

A Study on the Electronic Service Quality of Digital Marketplaces in Real Estate Marketing

Gayrimenkul Pazarlaması Kapsamında Dijital Pazaryerlerinin Elektronik Hizmet Kalitesine Yönelik Bir Çalışma

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Received : 24.05.2024

Revised : 23.06.2024

Accepted : 25.06.2024

Type of Article : Research

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ABSTRACT

Keywords:

Real Estate Marketing,
E-Service Quality,
Customer Satisfaction,
Customer Loyalty,
Structural Equation
Model

Jel Codes:

M30, M31

With the rapid spread of digitalization across all sectors, individuals with any desire or need are inclined to turn to digital channels. Individuals in search within the real estate sector, like in all industries, resort to websites and their applications. Therefore, the ability of these digital channels to meet individuals' expectations, and respond to their desires and needs, is crucial for satisfaction and user retention. This study aimed to examine the e-service quality of internet sites for the real estate sector and customer satisfaction and loyalty towards these sites. The analysis focused on the relationship between e-service quality, customer satisfaction, and customer loyalty among individuals in Ankara using the most widely used real estate websites. The data for the study were collected through survey method, a common quantitative data collection instrument. The scales used in constructing the survey were E-SERVQUAL for measuring e-service quality, and customer satisfaction and loyalty scales. Based on the findings, it was observed that all dimensions of e-service quality significantly impacted customer satisfaction and loyalty. In our analysis, it was concluded that customer satisfaction moderately mediated all perceived service dimensions, albeit with a limited magnitude of impact. While e-service quality impacted customer satisfaction more than customer loyalty, it was observed that customer satisfaction exerted a statistically significant and robust effect on customer loyalty at a high level.

ÖZET

Anahtar Kelimeler:

Gayrimenkul Pazarlaması,
E-Hizmet Kalitesi,
Müşteri Memnuniyeti,
Müşteri Bağlılığı,
Yapısal Eşitlik Modeli

Jel Kodları:

M30, M31

Dijitalleşmenin tüm sektörlerde hızla yayılmaya başlamasıyla birlikte herhangi bir istek ve ihtiyacı olan bireyler dijital kanallara başvurma eğilimi içerisinde. Tüm sektörlerde olduğu gibi gayrimenkul sektöründe de arayış içerisinde olan bireyler, internet siteleri ve bu sitelerin uygulamalarına başvurmaktadır. Dolayısıyla bu dijital kanalların bireylerin beklentilerini karşılamaları, istek ve ihtiyaçlarına cevap verebilmeleri memnuniyetleri ve kullanım devamlılığı için oldukça önemlidir. Bu çalışmanın amacı gayrimenkul sektörüne yönelik internet sitelerinin e- hizmet kalitesi ve bu sitelere yönelik müşteri memnuniyeti ve müşteri bağlılığının nasıl olduğunun incelenmesidir. Çalışma Ankara'da bulunan bireylerin gayrimenkul sektöründe en çok kullanılan internet sitelerinin e-hizmet kalitesi, müşteri memnuniyeti ve müşteri bağlılığı arasındaki ilişki analiz edilecektir. Çalışmanın verileri nicel veri toplama araçlarından biri olan anket yöntemi aracılığı ile elde edilmiştir. Anket formu oluşturulurken kullanılan ölçekler, e-hizmet kalitesini ölçmek için sıklıkla kullanılan E-SERVQUAL, müşteri memnuniyeti ve müşteri bağlılığı ölçekleridir. Çalışmanın sonuçlarına göre, e-hizmet kalitesinin tüm boyutlarının müşteri memnuniyeti ve bağlılığı üzerine etkili olduğu görülmektedir. Müşteri memnuniyetinin de tüm algılanan hizmet boyutlarına aracılık ettiği ancak bu etkinin çok yüksek olmadığı söylenebileceği gibi e-hizmet kalitesinin müşteri bağlılığından ziyade müşteri memnuniyetini etkilediği ve müşteri memnuniyetinin de müşteri bağlılığını yüksek düzeyde etkilediği sonucuna ulaşıldığı söylenebilir.

Suggested Citation: Yalçın, A., & Çatlı, Ö. (2024). A Study on the electronic service quality of digital marketplaces in real estate marketing. *International Journal of Business and Economic Studies*, 6(2), 110-128, Doi: <https://doi.org/10.54821/ueecd.1489012>

1. INTRODUCTION

Technological advancements have positively influenced the interactions between buyers and sellers in the real estate sector through the development of digital marketplaces. These advancements facilitating easier collaboration between buyers and sellers have led to a rapid escalation of competition in the real estate sector compared to the past. With the rapid global spread of electronic commerce, businesses are actively seeking to gain a competitive advantage by reaching their customers through digital platforms. Businesses desire to reach more customers and fulfill their needs which compels them towards digital marketplaces. This prompts research into the factors influencing customers' choice of service providers operating within these marketplaces and encourages corresponding strategic actions based on these factors. Customers who use digital marketplaces can quickly access a greater variety of products, thereby efficiently fulfilling their needs. This contributes to an increase in competition, which compels businesses to turn towards digital marketplaces and prompts them to differentiate themselves from competitors by undertaking initiatives that enhance their quality of services. Businesses operating on digital marketplaces have come to realize that, even if they are experienced and successful, merely offering their products to customers at a low price does not suffice to maintain or achieve a competitive advantage. They have acknowledged the necessity of providing customers with high electronic service quality (Parlıt & Erdoğan, 2017). Since the primary concern of businesses is to maintain their presence and achieve profitability in their target markets, they must retain existing customers who purchase their products and seek to acquire new customers to expand their market. However, retaining customers is much more crucial than acquiring new ones (Kotler, 1994). Therefore, another focal point for businesses is to satisfy their customers since retaining customers is advantageous from a cost perspective. When contented customers continue to procure the desired and needed products from the business where they consistently receive service, it discourages them from seeking alternatives, which, in turn, can foster customer loyalty.

Among the service sectors, the real estate sector holds a significant position. The sector has a dynamic structure due to its focus on addressing fundamental human needs such as real estate and commercial and investment demands. Businesses operating in the real estate sector, one of the significant industries in Türkiye that faces increasing competition, will strive to formulate strategies aimed at enhancing the quality of their services to gain a competitive advantage. Unlike goods quality, which can be measured objectively by such indicators as durability and the number of defects (Parasuraman, Zeithaml & Berry, 1988; Lai & Lai, 2013), service quality is an abstract and elusive construct because of three features unique to services: heterogeneity intangibility, and inseparability of production and consumption (Parasuraman, Zeithaml & Berry, 1985). Due to the abstract structure of services, it is quite difficult to assess customer expectations and perceived service quality (Erkan & Yurdakul, 2019). Therefore, it is necessary to initially elucidate customers' perceived service quality for a given service and conduct studies on the potential impacts on customer satisfaction and loyalty. In the real estate sector, products should be diversified according to people's changing living conditions, preferences, or expectations. The required real estate is typically accessed through digital platforms nowadays, rather than traditional real estate brokers. This investigation is directed towards the examination of the real estate sector, a deliberate choice motivated by three primary factors: i) the sector's pivotal role as a service industry, ii) the escalating prevalence of digitization in our daily lives, and iii) a gap in the current body of research on the impacts of perceived e-service quality on customer expectations and loyalty within this specific industry. Building upon this, this study aims to examine the mediating effect of customer satisfaction on the impact of perceived e-service quality on customer loyalty within the context of digital marketplaces in real estate marketing.

2. LITERATURE REVIEW

In this section of the study, detailed descriptions and literature reviews are provided regarding digital marketing and digital marketplaces in the real estate sector and real estate marketing, along with concepts such as e-service quality, customer satisfaction, and customer loyalty.

