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# Social Networks and E-Loyalty: A New Means of Sports Training during COVID-19 Quarantines

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**Abstract:** Globally, governments implemented several quarantine periods to attempt to slow the spread of the COVID-19 virus. As a result, people were unable to carry out their daily activities in person, and many began to undertake activities online. Gyms and sports schools were among the economic sectors that were required to physically close their operations at the beginning of these quarantines. Thus, many people stopped exercising and turned to social networks as a form of entertainment. The aim of this study was to demonstrate how consumers found a new form of entertainment in the social networks of gyms and sports schools, which allowed them to be entertained and perform physical exercise at home. In this manner, consumers generated an e-loyalty towards the social networks of the gyms that they previously frequented physically. Thus, based on the e-loyalty of their social networks, gyms were able to identify a mechanism that enabled them to approach their consumers and continue offering a variety of products and services online, taking into account the context of COVID-19.

**Keywords:** e-loyalty; e-brand image; e-customization; e-purchase intention



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## 1. Introduction

The COVID-19 pandemic, which emerged in late 2019 in China and spread globally during 2020, has generated significant political, economic, and social changes. Measures taken by governments to reduce the rate of transmission of the virus include restrictions on the mobility of both people and goods and services, in order to enforce social distancing. These measures were the main alternatives proposed by the World Health Organization (WHO) at the beginning of the pandemic, according to Guan et al. [1].

Research by Sheth [2] suggests that during quarantine, many people transformed their homes into online stores in which they purchased products and services for their daily living needs. Homes also became both work and study locations, in addition to leisure spaces in which people performed physical activity. Based on this, practically all aspects of life were conducted within the individual's home.

During this quarantine period, a new type of consumer emerged, who purchased products and services through electronic channels, and significantly decreased their transactions in physical stores. In this way, a new commercial and social normality was generated, in which the use of online channels was encouraged for many activities that were previously carried out in person, Sheth [2].

However, the quarantines also generated various negative feelings such as fear, anxiety and depression. They also led to the development of a sedentary lifestyle that affected people's physical and mental health, Dominski and Brandt [3]; Brooks et al. [4].

Previous research of Nieman and Wentz [5] showed that there is a positive relationship between the practice of physical activity and the generation of defenses that occur in the human body; that is, the greater the physical activity, the lower the risk of suffering diseases

that may occur due to a sedentary lifestyle. Thus, it can be verified that the immune system responds in a positive manner to physical exercise.

According to Dominski and Brandt [3], research into the consequences of COVID-19 quarantines for people's physical inactivity remains at an early stage. However, it can be seen that people began to spend more time using various electronic devices, such as televisions, tablets, video games and smartphones for entertainment. Additionally, their physical activity decreased and food consumption increased, Ammar et al. [6].

It is noted that, during quarantines, gyms and sports schools, among others, were required to close their physical facilities due to the risk of spreading the virus that may occur in their facilities. Therefore, the only alternative mode of contact for these sports centers was via their social networks, as a direct and two-way online communication tool with their clients. This provided an option to counter people's sedentary behavior.

However, according to Kaur [7], although some people increased their reliance on social networks as a form of entertainment and a source of information, others used social media as a means of undertaking physical activity, breaking up their daily routine and exercising. This even enabled individuals to choose different types of exercise according to their own needs and tastes.

For this reason, social networks and mobile applications provided a significant opportunity during quarantines for gyms and sports schools to continue with some of their operations, but online. Thus, a significant increase was seen in the use of supervised exercise at a distance, due to the possibility of receiving personalized training from the comfort of their own homes. For this reason, via various social media platforms such as Facebook and Instagram, and other communication platforms, exercise classes moved from the physical world to the virtual world, Yang [8].

It is important to note that, at the end of quarantines, gradual and sector-specific re-openings took place, in which different companies were required to generate new strategies to face the new commercial, economic, and social challenges imposed by COVID-19. Thus, a new context was provided for consumption. Companies are now required to adjust their strategic marketing decisions to this new reality for this new type of consumption, Kraus et al. [9].

Taking into account the above, this research sought to expand the scarce literature that exists on consumer behavior and the relationship of gyms with their social networks as a new means of sports training during COVID-19 quarantines.

The novelty of this research lies in studying the adaptation of gym customers to virtual sports training. This situation was not common prior to COVID-19, which resulted in a sudden change in consumer behavior, as reflected in changes in both the operation of the gyms and their clients.

