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Impact of website quality, product assortment, customer reviews, and perceived service quality on online loyalty: the role of perceived value as a mediator

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ABSTRACT

The primary aim of this paper was to test the impact of customer reviews, website quality, perceived service quality, and product assortment on perceived value and online loyalty. This study also sought to confirm whether perceived value mediates the relationship among the stated factors. The required data for this research were gathered from several customers of online retail stores in the United Arab Emirates using a survey method. All responses were analyzed using the software of SmartPLS 4.0 to validate the suggested hypotheses and draw conclusions. Overall, the findings depicted that perceived value positively influences online loyalty. The outcomes also showed that customer reviews, website quality, perceived service quality, and product assortment positively affect perceived value as well as online loyalty. Finally, the outcomes support the mediating effect of perceived value among the aforementioned constructs and online loyalty. This paper contributes to the prevailing research on the topic by validating the significance of the selected factors in influencing perceived value and online loyalty, considering that only limited researches were done on these constructs in the MENA region.

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1. Introduction

Owing to the widespread growth of Internet access worldwide, online shopping has become highly popular among customers. The number of Internet users has risen steadily over the past few years (Salunke & Jain, 2022). However, the rapid expansion of e-commerce has resulted in fierce rivalry between online stores and other retail venues (Grosso et al., 2018). Therefore, creating customer value and maintaining customer loyalty in the digital space have been deemed crucial for business success (Tsao et al., 2016; Velnadar et al., 2024). In the academic literature, it has been documented that loyal customers have less price sensitivity and, hence, are more inclined to pay higher prices, make more purchases, test new products, and refer new customers to the company (Paulose & Shakeel, 2022; Wu & Li, 2018; Zehir & Narcıkara, 2016). Over time, it has become increasingly apparent that a company's profitability is tied to customer loyalty because loyalty is strongly correlated with revenue and retention, both of which are key drivers of customer lifetime value. To maintain business competitiveness, it is necessary for online sellers to comprehend the factors that affect customers' perceived value and online loyalty intention among customers (Khan et al., 2019).

Marketing scholars have attempted to identify the determinants of online loyalty in different settings. According to Gázquez-Abad et al. (2015), product assortment represents a key strategy that enables retailers to maintain and grow their customers. However, in the earlier literature, there is inconsistent results regarding the effect of product assortment on consumer behaviour (Gao & Simonson, 2016).

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Some researchers reported that customers tend to display greater loyalty towards purchasing from retailers who offer a wide range of items, which would enable them to enhance their sales and profit margins (Timonina-Farkas et al., 2020). On the other hand, certain scholars revealed that customers prefer to shop at stores which offer limited merchandise selections, hence permitting them to form quick decisions with lower frustration levels triggered by diverse options (Jamil, 2001). Yet, in spite of these arguments, it was acknowledged in the literature that retailers must provide their clients with wide merchandise selections in order to enable them to choose from various options (Venter de Villiers et al., 2018).

In the electronic shopping context, the role of website quality in influencing perceived value and online loyalty has also gained high attention in the recent literature. A high quality of website design features explains the reasons for getting more visitors to certain online stores in comparison to their rivals (Boardman & McCormick, 2022). The websites of successful retailers usually provide pre-sale information, for instance, product and pricing in order to minimize the searching time and cost for their buyers. Certain scholars added that the quality of a seller's website can improve the positive perceptions and attitudes of customers (Chen et al., 2017). Due to the aggressive competition in the electronic retail industry, the websites of online sellers should consider all key aspects that may influence customers' loyalty. In the recent decades, service quality has further been regarded as an important strategy for achieving competitive advantage in the e-commerce context (Dhingra et al., 2022; Singh et al., 2024). Due to the lack of face-to-face communication, it is indeed important for online retailers to provide exceptional customer care to their clients when they search for goods, make purchases, and keenly anticipate the delivery of their items (Rita et al., 2019). According to Tsao et al. (2016), developing the perception among buyers that they will receive their orders promptly and will have a favourable experience when exchanging or returning them does not only meets their expectations, but also improves online loyalty.

Prior researches have also reported that online reviews have significant influences on sales across diverse types of offerings and represent a key predictor of online retention and perceived value (Nasiri & Shokouhyar, 2021; Tran & Strutton, 2020). Many online sellers publish customer reviews online by displaying buyers' evaluations regarding product/service rankings and overall ratings in order to make it easy for customers to assess the quality of items. Nowadays, a high number of customers largely depend on online reviews to gain a clear idea about the quality of retailers' offerings, service efficiency, and ensure satisfactory buying experience (Li et al., 2023). In relation to that, online customers reviews are acknowledged as useful and robust means for shaping customer behaviour (Shukla & Mishra, 2023) as individuals usually have confidence in the opinions of their peers for deciding to buy from a particular seller. According to Dwidienawati et al. (2020), buyers are likely to trust the recommendations of their friends and acquaintances in comparison to those given by marketers. This could be due to the perceptions of customers that known peers are more reliable and trusted than the salespeople whose goals are to make profits and attain certain targets. Yet, only limited empirical studies have focused so far on verifying the impact of online reviews on online loyalty and perceived value (Nasiri & Shokouhyar, 2021; Tran & Strutton, 2020).

With the upsurge of e-commerce websites, perceived value was recognized as a crucial factor in predicting online loyalty (Amirtha & Sivakumar, 2022). In the electronic shopping settings, Wu et al. (2014) acknowledged that an individual's perception of value comprises not only additional advantages (such as superior quality and a user-friendly interface) but also fewer drawbacks (such as a shorter shopping time and lower prices). While many scholars have explored the importance of perceived value in electronic purchases, very few have examined its role as a mediator among perceived service quality, product assortment, website quality, online reviews, and online loyalty. Accordingly, the present research is designed to explore the mediating effect of perceived value, as prior literature acknowledges it as one of the necessary aspects of electronic shopping (Keshavarz & Jamshidi, 2018). Online sellers have become in the recent years very anxious about understanding the importance of website features, merchandise assortments, online reviews, and service quality perceptions in shaping online loyalty. Considering the scarce studies in the prior literature on these factors, the present paper aims to explore the significant role of perceived value in the association among the stated factors and online loyalty in the UAE's electronic retail context. A summary of the pertinent literature regarding the associations among selected variables is provided in the subsequent section.

2. Literature review

2.1. Perceived value

The significance of perceived value in shaping consumers' behavioral intentions has recently obtained momentous attention from several scholars worldwide. Cho et al. (2019) stated that customers' evaluations of a product/service value are contingent upon their perceptions of the product's quality or benefits in comparison to the perceived cost. That is, perceived value can be assessed by comparing what individuals get in return for the money they pay and the time spent on a website. Online shoppers prefer to shop at stores that provide them with the greatest values and advantages. Therefore, businesses must focus on providing greater benefits to their clients to grow their market share and strengthen their brand reputation (Kehinde et al., 2023; Wu & Li, 2018). According to El-Adly, the key to retaining customers in the retail sector is perceived value. Numerous researches acknowledged value perceptions as the determinant of loyalty intentions (Kamboj & Kishor, 2022; Kusumawati & Rahayu, 2020; Paulose & Shakeel, 2022). This matches the conclusions of Wu et al. (2014), who revealed that the perceptions of consumers regarding shopping value can be measured based on the overall costs allied with purchasing from an online store and the benefits they receive. Wu and Li (2018) also state that creating customer value is vital for maintaining customer loyalty in the presence of growing competition. That is, providing the desired benefits to customers (e.g. lower prices, speed of loading a page, and ease of searching for products) will inspire them to develop a favorable word-of-mouth and make future purchases. This argument is supported with the assertions of attitude theory proposed by Bagozzi (1992), which posits that affective attitude—in this case, perceived value—shape customer behavior, and that behavior leads to online loyalty. Hence, the subsequent hypothesis is projected:

H1: Perceived value positively affects online loyalty.

2.2. Website quality

Online sellers largely rely on the use of websites to ensure easier and quick purchase transactions by their clients. The websites of some online sellers get larger number of customers who display high willingness to purchase due to the adequate quality of their design and ease of use (Chen et al., 2017). According to Tsao et al. (2016), through designing a good website quality, the business of e-commerce firms can grow faster as it represents a key selling proposition of the brand. In order to thrive in the online business, each part of a seller's website must display professionalism. In past literature, different definitions of website quality were suggested. For instance, Al-Debei et al. (2015) conceptualized it as the total assessment of the ease of purchase, loading speed, dependability of the seller, and appeal of a website's design. It was also defined by Tran and Strutton (2020) as the degree to which clients view and regard the website of a seller as reliable and efficient. Similarly, website quality was expressed by Hsiao et al. (2010) as the ability to fulfil buyers' expectations by displaying relevant and up to date content to facilitate purchase transactions. Hence, comprehending the key aspects of a seller's website that are important to the buyers should be studied before developing a website.

