services to attract and retain customers, aiming to gain a competitive advantage. Since establishing and maintaining long-term relationships with customers is essential for the sustainability of organizations, particularly service organizations, special attention is given to the topic of service quality in many organizations. The concept of service quality involves addressing the needs and desires of customers to achieve loyalty and customer retention.

* Corresponding Author: farbodsouri63@gmail.com

Management Group, Faculty of Management and Marketing, American Liberty University, California State, Los Angeles



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According to available evidence, the quality of services provided through websites is a crucial strategy for the success of online stores. Managers of these websites, to deliver excellent service quality to customers, must first understand how customers perceive and evaluate the online services provided to them. The impact of poor website quality can lead customers towards competitors, increase costs, and reduce profits. Jessica (2003) argues that electronic service quality not only contributes to attractiveness, loyalty, and positive word-of-mouth but also maximizes the competitive advantages of e-commerce organizations. Websites are the most important global distribution channel for goods and services in e-commerce, fundamentally transforming markets, industrial structures, products, service market segmentation, customer values, and consumer behavior. The design of a high-quality website plays a crucial role in attracting and retaining customers. A high-quality website not only influences customer purchase decisions but is also a key factor in determining whether consumers choose to make online purchases.

In this research, we delve into the examination of the role and impact of dimensions of electronic service quality and overall service quality on trust and customer satisfaction in online purchases in Iran. By conducting this research, we aim to identify solutions for enhancing electronic service quality and how this quality affects customer satisfaction and trust.

2. THEORETICAL FOUNDATIONS

There are various approaches to defining quality: philosophical, technical, and customer-centric. In the philosophical approach, quality is synonymous with inherent superiority. In the technical approach, quality is related to the degree of conformity of a product with technical standards. In the customer-centric approach, quality is a subjective concept determined and elucidated by its recipients, depending on customers' perceptions. This perspective seems particularly attractive in defining quality in the service domain (Schneider & White, 2004). The reality is that quality is an ambiguous term that, on the one hand, everyone knows (or thinks they know) what it is, and on the other hand, creating and providing a unified definition is a fundamental challenge.

Parasuraman et al. (1985) and Gronroos (1984) stated that service quality is judged by customers, lying between their expectations and what they receive. [1] [2] Service quality results from the comparison between customer expectations and the performance of the company's perceived services [3]. Yoo and Park (2007) define service quality as the organization's ability to meet customers' needs according to their expectations [4]. Parasuraman believes that service quality encompasses three physical, locational, and behavioral dimensions. According to him, service quality focuses on what is delivered to customers, the context in which services are provided, and how those services are delivered (Rath & Javahir, 2004). From Santos's perspective, electronic service quality can be defined as consumers' overall evaluation and judgment of the superiority of electronic services offered in the virtual market, which is compatible with the definition of service quality [5]. Gosh (2004) defines electronic services as interactive informational services that can be collected and analyzed by service providers through the electronic service process and used as a basis for customized services for customers, as well as exchanged electronically and delivered to customers through information exchange with service providers.

The main focus of traditional research on service quality is completed by examining the realm of customer satisfaction. In fact, gaining a comprehensive understanding of the conceptual relationship between service quality and customer satisfaction has been a special focus of researchers in this field. The literature supports the idea that desirable perceptions of service quality lead to improved customer satisfaction. Hence, customer satisfaction with the post-purchase experience arises, where the expected quality is compared. Lee and Lin (2005) introduced the dimensions of website design, reliability, responsiveness, assurance, and customization based on the SERVQUAL model to clarify the adaptive factors of online service quality [6]. In their research, they investigated the relationship between the dimensions of electronic service quality, overall service quality, and customer satisfaction. According to their research, assurance is the most important factor in service quality and customer satisfaction, followed by reliability and responsiveness. After these dimensions, the website design dimension is placed at the end of the list as the least effective.