This paper is structured as follows. After presenting the introduction to the research, we explain the concepts of the theoretical framework, in which e-loyalty is the main variable of study. By comparison, the variables of e-brand image and e-customization are considered to be antecedents of e-loyalty, and the variable of e-purchase intention is considered to be their result. Furthermore, the variables e-brand image and e-customization are also considered to be antecedents of e-purchase intention.

After presenting our research model and the respective hypotheses, we explain the methodology used in this research, and present its results. Finally, the conclusions, recommendations, and future lines of research are presented.

## 2. Literature Review and Hypotheses

### 2.1. E-Loyalty

According to Oliver [10], loyalty is a multidimensional concept with four dimensions: cognitive, affective, attitudinal and behavioral. Cognitive loyalty is the first phase of loyalty and refers to information about the perceived attributes a consumer has of a brand. This information can be generated by previous consumer experiences or simply be provided in an indirect way by the brand. Affective loyalty is the second phase of loyalty, where

consumers feel satisfaction and pleasure from using that brand. The third cognitive stage refers to the level of commitment that a client has towards the brand, which leads to repurchase intention towards that brand. Finally, the fourth attitudinal phase refers to the final action and the full willingness to buy that brand.

In this way, loyalty is a relationship that creates mutual trust between businesses and their consumers. Thus, consumers are able to meet their own needs successfully, without looking for other competitors. On the other hand, for companies this means repeated sales to the same customer, ensuring their economic success, Seyed et al. [11]; Jin et al. [12].

This same situation can also occur in electronic transactions, where consumers' favorable attitudes a brand, product or service are generated towards their presence in the digital world, Srinivasan et al. [13]. With this in mind, for Zheng et al. [14] an online repurchase effect is produced by the consumer, due to a loyalty to a specific online trader. On the other hand, for Christodoulides et al. [15] consumers tend to be more loyal to *e-commerce* (electronic commerce) if they perceive a high degree of interaction. This means that two-way communication generates a greater positive experience and a greater personalization of its service; in addition to having a variety of products and services so that the customer can choose according to his preferences.

In this way, *e-loyalty* (electronic loyalty) represents a loyalty towards a specific online trader, through a buying behavior that is often repetitive. This can be achieved through a high quality service that satisfies the customer in their browsing experience, purchase and after-sale service, Al-dweeri et al. [16].

According to Vijay et al. [17] *e-loyalty* towards any online service provider is determined by a customer attitude towards a clear preference for a particular online site, which generates satisfaction with the online service.

Given this, *e-loyalty* can be divided into two types: behavioral *e-loyalty* and attitudinal *e-loyalty*. Behavioral *e-loyalty* is where consumers usually recommend a website or e-commerce in a specific way, generating a favorable word of mouth towards it. On the other hand, the attitudinal *e-loyalty* allows a single consumer to make repetitive purchases with the same online provider without looking for other suppliers, Masa'deh et al. [18].

Finally, it is important to highlight that the study conducted by Jeon and Jeong [19] confirms that loyalty evolves from the cognitive base (perceived quality of the website) to the affective (customer satisfaction) and finally to the action phase (customer loyalty).

## 2.2. E-Brand Image

The image of a brand is the way that customers perceive a certain store, product or service, through the symbolic and emotional characteristics of their brand. For this reason, the more positive symbols the brand represents, the greater the perceptions and emotional attitudes that are generated in the consumer. A strong brand image even allows a trader to overcome the animosity of the consumer for foreign brands in countries that generate some kind of conflict with the local one, Areiza-Padilla [20].

In this way, for Chang [21], the brand image creates a competitive advantage over other companies and allows the brand to stay in the consumer's mind, which results in increased loyalty.

For this reason, strong brand image generates a very powerful message in the consumer due to a high influence on his behavior. This means that consumers prefer brands with a positive image perception compared to other brands, Severi and Ling [22].

On the other hand, the image of a brand or store can improve the social status of the person who consumes it because the values that this brand represent are passed on to the people who consume it, Venkatesh and Davis [23]; Godsey et al. [24].

According to Zaid et al. [25], brand image is an idea that consumers have about the performance of a product or service, and where several factors must be taken into account, such as the emotions it arouses, the strategies they develop in their products, the sustainability of their processes, their reputation, the consumer's perceived confidence, their growth potential and the safety they convey.

Given the above, it can be said that the brand image influences consumer preferences. In this way, consumers usually refer to brands that generate a more positive image, compared to other brands with less positive image. This, in turn, influences the purchase intention and loyalty to that specific brand, Peña and García [26]. According to the above, Li et al. [27] considers that the brand image influences consumers' attitudes towards a brand and therefore their loyalty to it.

