An explanatory and predictive PLS-SEM approach to the relationship between organizational culture, organizational performance and customer loyalty: The case of health clubs

Purpose: The aim of this study is to analyze the impact and predictive capacity of organizational culture on both customer loyalty and organizational performance in health clubs using data from managers and customers of health clubs in Spain.

Design/methodology/approach: A total of 101 managers were asked to measure organizational culture and organizational performance and 2,931 customers were asked to indicate their customer loyalty. The proposed hypotheses were tested and their predictability assessed through PLS-SEM. A composite concept was adopted to analyze the relationships between the different constructs and their indicators.

Findings: The findings suggest that organizational culture has a positive relationship with both customer loyalty and organizational performance. The four main dimensions of organizational culture that influence this relationship are, in order of significance, organizational presence, formalization, atmosphere, and service-equipment. Our model has a very good predictive power for both dependent variables.

Originality/value: Customer loyalty is an aspect of health clubs that can be improved. This study highlights the importance of creating a strong organizational culture in health clubs since it enhances and predicts customer loyalty and organizational performance. Its predictability has already been tested with samples of managers and customers, with the analysis being performed from the perspective of the organization's management and customer perceptions. This study also contributes to the field of sport management, using a predictive PLS-SEM technique.

Keywords: Organizational culture; Prediction; Performance; Fitness industry; Health clubs; PLS-SEM.

1. Introduction

The fitness industry as a sector continues to experience global growth (International Health, Racquet & Sportsclub Association, IHRSA, 2016). The Europe Active & Deloitte (2017) report notes that the number of customers in Europe grew by 4.4% in 2016 to 56.4 million, with a turnover of 26.3 billion euros. The context of this study is the fitness industry, with a focus on sports companies that are health clubs. The success of health clubs depends on their sustained ability to generate sport services for their users (Athanassopoulou and Mylonakis, 2009). Many health clubs are facing the challenge of changing environments and hypercompetitive conditions, characterized by the scarcity of resources, competition, and uncertainty (Tsitskari *et al.*, 2006), creating interest in the analysis of consumer behavior in these health clubs. As customer loyalty is one of the most problematic aspects in the fitness industry (Clavel *et al.*, 2017), most of the existing studies have centered on the search for variables that influence customer loyalty (García-Fernández *et al.*, 2014a). In fact, employees play a key role in the perception of services and, in turn, consumer behavior (Campos-Izquierdo *et al.*, 2016) and so if employees are satisfied, they engender a more positive behavior in their customers (MacIntosh and Doherty, 2010). Different studies have therefore analyzed which variables might affect employee satisfaction. Organizational culture emerges as a key factor for greater employee satisfaction and can positively influence customers (MacIntosh and Walker, 2012).

Authors such as Deal and Kennedy (1982) state that organizational culture influences the way organizations adapt to market demands, exercising considerable influence on the overall function of the organization and helping to improve its performance. Gregory *et al.* (2009) suggest that organizational culture influences the attitude of its members, which is manifested through their behavior and relationships with customers.

An organizational culture based on empowerment and employee interaction therefore affects knowledge creation (Nonaka, 1994). In fact, organizational culture is critical for the creation and dissemination of knowledge throughout the organization and should be promoted by managers to increase the dialogue between individuals and groups and create new ideas, leading to the creation of new knowledge (Gold *et al.*, 2001). This creation of new ideas and new knowledge supports the development of the organization and the improved organizational performance. For this reason Aydin and Ceylan (2009) state that culture is linked to performance, as the organization increases its ability to change, reflected in customers' perception and loyalty (Hu *et al.*, 2012).

Despite the high turnover of customers in the fitness industry and its increasing global importance, existing studies have not tested whether organizational culture predicts customer loyalty in health clubs. While there is some evidence in the literature for the influence of organizational culture on organizational performance (e.g., Nazarian *et al.*, 2017), it has not been tested in sports companies. Similarly, the studies that have analyzed organizational culture in models of causal relationships in the fitness industry use the exploratory and explanatory view, but do not test the predictability of this kind of model. The aim of the present study is to analyze the effect and predictive capacity of organizational culture on both customer loyalty and organizational performance in health clubs.