Zang et al. (2005) conducted a study on consumers' perspectives regarding the quality of electronic services, focusing on the relationship between website quality and customer satisfaction with electronic services [7]. In this research, factors such as website quality, ease of electronic services, and perceived risk were considered influential on customer satisfaction. The study also demonstrated the correlation between customer satisfaction and their

purchase decisions. Out of the eight hypotheses in the study, seven were validated, leaving only the hypothesis related to the relationship between individual capabilities in computer usage and the ease of using electronic services rejected.

Various researchers have explored the concept of electronic service quality concerning customer satisfaction. Some studies have indicated a significant correlation between the features of electronic service quality, purchasing intent, and customer satisfaction[8]. According to Cutler and Keller (2006)[9], customer satisfaction is the result of customer experiences throughout the purchasing process and plays a crucial role in influencing future customer behaviors, such as repeat online purchases and loyalty[9][10]. Additionally, Tsao et al. (2016) evaluated the impact of electronic service quality on online loyalty based on online purchasing experiences in Taiwan, showing that both system quality and electronic service quality significantly influence perceived value, ultimately leading to online customer loyalty[11].

It is essential to note that trust is a key factor in customers' decisions to purchase products from online stores[12]. Wu et al. (2018) defined trust as a belief, self-confidence, emotions, or expectations related to the buyer's intent or potential behavior[13]. Chang et al. (2013) highlighted that lack of trust is a fundamental barrier to adopting electronic commerce[14]. Oliveira et al. (2017) measured three dimensions of customer trust (competence, honesty, and benevolence) and found that customers with high general trust are more likely to engage in electronic commerce[15]. Previous studies indicate that positive electronic service quality affects trust[16][13]. In this context, Alrabiah and Alkida (2011) stated that service quality in the healthcare industry has a direct impact on customer trust and has a positive indirect effect on trust, with satisfaction acting as a moderating factor[16].

Online purchasing involves trust not only between the online seller and the customer but also between the customer and the computer system through which the transaction occurs (Lee and Turban, 2001). Rita et al. (2019) sought to develop new knowledge to better understand the key dimensions of services and evaluate the quality of electronic services influencing customer satisfaction, trust, and customer behavior in online purchases. They used data from an online survey of 355 online consumers in Indonesia. Their research model, employing structural equation modeling and analytical results, showed that three dimensions of service quality—website design, privacy security, and overall service quality—have an impact. However, customer service is not generally associated with the overall quality of electronic services. The statistical results indicated a significant association between the overall quality of electronic services and customer behavior[17].

Similarly, Saleem et al. (2017) examined this issue in the aviation industry in Pakistan and concluded that trust plays a significant role in the intention to repurchase for all business services. Furthermore, Masloum et al. (2016) investigated the factors influencing the quality of electronic services on customer satisfaction and loyalty, focusing on dimensions such as efficiency, user-friendliness, website organization, and personal needs[18]. Data were collected through a questionnaire, and data analysis was performed using structural equation modeling with the AMOS software. The results demonstrated that the dimensions of electronic service quality have a positive and significant impact on customer satisfaction and loyalty. Additionally, customer satisfaction has a positive and significant impact on customer loyalty[17].

Rashid and Abadi (2014) examined the impact of electronic services on trust in the service industry and found that trust is considered one of the components of service quality[16].

Considering the above discussions, the main issue of the current research is to evaluate the impact of electronic service quality, customer satisfaction, and trust in online purchases from Iranian online stores.

3. RESEARCH METHODOLOGY

3.1. Research Hypotheses

Given the main research question, the hypotheses of the study can be formulated as follows:

- Website design has a significant impact on the quality of electronic services.
- Customer service significantly influences the quality of electronic services.
- Privacy security has a significant impact on the quality of electronic services.
- Implementation and execution of services significantly affect the quality of electronic services.
- The quality of electronic services significantly influences customer satisfaction.

- The quality of electronic services significantly influences customer trust.