According to signaling theory, the cues of IT-support (i.e., website quality) influence customers' attitudes, perceptions, and behaviors (Chen et al., 2017). Therefore, building on this theory in the business to consumer context, it is postulated that if a customer perceives the website of a seller's as of high quality, he/she will have a favourable impression towards the online seller which will eventually influence loyalty intention. Previous research has also verified that website quality has a beneficial impact on a user's perceived value (Albayrak et al., 2020; Al-Debei et al., 2015; Tsao et al., 2016) and online loyalty (Hsieh & Tsao, 2014; Sun et al., 2022; Tsai, 2017). Kim and Niehm (2009) reported that the success of online sellers is contingent upon the ability to develop a high-quality website as the perceptions of clients toward it significantly impact their perceived value. According to Hsiao et al. (2010), shoppers' confidence in online sellers' websites is significantly influenced by their impressions of website quality, and a reliable and easy-to-use website allows them to attain the utilitarian purpose of online shopping. Indeed, earlier researches have established that the feelings of buyers towards the quality of a seller's

website improve their value perceptions (Tsoo et al., 2016) and online loyalty. The majority of people nowadays are highly cautious about disclosing their personal and financial data on unreliable websites to avoid unnecessary issues (Kim et al., 2012). In earlier literature, perceived value was examined as a mediator in the association between website quality and buying intention, as well as between website quality and brand satisfaction (Qalati et al., 2021). Nevertheless, very limited research has investigated its mediating effect between website quality and online loyalty (Albayrak et al., 2020). Hence, the quality of a website may influence customers' perceived value and loyalty towards that website. Accordingly, the following hypotheses are projected:

H2: Website quality positively affects perceived value.

H3: Website quality positively affects online loyalty.

H4: Perceived value mediates the relationship between website quality and online loyalty.

2.3. Product assortment

A retailer's product assortment is often cited as a key factor in setting itself apart from competitors. Product assortment can be expressed as the number and variety of products offered within a particular merchandise category (Lombart et al., 2018). The most commonly adopted marketing theory postulates that customers prefer to shop at stores that have greater assortments. Furthermore, based on retail gravitation's law, which represents the foundational theory of customers' choice of a retailer posit that the likelihood of selecting a retail store tend to be affected positively by its size of assortments (Briesch et al., 2009). Customers' perceptions towards a store's product assortment can be broken down into three categories: how they feel about the quality, price, and breadth of the selection given by the store (Bauer et al., 2012). Venter de Villiers et al. (2018) stated that retailers need to improve their product assortments in light of rising competition and growing consumer expectations. This is because having diverse product selections can be a key approach of differentiation and improve customer perception. Timonina-Farkas et al. (2020) added that buyers are increasingly seeking more personalized shopping experiences and, as a result, a vast product assortment tends to be necessary to meet this need.

Previous studies reported that shoppers' perceptions of a store's assortments significantly affect their perceived value (Grosso et al., 2018; Mathmann et al., 2017; Ruiz-Real et al., 2017) and online loyalty (Gázquez-Abad et al., 2015; Venter de Villiers et al., 2018). Koo (2006) established that customers are presumed to stay loyal to retail brands when presented with a wider variety of options. These conclusions are verified earlier by Diallo et al. (2015) who showed that product assortment positively affects customers' perceived value and online loyalty. In addition, providing diverse products with distinctive features enables customers to locate precise products that meet their needs, regardless of how small a market group they belong to Gajanan et al. (2007). In this manner, customers tend to have a higher tendency to find the items they need, which enhances their value perceptions for a diverse selection and loyalty towards the seller. Consequently, the subsequent hypotheses are suggested:

H5: Product assortment positively affects perceived value.

H6: Product assortment positively affects on online loyalty.

H7: Perceived value mediates the relationship between product assortment and online loyalty.

2.4. Customer reviews

An increasing number of customers worldwide consider online reviews to be an important source of information prior to initiating online purchase transactions (Luo & Ye). There are many online sellers who publish customer reviews on their websites by displaying product ratings and buyers' experiences in order to help the shoppers in assessing the overall product/service quality prior to purchase (Filiari et al.,

2015). Electronic reviews published by other customers are a valuable source of information for online shoppers, as they allow them to make well-informed purchase decisions and may even motivate them to shift from physical stores to online channels. The reviews for available products tend to be more trusted if they come from real consumers who have experience purchasing from the same seller (Tran & Strutton, 2020). These reviews are considered reliable recommendations based on buyers' perceptions, evaluations, and experiences. Websites that display a large number of customer reviews are viewed as trustworthy and improve shopping experience. In the meantime, timely and inclusive reviews that are based on realistic facts regarding available products or services have a more persuasive effect on customers and enable them to make informed decisions with less efforts (Luo & Ye, 2019).

In accordance of the elaboration likelihood model, it is possible to describe how various features of customer reviews (quality and quantity) affect perceived values and behavioral intentions among customers (Luo & Ye, 2019). The amount and quality of information customers receive from others who have an experience in purchasing from a certain online seller significantly influences their perceptions and behaviour. Prior researches have verified the importance of customer reviews in affecting perceived value and online loyalty (Tran & Strutton, 2020; Yuan et al., 2020). Gauri et al. (2008) also found a positive link among online reviews and loyalty. Besides that, Yang et al. (2019) outlined that buyers tend to have greater trust towards peer recommendations compared to those of the seller, for the simple reason that friends and acquaintances are seen as unbiased and trustworthy. In spite of the possible doubts over the credibility of online reviews, clients often trust those written by customers over the recommendations and product information provided by the sellers that are disseminated via various advertising means. According to Eslami et al. (2018), almost 85% of customers trust online reviews that come from their friends, peers and family members. Ratings provided by real customers represent a true reflection of product quality and improve brand loyalty (Tran & Strutton, 2020). Nevertheless, despite the large emphasis of prior studies on the importance of online reviews in predicting brand loyalty, the role of perceived value in mediating the link among these constructs has received very little attention. Consequently, the subsequent hypotheses are proposed:

H8: Customer reviews positively affect perceived value.

H9: Customer reviews positively affect online loyalty.

H10: Perceived value mediates the relationship between customer reviews and online loyalty.

2.5. Perceived service quality

During the previous decades, offering superior service quality to customers has appeared as a driving force behind the success of online businesses. The ability of a seller's website to streamline the purchase process for clients from product search to order and delivery represents a clear indicator of the quality of a store's service (Kautish & Sharma, 2019). Accordingly, buyers' ratings depend on their experiences while interacting and using an e-commerce website of a seller, along with after sale service. By fulfilling the promises and meeting diverse expectations of customers via superior service quality, online retailers are likely to be perceived positively and gain a competitive advantage (Bhattacharya & Sharma, 2022; Chen et al., 2017). Moreover, buyers may favourably perceive the seller's willingness to provide support based on its service quality and online reviews (Kalia et al., 2016). Online retailers can improve the quality of their services by patiently listening to their clients, addressing their complaints, and actively responding to their key concerns as well as recommending supplementary goods or services, if required (Golara et al., 2021). Furthermore, Khan et al. (2019) reported that if buyers get adequate services from the sellers, their value perceptions and online loyalty towards it increase. Thus, it is necessary for online retailers to offer their clients with superior services, empathetically deal with any issues they face, and ensure proper interactions among them (Liang & Chen, 2009).

In the literature, equity theory was used to explain the link amongst service quality and perceived value, which ultimately predicts loyalty intention. The theory describes the ratio of sacrifice and benefits customers get in relation to that of the seller (Oliver & DeSarbo, 1988). Based on this assertion, the current research regards service quality as the intangible benefits allied with an exchange. According to

Yang and Peterson (2004), because of the high rivalry and the ease of quick comparisons in the e-commerce business, customer-perceived value has become particularly important in maintaining online loyalty. Earlier studies have shown that service quality is a positive predictor of perceived value (Pearson et al., 2012; Tsao et al., 2016) and online loyalty (Kaya et al., 2019; Raza et al., 2020; Suhartanto et al., 2019). However, insufficient research has been conducted to examine the mediating role of perceived value in online shopping context (Özkan et al., 2019). Hence, this study suggests the following hypotheses:

H11: Perceived service quality positively affect perceived value.

H12: Perceived service positively affect online loyalty.

H13: Perceived value mediates the relationship between perceived service quality and online loyalty.

In relation to the above hypotheses, literature review and underpinning theories presented above, the theoretical model for the current study is exhibited in [Figure 1](#).