2.1. Digital Marketplaces and Digital Marketing in the Real Estate Sector

In our world where information and technology rapidly evolve, businesses must not remain detached from their environment to achieve their objectives, sustain their existence, and attain profitability in accordance with their goals. Businesses need to closely monitor and integrate the digital transformations evident in all sectors and business processes. The real estate sector, like every industry, has started to implement modern technologies and tools in its processes to become more efficient and advanced, with an anticipated value reaching \$4,923.3 US dollars by the year 2031 (Belova, 2023). Real estate is defined as immovable properties such as residential homes, land, gardens, plots, and shops owned by institutions or individuals for residential and investment purposes

(Boz, 2021: 72). Due to the fundamental nature of housing as a basic human need, real estate, particularly in the form of residential properties, can be identified as the most pivotal asset in the real estate sector. The issue of real estate, having not only physical significance but also sociocultural importance, has implications differentiating from culture to culture and location to location. With diverse implications, it encompasses a great deal of necessities and leads to human interaction, thereby presenting a great deal of information on the culture, lifestyle, welfare, and human interaction of a society (Likos, Nakip & Gökmen, 2019). The real estate sector, throughout its historical trajectory, has been shaped by various factors within its environment, notably including social, cultural, economic, and technological influences, and contributed to the formation of its distinctive characteristics (Basmacı & Çengel, 2018). Rapid changes in technology also affect the real estate sector, leading to differentiations in the ways businesses reach and engage with their customers through digital technologies and media.

The effective use of digital technologies (desktop, mobile, tablet, etc.) and media to achieve marketing objectives is referred to as digital marketing (Chaffey & Ellis Chadwick, 2016). Digital marketing in digital marketplaces is defined as the use of mobile, Internet, and other interactive channels, rather than traditional media such as television, radio, and magazines, for the promotion and endorsement of business and brand, and sustaining commercial activities (Boz, 2021: 32). Digital marketing includes the ability to interactively communicate with customers through electronic channels, such as the smart devices such as tablets, phones and, mobile applications, e-mail, and web (Zahay, 2015: 6). Digitalization accelerates transaction time and reduces transaction costs, and the efficiency of information sharing is significantly improved (Ali & Song, 2022). Despite the reduction in search costs for buyers facilitated by digital marketplaces, there is no corresponding decrease in search time (Genesove & Han, 2012). Digital marketing has brought about two significant effects: it aims to reduce the search costs of buyers and the information asymmetry between the buyer and the seller, thus promoting the adoption of new marketing strategies (Kaur, 2019). With the development of digital marketing, emerging digital marketplaces aim to bring together buyers and sellers, similar to traditional markets. The sole distinction between them lies in traditional marketplaces serving individuals in physical environments, whereas digital marketplaces cater to individuals in digital environments. Electronic marketplaces are virtual technology-enabled trading spaces that facilitate the exchange of information, goods, services, and payments among multiple buyers and sellers across companies (Matook & Vessey, 2008: 260). Described as a digital marketplace model primarily engaged in revenue generation, virtual brokerage operates within the digital marketplace where commissions are typically levied by these brokers. In addition to receiving commissions, sellers on this platform can remit various fees to the relevant sites for the products they list (Erkan & Yurdakul, 2019). Therefore, for sellers aiming to broaden the reach of their products by leveraging digital marketplaces, they need to bear the cost determined by these platforms, where buyers and sellers are brought together. Özmen (2012: 138) suggests that digital marketplaces can be defined as virtual environments where any commercial activity is conducted through the convergence of buyers and sellers via a third-party intermediary. Digital marketplaces are considered in two forms: vertical and horizontal electronic marketplaces.

Niles (2008) states that vertical electronic marketplaces are a business model developed to facilitate interaction among buyers and sellers in any industry, providing opportunities for information sharing and collaboration in product development. Horizontal electronic marketplaces are virtual platforms that cater to buyers and sellers across various industries, facilitating product sales essential for operational activities.

Before digitalization, real estate agents played a crucial role in bringing buyers and sellers together in the real estate sector. When there was no Internet and information was not easily accessible, brokers controlled all the information, and it was not possible to obtain information remotely about any property (Kasanoff, 2014). Through digital marketplaces, both sellers and buyers can access a significantly greater array of options than those available in traditional market environments. When homeowners list their properties for sale or rent, they can simultaneously connect with potential buyers from different regions. Similarly, buyers have access to numerous different options instantly by selecting criteria such as price, location, number of rooms, and floor level according to their preferences and needs, utilizing the advanced search features of digital marketplaces.

2.2. E-Service Quality in Real Estate Marketing

Real estate marketing involves a set of activities that respond to consumer demand for real estate by investigating, planning, implementing, controlling, and evaluating the endeavors of natural persons and entities in the real estate and real estate investment sector (Likos, Nakip & Gökmen, 2019). In real estate marketing, we can describe the efforts as the creation of a process between property buyers or lessees and sellers or landlords, aimed at establishing, sustaining, and concluding the transactional cycle while meeting the desires and needs of both

parties. The crucial aspect here is to accurately identify customers' desires and needs and to achieve satisfaction by implementing strategies and marketing efforts aligned with their expectations.

Service quality represents the evaluation of a service by its customers, and customer satisfaction denotes the positive emotions evoked by the perceived service performance (Petrick, 2004). It is a useful strategic management tool for businesses since it exerts an impact on business profits and market shares (Parasuraman, Berry & Zeithaml, 1991; Rajaobelina et al., 2022). In the real estate sector, as in every service industry, it is crucial to focus on improving service quality. Low service quality can impact customer satisfaction, which can lead to adverse consequences in terms of competition (Lovelock & Wirtz, 2011: 404).

Electronic service quality (e-SQ) is one of the significant determinants of customer satisfaction (Baber, 2018), and plays a pivotal role in facilitating the formation of customer loyalty by exerting a key influence on website effectiveness (Rajaobelina et al., 2022). E-SQ is defined broadly to encompass the entirety of a customer's engagement with a website, encompassing the efficacy and effectiveness of the shopping, purchasing, and delivery processes (Parasuraman, Zeithaml & Malhotra, 2005). Many researchers have developed various scales and tools to measure E-SQ. These scales may vary depending on the type of service under consideration and the country in which the study is conducted. Although the SERVQUAL model is the standard for measuring service quality, the scales to be used in measuring the quality of web-based services are limited or have different dimensions (Zeithaml, 2002; Baber, 2018). The scales used in the measurement of electronic service quality are as follows (Stamenkov & Dika, 2016); IS-SERVQUAL (Liu & Arnett, 2000), Site-Qual (Yoo & Donthu, 2001), WebQual (Loiacono et al., 2002), WebQual 4.0 (Barnes & Vidgen, 2000), eSQ (Zeithaml, 2002), eTailQ (Wolfenbarger & Gilly, 2003), and E-S-Qual (Parasuraman et al., 2005). The extant literature suggested that customers' assessment of a website's quality included not only experiences during their interactions with the site but also post-interaction service aspects (i.e., fulfillment, returns) (Parasuraman et al., 2005). In the present study, the E-S-Qual scale, developed by Parasuraman et al. (2005), was employed to measure the electronic service quality of internet pages operating in the real estate sector.

Parasuraman et al. (2005) establish e-service quality in four dimensions in the scale they have developed. These dimensions are efficiency, system availability, fulfillment, and privacy. Numerous studies have addressed dimensions of e-service quality, but the dimensions proposed by Parasuraman et al. (2005) have been accepted and used in numerous studies, including efficiency (Trocchia & Janda, 2003; Santos, 2003; Collier & Bienstock, 2006; Kao & Lin, 2016; Goutam & Gopalakrishnab, 2018), system availability (Yoo & Donthu, 2001; Trocchia & Janda, 2003; Santos, 2003; Jun et al., 2004; Webb & Webb, 2004; Collier & Bienstock, 2006; Blut et al., 2015; Blut, 2016; Shankar & Jebarajakirthy, 2019; Raza et al., 2020), fulfillment (Bauer et al., 2006; Collier & Bienstock, 2006; Kao & Lin, 2016; Goutam & Gopalakrishnab, 2018), and privacy (Yoo & Donthu, 2001; Trocchia & Janda, 2003; Cai & Jun, 2003; Iwaarden et al., 2003; Santos, 2003; Jun et al., 2004; Webb & Webb, 2004; Collier & Bienstock, 2006; Piercy, 2014; Yapp et al., 2014; Blut et al., 2015; Zemblyte, 2015; Blut, 2016; Goutam & Gopalakrishnab, 2018; Shafiee & Bazargan, 2018; Shankar & Jebarajakirthy, 2019; Raza et al., 2020).

The efficiency dimension denotes customers' ability to enter the website, find the desired product, and retrieve relevant information with minimal effort (Zeithaml, 2002).

System availability refers to the correct technical functioning of the website or application utilized by customers to receive services (Gök & Perçin, 2016).