On the other hand, and taking into account the digital world, Gómez et al. [28], consider that the brand image perception can be improved through effective online communication by working on aspects that develop trust, proximity and familiarity.

According to Kostyk and Huhmann [29], social networks play a very important role in the creation of the image of a digital brand, because the greater the sustained interaction of a consumer with the content of a brand in social networks, the greater their loyalty to it.

For this reason, it is important that messages on social networks include high quality images which can evoke positive emotions towards the brand, such as joy, trust and loyalty. This also provides a decrease in stress that some situations create due to the excess of information in social networks, which also help brands to differentiate their message, Wang et al. [30].

Taking into account previous studies by Chang [21]; Zaid et al. [25]; Li et al. [27]; Cretu and Brodie [31]; Zhang et al. [32]; Areiza-Padilla and Manzi [33]; and Ogba and Tan [34], where they establish that the brand image positively influences *e-loyalty*, the following hypothesis is presented:

**Hypothesis 1 (H1).** *The e-brand image of social networks positively influences the e-loyalty of users.*

### 2.3. E-Customization

*E-customization* is the ability of an online business to adapt its products and services and the digital environment in order to offer a personalized service to its online customers, Srinivasan et al. [13]. In addition, customization also allows a connection between different individuals who exchange information regarding a specific product, service, brand or trade.

In this way, a recommendation or disapproval is generated towards this particular brand based on previous experiences of consumption that other users had. If positive, these recommendations increase the cognitive and emotional confidence of the consumer, Kankanhalli et al. [35]; Komiak and Benbasat [36].

Indeed, this customization allows brands to adapt advertising according to the exclusive tastes and preferences of customers. Hence, creating effective advertising through the management of interactive relationships in social networks and emails, Shanahan et al. [37].

Customization also provides content adapted to the specific needs and expectations of the user, Chouchani and Abed [38]. For this reason, a positive connection is generated between individual interests and consumer expectations with business content, Baek and Yoo [38]. For Bodoff and Ho [39] for example, the customization of a website is a process of collecting information and analyzing browsing patterns and transactions that users made in the past, in order to generate specific recommendations for the same user in the present and future interactions.

Especially, it is possible to generate personalized advertising for a customer with a specific profile, taking into account their previous navigation activities in the digital world, Tran et al. [40]. For Yadav and Rahman [41], social networks can offer services that meet users' preferences, maintaining the ability to provide more individualized experiences, which improves affinity and loyalty to the brand.

For example, previous research by Alshaketheep et al. [42], showed that during the COVID19 pandemic, personalized communication in social networks was useful to reduce user stress. This made consumers more loyal to the companies that exercised these personalized communication processes.

According to Oberoi et al. [43], social media marketing customization is a process of creating content for a specific type of consumer with a particular profile. In this way, the

consumer can be influenced with information of interest, promotions and special prices according to their own needs or characteristics.

On the other hand, the previous studies of López et al. [44] related to the identification of brand communities on Twitter, show how people in this social network try to generate a balance between the need for affiliation to a specific group and, at the same time, the need for distinction within that same Twitter group. In this way, this constant balance creates a greater connection with the brand and, therefore, a greater loyalty to it.

With this in mind, for this study we consider that gym´s (gymnastics centers) members, for example, claim to have affiliation with a specific brand group, thanks to the social media networks, but at the same time they will look for a distinction within that same group. This distinction can be achieved by taking classes and reading personalized messages created by the gym´s brand, which will make them feel unique and special.

Taking into account previous studies by Teng [45]; Coelho and Henseler [46]; and Tongxiao et al. [47], where it is shown that customization positively influences *e-loyalty*, for this investigation we consider that the customization in services offered through gym´s social networks will generate an increase in *e-loyalty*. With this in mind, the following hypothesis is presented below:

**Hypothesis 2 (H2).** *E-customization of social networks positively influences the e-loyalty of users.*

#### 2.4. E-Purchase Intention

According to Hsu et al. [48], the purchase intention is the consumer´s orientation to purchase or not to purchase any product. This means, a decision-making process in which a consumer considers the different justifications and perceptions of a product or service to decide whether to purchase it or not, Nuseir [49].

Normally, the purchase intention occurs after consumers perceive the utility and the functional or symbolic value of the product, which influences the consumer´s behavior to make a final purchase decision, Das [50].

Considering this, for Wu et al. [51], a combination of interest in buying and the possibility of actually buying a product is presented. However, intent to purchase can be considered as an attitudinal variable because it measures the possible contributions of the consumer to the brand through future customer behavior predictions by focusing on their attitudes.