3. Methodology

3.1. Data collection and sampling

The data of this study were gathered based on an electronic survey being disseminated on several shoppers of online retail stores in the UAE. Convenience sampling was used during data collection. Past literature reported that the usage of convenience samples is appropriate and suitable for studying consumer behavior in online shopping and executing multivariate data analysis. Firstly, the sampled participants were invited to take part in answering the questionnaire if they had any prior shopping experience at online stores in the UAE. Throughout the distribution of the survey, different channels of social media (e.g. Instagram, Twitter, E-mail, Facebook, and WhatsApp) were used. Moreover, the process of data collection has complied with the ethical requirements in order to avoid any biases. The participants were also assured that the answers will solely be utilized for research purposes, and their confidential information will not be shared anywhere. Furthermore, an ethical approval was received from the committee of research ethics at Skyline University College regarding following ethical guidelines in this research. However, the purpose and objectives of this research were described to the respondents during data collection process. Additionally, the participants have given their consent for taking part in this research and each of them has both verbally as well as in written form (based on answering a question in the survey regarding the consent to participate voluntarily) agreed and showed the consent to participate voluntarily without any influence. On whole, a total of 335 of the completed questionnaires were returned from the sampled participants. Among them, eight were omitted as they were not completed properly. Therefore, 327 usable surveys were utilized for analyzing the data. In terms of gender, 58.7% of the participants are males, while 41.3% are females. Additionally, 27.2% were in the age cluster of 36 to 44 years, 36.4.7% belonged to the age group which ranges from 26 to 35 years, 22.3% are aged between 18 and 25 years, whereas 14.1% were either 45 years or above. Lastly, the majority (77.1%) acquired a bachelor's degree or higher qualification.

3.2. Measures

Each variable in the research framework was measured using validated items. In order to maintain the content validity in the designed questionnaire, the opinions of academic experts (two professors) and store managers (two) were obtained. Experts from the industry were selected based on their professional experience and practical exposure in the retail industry. These experts have a long industrial experience at large stores and they are expected to possess adequate knowledge about the latest trends and current developments in retailing. They also possess real-life experiences in promoting their products and services. This is to ensure that the constructs are properly measured and their items are comprehensively covered. Moreover, the two Professor were selected from the same field of study (Marketing) because they had a long experience in research and have supervised many postgraduate students at higher education institutions. They also had an excellent record of publication in journals of high impact. Based on

the feedback from them, the measurement items were modified slightly in order to suit the context of the study and make it easy for the participants. The questionnaire consisted of two parts. Section A was comprised of demographic questions to understand about the respondents' characteristics. The next part included items used to measure the constructs (see [Appendix Table A1](#)). Website quality was measured by seven items taken from Filieri et al. (2015). Moreover, four items were extracted from the study of Kautish and Sharma (2019) to measure product assortment. To measure customer reviews, we adapted three items from Tran and Strutton (2020). Perceived service quality was also measured via three items, borrowed from Liang and Chen (2009). This paper also relied on four items adapted from Ponte et al. (2015) to measure customer-perceived value. Finally, online loyalty was measured using four items extracted from Diallo et al. (2015). All responses were collected on a '5-point Likert scale' (1 corresponding to strongly disagree while 5 corresponds strongly agree).

4. Analysis of results

The collected data was processed and analyzed through the software of SmartPLS 4.0. PLS-SEM is a robust second-generation approach for data analysis of complex models that generate estimates by using a component-based method (Hair et al., 2012). It is suitable for assessing both of the measurement as well as structural models while placing fewer boundaries on normality, sample size, and residual distributions.

4.1. Common method bias

Given that a self-reported technique and structured survey methods were employed to collect the data, there is a possibility for the occurrence of a common method bias, which might result in systematic measurement error and bias in the estimates of the connections among the constructs. To address this, common method bias is analyzed using the single-factor test proposed by Harman (1967), the comprehensive collinearity test proposed by Podsakoff et al. (2003), and confirmatory factor analysis (CFA). The findings showed that common method bias for the estimated model is not present in this study because when the items of all variables are constrained for loading on a single common variable, the percentage of variance explained did not exceed 50% (Harman, 1967). In addition, the comprehensive collinearity test showed that none of the VIFs was greater than 4, signifying the nonappearance of pathological collinearity.

Next, the measurement model assessment was executed through reliability analysis, convergent validity as well as discriminant validity test. Various tests, such as Cronbach's alpha, the composite

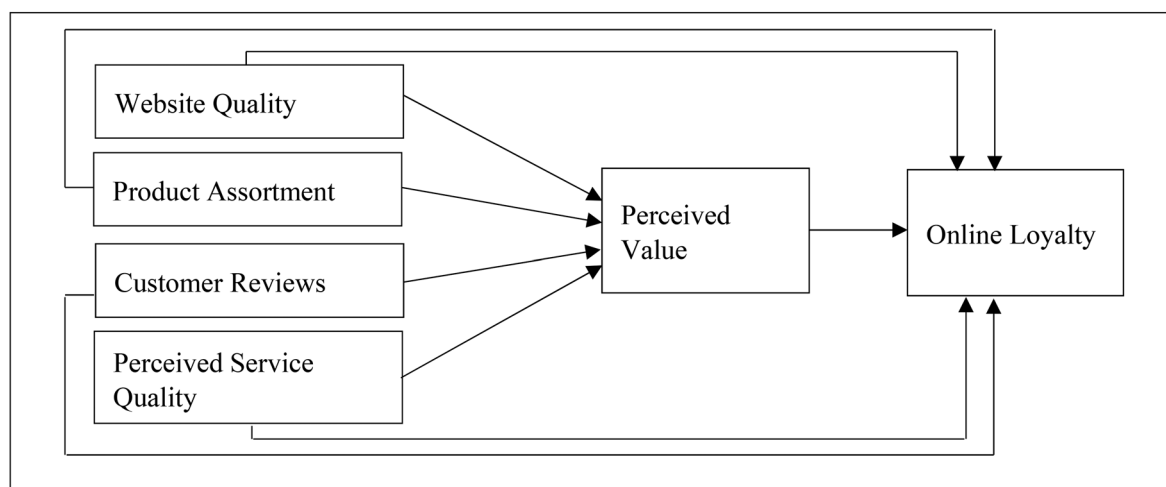


Figure 1. Theoretical framework.
Source: Authors' own.

Table 1. Results of CFA.

Constructs	Items	Loadings	Cronbach's Alpha	Composite reliability	AVE
Website quality	WQ1	0.769	0.835	0.882	0.599
	WQ2	0.766			
	WQ3	0.759			
	WQ4	0.772			
	WQ5	0.803			
Product assortment	PA1	0.748	0.823	0.881	0.652
	PA2	0.838			
	PA3	0.841			
	PA4	0.799			
Customer reviews	CR1	0.827	0.859	0.899	0.692
	CR2	0.857			
	CR3	0.901			
	CR4	0.733			
Perceived service quality	PSQ1	0.860	0.827	0.890	0.730
	PSQ2	0.839			
	PSQ3	0.864			
Perceived value	PV1	0.837	0.805	0.861	0.614
	PV2	0.863			
	PV3	0.831			
	PV4	0.565			
Online loyalty	OL1	0.768	0.869	0.908	0.711
	OL2	0.822			
	OL3	0.853			
	OL4	0.924			

Source: Authors' own findings. Calculations are based on sample collected through surveys using SmartPLS.

reliability, items' loadings, and the average variance extracted (AVE) were all used to verify the reliability and convergent validity of the measurement items. The findings displayed in [Figure 2](#) indicate that all factor loadings for the remaining items are more than the recommended value of 0.5 (Hair et al., 2012). Furthermore, both Cronbach's alpha and the composite reliability were calculated to check if there is internal consistency among the measurement scale of each variable. As displayed in [Table 1](#), all values surpassed the cut-off point of 0.7; therefore, reliability assumptions were approved (Hair et al., 2012). On whole, the findings demonstrated that AVE values surpassed the cutoff value of 0.5. As a result, it was confirmed that the requirements for convergent validity assumptions are also attained.

In this research, discriminant validity was verified across the measurement items of the selected scales via a comparison of the correlations that exist among the constructs and the square roots of the AVEs. Attaining acceptable discriminant validity can be possible when the square roots of the AVE surpass the correlation values among the variables in the same rows and columns (Chin, 1998). [Table 2](#) which is presented below shows that the findings support the assumptions of discriminant validity. Further support is evident in the below table as all correlation values among the constructs did not exceed 0.85.