This study makes several important theoretical contributions: (i) it introduces organizational culture as an important antecedent of what happens inside (organizational performance) and outside organizations (customer loyalty); (ii) it demonstrates the impact and predictive capacity of organizational culture on customer loyalty and organizational performance in health clubs; (iii) it provides evidence for the power of PLS-SEM to explain and predict (Henseler, 2018) sports customer loyalty and firm performance of health clubs using variables of organizational culture in a sample of managers and customers in Spain.

The paper is organized as follows: Section 2 reviews the relevant literature on organizational culture, customer loyalty, organizational performance, and the relationships between the proposed variables. Section 3 explains the design and method of the empirical study. Section 4 presents the results of the current study and finally, Section 5 discusses the findings and the conclusions.

2. Theoretical framework

2.1. Organizational culture

Organizational culture has been studied from different perspectives in sport management literature, such as the choice of research paradigm; as a lens through which the study is viewed; and as a motive for seeking knowledge through research (Maitland *et al.*, 2015). The first perspective explains the nature of what is known about organizational culture, how this knowledge is gathered, the position of the researcher, and the impact of their values on the findings. The second perspective aims to analyze organizational culture according to the lens through which the culture is viewed, and allied to this, the definition and operationalization of culture. This last perspective is based on how the relationship with the researcher's reasoning could be derived from the search for technical knowledge, and practical or emancipatory interest. Regarding the previous perspectives, Maitland *et al.* (2015) indicate that very few studies examine the practicality of organizational culture. Specifically, the health and fitness industry literature is still limited (Bailey *et al.*, 2017), and most studies have only analyzed the influence of organizational culture on an organization's employees (MacIntosh and Walker, 2012).

Despite this limitation in the sport management literature, the concept of organizational culture was initially described by Barney (1986) as a set of values, beliefs, assumptions and symbols. Schein (2010) later describes "a pattern of shared basic

assumptions that the group learned as it solved its problems of external adaption and internal integration, which has worked well enough to be considered valid and, thus, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (p. 18). This attitude is definitely, "the way we do things here" (Bailey *et al.*, 2017, p. 2).

For this reason, Parker (2000) proposes the sense of identity among individuals within the organization, trying to create a shared understanding of how things are done in the organization. However, although this is normally the responsibility of the administrators, it is not always determined by those higher positions and gaps may occur between the administration and staff. This is caused by the ambiguity, uncertainty, and confusion regarding the leaders' expectations of what they are trying to instill in their employees, and what they truly perceive. The gap between administration and staff can damage the strength of the culture since not everyone within the organization has the same level of understanding and they may have different goals. If there is a strong culture, this arises from deeply held common values and beliefs about the organization. Equally, a strong culture reduces the uncertainty around the organization members' expectations through a system of rules concerning how they should behave, establishing consistent values agreed upon by all (Deal and Kennedy, 1999).

2.2. Organizational culture and customer loyalty

Different authors assert that organizational culture influences employee behavior (Naranjo-Valencia *et al.*, 2016). This can be seen through its influence on behavior, job satisfaction (MacIntosh and Doherty, 2010), and consequently, employee attitude and motivation. Therefore, if employees are motivated, they undertake their work responsibilities more effectively and improve customer relationships.

It is clear that customer relations are fundamental to a good experience, which is followed by satisfaction. Koutroumanis *et al.* (2012) state that customers who are not satisfied with the services offered will choose another type of service and, as a result, not be loyal customers. In fact, customer loyalty is defined in this paper as "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (Oliver, 1999, p. 35). Furthermore, Davidson (2003) concludes, "the culture and climate shape not only employee actions but also their commitment to a service ethic. It is this commitment to service that is of paramount importance if customer satisfaction is to be achieved" (p. 211).