In this way, the *purchase intention* is a subjective judgment of the consumer that represents a general evaluation of the product, based on the degree of perceived conviction of purchasing a specific product, Balakrishnan et al. [52].

According to Moslehpour [53], *e-purchase intention* reflects the desire of customers to buy through the internet. For this, e-commerce sites should be able to build trust with their customers through different features such as offering catalogues of their products online, specialized search functions on the website, price comparison and online payments. Similarly, it is necessary to generate a positive browsing experience for users. In this way *E-purchase intention* is the tendency of buyers to generate a fixed purchasing behavior in a virtual context.

Taking into account the previous studies of Hong and Cho [54]; Anderson et al. [55]; Porral and Lang [56]; Hsiao and Chen [57]; Arli [58]; and Ceyhan [59], where *e-loyalty* positively influences the purchase intention, for this study we believe that the *e-loyalty* towards the gym´s social media increases the probability that their consumers end up buying their services, even if they are online.

With this in mind, we present the following hypothesis:

**Hypothesis 3 (H3).** *E-loyalty in the social networks positively influences the e-purchase intention of users.*

On the other hand, and based on the previous studies of Erdil [60]; Agmeka et al. [61], for this study we consider that a positive *e-brand image* of the social networks of gyms and sports schools, generates a greater intention of purchase by the consumer. Finally, and

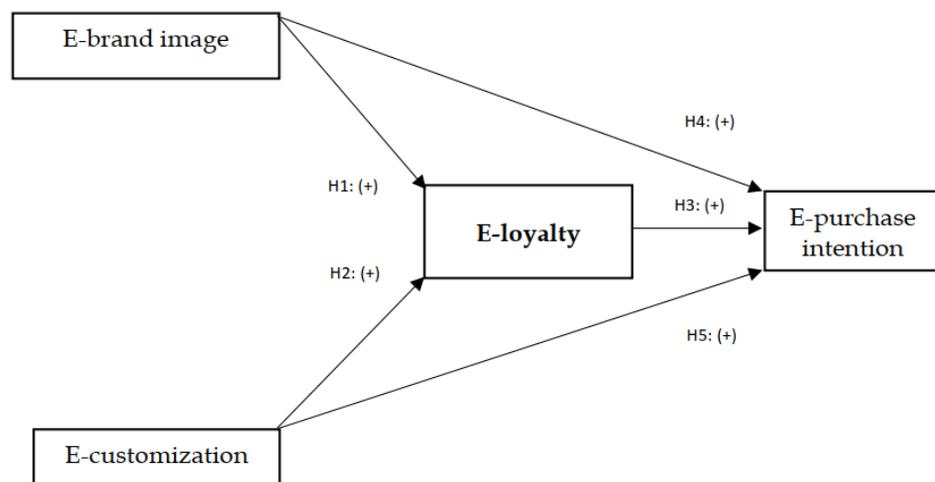
taking into account the studies of Park et al. [62], we consider that a customer who receives e-customization in their social networks, generates an *e-purchase intention* towards these same social networks. With this in mind, we present the following hypotheses:

**Hypothesis 4 (H4).** *E-brand image in the social networks positively influences the e-purchase intention of users.*

**Hypothesis 5 (H5).** *E-customization in the social networks positively influences the e-purchase intention of users.*

**Proposed Theoretical Model**

As a summary, in Figure 1 we present the model of our research and formulated hypotheses:



**Figure 1.** Research model and hypotheses. Source: Author’s own compilation.

**3. Materials and Methods**

*3.1. Sampling Procedure and Collection of Data*

This study was conducted during the first half of 2021, through a structured questionnaire with a convenience sample. Surveys were conducted online due to restrictions arising from COVID 19 necessitating avoiding face-to-face contact with others. These questionnaires were applied to Colombian gyms and sports centers costumers, who followed at least one of the gym’s/sports center’s social networks during the quarantine period: e.g., Facebook, Instagram, TikTok, Twitter, Snapchat.

It is important to mention that most of these centers in Colombia offer monthly memberships. That is, every month people can decide whether to continue or cancel their fitness plan. Although annual plans are also offered, that is to pay one year in advance, they are not the preferred option. In this way, the vast majority of people have monthly plans. Based on that, it is important for this research to know if people were willing to buy this service the following month, despite having to take classes online. In addition, we also consider that the quarantine period in Colombia began on 24 March 2020 and ended on 1 September 2020 (with some exceptions). In this sense, Colombia was one of the countries with the longest quarantine periods, with almost five months of continuous quarantine. It is also worth noting that during this quarantine period, even new gym members had to take virtual classes. Therefore, we propose that one of the effects of e-loyalty is intended purchase.