3.2. Research Models

The research can be approached through different models that help analyze the relationships and interactions among variables. Three potential research models are suggested:

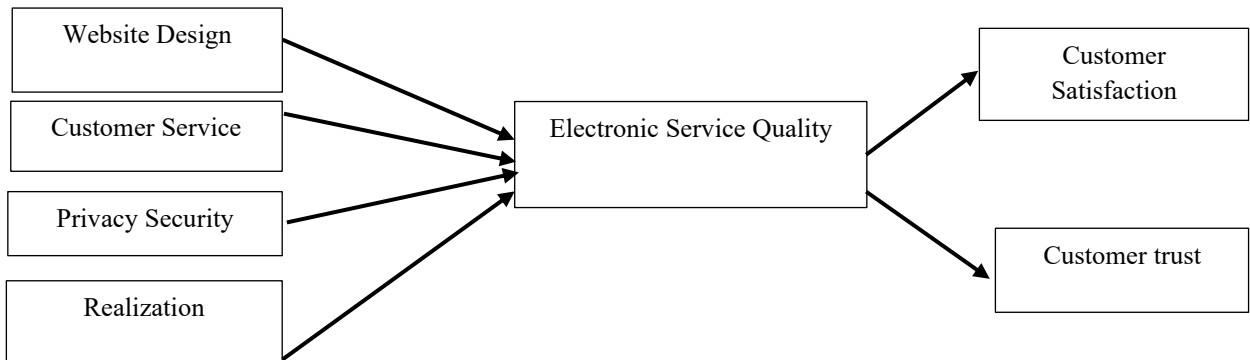


Fig. 1. Three potential research models

3.3. Data Collection Tools

To gather the necessary data for this research, the questionnaire developed by Rita et al. (2019) will be utilized [17]. This questionnaire consists of three sections:

A. Demographic Section: This section comprises four questions related to the respondents' age, gender, education level, and experience with online shopping.

B. Research Variables: The questionnaire assesses the research variables through a series of questions. The design of the questions for each variable is as follows:

- Questions 1 to 24 pertain to the website design variable [8].
- Questions 25 to 30 relate to the customer service variable [8].
- Questions 31 to 36 address the privacy security variable [8].
- Questions 37 to 45 focus on the implementation of services variable [8].
- Questions 46 to 48 concern the electronic service quality variable [8].
- Questions 49 to 51 are associated with the customer satisfaction variable (adapted from Fornell, 1992).
- Questions 52 to 57 are related to the customer trust variable [19].

To validate the reliability of this questionnaire, the Cronbach's alpha test has been employed. The results are presented in the table below:

Table 1. Cronbach's alpha coefficient

Result	Alpha Cronbach	Factors
Stable	0.882	Website design
Stable	0.716	Customer service
Stable	0.720	Privacy Security
Stable	0.993	Service fulfillment
Stable	0.826	Quality of electronic services
Stable	0.783	Customer satisfaction
Stable	0.801	Customer trust

(Source: research findings)

Based on the above table, since these coefficients are higher than 0.7, their reliability is confirmed.

3.4. Population and Sample

The statistical population of this research includes 4,200 buyers of clothing, bags, shoes, food, and beverages throughout Iran. Given the accessible statistical population, there was no difference among customers in terms of the type of online shopping method. Therefore, a simple random sampling method was selected, and the sample size was determined using the following formula:

$$n = \frac{N \times (Z_{\alpha/2})^2 \times (pq)}{\varepsilon^2 (N-1) + (Z_{\alpha/2})^2 (pq)} \cong \frac{4200 [1.96]^2 (0.25)}{[0.05]^2 [4199] + [1.96]^2 (0.25)} \cong 352 \tag{1}$$

4. DATA ANALYSIS METHOD

The collected data in this research were analyzed using SPSS software version 23. The statistical tests used include descriptive statistics, correlation analysis, and regression analysis.