Authors such as Bitner *et al.* (1997) indicate that a positive customer experience is the process and result of employee interaction. This implies that employees play a fundamental role in the customer experience. Therefore, if organizational culture is the DNA of the organization's everyday life and influences employee behavior, it could influence the final experience of the customer (Kao *et al.*, 2016).

In the same way, Gonçalves *et al.* (2014) state that employee trustworthiness is one of the most determinant factors of customer loyalty. Customers' experience and behavior (service consumption) will therefore be influenced by their interaction with front-line staff (Chiu-Ying *et al.*, 2016), and consequently by the organizational culture that influences the members of the organization (MacIntosh and Doherty, 2010).

2.3. Organizational culture and organizational performance

According to Nazarian *et al.* (2017), organizational performance is crucial for managers as it measures organizational success in terms of its objectives. Its significance makes it essential to know which variables could influence performance and hence, the success of the company.

In this paper, organizational performance is defined as "the outcomes of various organizational processes which occur in the course of its daily operations" (Hussein *et al.*, 2014, p. 300).

Among the variables analyzed, organizational culture has been investigated in a large number of studies at different points in time and in different geographic contexts (Gálvez and García, 2011). In fact, several studies propose a causal relationship between organizational culture and performance (Su and Chen, 2013), although they do not all confirm this relationship (Yesil and Kaya, 2013). Sonrensen (2002) concludes that culture influences organizational performance in stable environments, although if volatility increases, its influence decreases considerably and Henri (2006) posits that organizational culture has a direct effect on performance measures. The results obtained by O'Cass and Ngo (2007) are interesting; they indicate that market orientation (a type of organizational culture) influences performance. Moreover, if there is a strong organizational culture, this will influence the creation of value for the customer, and improve organizational performance.

Similarly, recent studies such as those by Nazarian *et al.* (2017) and Jogaratnam (2017) claim that culture indirectly influences organizational performance in the hospitality industry (hotels and restaurants). Jogaratnam (2017) states that organizational culture directly and indirectly influences organizational performance.

2.4. Hypotheses development and proposed model

The literature review highlights the importance of organizational culture and its influence on two decisive variables for organizational success: customer loyalty and organizational performance. First, different authors show that culture influences job satisfaction and therefore the motivation to perform tasks (MacIntosh and Doherty, 2010), meaning that if there is a lack of satisfaction in the workplace, this could affect the production of services. In

particular, levels of interaction between health club employees and customers are very high (MacIntosh and Doherty, 2010) and therefore, if employees are satisfied, there will be greater opportunities to offer a better customer service. Moreover, clients will have a positive experience (Gonçalves *et al.*, 2014) which, in turn, will increase their loyalty levels to repurchase the service. Similarly, Gillespie *et al.* (2008) note that a customer-oriented culture may affect customer satisfaction and therefore loyalty to the organization. Likewise, Brady and Cronin (2001) state that organizations with strong customer-oriented cultures could also create positive links with more of their loyal customers. Based on these arguments, we have developed the following hypothesis:

H1. Organizational culture has a significant positive influence on customer loyalty.

Gálvez and García (2011) maintain that organizational culture is linked to organizational performance through its influence on the behavior of the members of the organization. Authors such as Ogbonna and Harris (2000) argue that values that are widely shared and strongly rooted in an organization's culture allow employees to share knowledge and create innovations. In this way, if employees develop knowledge and in turn establish an environment of continuous improvement, the organization will perform better (Nazarian *et al.*, 2017). For this reason and in light of how organizational culture is managed to improve performance, we propose the following hypothesis:

H2. Organizational culture has a significant positive influence on organizational performance.

A review of the existing literature reveals the lack of research into the relationship between organizational culture, customer loyalty, and organizational performance. More specifically, these studies have not considered health clubs in Spain. Furthermore, we use a new and recent development in quantitative research methods based on composites (PLS-SEM) (Cepeda *et al.*, 2016; Shmueli *et al.*, 2016) to assess the predictive power of these hypotheses.

The proposed model is shown in Figure 1.