On the other hand, is important to consider that respondents also received at least one virtual class using the gym’s social networks as the main platform, either in a group or individual way. Examples of these virtual classes are: Zumba, aerobic dance, capoeira,

karate, judo, calisthenics, spinning, indoor cycle, leg and buttock training, combat core, total body, functional training, yoga, pilates, crosstech, etc.

Snowball sampling was used to select the respondents based on the prerequisites mentioned before. A total of 707 valid questionnaires were obtained.

Participants were previously informed of the research objectives and that the survey was voluntary and anonymous. Similarly, it was explained that the data collected would be treated jointly and not individually.

Of this sample, 50.5% of the respondents were men and 49.5% were women, so it was an equitable sample regarding gender. On the other hand, 57.9% of the total sample was between 18–25 years, followed by 27.7% between 26 and 35 years, which shows that the sample is mostly a young population.

It was also found that 47% of respondents were studying, which means that most of them are university students. Table 1 shows the sample distribution.

**Table 1.** Sample distribution.

	N	%
<b>Gender</b>		
Man	357	50.5
Woman	350	49.5
<b>Age</b>		
18–25	409	57.9
26–35	196	27.7
36–45	94	13.3
46–55	8	1.1
>55	0	0
<b>Occupation</b>		
Student	332	47
Worker	130	18.4
Self-employed	91	12.9
Unemployed	131	18.5
Housekeeping duties	23	3.3
Retired	0	0

Source: Author's own compilation.

### 3.2. Questionnaire Design and Variable Measurement

Participants' responses were measured on a 7-point Likert scale, where 1 was "totally disagree" and 7 "totally agree".

All the scales used in this study were adapted from scales previously validated in the literature and translated into the Spanish language, retaining their grammatical meaning but adapting them to the object of this study.

This study had both formative and reflective variables, as follows:

For reflective variables of *e-loyalty* and *e-customization* we used the scale of Srinivasan et al. [13] and for the *intention of purchase* the scale of Putrevu and Lord [63].

Finally, to measure the formative variable of *e-image*, the scale of Palacios-Florencio et al. [64] was used.

The analysis was carried out through the statistical program PLS-SEM 3.2.7, since it allows us to study formative variables and reflective variables simultaneously, Diamantopoulos et al. [65].

## 4. Analysis of Results

### 4.1. Measurement Reliability and Validity

Collected data was processed in two stages:

1. Validation of the measuring instrument;
2. Estimation of the structural model.

For the first stage, the assessment of the validity and reliability of the measurement model was taken into account. For the second stage, through the evaluation of the structural model, the weight and the magnitude of the relationships between the variables were evaluated.

For these analyses, PLS version 3.2.7 was used which allows the analysis of reflective and formative variables in the same study Diamantopoulos et al. [65]. For this research the variables *e-customization*, *e-loyalty in social networks*, and *e-purchase intention* are reflective, while the variable *e-brand image* is formative.

A descriptive summary of the results obtained from the reflective variables can be found in Table 1. It can be observed that the sample has a high *e-loyalty in social networks*. All the results of this variable are above 4 on a scale of 1 to 7.

On the other hand, it can be observed that in the results of the variables *e-purchase intention*, and *e-customization*, all their items are above 5, so that these two variables have the highest scores of the whole study.

For the first stage, to analyze the reliability of the variables, we analyzed the individual reliability (Cronbach  $\alpha$ ) and also the composite reliability measure (CR) with values above 0.7.

The extracted average variance (AVE) was used for convergent validity. Thus, it can be observed that all the loads of these variables were significant and higher than 0.7, while the value of the average extracted variance (AVE) of each variable is greater than 0.5. Taking this into account, there is an adequate convergent validity in the measurement model, Fornell and Larcker [66]. The results presented in Table 2 allow us to ensure the reliability and convergent validity of the scales used to measure the different variables included in the research model.

In Table 3, we can see the descriptive results of the formative variable, where it is evident that there is a positive *e-brand image* of the gym's social networks, which is vital for creating loyal customers.

On the other hand, taking into account that the variable *image* is formative, its analysis is made through indicators evaluating the possible multi-collinearity through the Variance Inflation Factor (VIF), and the magnitude of their weights.

To verify the discriminating validity, we used the Fornell and Larcker [66], criteria, where the square root of the AVE of each variable must be greater than the correlations it has with the rest of the variables of the model. As shown in Table 4, all the square roots of the AVE of each construct are greater than the correlation with any other construct in the model. Regarding the relation (HTMT), 0.9 is considered as the appropriate maximum cut-off value. As can be seen in Table 4, all the values of the relationship (HTMT) are below 0.9.