5. ANALYSIS OF FINDINGS

To determine the correlation between variables, the Pearson correlation coefficient was used. As seen in the table below, the correlation between research variables indicates a significant correlation among these variables:

Table 2. Correlation Analysis

Service fulfillment	Privacy Security	Customer service	Website design	Quality of electronic services	Variables
0.397	0.461	0.488	0.522	1	Quality of electronic services
-0.021	0.053	0.072	1	0.522	Website design
0.008	0.019	1	0.072	0.488	Customer service
0.005	1	0.019	0.053	0.461	Privacy Security
1	0.005	0.008	-0.021	0.397	Service fulfillment

As evident from the above table, the correlation coefficient between the quality of electronic services and website design is 0.522. Since the obtained significance level for this variable in the table is less than 0.05 (0.000), the correlation coefficient obtained is significant. Therefore, it can be concluded that there is a significant positive relationship between the variables. Hence, the first hypothesis of the research is confirmed.

Additionally, other data in this table indicate that the correlation coefficient between the quality of electronic services and customer services is 0.488. Since the significance level for this variable in the table is less than 0.05 (0.000), the obtained correlation coefficient is significant. Therefore, it can be concluded that there is a significant positive relationship between the variables. Thus, the second hypothesis of the research is also confirmed.

Similarly, as shown in the above table, the correlation coefficient between the quality of electronic services and website design is 0.461. Since the significance level for this variable in the table is less than 0.05 (0.000), the obtained correlation coefficient is significant. Therefore, it can be concluded that there is a significant positive relationship between the variables. Consequently, the third hypothesis of the research is confirmed.

Furthermore, other data in this table indicate that the correlation coefficient between the quality of electronic services and customer services is 0.397. Since the significance level for this variable in the table is less than 0.05 (0.000), the obtained correlation coefficient is significant. Therefore, it can be concluded that there is a significant positive relationship between the variables. Hence, the fourth hypothesis of the research is also confirmed.

Table 3. Correlation Test

Customer trust	Customer satisfaction	Quality of electronic services	Variables
0.522	0.278	1	Quality of electronic services
0.320	1	0.278	Customer satisfaction
1	0.320	0.522	Customer trust

As evident from the above table, the correlation coefficient between the quality of electronic services and customer satisfaction is 0.278. Since the obtained significance level for this variable in the table is less than 0.05 (0.000), the correlation coefficient obtained is significant. Therefore, it can be concluded that there is a significant positive relationship between the variables. Thus, the fifth hypothesis of the research is confirmed.

Additionally, other data in this table indicate that the correlation coefficient between the quality of electronic services and customer trust is 0.522. Since the significance level for this variable in the table is less than 0.05 (0.000), the obtained correlation coefficient is significant. Therefore, it can be concluded that there is a significant positive relationship between the variables. Consequently, the sixth hypothesis of the research is also confirmed.

Moreover, to examine the relationships among these variables, regression analysis can be utilized. It is noteworthy that when the F statistic in the regression model is statistically significant, the model is considered suitable, indicating that the independent variable can predict variations in the dependent variable significantly. Also, if the t-value exceeds 2.32 and the significance level is less than 0.01 or 0.05, it indicates a high explanatory power of the independent variable. The results of the regression analysis for the research hypotheses are presented in the following tables:

Table 4: Regression Coefficients

Model Summary				
Standard error of estimate	Adjusted R-squared	R-squared	R	model
2.1714	0.072	0.078	0.279	1

Table 5: Regression model summary

ANNOVA					
Sing.	F	Mean squares	Degree of freedom	Sum of squares	Model
0.0000	12.527	59.065	2	118.130	Regression
-	-	4.715	297	1400.350	Remainder
-	-	-	299	1518.480	Total

Table 5 indicates whether the regression model can significantly and adequately predict changes in the dependent variable or not. To assess the statistical significance, we refer to the last column of the table; this column represents the statistical significance of the regression model. If the obtained value is less than 0.05, it can be concluded that the employed model is a good predictor for the dependent variable. The significance level in this table is higher than 0.05, indicating that the regression model is not statistically significant.