The fulfillment dimension includes the accuracy of service promises offered to the customer, the availability of products in stock, and the timely delivery of products as promised (Zeithaml, 2002).

The privacy dimension includes the assurance that shopping behavior data is not shared and credit card information is secure (Zeithaml, 2002). Security issues in digital platforms relate to the capacity of e-businesses to safeguard their online transaction systems, and security threats include the destruction, disclosure, and modification of data, denial of service, and/or fraud and abuse (Rajaobelina et al., 2022).

Prospective customers aim to ensure their safety and the confidentiality of their information when intending to avail of services from digital marketplaces. Similarly, they anticipate the fulfillment and termination of the transactions they want to perform. It is also important that the systemic technical functioning of the digital marketplace in which they receive services is available during the service purchase process. These dimensions of e-service quality exhibit the inherent capacity to fulfill customers' expectations for high-quality service.

2.3. The Relationship between Customer Satisfaction and Customer Loyalty in Real Estate Marketing

With the increasing prevalence of the marketing concept, product and service providers use marketing strategies to pursue achieving the goal of maximizing customer satisfaction (Oliver, 1999). Oliver (1997) defines customer satisfaction as the feeling of satisfaction experienced with the fulfillment of transactions. In other words, the customer perceives satisfaction in the consumption of a product when their needs, desires, and objectives are fulfilled, and experiences contentment from this fulfillment. Customer desires and needs must be identified accurately to achieve customer satisfaction in the real estate sector. To this end, customer expectations should be investigated, and responses aligned with these expectations should be met. Real estate businesses that align their actions with customer expectations can achieve customer satisfaction. Therefore, digital platforms created for the real estate sector to bring buyers and sellers together (such as sahibinden.com, hepsiimlak, etc.) must facilitate customers in articulating precisely what they desire based on factors they consider when making any purchase or rental decisions. This is essential because businesses aspire to increase customer satisfaction. Customer satisfaction manifests as a consequence of favorable experiences encountered by consumers during the purchasing process of any product (Kotler & Keller, 2006). However, it is not sufficient for businesses to have only satisfied customers (Deming, 1986: 141). Ensuring customer satisfaction in a marketplace where consumers possess the autonomy to select any product at their discretion may prove inadequate in achieving customer loyalty (Jones and Sasser, 1995). Building on this, it can be asserted that customer satisfaction influences customer loyalty and plays a significant role in its formation (Pereira et al., 2016; Pham & Ahammad, 2017); however, it may be deemed insufficient. To affect customer loyalty through customer satisfaction, it is essential to ensure frequent or increasing customer satisfaction; however, businesses must go beyond customer satisfaction to engender steadfast customer loyalty (Oliver, 1999). Therefore, while customer satisfaction may influence customer loyalty, it alone may not suffice.

Customer loyalty is characterized by the consistent behavior of a customer to repeatedly purchase a preferred product and/or service in the future. Loyalty is described as a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same-brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior (Oliver, 1997: 392). Businesses have two main goals, including maintaining their assets and increasing their profitability. One of these goals, the desired long-term profit, is achieved through customer loyalty. One of the factors influencing businesses' profits is customers who, by achieving satisfaction, are inclined to make repeat purchases. Therefore, long-term e-commerce profitability is related to customer loyalty (Reichheld & Schefter, 2000).

Numerous studies investigated whether there was a relationship between electronic service quality and customer satisfaction and/or customer loyalty. Studies have shown that e-service quality is highly influential on customer satisfaction (Collier & Bienstock, 2006; Dai et al., 2011; Kao & Lin, 2016; Kim & Kim, 2020) and customer loyalty (Dai et al., 2011; Shankar & Jebarajakirthy, 2019; Kim & Kim, 2020). The quality of the service that customers receive is closely related to customer satisfaction (Rust & Oliver, 1993; Lupo & Buscarino, 2021). Thus, customers' perceptions of the quality of the service they receive can impact their satisfaction, and the resulting customer satisfaction can engender customer loyalty.

3. METHODOLOGY

In this study, quantitative research methods were employed to investigate customers' perceptions of the e-service quality of digital platforms used in residential property purchasing and leasing transactions. The aim was to elucidate the impact of e-service quality on customer satisfaction and loyalty in these real estate transactions. The data were collected through a survey method, ensuring compliance with scientific ethical standards. Approval for the ethical considerations of the study was obtained from the Ankara Hacı Bayram Veli University Ethics Committee with the reference number E-11054618-302.08.01-106640 dated June 24, 2022. The data of the study were collected through online questionnaires. In this section of the study, the purpose and significance of the study, the model and hypotheses, the population and sampling, the data collection instruments, the data analysis method, and the findings are presented.

3.1. The Purpose and Significance of the Study

In this study, the focus was on examining the expectations and perceptions of individuals utilizing e-commerce websites in Ankara regarding the e-service quality of these websites/applications. The study aimed to identify how well these expectations were met and the consequential impact on customer satisfaction and loyalty.

Therefore, we examined the mediating effect of customer satisfaction on the impact of service quality on customer loyalty. The study investigated the relationships between customers and sellers in the real estate market, specifically examining 'service quality,' 'customer loyalty,' and 'customer satisfaction.'" In Ankara, real estate properties, including residential units, land/plots, commercial units, timeshares, or tourist facilities, are leased or sold through online platforms. There are numerous online trading platforms in the real estate market. Customers express satisfaction and exhibit loyalty to online buying/selling platforms based on the quality of service that these platforms provide. Thus, the impact of service quality is crucial for online intermediary platforms to sustain and enhance customer loyalty and satisfaction. The collected information can assist in implementing improvements to the services offered by websites and in conducting efforts to meet expectations.

3.2. The Model and Hypotheses

The primary assumption of the study is that e-service quality influences customer satisfaction and customer loyalty, and that customer satisfaction impacts customer loyalty. We also investigate the mediating effect of customer satisfaction on the impact of service quality on customer loyalty. The model of the study is shown in Figure 1.

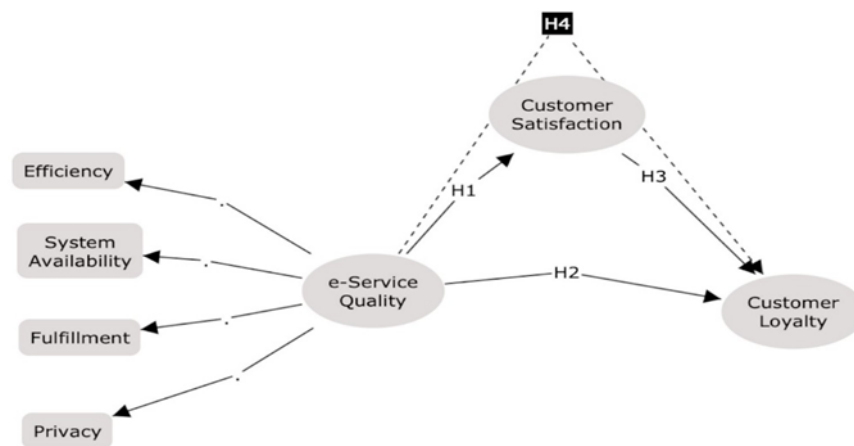


Figure 1. Conceptual Model

There is a close relationship between service quality and customer satisfaction (Sureshchandar, Rajendran & Anantharaman, 2002; Ladhari, 2009; Ilias & Panagiotis, 2010; Dahiyat, Akrous & Abu-Lail, 2011; Karatepe, 2011; Samen, Akroush & Abu-Lail, 2013; Baber, 2018; Erkan & Yurdakul, 2019).

There is a positive relationship between service quality and customer satisfaction (Osman, Cole & Vessell, 2006). In order to retain customers, businesses must endeavor to satisfy them by providing a superior level of service quality (Schaupp & Belanger, 2005; Dai & Lee, 2018). The e-service quality dimensions include website design, responsiveness, and reliability, which impact customer satisfaction, and in turn influence customer purchase intentions (Lee & Lin, 2005). Therefore, the quality of e-service impacts customer satisfaction (Zhang & Prybutok, 2005). The following hypothesis can be proposed:

H₁: Service quality affects customer satisfaction.