Proceeded by the verification of both validity and reliability assumptions, the collinearity test was executed across all items based on the VIF formula. In general, all values of VIF were reported at lower than 5, signifying that there are no problems in collinearity. Once the stated assumptions are met, we proceeded to estimate the structural model and test the suggested hypotheses. This research relied on various measures for assessing the model fit of PLS-SEM. The criteria involved the Normed Fit Index (NFI), squared Euclidean distance (d-ULS), geodesic distance (d-G), and standardized root mean square residual (SRMR). Based on the analysis, it was verified that our structural model attained a proper fit with the collected data via reported tolerable values (SRMR = 0.057, NFI = 0.892, d-G=0.3649, d-ULS = 1.735) (Henseler et al., 2016). The analyses reveal that the value of SRMR is below the threshold of 0.08, whereas the value of NFI is higher than the recommended value of 0.8 (Hu & Bentler, 1998). This demonstrates that the estimated structural model fit has satisfactorily met the requirements.

As displayed below in [Table 3](#), research findings reveal that perceived value positively affects online loyalty ($\beta=0.860$; t-value = 24.930, $p<0.05$); consequently, H1 was confirmed. The results further support the positive impact of website quality ($\beta=0.298$; t-value = 3.337, $p<0.05$), online customer reviews ($\beta=0.250$; t-value = 2.640, $p<0.05$), product assortment ($\beta=0.257$; t-value = 2.065, $p<0.05$), and perceived service quality ($\beta=0.248$; t-value = 3.485, $p<0.05$) on online loyalty, with website quality

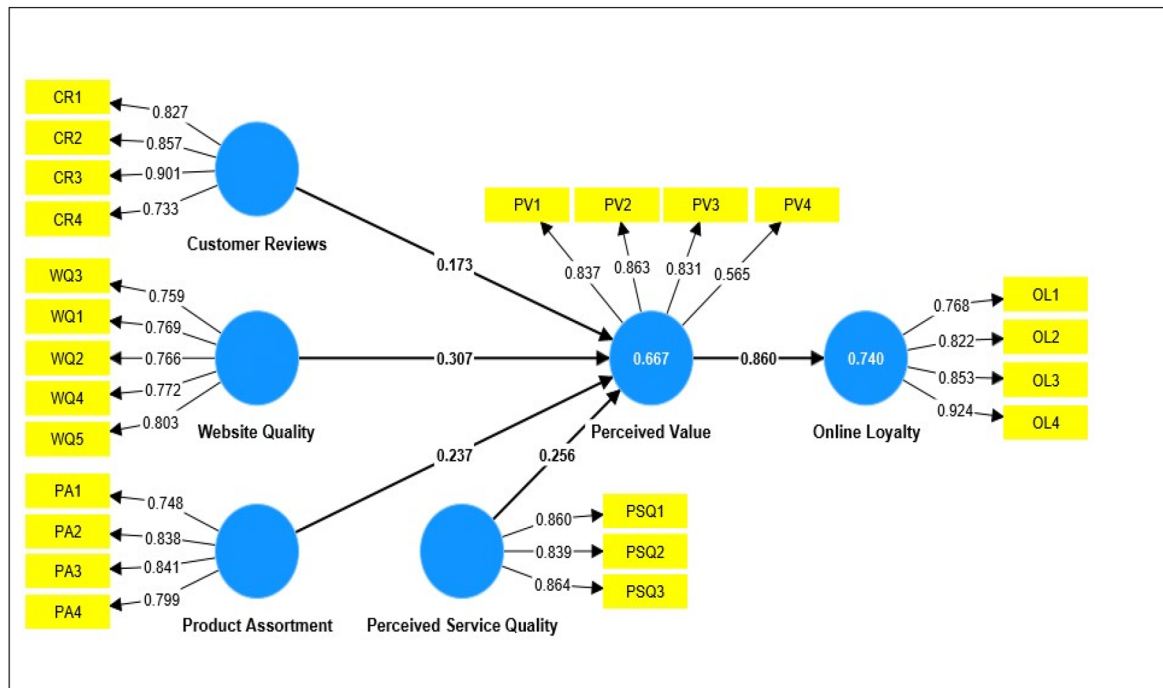


Figure 2. Measurement model.

Source: Authors' own findings. Calculations are based on samples collected through surveys using SmartPLS.

Table 2. Discriminant validity.

Construct	1	2	3	4	5	6
1. Customer Reviews	0.832					
2. Online Loyalty	0.518	0.843				
3. Perceived Service Quality	0.374	0.590	0.854			
4. Perceived Value	0.592	0.430	0.660	0.784		
5. Product Assortment	0.483	0.653	0.650	0.704	0.807	
6. Website Quality	0.680	0.660	0.603	0.746	0.706	0.774

Source: Authors' own findings. Calculations are based on sample collected through surveys using smartPLS.

accounting for the highest effect. The results also confirmed that website quality ($\beta=0.307$; $t\text{-value} = 2.581, p < 0.05$), perceived service quality ($\beta=0.256$; $t\text{-value} = 2.473, p < 0.05$), customer reviews ($\beta=0.173$; $t\text{-value} = 2.024, p < 0.05$), and product assortment ($\beta=0.237$; $t\text{-value} = 2.305, p < 0.05$) positively impact perceived value. Therefore, all the direct hypotheses are verified by the findings of this paper.

A key aspect in assessing the PLS-SEM is the examination of the predictive accuracy and relevance of the research model. To check the predictive accuracy, the R^2 which displays the percentage of variance in the dependent variable by the independent and mediating variables were used. As proposed by Hair et al. (2017), the values of R^2 should range between 0 and 1, and a greater value of R^2 indicates a higher degree of predictive accuracy. The results displayed that the independent variables (customer reviews, website quality, perceived service quality, and product assortment) explain 66.7% of variance in perceived value. Collectively, all variables in the research model explain 74% of variance in online loyalty, hence indicating a substantial degree of predictive accuracy among the constructs. Table 3 displays that perceived value has the greatest impact on online loyalty.

To check the mediating role of perceived value amongst the examined factors and online loyalty, the approach suggested by Preacher and Hayes (2008) was used. At first, the impact of customer reviews, website quality, perceived service quality, and product assortment (independent variables) on online loyalty (dependent variable) should be verified. According to their recommendations, if the value of probability (P) is statistically significant, then the primary criteria for the presence of a mediating effect is met. Next, the upper-level (UL) and lower-level (LL) values were determined. If zero does not fall between the lower and upper-level values with a confidence interval of 95%, then the mediating effect between the

Table 3. Hypotheses' results.

	Hypotheses		Std. Estimate	S.E	C.R	p-Value
H1	Perceived Value	→ Online Loyalty	0.860	0.035	24.930	***
H2	Website quality	→ Perceived Value	0.307	0.119	2.581	0.010
H3	Website quality	→ Online loyalty	0.298	0.089	3.337	0.001
H5	Product assortment	→ Perceived value	0.237	0.103	2.305	0.021
H6	Product assortment	→ Online loyalty	0.257	0.125	2.065	0.039
H8	Customer reviews	→ Perceived value	0.173	0.085	2.024	0.043
H9	Customer reviews	→ Online loyalty	0.250	0.095	2.640	0.018
H11	Perceived service quality	→ Perceived value	0.256	0.103	2.473	0.013
H12	Perceived service quality	→ Online loyalty	0.248	0.071	3.485	***

*** $p < 0.001$.

Source: Authors' own findings. Calculations are based on samples collected through surveys using SmartPLs.

Table 4. Mediation test.

	Hypotheses	Indirect effect	SE	t-value	95% LL	95% UL	Decision
H4	WQ→PV→OL	0.230	0.067	3.434	0.099	0.361	Supported
H7	PA→PV→OL	0.198	0.098	2.025	0.006	0.390	Supported
H10	CR→PV→OL	0.193	0.075	2.573	0.046	0.340	Supported
H13	PSQ→PV→OL	0.191	0.061	3.139	0.072	0.311	Supported

^aOL: online loyalty; PV: perceived value; W: website quality; PA: product assessment; CR: customer reviews; PSQ: perceived service quality.

Source: Authors' own findings. Calculations are based on sample collected through surveys using SmartPLs.

selected variables on online loyalty can be proven. Otherwise, there would be insufficient evidence to prove the mediating hypotheses. The findings presented in Table 4 indicate that the indirect influence of website quality on online loyalty is supported ($\beta=0.230$, LL = 0.099, UL = 0.361). Consequently, H4 is confirmed. The results also show that the indirect impact of product assortment ($\beta=0.198$, LL = -0.006, UL = 0.390) on online loyalty is significant; thus, H7 is accepted. Similarly, the mediating role of perceived value between customer reviews and online loyalty was also supported. Specifically, the results show that the indirect impact of customer reviews ($\beta=0.193$, LL = -0.046, UL = 0.340) on online loyalty is significant; thus, H7 is accepted. Lastly, the outcomes revealed that the indirect effect of perceived service quality on online loyalty was supported ($\beta=0.191$, LL = 0.072, UL = 0.311); accordingly, H13 is accepted.