**Table 2.** Measurement model evaluation results.

Reflective Variables/Items	Mean	St. Dev	Loadings Factor
<b>E-customization (<math>\alpha = 0.725</math>; CR = 0.789; AVE = 0.878)</b>			
This social networks make purchase recommendations that match my needs	5.49	1.548	0.875 *
This social networks enables me to order products and services that are tailor-made for me	5.35	1.459	0.789 *
The advertisements and promotions that this social network sends to me are tailored to my situation	5.89	1.896	0.784 *
This social networks makes me feel that I am a unique customer	5.29	1.478	0.759 *
I believe that this social network is customized to my needs.	5.02	1.789	0.789 *
<b>E-loyalty in social networks (<math>\alpha = 0.827</math>; CR = 0.885; AVE = 0. 713)</b>			
(ELY1) I seldom consider switching to another social networks of gyms	5.25	1.828	0.720 *
(ELY2) As long as the present service continues, I doubt that I would switch social networks from this gym	4.39	1.925	0.771 *
(ELY3) I try to use the social networks of this gym whenever I need to make a purchase	4.45	1.889	0.719 *
(ELY4) When I need to make a purchase, the social networks of this gym are my first choice	4.75	1.862	0.779 *
(ELY5) I like using the social networks of this gym	4.29	1.989	0.763 *
(ELY6) To me, this gym has the best social media to train	4.78	1.972	0.722 *
(ELY7) I believe that this is my favorite gym social networks to train with	3.17	1.725	0.748 *
<b>E-purchase intention (<math>\alpha = 0.749</math>; CR = 0.725; AVE = 0.789)</b>			
(EPT1) It is very likely that I will sign up for this gym or sports school	5.57	1.359	0.749 *
(EPT2) Next time I need to exercise, I'll enroll in this gym or sports school	5.47	1.254	0.781 *
(EPT3) I will definitely enroll in this gym or sports school	5.29	1.329	0.863 *

$\alpha$  = Cronbach's Alpha; CR = Composite reliability; AVE = Average Variance Extracted; \*  $p < 0.01$ . Source: Author's own compilation.

**Table 3.** Measurement construct of e-brand image.

Formative Variables/Items	Mean	St. Dev.	Weightings	VIF	t	p-Value
(EBI1) Their social networks are appropriate for your category	5.22	1.472	0.349	1.213	3.473	0.000
(EBI2) I can clearly distinguish the social networks of this gym chain	5.86	1.141	0.571	1.029	5.671	0.000
(EBI3) I tend to pay attention to this social network's advertising	6.72	1.672	0.688	1.479	8.238	0.000
(EBI4) I tend to pay attention to the information they send me	5.09	1.671	0.359	1.213	4.147	0.000
(EBI5) This social networks is renowned for its good social behavior	6.21	1.243	0.473	1.142	7.242	0.000
(EBI6) This social network's image fits my personality	4.32	1.744	0.782	1.246	8.789	0.000

Source: Author's own compilation.

**Table 4.** Analysis for discriminant validity.

	<b>E-Customization</b>	<b>E-Loyalty</b>	<b>E-Purchase Intention</b>
E-customization	<b>0.647</b>	0.459	0.424
E-loyalty	0.475	<b>0.782</b>	0.254
E-purchase intention	0.297	0.489	<b>0.715</b>

On the diagonal: square root of the AVE values. Below the diagonal: correlations. Above the diagonal: HTMT values. Source: Author’s own compilation. Bold: maximum values.

4.2. Assessing Structural Model

In the second stage, the structural model was estimated. In this way, to verify the hypotheses, a Bootstrapping analysis of partial least squares (PLS-SEM) was performed using the Smart PLS 3.2.7 software with 5000 subsamples of the original sample size.

In Table 5 we can see that the trajectory coefficients were significant and functioned in the same way as the hypotheses proposed in all cases. On the other hand, the predictive capacity of the structural model was verified through the coefficients of determination  $R^2$ , which indicate the amount of variance of the endogenous variables explained by the constructs and  $Q^2$ , which are greater than 0. In this way, the model has an adequate explanatory and predictive value. This allows us to evaluate the meaning of the previously established causal relationships.