Some studies examined the impact of perceived service quality on customer loyalty (Cristobal et al., 2007; Chang & Chen, 2008; Sun et al., 2009; Udo et al., 2010). The transaction quality, ease of use, customization of content, utility, and website fees, among other features related to the e-service quality of digital marketplaces, impact customer loyalty (Flavian, Guinaliu & Gurrea, 2006; Chang & Chen, 2008; Yang, Wu & Wang, 2009). Accordingly, the following hypothesis can be proposed:

H₂: Service quality affects customer loyalty.

There are numerous studies in the literature investigating the impact of customer satisfaction on customer loyalty. These studies concluded that there was a positive relationship between customer satisfaction and customer loyalty (Bitner, 1990; Taylor & Baker, 1994; Hallowell, 1996; Homburg & Giering, 2001). In Homburg and Giering (2001) variety seeking, age, and income were found to be important moderators of the customer satisfaction-loyalty relationship. Based on this, the following hypothesis can be proposed:

H₃: Customer satisfaction affects customer loyalty.

Kanji (2002) concluded that there was a relationship between customer satisfaction, customer loyalty, and perceived service quality. According to Kanji's (2002) model, the service provided to customers revealed the perceived quality, customer expectations, and perceived value, which were closely related to the customer's expectations and image. Perceived quality arises from the customer's comparison of the benefits from a service against the price paid and other associated costs to obtain the service. The perceived service quality influences satisfaction, and satisfaction, in turn, affects customer loyalty (Koç, 2021: 246). The provision of service quality does not always ensure customer loyalty; therefore, satisfaction can play a role in this relationship (Herington and Weaven, 2009). Based on this, the following hypothesis can be proposed:

H₄: Customer satisfaction mediates the effect of service quality on customer loyalty.

3.3. Population and Sampling

The population of the study includes customers of online real estate buying/selling platforms located in the Ankara province, Türkiye. However, it is inherently challenging to precisely reach the number of customers using online real estate websites specifically in Ankara, and the present study focused on individuals aged 18 and above. Thus, the research population would be individuals aged 18 and above in Ankara. Then, the intended universe of the study was 4,404,458 participants. Ultimately, the sample of the study consisted of 838 participants. According to Kadioğlu's (2021) calculation of the population and sample, a sufficient sample size was reached. Moreover, although the sample size is relatively small, it does not pose a problem in terms of the research methodology employed in the study. Cinel et al. (2021: 9) stated that partial least squares structural equation modeling (PLS-SEM) provided good results in analyses of relatively small sample groups. In recent times, the PLS-SEM, which is frequently preferred in marketing and organizational research, provides the advantage of overlooking assumptions such as normal distribution, as it enables the analysis of complex models involving mediation/moderation effects (Kınaş, 2021: 47). The sampling survey was conducted through online-administered survey forms submitted between November 9th and December 9th, 2022. Due to the online distribution of surveys and the mandatory completion of responses to each question, there were no invalid or incompletely filled surveys. In total, questionnaires were sent to 1200 people, and 838 people responded. 61.9% of the respondents are women and 38.1% are men, while 53% are single and 47% are married. Of the participants, 31% were in the age range of 18-25, 19% were in the age range of 26-35, 32% were in the age range of 36-45, and 18% were 46 years old and above. Regarding the participants' educational backgrounds, 4% completed primary education, 16% completed secondary education, 68% completed associate's or bachelor's degrees, and 12% had graduate-level education.

3.4. Data Collection Instruments and Analysis

In the present study, a questionnaire including scale items to test a number of variables was developed to investigate the mediating effect of customer satisfaction on the impact of e-service quality on customer loyalty. To test the validity of the hypotheses formulated for the research, data were obtained through the survey method. A 5-point Likert scale was used for all statements except for demographic variables. The participants evaluated the scale statements using a rating scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). In the first part of the questionnaire, there were 5 questions about demographic information and website preferences used by customers for real estate ownership and real estate purchase or rental activities. The websites selected for this study were chosen from among the most widely used in the real estate sector (Sahibinden.com, Hepsi Emlak, Milliyet Emlak, Emlakjet, Remax). The E-SQUAL scale included in the second part of the questionnaire was developed by Parasuraman et al (2005). The scale developed by Parasuraman et al. (2005) to measure e-service quality, which was translated into Turkish by Etlioğlu (2015) to test its validity and reliability, consisted of four factors and 22 items. These factors included efficiency (1-8), system availability (9-12), fulfillment (13-19), and privacy (20-22). In the third section of the questionnaire, the customer satisfaction and loyalty scale, consisting of a total of 8 questions, previously translated into Turkish and validated for reliability by Etlioğlu (2015), was employed.

We employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the mediating effect of customer satisfaction on the relationship between customers' e-service quality and customer loyalty. In recent years, PLS-SEM has become a standard method for analyzing the complex inter-relationships between observed and latent variables (Sarstedt et al., 2022: 398). Magno et al. (2022) suggested that PLS-SEM became an established social sciences multivariate analysis technique. PLS-SEM is a composite-based approach emphasizing prediction while providing complex models designed to provide causal explanations. According to Şimşek (2020), concepts of mediation and indirect effects are of paramount importance in PLS-SEM studies. Simply put, the concept of mediation refers to the presence of a third variable that emerges in the process of one variable

influencing another and elucidates this relationship. This third variable is necessary to explain the effect and has a predictive quality. For example, in cases where variable A influences variable B and variable C also influences variable A, the variable C acts as a mediator between variables B and A, elucidating the impact of A on B.

4. RESULTS

4.1. Respondent’s Profile

Table 1 presents the demographic variables, including age, gender, marital status, number of children, educational background, and real estate income, which is the first section of the questionnaire.

Table 1. Frequency Distribution of Demographic Variables

Age	n	%	Level of Education	n	%
18-25	257	31	Primary Education	34	4
26-35	159	19	Secondary Education	137	16
36-45	273	32	Undergraduate/Associate degree	570	68
46 and above	149	18	Graduate School	97	12
<i>Total</i>	<i>838</i>	<i>100</i>	<i>Total</i>	<i>838</i>	<i>100</i>
Gender	n	%	Marital Status	n	%
Female	451	61.9	Single	446	53
Male	387	38.1	Married	392	47
<i>Total</i>	<i>838</i>	<i>100</i>	<i>Total</i>	<i>838</i>	<i>100</i>
Frequency of usage of the website	n	%	Duration of usage of the website	n	%
Sometimes	496	59	less than 1 year	143	17
Often	199	24	1-5 years	305	36
Frequently	143	17	more than 5 years	390	47
<i>Total</i>	<i>838</i>	<i>100</i>	<i>Total</i>	<i>838</i>	<i>100</i>
The website/application used	n	% ¹			

¹ Percentages are rounded.

Sahibinden.com	731	87			
Other	45	5			
Hepsi Emlak	47	6			
Emlakjet	5	1			
Remax	10	1			
<i>Total</i>	<i>838</i>	<i>100</i>			
Income Level	n	%	Number of Properties	n	%
Under 5.000 TL	264	32	I have no property.	435	52
5.001 TL-8.000 TL	186	22	1	237	28
8.001 TL-11.000 TL	157	19	2	90	11
11.000 TL-14.000 TL	79	9	3 and above	76	9
14.000 TL and above	152	18			
<i>Total</i>	<i>838</i>	<i>100</i>	<i>Total</i>	<i>838</i>	<i>100</i>

Table 1 presents the information on gender, age, marital status, educational level, income level, duration and frequency of website usage, and the number of owned properties. While age groups exhibit a balanced distribution, the educational levels predominantly manifest at the Undergraduate/Associate degree levels. While there are more female participants, there is a balanced distribution in marital status. While the preferred websites were used for many years, the frequency of visits was reported as "sometimes". The distribution of income level and the number of owned properties mirrors the overall financial structure in our society. Taking a closer look at property ownership, 52% don't have any property, 28% own one real estate, 11% have two, and 9% own three or more. Examining the participants' answers about their use of the website or application, we observed that sahibinden.com had a virtual monopoly in the market. Among 838 participants, 731 reported using sahibinden.com. These findings correspond to the Competition Authority's determination of its dominant position in the online platform services market for real estate sales/rentals (Aba, 2022). However, when compared with other website/application options, sahibinden.com is not only utilized for real estate transactions but also for various alternatives, including car sales, second-hand goods, and job listings. Hence, its dominance in the market can be attributed to its broader range of offerings compared to other alternatives.