5. Discussion

Fostering customer loyalty and growing existing customers are crucial for the survival and success of an online retailer. This study extends our understanding of previous research by investigating the effects of customer reviews, website quality, perceived service quality, and product assortment on buyers' loyalty and determining whether perceived values mediate the link between them. The results reveal that perceived value positively impact online loyalty. This finding is supported by past studies which established that perceived value is a key antecedent of online loyalty (Keshavarz & Jamshidi, 2018; Putri & Pujani, 2019). Previous research has demonstrated that when clients have favourable shopping experiences on a particular e-commerce website, their propensity to return to that website for additional purchases tends to be high (Tsao et al., 2016). Online shopping platforms that can be easily navigated and cater to specific buyer needs allow website visitors to easily and quickly purchase the desired products. Furthermore, consumers are likely have a more enjoyable and exciting shopping experience if online sellers offer comprehensive information on a wide selection of offerings, ship-purchased items in a timely manner, and set convenient procedures for returning purchased items (Kim et al., 2012). Hence, shoppers tend to return to buy again and even suggest it to peers and members of the family if they feel that they are receiving more hedonic and utilitarian values during the purchasing process.

The findings also reveal that website quality positively impact customers' online loyalty, both directly and indirectly, through perceived value. Certain earlier researches also concluded that website quality positively impact perceived value (Al-Debei et al., 2015; Kim & Niehm, 2009) and online loyalty (Kim & Niehm, 2009). E-commerce websites that display reasonable professionalism in their operations are likely to be perceived positively by the visitors (Tsao et al., 2016). In the marketing literature, it was reported that the descriptions and pictures of products and services on a seller's website enable buyers to form

satisfactory purchase decision; thus, the shoppers usually evaluate the system quality of the website in terms of ease of use, safety, browsing simplicity, response time, and the speed of downloading (Dickinger & Stangl, 2013). Additionally, customers' perceptions of endowed value in the form of convenience, enjoyment, and speed can be amplified if a website shows content that is described in details, relevant, and tailored to their demands (Honeycutt et al., 1998). Customers who have a favorable impression of a website's information quality are more likely to consider shopping there to be worthwhile. Accordingly, customers' perceptions of shopping websites' utilitarian relationship values tend to increase when system quality is improved. Taken as a whole, the findings show that online stores can improve value perceptions and win loyal customers by strategically providing relevant information, systems, and privacy protection.

Furthermore, the outcomes of this research confirm that perceived service quality, directly and indirectly, impacts online loyalty via perceived value. An empirical support can be found in earlier studies which confirmed that perceived service quality positively impacts perceived value (Özkan et al., 2019; Putri & Pujani, 2019) and online loyalty (Amin, 2016; Shankar & Jebarajakirthy, 2019). Zehir and Narçıkara (2016) also concluded that perceived value acts as a key mediator in the link between e-service quality and loyalty intention. According to Tsao and Tseng (2011), a key component of service quality on e-commerce platforms offers customers a high level of fulfillment. They specifically stated that online stores should provide customers with more information on the items they buy and their return policies, shipping times, and guaranteed delivery dates. Researchers have shown that assuring buyers regarding receiving their purchased items in a timely manner and can either return or exchange them if they wish to do so satisfies their expectations (e.g. enjoyment of waiting for orders and high predictability), which in turn reduces the stress typically associated with online purchases (Ha & Stoel, 2009). This means that online stores that emphasize delivering superior services to their customers can improve their confidence and build trust towards the website, thus reinforcing the relationship between both parties.

The findings have further depicted that online reviews directly and indirectly affect online loyalty through perceived value. This finding was supported by earlier research which confirmed that customer reviews have positive effects on perceived value and loyalty intention (Luo & Ye, 2019). Tran and Strutton (2020) also show that customer reviews posted by previous buyers are a valuable source of information for those seeking to make purchases online. This is because reviews usually come from customers who have already bought and used the product, so they accurately reflect their actual experiences, ratings, and thoughts. According to Ye et al. (2014), the costs of customers' decisions are lowered and perceived value increases when more reviews are available. As a result, customers' impressions of the number and quality of reviews might serve as a heuristic cue for the perceived usefulness of an online retailer (Luo & Ye, 2019). Bhatnagar and Papatla (2019) added that the influence and significance of customer reviews have increased over time because consumers regard them as reliable and unbiased sources of information. In addition, customers can learn about a product's performance in various contexts from online reviews. Given these findings, it is clear that online retailers would benefit from paying greater attention to delivering useful information to customers through online reviews to facilitate online shopping and improve store loyalty.

Finally, the outcomes verified that product assortment had positive direct and indirect effects on online loyalty through perceived value. These findings are supported by earlier studies confirming that product assortment is a positive predictor of perceived value (Sreeram et al., 2017) and online loyalty (Lombart et al., 2018; Mansori & Chin, 2019; Timonina-Farkas et al., 2020). Grosso et al. (2018) also argued that product assortment is a key antecedent of perceived value because it affects consumers' appraisal of the quality aspect of value, which subsequently reinforces loyalty towards the store. The variety of products available on a store's website is an important aspect that consumers tend to evaluate before making a purchase. In other words, a wider range of product colors, styles, and prices on e-commerce sites is associated with a greater browsing intention for utilitarian reasons (e.g. information search or price comparisons) (Sreeram et al., 2017). Prior research also indicates that a reduction in merchandise assortment may have a detrimental impact on shopping frequency and purchase quantity, as some customers may feel unable to find their desired item. Mathmann et al. (2017) added that consumers prefer large assortment sizes because their buying power and needs may differ from one to one. Therefore, the variety of products available to customers has a vital role in their overall perceived value, which in turn affects loyalty towards the store.

6. Conclusion

The focus of this research was centered on investigating the impact of customer reviews, website quality, perceived service quality, and product assortment on online loyalty and verifying whether perceived values mediate the relationship between them. The findings exhibited that website quality positively impacts online loyalty. Perceived value was also found to function as a key mediator. Practically, the finding offers valuable suggestions for marketing practitioners of online stores. While developing shopping websites, store managers should pay adequate attention to the usability of their sites by carefully testing page layout, accessibility, speed of download, and the organized classification of items. Furthermore, they should develop contingency plans in case of system malfunction, in conjunction with running regular maintenance to ensure effective operation of the system. Moreover, optimizing search results and addressing information overload necessitate the display of relevant content that is current, explicit, pertinent, and easy to comprehend. In particular, online retailers can improve the quality of their websites by including relevant, adequate, correct and comprehensive information about their products and services to customers. Besides that, they should use up-to-date systems that are easy-to-use and navigate with attractive visual appearance. To minimize the costs that website visitors can experience prior to, during, and post purchasing, it is essential to comprehend buyers' needs and expectations and satisfy them.

The results also provided evidence that online reviews positively affect perceived value and online loyalty. Perceived value also acts as a key mediator in this association. The results of this research also provide useful recommendations for marketing directors of online stores regarding the significance of customer ratings. Shoppers' perception of value, ability to make informed purchasing decisions, and loyalty can all be significantly influenced by the comments and ratings shared via online reviews. Accordingly, it is crucial for electronic retailers to prioritize both the quantity and the robustness of online reviews. Besides that, they should focus on articulating proper strategies to boost the level of shoppers' engagement in online reviews, hence increasing the quality of reviews. Generally, customer reviews have a critical role in the environmental factors of a store's website as satisfying customers' expectations in the online shopping settings is becoming more challenging. The inability to physically see, smell, or test an item prior to online purchase forces customers to think multiple times before placing an order. Through the encouragement of shoppers to post positive comments, online retailers can reduce the negative effect of these aspects. Accordingly, consumer-generated content affects shoppers' perceived value and improves their loyalty intentions (Luo & Ye, 2019).

In addition, the findings verified that product assortment directly and indirectly impacts both online loyalty through perceived value. The results suggest that online sellers should carefully plan their merchandise selections, which was found to be a key determinant of customers' perceived value and online loyalty. It is also necessary to ensure that the offerings comply with the market needs. Specifically, the products and services should match with the promises provided to clients. Furthermore, the assortments should be relevant to the existing as well as future market trends, and consider the diverse geo-demographics characteristics of target market. If retailers fail to keep pace with the ever-changing preferences of customers into their assortment strategy, their business tends to suffer on the long term. At the same time, the assortment strategy should be aligned with the process of retail planning in order to attain economic and inventory goals. Retailers should also ensure effective planning of assortments by determining which goods, sizes, colours, styles, and variations should to be stocked and offered to customers. By offering variety of products to the target market at one site, it will save the searching cost and enable them to get what they are looking for. Thus, 'what the customers want to buy' rather than 'what the retailers want to sell' must be regarded as the main emphasis in deciding what to sell.