*Please insert Figure 1 here *

3. Methodology

3.1. Data collection

The population chosen for this study consists of private sector Spanish health clubs at the national level. Spain is known globally as one of the countries with the largest number of fitness centers and the greatest number of customers (International Health, Racquet & Sportsclub Association, IHRSA, 2016).

The study is cross-sectional in order to allow a sample of the sector. Due to the complexity of identifying the total number of sports facilities, the researchers opted for a convenience sampling using the snowball strategy, yielding a response of 101 private health clubs (Zikmund *et al.*, 2012). The data was collected from two sources: health club managers and their customers. The use of multiple source data minimizes potential common method bias and single respondent bias.

To meet the objectives of the study, data was collect from as many managers as possible from the health clubs identified. A sample was obtained of 101 managers (33 women and 68 men) from the sporting organizations described above, aged between 25 and 57 years ($M = 35.54$; $DT = 5.88$). Likewise, to assess customer perception, the researchers set a goal of 20-30 customers per facility, obtaining a sample of 2,979 clients, of which 2,931 (1,221 women and 1,710 men) were used. The median age of the customers was 36.48 years ($DT = 12.19$).

Each sports facility was contacted to explain the basis and goals of the study. Each participant (general manager or person occupying the highest administrative position) was

invited to complete the questionnaire. Customers were chosen randomly from those attending the health club between 17:00 and 20:00. Data was collected over an eight-month period.

3.2. Measures

Data was collected through two questionnaires, depending on the type of participant. Health-club managers evaluated the organizational culture and performance of their health club, and the health-club customers answered another questionnaire relating to their loyalty to the club.

To measure organizational culture from the manager's perspective, MacIntosh and Doherty's (2010) scale consisting of eight dimensions and 31 items was used. This scale is a reduction of the previous one developed by MacIntosh and Doherty (2008), known as CIFO (Culture Index for Fitness Organizations), to analyze the culture in organizations offering fitness services. The eight dimensions are: "staff competencies" (responsibility, personal positive attitude), "atmosphere" (the center is a fun place to work, the people who work there are friendly), "connectedness" (employees and clients feel a sense of belonging to the health club), "formalization" (procedures and norms to follow), "sales" (the importance of sales), "service-equipment" (variety and amount of equipment), "service-programs" (availability of training routines), and "organizational presence" (presence of the health club in the neighborhood and the image it promotes).

Four items, based on Darroch (2003), were also included to assess organizational performance.

From the customer perspective, loyalty was measured using three items for future intentions, based on Zeithaml *et al.* (1996). This measure has been used in other studies to measure customer loyalty in the fitness industry (e.g., García-Fernández *et al.*, in press).

All items were measured on a 7-point Likert scale (1 = completely disagree to 7 = completely agree) and operationalized as composites (Henseler, 2017; Sarstedt *et al.*, 2014).

All the measures are classified as what Henseler (2017) calls artifacts or measures built or designed by researchers and are unlike the classic effect indicators known as factors (Rigdon, 2016).

Finally, although data were gathered from two different sources (managers and customers), common method bias might still affect some of the relationships in the model. To rule out such a bias, Podsakoff *et al.*'s (2003) methods were used. These authors recommend procedural remedies when including emulations of formative concepts such as composites (Richter *et al.*, 2016). These measures were applied in order to protect respondent anonymity and reduce evaluation apprehension by assuring participants that there were no right or wrong answers; to improve the scale items with a pre-test using a set of academic and practice experts; and to counterbalance question order.

3.3. Data analysis

Following Richter *et al.*'s (2016) recommendations, the relationships between the different constructs and their indicators were analyzed using a composite process. In this case, the latent variable is understood as a mix of the indicators and PLS-SEM is therefore a highly appropriate tool for these measures (Hair *et al.*, 2017; Henseler, 2017). It also adopts a different research logic, namely pragmatism based on artifacts or human tools (Henseler, 2017), which describes our latent variables. These latent variables (composites) were built in the normal way: in order to assess the sign, magnitude, and significance of the indicator weights, Mode B composites should be used. However, if composites with multicollinearity cause difficulties, a correlation weights and Mode A composites (Henseler, 2017) model should be considered. In this case, organizational culture was considered as a Mode B second-order composite, and customer loyalty and organizational performance as Mode A composites, due to a high correlation between their indicators (Rigdon, 2016).