4.2. Evaluation of the Measurement Model

In this study, analyses were conducted using the R statistical software, employing a dataset that focused on the mediating effect of customer satisfaction on the impact of service quality on customer loyalty. According to Doğan and Uluman (2016:616-617), R is free software available over the internet, utilized for statistical analysis and data visualization. The foundation of the R software is rooted in the language known as S. Unlike other commercial statistical software packages, R is open-source and shares its codes with users. This enables individuals with diverse religious, linguistic, and ethnic backgrounds from around the world to support each other and gather on a common platform by sharing the codes they write. The philosophy of R software differs from other statistical package programs developed for commercial purposes, and it maintains a continually evolving structure. Thus, R

software has gained a broad user base and become a popular tool in statistics. As noted by Hair et al. (2021: 34), the use of software in computational analyses using programming languages has recently regained popularity with big data analysis, artificial intelligence, and data science. Programming in syntax-based languages like R or Python allows analysts to apply complex methods and create new solutions. The codes that serve as indicators of workflow can be generated, shared with other analysts or distributed to online products and platforms through computation. Therefore, computational methods have become an integral component of the data science revolution. In this research, data analysis was performed using the PLS-SEM codes in R Studio software. We tested the mediating effect of customer satisfaction on the impact of service quality on customer loyalty. Figure 2 shows the results reported and interpreted the research model and fit indices.

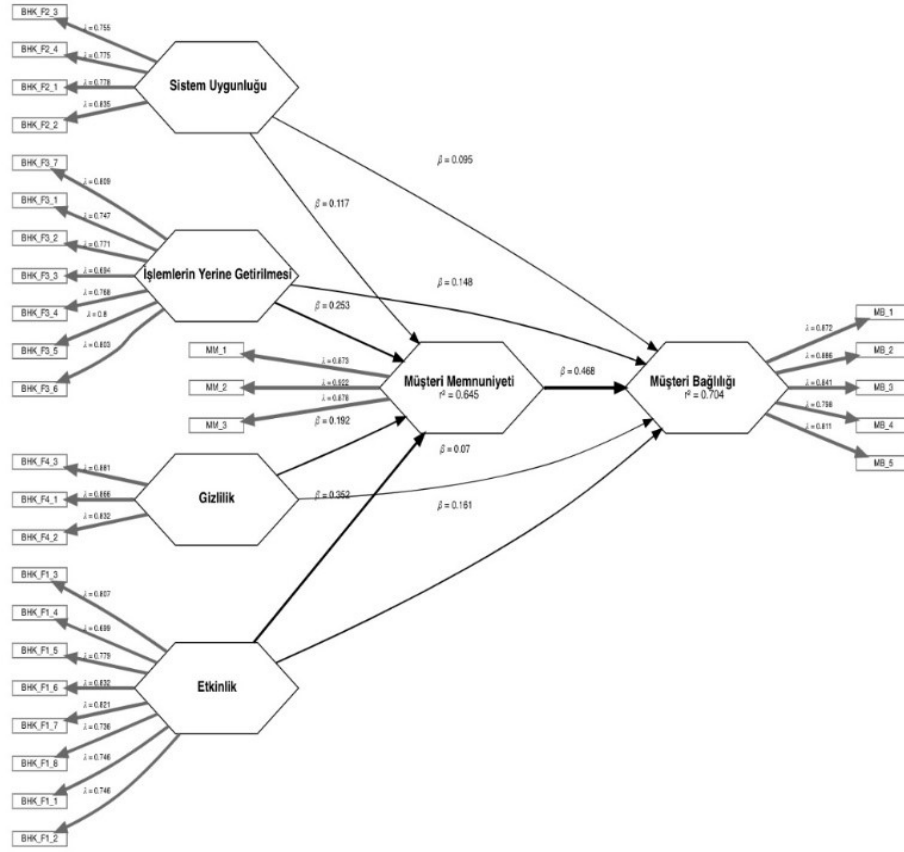


Figure 2. Research Model on the Mediating Effect of Customer Satisfaction on the Impact of Service Quality on Customer Loyalty

Table 2. Fit Indices of the Analysis of the Mediating Effect of Customer Satisfaction on the Impact of Service Quality on Customer

Variables/Indices	Reliability (α)	rhoC	Average Variance Extracted (AVE)	rhoA
Efficiency	0.902	0.922	0.596	0.904
System Availability	0.798	0.866	0.618	0.815
Fulfillment	0.886	0.911	0.595	0.890
Privacy	0.824	0.895	0.739	0.834
Customer Loyalty	0.897	0.924	0.709	0.901
Customer Satisfaction	0.870	0.921	0.794	0.871

Variables/Indices	R^2		
	Customer Loyalty	Customer Satisfaction	
Efficiency	0.161	0.352	
System Availability	0.095	0.117	
Fulfillment	0.148	0.253	
Privacy	0.070	0.192	
Customer Satisfaction	0.468	-	
Variables/Indices	f^2		
	Customer Loyalty	Customer Satisfaction	
Efficiency	0.028	0.130	
System Availability	0.012	0.016	
Fulfillment	0.023	0.060	
Privacy	0.007	0.046	
Customer Loyalty	0.263	0.000	
Customer Satisfaction	0.000	0.000	
Variables/Indices	Tolerance and Variance Inflation Factors (VIF-Value)		
	Customer Loyalty	Customer Satisfaction	
Efficiency	3.046	2.696	
System Availability	2.463	2.425	
Fulfillment	3.184	3.004	
Privacy	2.353	2.249	
Customer Satisfaction	2.817	-	
Variables/Indices	HTMT Ratio Bootstrap Confidence Interval Results		
		Predictive value	T Value
Efficiency->System Availability		0.827	28.060
Efficiency->Fulfillment		0.806	32.451
Efficiency->Privacy		0.692	22.108
Efficiency->Customer satisfaction		0.828	34.496

Efficiency->Customer loyalty	0.801	32.175
System availability -> Fulfillment	0.777	27.403
System availability -> Privacy	0.734	22.885
System availability -> Customer loyalty	0.760	25.085
System availability -> Customer satisfaction	0.769	26.717
Fulfillment->Privacy	0.844	33.976
Fulfillment->Customer loyalty	0.800	35.335
Fulfillment->Customer satisfaction	0.822	37.868
Privacy -> Customer loyalty	0.736	27.011
Privacy -> Customer satisfaction	0.771	29.709
Customer Satisfaction -> Customer Loyalty	0.905	61.844
Causal Relationships	Path Coefficient β	T Statistics (Threshold value \approx 1.96)
Efficiency->Customer loyalty	0.161	8.474
Efficiency->Customer satisfaction	0.352	7.644
System availability -> Customer loyalty	0.095	2.389
System availability -> Customer satisfaction	0.253	3.287
Fulfillment->Customer loyalty	0.148	3.425
Fulfillment->Customer satisfaction	0.253	5.591
Privacy-> Customer Loyalty	0.070	2.062
Privacy-> Customer Satisfaction	0.192	5.497
Customer Satisfaction -> Customer Loyalty	0.468	11.644

The reliability of the model's internal consistency was assessed based on the fit indices Cronbach's Alpha, rhoA, and rhoC. For convergent validity, the value of Average Variance Extracted (AVE) was considered. The range of values for evaluating internal consistency should be greater than 0.70 (Kandemir & Özdaşlı, 2019: 250). Additionally, we calculated rhoA and rhoC, new indices for reliability that provided a more accurate estimation. The most crucial reliability measure for PLS is rhoA (Hair et al., 2021: 80; Nasongkhla, & Shieh, 2023: 6; Stefko et al., 2022: 6-7). It is possible to assert that our analysis exhibits internal consistency reliability.