Lastly, the findings supported the direct indirect impact of service quality perception on online loyalty via perceived value. Accordingly, the managers of online stores should realize that in today's highly competitive online market environment, offering superior customer service is crucial for the growth of their e-commerce. Furthermore, ensuring the reliability of their IT-based communication platforms is vital for developing customer satisfaction and long-term loyalty. Online sellers in the UAE can also offer customers the option of Cash on Delivery (CoD) along with the typical means of

online payment. This is essential for lowering the perceived risks associated with such types of online transactions. In the online context, it is also important to respond to customers' queries on time in a professional manner and provide solutions to any problem they face. Moreover, online retailers should ensure the on-time delivery of products to customers. As fulfilling promises is a vital aspect in the assessment of service quality, retailers should deliver the purchased product in proper condition and in the accurate time. Accordingly, enhancing the delivery speed, and permitting customers to replace or return unsatisfactory items with reasonable reimbursement can reinforce perceived value and eventually improve loyalty intention. Also, building long-term partnerships with different courier services for delivery and enabling customers to select their preferences could be a decent idea.

This paper provides various contributions to available literature in the field of online shopping. Theoretically, our study corresponds to the recommendations made in earlier literature for further exploration of the factors that may influence online loyalty, particularly, in Middle East countries. Primarily, it attempted to make a substantial contribution towards boosting and expanding our comprehension regarding the significance of the customer reviews, website quality, perceived service quality, and product assortment in predicting perceived value and online loyalty in the online shopping context. The present study also attempted to close theoretical gaps in the marketing literature by examining whether perceived value acts as mediating variable amongst the stated factors and online loyalty. This is the first study to integrate these factors into a one research model. In the earlier researches, different scholars reached at inconsistent findings regarding the impact of assortment selections on perceived value and online loyalty. Prior studies have also neglected the examination of customer reviews effect on perceived value and online loyalty. Therefore, the paper aims to make a remarkable contribution to the relevant literature by providing original findings from the UAE's electronic shopping settings.

There are a few limitations in this research that could be taken into consideration in future investigations. While several aspects affect perceived value and online loyalty, this paper mainly emphasized only four factors (customer reviews, website quality, perceived service quality, and product assortment). In upcoming research, it would be valuable to incorporate other important factors, for instance, perceived pricing and social media advertising. Moreover, the participants in this study were restricted to customers of online stores in the UAE; thus, next studies can gather the data from different nations in the Arab region in order to verify the results. Additionally, the personal information of the respondents (e.g. age, qualification, and gender) may exert a significant effect on customers' shopping behavior; hence, the present research framework could be expanded to include them as moderators in future studies. Moreover, the importance of mobile applications can be considered in future investigations to measure their effects on customer perceived value and online loyalty. Finally, a convenience sampling technique was adopted for gathering the data, which may inhibit the generalizability of the results. Consequently, other probability sampling approaches can be considered in future research to reach at more generalizable conclusions.

Authors' contributions

Conception and design, Jalal Rajeh Hanaysha and Fayez Bassam Shriedeh, analysis and interpretation of the data, Fayez Bassam Shriedeh.; the drafting of the paper, Jalal Rajeh Hanaysha and Osman Gulseven.; revising it critically for intellectual content, Jalal Rajeh Hanaysha. The final endorsement of the copy to be published Jalal Rajeh Hanaysha and Osman Gulseven. All authors have read and agreed to be responsible for all parts of the work.

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Data availability statement

The primary data used for generating the results of this research can be obtained on a reasonable request from the corresponding author.

References

- Albayrak, T., Karasakal, S., Kocabulut, Ö., & Dursun, A. (2020). Customer loyalty towards travel agency websites: The role of trust and hedonic value. *Journal of Quality Assurance in Hospitality & Tourism*, 21(1), 50–77. <https://doi.org/10.1080/1528008X.2019.1619497>
- Al-Debei, M. M., Akroush, M. N., & Ashouri, M. I. (2015). Consumer attitudes towards online shopping: The effects of trust, perceived benefits, and perceived web quality. *Internet Research*, 25(5), 707–733. <https://doi.org/10.1108/IntR-05-2014-0146>
- Amin, M. (2016). Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty. *International Journal of Bank Marketing*, 34(3), 280–306. <https://doi.org/10.1108/IJBM-10-2014-0139>
- Amirtha, R., & Sivakumar, V. J. (2022). Building loyalty through perceived value in online shopping—does the family life cycle stage matter? *The Service Industries Journal*, 42(15–16), 1151–1189. <https://doi.org/10.1080/02642069.2021.1960982>
- Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly*, 55(2), 178–204. <https://doi.org/10.2307/2786945>
- Bauer, J. C., Kotouc, A. J., & Rudolph, T. (2012). What constitutes a “good assortment”? A scale for measuring consumers’ perceptions of an assortment offered in a grocery category. *Journal of Retailing and Consumer Services*, 19(1), 11–26. <https://doi.org/10.1016/j.jretconser.2011.08.002>
- Bhatnagar, A., & Papatla, P. (2019). Do habits influence the types of information that smartphone shoppers seek? *Journal of Business Research*, 94, 89–98. <https://doi.org/10.1016/j.jbusres.2018.09.012>
- Bhattacharya, S., & Sharma, R. P. (2022). Advanced Services Accelerating Servitization: A Review Synthesis and Future Research Agenda. In Rana, S., Sakshi and Singh, J. (Ed.) *Exploring the Latest Trends in Management Literature (Review of Management Literature, Vol. 1)*. pp. 169–183. Emerald Publishing Limited, Leeds.
- Boardman, R., & McCormick, H. (2022). Attention and behaviour on fashion retail websites: an eye-tracking study. *Information Technology & People*, 35(7), 2219–2240. <https://doi.org/10.1108/ITP-08-2020-0580>
- Briesch, R. A., Chintagunta, P. K., & Fox, E. J. (2009). How does assortment affect grocery store choice? *Journal of Marketing Research*, 46(2), 176–189. <https://doi.org/10.1509/jmkr.46.2.176>
- Chen, X., Huang, Q., & Davison, R. M. (2017). The role of website quality and social capital in building buyers’ loyalty. *International Journal of Information Management*, 37(1), 1563–1574. <https://doi.org/10.1016/j.ijinfomgt.2016.07.005>
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295–336.
- Cho, M., Bonn, M. A., & Li, J. J. (. (2019). Differences in perceptions about food delivery apps between single-person and multi-person households. *International Journal of Hospitality Management*, 77, 108–116. <https://doi.org/10.1016/j.ijhm.2018.06.019>