**Table 5.** Results of the structural equations model.

Hypothesis	Relationship	$\beta$	T	p-Value	Contrast
H1	E-brand image– e-loyalty in social networks	0.242	6.575	0.000	Accepted
H2	E-customization–e-loyalty in social networks	0.249	2.243	0.007	Accepted
H3	E-loyalty in social networks– e-purchase intention	0.323	3.781	0.025	Accepted
H4	E-brand image– e-purchase intention	0.321	3.793	0.000	Accepted
H5	E-brand image– E-purchase intention	0.349	2.548	0.000	Accepted

$R^2$  (E-loyalty in social networks) = 0.303;  $R^2$  (E-purchase intention) = 0.419.;  $Q^2$  (E-loyalty in social networks) = 0.327;  $Q^2$  (E-purchase intention) = 0.458. Source: Author’s own compilation.

**5. Conclusions and Discussion**

5.1. Theoretical Contribution

This research analyzed consumer behavior in the context of COVID-19, taking into account the quarantine period imposed by the government to mitigate the speed of contagion, and especially the new habits of online consumption that were created. For this reason, it is a valuable contribution both for companies and for the academic world since it contributes to the scarce literature that exists on this topic. This work focused on *e-loyalty* towards the social networks of sports centers and gyms, as a means for consumers to exercise from home due to the restrictions caused by the quarantines.

The results show a positive relationship between *e-brand image* and *e-loyalty*, as well as previous studies by Chang [21], Zaid et al. [25], Li et al. [27], Cretu and Brodie [31], Zhang et al. [32], Areiza-Padilla and Manzi [33], and Ogba and Tan [34]. The positive relationship between *e-customization* and *e-loyalty* is also confirmed, as in previous studies by Teng [45], Coelho and Henseler [46], and Tongxiao et al. [47]. In this way, we confirm Hypotheses 1 and 2 (H1, H2), and we can say that *e-brand image* and *e-customization* are antecedents of *e-loyalty*.

In addition, and considering that the hypotheses were based on previous research, this study allows us to conclude that the sports centers that managed to continue with a positive image of their brand during the quarantine period, generated at the same time a greater *e-loyalty* towards their own social networks. In this way, this could have helped to decrease customer loss. On the other hand, it is important to mention how customization is not only important in face-to-face sales, but also in virtuality. In this way, massive online customization is being generated, giving the customer better experiences in the virtual world.

On the other hand, the positive relationship between *e-loyalty* and *e-purchase intention* is also verified, as in studies by Hong and Cho [54], Anderson et al. [55], Porral and Lang [56], Hsiao and Chen [57], Arli [58], and Ceyhan [59], thus confirming hypothesis 3 (H3). For this reason we consider the *e-purchase intention* to be a result of *e-loyalty*. Finally, this study also found the positive relationship between *e-brand image* and *e-customization* with *e-purchase intention*, in the same way as previous studies by: Erdil [60], Agmeka et al. [61], and Park et al. [62]. In this way, hypotheses 4 and 5 are confirmed (H4, H5).

Through these results, we can see how in the virtual world, *e-loyalty*, *e-brand* and *e-customization* are strong drivers to generate an *e-purchase intention*. Given that one of the results generated by the quarantine period was the increase in virtuality and online shopping, sports centers must be able to have a vision for the future and create and maintain not only strategies for face-to-face interactions with consumers, but also virtual ones. In this way, they will be able to maintain or increase their income and be able to continue in the market.

Considering this, social networks allowed gyms to continue offering their products and services but online, adapting to a new reality of consumption.

It should be noted that consumers have greatly valued the ability to continue exercising in their homes despite quarantines, through the virtual services offered by gyms via their social networks. On the other hand, consumers also value the customization of the information they receive via these social networks, in addition to having a great desire to continue buying or consuming products or services online. That is to say, those consumers in some cases have adapted to the new reality of being able to take classes virtually from their favorite gym.

## 5.2. Managerial Implications

Quarantine periods due to the COVID pandemic forced millions of people to lock themselves in their homes for long periods of time. This unprecedented situation in the modern history of humanity has generated a new form of consumer behavior, in which the online world was the great protagonist.

Considering this, most people increased their internet consumption through different electronic devices, such as computers and smartphones, in which they could drive their social networks more often than before.

In this way, the different social networks took on a very important role for people, since the lack of physical interaction did not interfere with their online connections with other people, as well as with companies and brands. Taking this into account, the gym and sports centers sector was one of the economic sectors that had to, rapidly and momentarily, close its face-to-face operations due to quarantines.

However, despite the fact that their economic activity was based on people attending their facilities in person for some kind of physical activity, they managed to find in their social networks a very efficient communication and sales channel that allowed them to continue operating through virtual means.