Another important coefficient in the model was the coefficient of determination (R²). According to Zeng et al. (2021: 363), R² is a measure of the accuracy of a model, representing the amount of variance explaining all relevant endogenous and exogenous constructs. Acceptable R² values are widely adopted to indicate prediction accuracy at strong, moderate, and weak levels, with values of 0.75, 0.50, and 0.25, respectively. An f-test [effect size f², Legate et al., 2023: 100], with R², evaluates how an exogenous construct actively contributes to

explaining a specific endogenous construct.² Accordingly, the dimensions of e-service quality, namely efficiency and privacy, have a moderate predictive power on customer loyalty, while the predictive power of system availability and fulfillment dimensions on customer loyalty is weak. In terms of f^2 values, we observed that in explicating the construct, customer satisfaction moderately contributes to elucidating customer loyalty, while the active contributions of other external variables are comparatively low. Rasoolimanesh (2022: 2) suggested two methods to assess discriminant validity using HTMT; comparing with a threshold of either 0.85 or 0.9 or using inference statistics to test the hypothesis that HTMT=1. Using suggested thresholds, the value of HTMT should be lower than 0.85 or 0.9, whereas to apply inference statistics the hypothesis HTMT=1 should be rejected. Therefore, the HTMT values of this research were within the desired range and exhibited discriminant validity. The reliability coefficients and values of the hypotheses of the research model are presented in Table 2. Accordingly, all hypotheses with values above the T threshold (1.96) were accepted. Therefore, we noted that the efficiency dimension of perceived service quality influenced customer satisfaction and, in turn, customer loyalty at a higher level than other variables. Examining the indirect effect values, we observed that the efficiency and fulfillment dimensions had an indirect effect through the customer satisfaction variable. We can conclude that web platforms offering e-commerce services should focus on increasing customer loyalty through the observed variables of service quality, particularly efficiency and fulfillment to increase customer loyalty.

5. CONCLUSION

In the present era, where desires and needs seem limitless, understanding customer requirements is pivotal for businesses. Evaluating the satisfaction levels of products provided to customers and, based on these assessments, implementing measures to enhance or improve these products can significantly impact the success of businesses. In traditional settings, the service delivery process involves direct interaction between the customer and the seller, which allows the customer to clearly express their needs and assess the entire purchasing process. However, digital environments differ from traditional settings. Customers seeking services from digital platforms evaluate the features of the service provider's website or application. Therefore, the quality of the electronic service provided to customers would influence customer satisfaction and loyalty. The significance and usage of digital marketplaces have increased after the pandemic people have turned to fulfilling most of their needs through digital platforms. In the context of the real estate sector, the inherent nature of properties dictates that the product must move towards the customer rather than the other way around (Erkan & Yurdakul, 2019). However, due to time constraints, searching for and finding the desired real estate through property viewings in person can be challenging. Thus, the creation of platforms that bring buyers and sellers together offers numerous advantages for both parties. Sellers gain the opportunity to reach a wider audience, while buyers can explore multiple properties located in different places simultaneously. With the further advancement of digital technologies, there have been changes in the methods employed by sellers who market their properties through digital marketplaces. Previously, sellers and/or agents would showcase a property by simply posting photos. Today, they can use 360-degree video shoots, narrated videos, and live virtual tours to present the property to potential customers. Investigating how these marketing efforts on digital marketplaces affect customer satisfaction and, in turn, how this satisfaction influences customer loyalty is essential for informed decision-making in the real estate sector.

This study investigated the mediating effect of customer satisfaction on the impact of e-service quality on customer loyalty. Based on the findings, it was observed that all dimensions of e-service quality significantly impacted customer satisfaction and loyalty. In analysis, it was concluded that customer satisfaction moderately mediated all perceived service dimensions, albeit with a limited magnitude of impact. While e-service quality impacted customer satisfaction more than customer loyalty, customer satisfaction exerted a statistically significant and robust effect on customer loyalty at a high level. The findings appeared to align with the literature (Rust & Oliver, 1993; Collier & Bienstock, 2006; Dai et al., 2011; Kao & Lin, 2016; Shankar & Jebarajakirthy, 2019; Kim & Kim, 2020; Lupo & Buscarino, 2021). The difference of the study from other studies in the literature is that, although there are many studies specifically on e-service quality, customer satisfaction and customer loyalty, no study has been found examining the effect of e-service quality of electronic platforms operating in the real estate sector on customer satisfaction and customer loyalty by selecting the Ankara sample. According to the results of the study, the efficiency dimension of perceived service quality had a higher impact on customer satisfaction, and customer satisfaction, in turn, had a higher impact on customer loyalty compared to other variables. Examining the impact of the dimensions of e-service quality—efficiency, system availability, fulfillment, and privacy—on

² f^2 : 0.02–0.15 (small); 0.15–0.35 (medium); >0.35 (large)

customer satisfaction and loyalty, businesses need to make improvements, strengthen their systems, and enhance their performance.

6. LIMITATIONS AND FUTURE RESEARCH SUGGESTIONS

As with every study, this study also has its own limitations. One limitation of the study was the exclusive focus on customer satisfaction and loyalty within the scope of e-service quality. Another limitation was that the sample consisted of digital platform users located in Ankara engaged in activities related to the real estate sector. Future studies may consider samples from different regions or nations. Additionally, using scales developed specifically for measuring e-service quality, rather than the scale created by Parasuraman et al. (2005) as used in this study, could provide alternative perspectives. Furthermore, future studies could inquire about the purposes for which participants visited the websites that are measured for the perceived e-service quality. Since the majority of participants do not own real estate, it remains unclear whether they are in search of buying a property in the future or using the site for renting. However, it is noted that out of 838 participants, 731 used the sahibinden.com. Considering its dominance in the market, future studies can explore how users perceive the e-service quality of sahibinden.com based on their usage intentions, as this site is not limited to real estate buying, selling, and renting activities.

AUTHORS' DECLARATION:

This paper complies with Research and Publication Ethics, has no conflict of interest to declare, and has received no financial support. For the scale used in the article, it is declared by the authors that permission was obtained from the original owner of the scale. Regarding the conduct of this research, an “*Ethics Permission Certificate*” dated 24/06/2023 and numbered E-11054618-302.08.01-106640 was obtained from the Ethics Committee of the Ankara Hacı Bayram Veli University.

AUTHORS' CONTRIBUTIONS:

Conceptualization, writing-original draft, editing – **AY** and **ÖÇ**, data collection, methodology, formal analysis – **AY** and **ÖÇ**, Final Approval and Accountability – **AY** and **ÖÇ**.

REFERENCES

- Aba, A. (2022). Tekelleşen emlak satış/kiralama piyasası: Sahibinden.com davası. <https://www.newslabturkey.org/2022/07/05/tekellesen-emlak-satis-kiralama-piyasasi-sahibinden-com-davasi/> Accessed: 07.02.2023.
- Ali, Z. S., & Song, J. (2022). Digital platforms and real estate industry during COVID-19. *International Real Estate Review*, 25(4), 499-523.
- Baber, H. (2018). Service quality perception of customers—a study of Toyota motors in India. *Organizations and Markets in Emerging Economies*, 9(18), 311-323.
- Basmacı, U., & Çengel, Ö. (2018). Gayrimenkul sektöründe dijital pazarlamada arama motorları reklamları. *İstanbul Ticaret Üniversitesi Teknoloji ve Uygulamalı Bilimler Dergisi*, 1(1), 29-36.
- Barnes, S., & Vidgen, R. (2000). WebQual: An exploration of website quality. *ECIS 2000 proceedings*, 74.
- Bauer, H.H., Falk, T., & Hammerschmidt, M. (2006). eTransQual: A transaction process-based approach for capturing service quality in online shopping. *Journal of Business Research*, 59(7), 866-875.
- Belova (2023). Digital transformation in real estate: Key trends and use cases to follow in 2023 and beyond. <https://pixelplex.io/blog/digital-transformation-in-real-estate/> Accessed: 08.03.2023.

- Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *Journal of Marketing*, 54, 69-82.
- Blut, M. (2016). E-service quality: Development of a hierarchical model. *Journal of Retailing*, 92(4), 500-517.
- Blut, M., Chowdhry, N., Mittal, V., & Brock, C. (2015). E-service quality: A meta-analytic review. *Journal of Retailing*, 91(4), 679-700.
- Boz, Y. (2021). *Sosyal medyanın gayrimenkul pazarlamasına etkisi*. Luna Yayınları, Ankara.
- Cai, S., & Jun, M. (2003). Internet users' perceptions of online service quality: A comparison of online buyers and information searchers. *Managing Service Quality*, 13(6), 504-519.
- Chaffey, D., & Ellis Chadwick, F. (2016). *Dijital pazarlama strateji, yürütme ve uygulama*. Fahri Apaydın & Aytürk Aksakal. 6. Baskı. Gazi Kitabevi, Ankara.
- Chang, H. H., & Chen, S. W. (2008). The impact of customer interface quality, satisfaction and switching costs on e-loyalty: Internet experience as a moderator. *Computers in Human Behavior*, 24(6), 2927-2944.
- Cinel, M. O., Karademir, D., & Kandemir, H. (2021). Örgüt kültüründe iş güvenliğinin çalışanların motivasyonu üzerine etkisi mobilya işletmeleri üzerine bir araştırma. *Eurasian Journal of Forest Science*, 9(1), 1-19.
- Collier, J., & Bienstock, C. (2006). Measuring service quality in e-retailing. *Journal of Service Research*, 8(3), 260-275.
- Cristobal, E., Flavian, C., & Guinaliu, M. (2007). Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality*, 17(3), 317-340.
- Dahiyat, S. E., Akroush, M. N., & Abu-Lail, B. N. (2011). An integrated model of perceived service quality and customer loyalty: An empirical examination of the mediation effects of customer satisfaction and customer trust. *International Journal Services and Operations Management*, 9(4), 453-490.
- Dai, H., Haried, P., & Salam, A.F. (2011). Antecedents of online service quality, commitment and loyalty. *The Journal of Computer Information Systems*, 52(2), 1-11.
- Dai, W. and Lee, J. H. (2018). Effects of website characteristics and delivery service quality on repurchase intention. *The International Journal of Industrial Distribution & Business*, 9(5), 17-24.
- Deming, W. E. (1986). *Out of the crisis*. Cambridge, MA: Massachusetts Institute of Technology Center for Advanced Engineering Study.
- Doğan, C. D., & Uluman, M. (2016). İstatistiksel veri analizinde R yazılımı ve kullanımı. *İlköğretim Online*, 15(2).
- Erkan, B., & Yurdakul, D. (2019). Gayrimenkul pazarlamasında web sitesi hizmet kalitesi unsurlarının tüketici memnuniyetine etkisi. *İşletme Araştırmaları Dergisi*, 11(3), 1757-1768.
- Etlilioğlu, M. (2017). *Elektronik pazaryerlerinde hizmet kalitesi; emlak pazarlaması üzerine bir çalışma*. Yüksek lisans tezi, KTO Karatay Üniversitesi Sosyal Bilimler Enstitüsü İşletme Ana Bilim Dalı.
- Flavian, C., Guinaliu, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information Management*, 43(1), 1-14.
- Genesove, D., & Han, L. (2012). Search and matching in the housing market. *Journal of Urban Economics*, 72(1), 31-45.
- Goutam, D., & Gopalakrishna, B.V. (2018). Customer loyalty development in online shopping: An integration of e-service quality model and commitment-trust theory. *Management Science Letters*, 8, 1149-1158.
- Gök, A. C., & Perçin, S. (2016). Elektronik alışveriş (e-alışveriş) sitelerinin e-hizmet kalitesi açısından değerlendirilmesinde DEMATEL-AAS-VIKOR yaklaşımı. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 16(2), 131-144.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S., ..., & Ray, S. (2021). Evaluation of reflective measurement models. *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*, 75-90.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature.

- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hallowell, R. (1996). The relationships of customer satisfaction, customer loyalty, and profitability: An empirical study. *International Journal of Service Industry Management*, 7, 27-42.
- Herington, C., & Weaven, S. (2009). E-retailing by banks: E-service quality and its importance to customer satisfaction. *European Journal of Marketing*, 43(9/10), 1220-1231.
- Homburg, C., & Giering, A. (2001). Personal characteristics as moderators of the relationship between customer satisfaction and loyalty-an empirical analysis. *Psychology & Marketing*, 18(1), 43-66.
- Ilias, S., & Panagiotis, T. (2010). Investigating the impact of service quality and customer satisfaction on customer loyalty in mobile telephony in Greece. *The TQM Journal*, 22(3), 330-343.
- Iwaarden, J., Wiele, T., Ball, L., & Millen, R. (2003). Applying SERVQUAL to web sites: An exploratory study. *International Journal of Quality & Reliability Management*, 20, 919-935.
- Jones, T. O., & Sasser, W. E. (1995). Why satisfied customers defect. *Harvard Business Review*, 73(6), 88.
- Jun, M., Yang, Z., & Kim, D. (2004). Customers' perceptions of online retailing service quality and their satisfaction. *International Journal of Quality & Reliability Management*, 21(8), 817-840.
- Kadioğlu, H. (2021). *Evren ve örneklem*. Accessed: <http://sbf.marmara.edu.tr/dosya/sbf/ders%20notlar%C4%B1/evren%20ve,20,C3,17.02.2023>.
- Kandemir, H., & Özdaşlı, K. (2019). Olumlu informal iletişimin personel güçlendirme aracılığı ile iş yeri mutluluğuna etkisi: Araştırma görevlileri üzerine bir araştırma. *Avrasya Uluslararası Araştırmalar Dergisi*, 7(18), 242-258.
- Kanji, G. K. (2002). *Routledge advances in management and business studies*. Measuring Business Excellence Routledge, London.
- Kao, T. W. (Daniel), & Lin, W. (2016). The relationship between perceived e-service quality and brand equity: A simultaneous equations system approach. *Computers in Human Behavior*, 57, 208-218.
- Karatepe, O. M. (2011). Service quality, customer satisfaction and loyalty: the moderating role of gender. *Journal of Business Economics and Management*, 12(2), 278-300.
- Kasanoff, B. (2014). Are Real Estate Brokers Obsolete?. <https://www.forbes.com/sites/brucekasanoff/2014/04/04/real-estate-brokers-obsolete/#226154a27953> Accessed: 09.12.2022.
- Kaur, H. (2019). Digital marketing and its impulsiveness in real estate. *International Journal of Management, IT and Engineering*, 7(12), 147-153.
- Kim, J.-H., & Kim, M. (2020). Conceptualization and assessment of e-service quality for luxury brands. *The Service Industries Journal*, 40(5/6), 436-470.
- Kınaş, Y. (2021). *Kısmi en küçük kareler yapısal eşitlik modellemesiyle aracılık ve düzenleyicilik etkilerinin araştırılması ve bir uygulama*. Doktora Tezi, Eskişehir Osmangazi Üniversitesi Fen Bilimleri Enstitüsü İstatistik Anabilim Dalı.
- Koç, E. (2021). *Hizmet pazarlaması ve yönetimi: Global ve yerel yaklaşım*. 4. Baskı. Seçkin Yayıncılık.
- Kotler, P. (1994). *Marketing management: Analysis, planning, implementation and control*. 8. Baskı, New Jersey: Prentice-Hall.
- Kotler, P., & Keller, K. L. (2006). *Defining marketing for the 21st century*. Kotler, Philip & Kevin Lane. Marketing Management. 12. Baskı. New Jersey: Prentice Hall, 3-31.
- Ladhari, R. (2009). Service quality, emotional satisfaction, and behavioural intentions: A study in the hotel industry. *Managing Service Quality*, 19(3), 308-331.
- Lai, A. W., and Lai, W. M. (2013). Users' satisfaction survey on building maintenance in public housing. Engineering. *Construction and Architectural Management*, 20(4), 420-440.
- Lee, G. G., & Lin, H. F. (2005). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management*, 33(2), 161-176.