Table 5. Summary of Regression Model

Coefficients					
sig	T	Standard coefficients	Non-standard coefficients		model
		Beta	Standard error	B	
0.000	9.392	-	1.588	14.921	Fixed
0.000	4.999	0.279	0.061	0.304	Customer satisfaction
0.728	0.348	0.019	0.060	0.021	Customer trust

Considering the results of the above table, it is observed that the t-statistic for customer satisfaction is 4.999, and its p-value is 0.000. Given that the chosen significance level for this research is 0.05, it can be concluded that the variable of customer satisfaction has a significant relationship with the quality of electronic services at a 5% error level. Therefore, the fifth hypothesis is confirmed. Additionally, from the results of the table, it can be seen that the t-statistic for customer trust is 0.348, and its p-value is 0.728 (P_{value}). Given the chosen significance level of 0.05, it can be inferred that the variable of customer trust does not have a significant relationship with the quality of electronic services at a 5% error level. Therefore, the sixth hypothesis is not confirmed.

6. CONCLUSION

The rapid development of information and communication technologies in contemporary business activities is considered the most significant long-term trend in global trade. Therefore, potential substantial growth, especially in procuring and providing products and services through the internet, is expected. However, the efficient utilization of this potential depends largely on the capabilities of e-retailers to meet customer expectations in the virtual purchasing environment. Hence, the topic of electronic services and the quality of service delivery become crucial. Based on the importance of this issue, the present research evaluates the impact of the quality of electronic services on customer satisfaction and trust in online purchases, leading to the conclusion that the quality of electronic services can have a significant positive impact on customer satisfaction and trust.

These findings specifically indicate that the specified qualitative criteria for the quality of electronic services can not only create loyalty but also transform traditional buyers into online buyers, potentially reducing operational costs. Furthermore, the study results show that optimal website design and the preservation of customer privacy are powerful tools for enhancing the quality of electronic services and can be considered crucial outcomes for attracting and retaining customer satisfaction and trust. This result is highly significant for managers as using strategies such as optimal website design and privacy preservation can make customers satisfied with participating in online markets, thereby increasing the company's revenue and, consequently, its profits. Additionally, since they are highly credible communication channels for other customers, their recommendation has a significant impact on increasing website visitors.

Considering the findings of the research, the following recommendations are presented:

1. Efforts to improve the quality of electronic services: This can include actions such as developing human resources and designing training courses to enhance the technical knowledge and expertise of staff in providing electronic services to customers, planning for continuous improvement by identifying and measuring factors affecting the quality of electronic services, and planning and coordinating to respond to internet and electronic unit queries and needs directly and indirectly by evaluating quality.
2. Increasing reliance capabilities: The company should attract customer opinions by providing various services and also with online information and training so that they can easily and quickly perform various shopping and order processes. In this regard, it is suggested to launch a 24/7 electronic and internet service support system so that customers do not face any obstacles in carrying out their transactions at any time of the day.
3. Improving the responsiveness of the services provided: To achieve this, informing about the services provided improves the responsiveness of the services provided. Instant service delivery, increasing the speed of service delivery, and timely and appropriate response to customers using electronic mail are other solutions that will improve the responsiveness of the services provided.

4. Meeting customer demands and expectations: Meeting customer demands and expectations through electronic channels increases trust and confidence in meeting customer demands and expectations. Additionally, providing remote communication options is another solution that can meet customer demands and expectations. It should be noted that the researcher faced limitations in conducting this research, including (1) the lack of access to some statistics and information, leading to a decrease in accuracy in the final results, (2) the lack of similar research in this area in the country for comparison and verification of results, and (3) the necessary cooperation of customers and staff in collecting information and conducting encounters.

Transparency Statement

The data supporting this study are available upon reasonable request to the corresponding author, subject to ethical and confidentiality considerations.

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Declaration of Interest

The authors declare that they have no competing interests.

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