The measures were seen as composites and therefore the PLS-SEM method described above was used to analyze the data collected for this study (Richter *et al.*, 2016; Sarstedt *et al.*, 2014). Some academic arguments against PLS-SEM (Rönkkö *et al.*, 2016) are based on the PLS reasoning used in the past to justify PLS-SEM studies (formative indicators, small sample size, etc.). However, as Rigdon (2016) states, the arguments used in prior PLS-SEM studies were incorrect, and recent simulation studies demonstrate that PLS-SEM is an ideal tool to estimate composites (Sarstedt *et al.*, 2014). The software package SmartPLS 3.2.7. (Ringle *et al.*, 2015) was used to perform our data analysis and PLS-SEM was used to perform an explanatory and a further predictive study (Henseler, 2018).

In line with Henseler *et al.* (2016), the explanatory analysis was divided into three stages (Albort-Morant *et al.*, 2018). The first assesses the model fit for the overall or global model (the estimated model). The second evaluates the measurement (outer) model, identifying the relationships between observable variables and the theoretical concepts specified above. The most appropriate measure of internal consistency reliability is ρA (Henseler *et al.*, 2016), which demonstrates the adequate reliability and validity of the Mode A composites. Other measures, such as Cronbach's alpha and composite reliability, can also be included. While reliability values as low as 0.7 indicate proper reliability in the early stages of research, higher values of 0.8 or 0.9 should be used in more advanced research (Nunnally, 1978). The average variance extracted (AVE) serves as a measure of unidimensionality and convergent validity (Fornell and Larcker, 1981). Finally, a heterotrait-monotrait ratio of correlations (HTMT) that is clearly below 0.85 provides evidence of discriminant validity (Henseler *et al.*, 2015).

For Mode B composites, the first issue is multicollinearity and it is therefore recommended that the indicators' variance inflation factor (VIF) is assessed. VIF values much higher than 3.3 indicate that multicollinearity might play a role (Hair *et al.*, 2017). Having

addressed multicollinearity, the sign and the magnitude of the indicator weights should be assessed, as well as their significance, using a bootstrap procedure.

The third step evaluates the structural (inner) model to test if the proposed causal relationships are consistent with the available data. R^2 and path coefficients are the most important result of the structural model. Bootstrap percentile confidence intervals of the path coefficients help to generalize the data from the sample to the population. The bootstrap percentile confidence intervals give greater assurance than simply relying on null hypothesis significance testing to check the significance of the path coefficients (Cohen, 1994).

Finally, the predictive validity of the model was assessed using holdout samples, following the process described by Cepeda *et al.* (2016), and the PLS predict algorithm developed by Shmueli *et al.* (2016) that has been implemented as SmartPLS' *PLSpredict*.

4. Model estimation and assessment of results

As described above, the analysis and interpretation of the PLS-SEM estimations was carried out in three phases.

4.1. Explanatory study

4.1.1 Overall model

The proposed model has a good fit because the SRMR value for the estimated model is 0.074.

4.1.2. Measurement model

The results show that the measurement model meets all commonly stipulated requirements. First, the SRMR of the saturated model (SRMR= 0.070) can be reported as a measure of the quality of the measurement model as its value does not exceed 0.08 (Henseler *et al.*, 2016).

For Mode A composites, our results confirm that individual items are reliable, since all standardized weight correlations are greater than 0.7. The two composite reliability measures reported in Table 1 are greater than 0.7 and the model satisfies the prerequisite of construct reliability. Furthermore, the scores for the average variance extracted (AVE) exceed the threshold of 0.5 (Table 1) for the unidimensionality of the composites and accordingly, these latent variables achieve convergent validity. Finally, all the variables attain discriminant validity, with the HTMT below 0.85 (Table 1).