- Legate, A. E., Hair Jr, J. F., Chretien, J. L., & Risher, J. J. (2023). PLS-SEM: prediction-oriented solutions for HRD researchers. *Human Resource Development Quarterly*, 34(1), 91-109.
- Likos, M., Nakip, M., & Gökmen, A. (2019). Real estate marketing and factors impacting real estate purchasing: An application on Turkey. *International Journal of Applied Management Sciences and Engineering*, 6(2), 15-35.
- Liu, C., & Arnett, K. P. (2000). Exploring the factors associated with web site success in the context of electronic commerce. *Information Management*, 38(1), 23-33.
- Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2002). WebQual: A measure of website quality. *Marketing theory and applications*, 13(3), 432-438.
- Lovelock, C., & Wirtz, J. (2011). *Services marketing: People, technology, strategy*, 7th edition. Pearson Prentice Hall: New Jersey.
- Lupo, T., & Buscarino, E. (2021). A methodological approach for developing and validating a parsimonious and robust measurement tool: The academic e-service quality (ACEQUAL) model. *Education Sciences*, 11(10), 613.
- Magno, F., Cassia, F., & Ringle, C.M. (2022). A brief review of partial least squares structural equation modeling (PLS-SEM) use in quality management studies. *The TQM Journal*. <https://doi.org/10.1108/TQM-06-2022-0197>.
- Matook, S., & Vessey, I. (2008). Types of business-to-business e-marketplaces: The role of a theory-based, domain-specific model. *Journal of Electronic Commerce Research*, 9(4), 260-279.
- Nasongkhla, J., & Shieh, C. J. (2023). Using technology acceptance model to discuss factors in university employees' behavior intention to apply social media. *Online Journal of Communication and Media Technologies*, 13(2), e202317.
- Niles, N. J. (2008). A new definition of a business model. *Journal of Business & Economics Research*, 6(12), 69-78.
- Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York, NY: McGraw-Hill.
- Oliver, R. L. (1999). Whence consumer loyalty?. *Journal of Marketing*, 63(4_suppl1), 33-44.
- Osman, R. W., Cole, S. T., & Vessell, C. R. (2006). Examining the role of perceived service quality in predicting user satisfaction and behavioral intentions in a campus recreation setting. *Recreational Sports Journal*, 30(1), 20-29.
- Özmen, Ş. (2012). *Ağ ekonomisinde yeni ticaret yolu E-ticaret*. İstanbul Bilgi Üniversitesi Yayınları. 4.Baskı.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50.
- Parasuraman, A., L.L. Berry, & V.A. Zeithaml. 1991. Perceived service quality as a customer-based performance measure: An empirical examination of organizational barriers using an extended service quality model. *Human Resource Management*, 30(3), 335-364.
- Parasuraman, A., Zeithaml, V.A., & Malhotra, A. (2005). E-S-QUAL: A multiple-item scale for assessing electronic service quality. *Journal of Service Research* 7(3), 213-233.
- Parıltı, N., & Erdoğan, G. (2017). Elektronik hizmet kalitesinin elektronik ağızdan ağza iletişim türleri üzerindeki etkisi. *Bartın Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 8(15), 43-64.
- Pereira, H. G., de Fátima Salgueiro, M., & Rita, P. (2016). Online purchase determinants of loyalty: The mediating effect of satisfaction in tourism. *Journal of Retailing and Consumer Services*, 30, 279-291.
- Petrick, J. F. (2004). First timers' and repeaters' perceived value. *Journal of Travel Research*, 43(1), 29-38.
- Pham, T. S. H., & Ahammad, M. F. (2017). Antecedents and consequences of online customer satisfaction: A holistic process perspective. *Technological Forecasting and Social Change*, 124, 332-342.

- Yalçın, A. & Çatlı, Ö. – A Study on the Electronic Service Quality of Digital Marketplaces in Real Estate Marketing
- Piercy, N. (2014). Online service quality: Content and process of analysis. *Journal of Marketing Management*, 30(7/8), 747-785.
- Rajaobelina, L., Brun, I., Kilani, N., & Ricard, L. (2022). Examining emotions linked to live chat services: the role of e-service quality and impact on word of mouth. *Journal of Financial Services Marketing*, 27, 232–249.
- Rasoolimanesh, S. M. (2022). Discriminant validity assessment in PLS-SEM: A comprehensive composite-based approach. *Data Analysis Perspectives Journal*, 3(2), 1-8.
- Raza, S.A., Umer, A., Qureshi, M.A., & Dahri, A.S. (2020). Internet banking service quality, e-customer satisfaction and loyalty: The modified e-servqual model. *TQM Journal*, 32(6), 1443-1466.
- Reichheld, F. F., & Schefter, P. (2000). E-loyalty: your secret weapon on the web. *Harvard Business Review*, 78(4), 105-113.
- Rust, R.T., & Oliver, R.L. (Eds.) (1993). *Service Quality: New Directions in Theory and Practice*. Sage Publications: Thousand Oaks, CA, USA.
- Samen, A.A.A.-E., Akroush, M.N., & Abu-Lail, B.N. (2013). Mobile SERVQUAL: a comparative analysis of customers' and managers' perceptions. *International Journal of Quality and Reliability Management*, 30(4), 403-425.
- Santos, J. (2003). E-service quality: A model of virtual service quality dimensions. *Managing Service Quality: An International Journal*, 13(3), 233-246.
- Sarstedt, M., Radomir, L., Moisescu, O. I., & Ringle, C. M. (2022). Latent class analysis in pls-sem: A review and recommendations for future applications. *Journal of Business Research*, 138, 398-407.
- Schaupp, L., & Belanger F. (2005). A conjoint analysis of online consumer satisfaction. *Journal of Electronic Commerce Research*, 6(2), 95-111.
- Shafiee, M.M., & Bazargan, N.A. (2018). Behavioral customer loyalty in online shopping: The role of e-service quality and e-recovery. *Journal of Theoretical and Applied Electronic Commerce Research*, 13(1), 26-38.
- Shankar, A., & Jebarajakirthy, C. (2019). The influence of e-banking service quality on customer loyalty: A moderated mediation approach. *International Journal of Bank Marketing*, 37(5), 1119-1142.
- Stamenkov, G., & Dika, Z. (2016). Bank employees' internal and external perspectives on e-service quality, satisfaction and loyalty. *Electronic Markets*, 26, 291-309.
- Stefko, R., Džuka, J., & Lačný, M. (2022). Psychological factors of tourist expenditure: neglected or negligible?. *Frontiers in psychology*, 13, 942252.
- Stewart, T. A. (1997). A satisfied customer isn't enough. *Fortune*, 136(July 21), 112-113.
- Sun, Q., Wang, C., & Cao, H. (2009). Applying E-S-QUAL scale to analysis the factors affecting consumers to use internet banking services. *IITA International Conference on Services Science, Management and Engineering*, 242-245.
- Sureshchandar, G.S., Rajendran, C., & Anantharaman, R.N. (2002). Determinants of customerperceived service quality: A confirmatory factor analysis approach. *Journal of Services Marketing*, 16(1), 9-34.
- Şimşek, Ö. F. (2020). *Yapısal eşitlik modellemesine giriş: Temel ilkeler ve lisrel uygulamaları*. Ekinoks Yayınevi, Ankara.
- Taylor, S. A., & Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *Journal of Retailing*, 70(2), 163-178.
- Trocchia, P., & S. Janda. (2003). How do consumers evaluate internet retail service quality?. *Journal of Services Marketing*, 17(3), 243–253.
- Udo, G. J., Bagchi, K. K., & Kirs, P. J. (2010). An assessment of customers' e-service quality perception, satisfaction and intention. *International Journal of Information Management*, 30, 481–492.
- Webb, H.W., & Webb, L.A. (2004). SiteQual: An integrated measure of web site quality. *Journal of Enterprise Information Management*, 17(6), 430-440.

- Wolfenbarger, M., & Gilly, M. C. (2003). eTailQ: Dimensionalizing, measuring and predicting etail quality. *Journal of Retailing*, 79(3), 183-198.
- Yang, H. E., Wu, C. C., & Wang, K. C. (2009). An empirical analysis of online game service satisfaction and loyalty. *Expert Systems with Applications*, 36(2), 1816-1825.
- Yapp, E., Tanakinjal, G.H., & Sondoh, S.L. (2014). The key dimensions of online service quality: A study of consumer perceptions. *The IUP Journal of Marketing Management*, 13(2), 7-18.
- Yoo, B., & Donthu, N. (2001). Developing a scale to measure the perceived quality of Internet shopping sites (SITEQUAL). *Quarterly Journal of Electronic Commerce*, 2(1), 31-47.
- Zahay, D. (2015). *Digital marketing management: A Handbook for the current (or Future) CEO*. Business Expert Press. New York.
- Zeithaml, V. A. (2002). Service excellence in electronic channels. *Managing Service Quality: An International Journal*, 12(3), 135-139.
- Zemblyte, J. (2015). The instrument for evaluating e-service quality. *Procedia - Social and Behavioral Sciences*, 213, 801-806.
- Zeng, N., Liu, Y., Gong, P., Hertogh, M., & König, M. (2021). Do right pls and do pls right: A critical review of the application of pls-sem in construction management research. *Frontiers of Engineering Management*, 8, 356-369.
- Zhang, X., & Prybutok, V. R. (2005). A consumer perspective of e-service quality. *IEEE transactions on Engineering Management*, 52(4), 461-477.