- Dhingra, S., Gupta, S., & Bhatt, R. (2022). Comparison of e-service quality of Indian e-commerce websites. *International Journal of Indian Culture and Business Management*, 26(3), 407–426. <https://doi.org/10.1504/IJCBM.2022.124595>
- Diallo, M. F., Coutelle-Brillet, P., Rivière, A., & Zielke, S. (2015). How do price perceptions of different brand types affect shopping value and store loyalty? *Psychology & Marketing*, 32(12), 1133–1147. <https://doi.org/10.1002/mar.20851>
- Dickinger, A., & Stangl, B. (2013). Website performance and behavioral consequences: A formative measurement approach. *Journal of Business Research*, 66(6), 771–777. <https://doi.org/10.1016/j.jbusres.2011.09.017>
- Dwidienawati, Diena, Tjahjana, David, Abdinagoro, Sri Bramantoro, Gandasari, Dyah, Munawaroh, (2020). Customer review or influencer endorsement: which one influences purchase intention more? *Heliyon*, 6(11), e05543. <https://doi.org/10.1016/j.heliyon.2020.e05543>
- Eslami, S. P., Ghasemaghahi, M., & Hassanein, K. (2018). Which online reviews do consumers find most helpful? A multi-method investigation. *Decision Support Systems*, 113, 32–42. <https://doi.org/10.1016/j.dss.2018.06.012>
- Filieri, R., Alguezaui, S., & McLeay, F. (2015). Why do travelers trust TripAdvisor? Antecedents of trust towards consumer-generated media and its influence on recommendation adoption and word of mouth. *Tourism Management*, 51, 174–185. <https://doi.org/10.1016/j.tourman.2015.05.007>
- Gajanan, S., Basuroy, S., & Beldona, S. (2007). Category management, product assortment, and consumer welfare. *Marketing Letters*, 18(3), 135–148. <https://doi.org/10.1007/s11002-007-9011-4>
- Gao, L., & Simonson, I. (2016). The positive effect of assortment size on purchase likelihood: The moderating influence of decision order. *Journal of Consumer Psychology*, 26(4), 542–549. <https://doi.org/10.1016/j.jcps.2015.12.002>
- Gauri, D. K., Bhatnagar, A., & Rao, R. (2008). Role of word of mouth in online store loyalty. *Communications of the ACM*, 51(3), 89–91. <https://doi.org/10.1145/1325555.1325572>
- Gázquez-Abad, J. C., Martínez-López, F. J., Mondéjar-Jiménez, J. A., & Esteban-Millat, I. (2015). Mixed assortments vs. store brand-only assortments: The impact of assortment composition and consumer characteristics on store loyalty. *Revista Española de Investigación de Marketing ESIC*, 19(1), 24–45. <https://doi.org/10.1016/j.reimke.2014.11.001>
- Golara, S., Dooley, K. J., & Mousavi, N. (2021). Are dealers still relevant? How dealer service quality impacts manufacturer success. *Production and Operations Management*, 30(10), 3560–3578. <https://doi.org/10.1111/poms.13450>
- Grosso, M., Castaldo, S., & Grewal, A. (2018). How store attributes impact shoppers' loyalty in emerging countries: An investigation in the Indian retail sector. *Journal of Retailing and Consumer Services*, 40, 117–124. <https://doi.org/10.1016/j.jretconser.2017.08.024>
- Ha, S., & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research*, 62(5), 565–571. <https://doi.org/10.1016/j.jbusres.2008.06.016>
- Hair, J. F., Jr, Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433. <https://doi.org/10.1007/s11747-011-0261-6>
- Harman, H. (1967). *Modern Factor Analysis*. University of Chicago Press.
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial Management & Data Systems*, 116(1), 2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Honeycutt, E. D., Jr, Flaherty, T. B., & Benassi, K. (1998). Marketing industrial products on the Internet. *Industrial Marketing Management*, 27(1), 63–72. [https://doi.org/10.1016/S0019-8501\(97\)00038-2](https://doi.org/10.1016/S0019-8501(97)00038-2)
- Hsiao, K. L., Chuan-Chuan Lin, J., Wang, X. Y., Lu, H. P., & Yu, H. (2010). Antecedents and consequences of trust in online product recommendations: An empirical study in social shopping. *Online Information Review*, 34(6), 935–953. <https://doi.org/10.1108/14684521011099414>
- Hsieh, M. T., & Tsao, W. C. (2014). Reducing perceived online shopping risk to enhance loyalty: A website quality perspective. *Journal of Risk Research*, 17(2), 241–261. <https://doi.org/10.1080/13669877.2013.794152>
- Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424–453. <https://doi.org/10.1037/1082-989X.3.4.424>
- Jamil, M. (2001). *Consumer response to retail assortment reduction (Unpublished doctoral thesis)*. Indiana University, Indiana.
- Kalia, P., Arora, D. R., & Kumalo, S. (2016). E-service quality, consumer satisfaction and future purchase intentions in e-retail. *E-Service Journal*, 10(1), 24–41. <https://doi.org/10.2979/eservicej.10.1.02>
- Kamboj, K., & Kishor, N. (2022). Influence of customer perceived values on organic food consumption behaviour: Mediating role of green purchase intention. *FIB Business Review*. <https://doi.org/10.1177/23197145221125283>
- Kautish, P., & Sharma, R. (2019). Managing online product assortment and order fulfillment for superior e-tailing service experience: an empirical investigation. *Asia Pacific Journal of Marketing and Logistics*, 31(4), 1161–1192. <https://doi.org/10.1108/APJML-05-2018-0167>
- Kaya, B., Behraves, E., Abubakar, A. M., Kaya, O. S., & Orús, C. (2019). The moderating role of website familiarity in the relationships between e-service quality, e-satisfaction and e-loyalty. *Journal of Internet Commerce*, 18(4), 369–394. <https://doi.org/10.1080/15332861.2019.1668658>
- Kehinde, W. O., Ogunsade, A. I., Obembe, D., & Oluwasoye, M. P (2022). Entrepreneurial ecosystem and value creation: A systematic literature review. In Rana, S., Sakshi and Singh, J. (Eds.) *Exploring the Latest Trends in Management Literature (Review of Management Literature, Vol. 1)*, Emerald Publishing Limited, Leeds. pp. 225–247.

- Keshavarz, Y., & Jamshidi, D. (2018). Service quality evaluation and the mediating role of perceived value and customer satisfaction in customer loyalty. *International Journal of Tourism Cities*, 4(2), 220–244. <https://doi.org/10.1108/IJTC-09-2017-0044>
- Khan, M. A., Zubair, S. S., & Malik, M. (2019). An assessment of e-service quality, e-satisfaction and e-loyalty: Case of online shopping in Pakistan. *South Asian Journal of Business Studies*, 8(3), 283–302. <https://doi.org/10.1108/SAJBS-01-2019-0016>
- Kim, C., Galliers, R. D., Shin, N., Ryoo, J. H., & Kim, J. (2012). Factors influencing Internet shopping value and customer repurchase intention. *Electronic Commerce Research and Applications*, 11(4), 374–387. <https://doi.org/10.1016/j.elerap.2012.04.002>
- Kim, H., & Niehm, L. S. (2009). The impact of website quality on information quality, value, and loyalty intentions in apparel retailing. *Journal of Interactive Marketing*, 23(3), 221–233. <https://doi.org/10.1016/j.intmar.2009.04.009>
- Koo, D. M. (2006). The fundamental reasons of e-consumers' loyalty to an online store. *Electronic Commerce Research and Applications*, 5(2), 117–130. <https://doi.org/10.1016/j.elerap.2005.10.003>
- Kusumawati, A., & Rahayu, K. S. (2020). The effect of experience quality on customer perceived value and customer satisfaction and its impact on customer loyalty. *The TQM Journal*, 32(6), 1525–1540. <https://doi.org/10.1108/TQM-05-2019-0150>
- Li, H., Wang, X., Wang, S., Zhou, W., & Yang, Z. (2023). The power of numbers: an examination of the relationship between numerical cues in online review comments and perceived review helpfulness. *Journal of Research in Interactive Marketing*, 17(1), 126–139. <https://doi.org/10.1108/JRIM-09-2021-0239>
- Liang, C. J., & Chen, H. J. (2009). A study of the impacts of website quality on customer relationship performance. *Total Quality Management & Business Excellence*, 20(9), 971–988. <https://doi.org/10.1080/14783360903181784>
- Lombart, C., Labbé-Pinlon, B., Filser, M., Antéblan, B., & Louis, D. (2018). Regional product assortment and merchandising in grocery stores: Strategies and target customer segments. *Journal of Retailing and Consumer Services*, 42, 117–132. <https://doi.org/10.1016/j.jretconser.2018.02.002>
- Luo, Y., & Ye, Q. (2019). The effects of online reviews, perceived value, and gender on continuance intention to use international online outshopping website: An elaboration likelihood model perspective. *Journal of International Consumer Marketing*, 31(3), 250–269. <https://doi.org/10.1080/08961530.2018.1503987>
- Mansori, S., & Chin, J. H. (2019). Shopping mall attributes: tourist satisfaction and loyalty. *Management Dynamics in the Knowledge Economy*, 7(4), 571–590. <https://doi.org/10.25019/mdke/7.4.08>
- Mathmann, F., Chylinski, M., de Ruyter, K., & Higgins, E. T. (2017). When plentiful platforms pay off: Assessment orientation moderates the effect of assortment size on choice engagement and product valuation. *Journal of Retailing*, 93(2), 212–227. <https://doi.org/10.1016/j.jretai.2017.02.001>
- Nasiri, M. S., & Shokouhyar, S. (2021). Actual consumers' response to purchase refurbished smartphones: Exploring perceived value from product reviews in online retailing. *Journal of Retailing and Consumer Services*, 62, 102652. <https://doi.org/10.1016/j.jretconser.2021.102652>
- Oliver, R. L., & DeSarbo, W. S. (1988). Response determinants in satisfaction judgments. *Journal of Consumer Research*, 14(4), 495–507. <https://doi.org/10.1086/209131>
- Özkan, P., Süer, S., Keser, İ. K., & Kocakoç, İ. D. (2019). The effect of service quality and customer satisfaction on customer loyalty: The mediation of perceived value of services, corporate image, and corporate reputation. *International Journal of Bank Marketing*, 38(2), 384–405. <https://doi.org/10.1108/IJBM-03-2019-0096>
- Paulose, D., & Shakeel, A. (2022). Perceived experience, perceived value and customer satisfaction as antecedents to loyalty among hotel guests. *Journal of Quality Assurance in Hospitality & Tourism*, 23(2), 447–481. <https://doi.org/10.1080/1528008X.2021.1884930>
- Pearson, A., Tadisina, S., & Griffin, C. (2012). The role of e-service quality and information quality in creating perceived value: antecedents to web site loyalty. *Information Systems Management*, 29(3), 201–215. <https://doi.org/10.1080/10580530.2012.687311>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Ponte, E. B., Carvajal-Trujillo, E., & Escobar-Rodríguez, T. (2015). Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. *Tourism Management*, 47, 286–302. <https://doi.org/10.1016/j.tourman.2014.10.009>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/brm.40.3.879>
- Putri, W. K., & Pujani, V. (2019). The influence of system quality, information quality, e-service quality and perceived value on Shopee consumer loyalty in Padang City. *The International Technology Management Review*, 8(1), 10–15. <https://doi.org/10.2991/itmrb.190417.002>
- Qalati, S. A., Vela, E. G., Li, W., Dakhan, S. A., Hong Thuy, T. T., & Merani, S. H. (2021). Effects of perceived service quality, website quality, and reputation on purchase intention: The mediating and moderating roles of trust and perceived risk in online shopping. *Cogent Business & Management*, 8(1), 1–20. <https://doi.org/10.1080/23311975.2020.1869363>