Thanks to this, people found a way to entertain themselves in which they could also perform some physical activity, as most gyms began to offer live classes or personalized encounters with their clients via virtual platforms. This study was able to show that consumers value *e-brand image* and *e-customization* of the social networks of their sports centers, which cause them to increase loyalty too.

In this way, through social networks, gyms have found a mechanism of communication, sale, and constant interaction in the context of the COVID. This has allowed them to adapt to a new reality. Additionally, despite the elimination of quarantine periods, most gyms have continued to offer the same services they had during the quarantine through social networks. This is because many consumers decided to migrate to the internet for many aspects of their lives, as they seem to be easier and more convenient.

On the other hand, taking into account the sociodemographic characteristics of the sample, it can be seen that the majority of people are young university students, who, due to their age, usually spend more time connected to social networks, compared to older people. For this reason, we consider that young people are more used to this type of technology and, for this reason, it was easier for them to adapt to these changes in the new virtual methodologies for conducting sports classes. This could have helped gyms to continue offering some of their online services with relative success.

In this way, it can be seen how the social networks of gyms are a strategic tool that should be used by the managers of other sports centers for several reasons: first, because they are a two-way communication channel between the gym and its customers; second, because they are also a sales channel where the gym can sell its product and services; third, because in the context of COVID-19, a new type of consumer appeared who is able to exercise at home without attending the physical facilities, and who is willing to pay for online training; fourth, because the COVID-19 pandemic generated a greater presence of people on social networks and also generated the emergence of new social networks. For this reason, gyms must be present on these social networks and in the new ones that arise; fifth, because the world changed with COVID-19 and accelerated the online presence of millions of people, for whom virtuality was already part of their daily lives.

### 5.3. Limitations and Future Research

Below, we present some limitations of this research, which are, in themselves, future lines of research. Most of the sample belongs to a segment of very young people; for this reason it would be interesting to apply the same research but with people older than 40 years.

The reason for this is to see if older people are e-loyal to social networks and if these platforms work well as a sales and communication channel for gyms. A future line of research could be a cross-cutting study between different sectors of the economy and how, during the pandemic, social networks and strategies that influence brand loyalty or the products of these companies were handled.

Additionally, a comparative study could be conducted before, during and after the pandemic with respect to the use of consumer social networks and the strategies that were implemented to improve customer *e-loyalty* at each of these stages.

In the same way, we consider that the physical restrictions for practicing any sport or gymnastic activity that occurred during the hardest times of the pandemic should be studied. This is because people had to adapt their own homes to be able to work, study, and to play sports all at the same time.

It would also be interesting to know which home spaces (for example kitchen, living room, etc.) were used for this, in addition to knowing which device was commonly used to connect to these online classes, e.g., whether people participated in online classes through mobiles, computers, tablets or SmartTVs.

In this way, it would be possible to know if these physical limitations at home generated an impediment to playing sports from home, or if virtuality was highly beneficial for overcoming these physical impediments.

We also consider that it would be interesting to study the electronic word of mouth (eWOM) generated by these consumers, bearing in mind that social networks generate a two-way communication between the consumer and the gyms, and between the consumers themselves. In this way, it is important to identify how consumer feedback can even generate e-loyalty benefits for these sports centers.

On the other hand, and taking into account the previous studies by Brancaccio et al. [67] and Shaw et al. [68], we consider it important to be able to investigate both the habits and the sporting attitudes that people have, and analyze these sports behaviors at three different times: before quarantine, during quarantine, and after quarantine. Taking this into account, we wish to be able to relate these sports habits with the use and interaction of social networks in gyms, and to be able to identify how these habits have adapted to new technologies and social distancing as a measure of prevention COVID-19. Similarly, we consider it important to make comparisons between sports habits and their relationship with social networks between women and men, to know if there are significant differences between both genders.

On the other hand, and taking into account the studies of Palazon et al. [69], we consider it important to be able to study the influence that friends exert in social networks, in the clients of the gym, and how these friends can affect electronic loyalty to these types of sporting establishments. This is due to the links that are generated between friends in the different social networks, which end up affecting the consumption behavior of a person in the online world.

In addition, taking into account the studies of Palazon et al. [70], we believe that it should be investigated the brand love that the client feels towards the brand of your gym and its relationship in the different social networks of that brand. In this way, it will be possible to identify the brand love for the brand of this type of sports establishments and the connections that are generated between the consumer and those social networks.

Finally, it is proposed to carry out the same study, but focusing on the main gyms and sports schools that are market leaders, and carrying out the research only on specific brand users. In this way, it could be identified how e-loyalty performs in the social networks of the principle competitors of the industry, compared to the smaller gyms.

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