- 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. *The TQM Journal*, 32(6), 1443–1466. <https://doi.org/10.1108/TQM-02-2020-0019>
- Rita, P., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer satisfaction on customer behavior in online shopping. *Heliyon*, 5(10), e02690. <https://doi.org/10.1016/j.heliyon.2019.e02690>
- Ruiz-Real, J. L., Gázquez-Abad, J. C., Esteban-Millat, I., & Martínez-López, F. J. (2017). The role of consumers' attitudes in estimating consumer response to assortment composition: Evidence from Spain. *International Journal of Retail & Distribution Management*, 45(7/8), 782–807. <https://doi.org/10.1108/IJRDM-09-2016-0163>
- Salunke, P., & Jain, V. (2022). Instagram marketing (2015–2021): A review of past trends, Implications, and Future Research. In: Rana, S., Sakshi and Singh, J. (Eds.) *Exploring the Latest Trends in Management Literature (Review of Management Literature, Vol. 1)* Emerald Publishing Limited. pp. 129–146.
- 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. <https://doi.org/10.1108/IJBM-03-2018-0063>
- Shukla, A., & Mishra, A. (2023). Role of review length, review valence and review credibility on consumer's online hotel booking intention. *FIB Business Review*, 12(4), 403–414. <https://doi.org/10.1177/23197145221099683>
- Singh, S., Jasial, S. S., Misra, R., & Bansal, A. (2024). Online retail service quality: What matters most for customer satisfaction? *FIB Business Review*, 13(5), 600–615. <https://doi.org/10.1177/23197145231151736>
- Sreeram, A., Kesharwani, A., & Desai, S. (2017). Factors affecting satisfaction and loyalty in online grocery shopping: An integrated model. *Journal of Indian Business Research*, 9(2), 107–132. <https://doi.org/10.1108/JIBR-01-2016-0001>
- Suhartanto, D., Helmi Ali, M., Tan, K. H., Sjahroeddin, F., & Kusdibylo, L. (2019). Loyalty toward online food delivery service: the role of e-service quality and food quality. *Journal of Foodservice Business Research*, 22(1), 81–97. <https://doi.org/10.1080/15378020.2018.1546076>
- Sun, H., Samad, S., Rehman, S. U., & Usman, M. (2022). Clean and green: the relevance of hotels' website quality and environmental management initiatives for green customer loyalty. *British Food Journal*, 124(12), 4266–4285. <https://doi.org/10.1108/BFJ-09-2021-1002>
- Timonina-Farkas, A., Katsifou, A., & Seifert, R. W. (2020). Product assortment and space allocation strategies to attract loyal and non-loyal customers. *European Journal of Operational Research*, 285(3), 1058–1076. <https://doi.org/10.1016/j.ejor.2020.02.019>
- Tran, G. A., & Stratton, D. (2020). Comparing email and SNS users: Investigating e-servicescape, customer reviews, trust, loyalty and E-WOM. *Journal of Retailing and Consumer Services*, 53, 101782. <https://doi.org/10.1016/j.jretconser.2019.03.009>
- Tsai, S. P. (2017). E-loyalty driven by website quality: The case of destination marketing organization websites. *Journal of Organizational Computing and Electronic Commerce*, 27(3), 262–279. <https://doi.org/10.1080/10919392.2017.1331674>
- Tsao, W. C., Hsieh, M. T., & Lin, T. M. (2016). Intensifying online loyalty! The power of website quality and the perceived value of consumer/seller relationship. *Industrial Management & Data Systems*, 116(9), 1987–2010. <https://doi.org/10.1108/IMDS-07-2015-0293>
- Tsao, W. C., & Tseng, Y. L. (2011). The impact of electronic-service quality on online shopping behaviour. *Total Quality Management & Business Excellence*, 22(9), 1007–1024. <https://doi.org/10.1080/14783363.2011.593869>
- Velnadar, R., Kumaravel, S. C., Lathief, J T A, Jayacyril, C M, Olson, B J., Parayitam, S, Rohit. (2024). Exploring the influence of positive-and-negative electronic word of mouth on online consumer behaviour and customer loyalty. *FIB Business Review*. <https://doi.org/10.1177/23197145241229915>
- Venter de Villiers, M., Visnenza, A., & Phiri, N. (2018). Importance of location and product assortment on flea market loyalty. *The Service Industries Journal*, 38(11–12), 650–668. <https://doi.org/10.1080/02642069.2017.1410541>
- Wu, L. Y., Chen, K. Y., Chen, P. Y., & Cheng, S. L. (2014). Perceived value, transaction cost, and repurchase-intention in online shopping: A relational exchange perspective. *Journal of Business Research*, 67(1), 2768–2776. <https://doi.org/10.1016/j.jbusres.2012.09.007>
- Wu, Y. L., & Li, E. Y. (2018). Marketing mix, customer value, and customer loyalty in social commerce: A stimulus-organism-response perspective. *Internet Research*, 28(1), 74–104. <https://doi.org/10.1108/IntR-08-2016-0250>
- Yang, S. B., Lee, K., Lee, H., & Koo, C. (2019). In Airbnb we trust: Understanding consumers' trust-attachment building mechanisms in the sharing economy. *International Journal of Hospitality Management*, 83, 198–209. <https://doi.org/10.1016/j.ijhm.2018.10.016>
- Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology & Marketing*, 21(10), 799–822. <https://doi.org/10.1002/mar.20030>
- Ye, Q., Qian, Z., & Song, G. (2014). The analysis of advertising pricing based on the two-sided markets theory in social network. *Nankai Business Review*, 19(1), 169–178.
- Yuan, C. L., Moon, H., Kim, K. H., Wang, S., & Yu, X. (2020). Third-party organization endorsement impacts on perceived value and B2B customer loyalty. *Industrial Marketing Management*, 90, 221–230. <https://doi.org/10.1016/j.indmarman.2020.07.021>
- Zehir, C., & Narçıkara, E. (2016). E-service quality and e-recovery service quality: Effects on value perceptions and loyalty intentions. *Procedia - Social and Behavioral Sciences*, 229, 427–443. <https://doi.org/10.1016/j.sbspro.2016.07.153>

Appendix A

Table A1. Measurements items of constructs

Construct	Item
Website quality	The website of this store is easy to use.
	The website of this store has well-organized hyperlinks.
	The website of this store has customized search functions.
	The website of this store provides opportunities to interact with other customers.
	The website of this store has high speed of page loading.
	The website of this store is easily accessible from different media.
Product assortment	The website of this store guarantees users' privacy.
	This website of this store provides a 'one-stop-shop' for my shopping.
	The choice of products on this website is sufficient.
Customer reviews	This website carries a wide selection of products to choose.
	This website serves the majority of my online shopping needs.
	The website of this store shows product reviews from other customers.
	When I buy a product online from this store, I read customer reviews that are presented on the Website.
Perceived service quality	Customer reviews are helpful while shopping on the website of this store.
	I like to read customer reviews on the website of this store.
	I believe that this online store takes good care of its customers.
Perceived value	This online store makes me feel that I am a unique customer.
	This online store is responsive to any problems that I encounter.
	Considering the money, I pay to purchase products on the website of this store, online shopping here is a good deal.
Online loyalty	Considering the efforts I make in shopping on this website, online shopping here is worthwhile.
	Considering the risk involved in shopping on this website, online shopping here is of value.
	Overall, online shopping on this website delivers me good value.
	I consider myself to be loyal to this online store.
	This online store would be my first choice.
	I will continue to shop online from the store.
	I am willing to maintain my relationship with this store.

Source: Filieri, et al. (2015); Diallo et al. (2015); Kautish and Sharma (2019); Liang and Chen (2009); Tran and Strutton (2020).