*Please insert Table 1 here *

Organizational culture is modeled as a Mode B second-order composite. Table 2 shows the weights of the dimensions of organizational culture and their significance. None of the VIF values are above 3.3, meaning there is not a problem with multicollinearity.

Please insert Table 2 here

4.1.3. Structural model

The structural model was assessed by examining the R^2 values and the size and significance of the coefficients of the structural relationships. As Henseler *et al.* (2009) propose, bootstrapping (5,000 resamples) produces bootstrap confidence intervals of standardized regression coefficients. Hayes and Scharkow (2013) show that the bootstrap confidence interval is an effective way to detect path coefficients. All the path coefficients in Table 3 are supported.

Please insert Table 3 here

Please insert Figure 2 here

The proposed model explains 14.8 percent of the variance in customer loyalty (R^2) and 17.3 percent of the variance in organizational performance (R^2). As observed, organizational

performance achieves a greater explanation of variance than customer loyalty from organizational culture.

4.2. Predictive study

Although PLS-SEM is oriented towards prediction, most of its applications center on Stone-Geisser's test (Q^2) (Geisser, 1975; Stone, 1974) and the q^2 effect size. Cepeda *et al.* (2016) recently introduced holdout samples to assess the predictive validity of PLS-SEM models and the measurement of our model's predictive validity is based on these ideas. This model includes an exogenous construct (organizational culture) that has direct and theorized links to two dependent variables (customer loyalty and organizational performance). The critical question therefore is whether the antecedent variable (organizational culture) predicts both customer loyalty (future intentions) and organizational performance in the additional non-dataset samples used to test the theoretical research model (Cepeda *et al.*, 2016).

Following the eight-step procedure described by Cepeda *et al.* (2016), the dataset ($n = 101$) was first randomly divided into a training sample (over half the data, $n = 67$) and a holdout sample (rest of the data, $n = 34$) to determine how the fitted model in the training set performed with the holdout sample for validation (step 1). The PLS path model parameters (weights and path coefficients) were estimated using the training sample. The training sample model achieved an R^2 of 0.22 for organizational performance and 0.057 for customer loyalty (step 2). The holdout sample data was then standardized (step 3). Thereafter, construct scores for the holdout sample were built as linear combinations of indicators and weights estimated from the training sample (step 4). The construct scores of the holdout sample were standardized (step 5), and prediction scores for the endogenous construct from the step-5 scores generated (step 6). Step 7 was to calculate the R^2 of the endogenous construct of the holdout sample as the squared correlation of the prediction scores and the construct scores. In

this case, the value of R² for organizational performance in the holdout sample was 0.19 and 0.027 for customer loyalty respectively (step 8). These results demonstrate the similarity between the R² values for both constructs (customer loyalty and organizational performance) in the training sample (0.22 for customer loyalty and 0.057 for organizational performance) and in the holdout sample (0.19 for customer loyalty and 0.027 for organizational performance). We can conclude that our proposed model is able to predict values in practice for organizational performance and customer loyalty from the organizational culture.

Finally, the predictive validity of the model was also assessed using the new PLS predict algorithm developed by Shmueli *et al.* (2016) and recently implemented by SmartPLS 3.2.7 in its *PLSpredict*. The critical question in this analysis is whether the antecedent variable (organizational culture) predicts customer loyalty and organizational performance (Cepeda *et al.*, 2016). Likewise, it divides the dataset again into two subsamples (the training and holdout samples) to determine how the model estimated in the training set performs on the validation holdout sample. *PLSpredict* also exhibits Q² values, but with a different meaning: the index compares the prediction errors of the PLS path model with simple mean predictions. For this purpose, it uses the mean value of the training sample to predict the outcomes of the holdout sample. If the Q² value is positive, the prediction error of the PLS-SEM results is smaller than the prediction error of simply using the mean values. In our study, the Q² values are 0.219 for customer loyalty and 0.136 for organizational performance.

Using the procedures suggested by Shmueli *et al.* (2016), the SmartPLS *PLSpredict* algorithm allows researchers to obtain k-fold cross-validated prediction errors and prediction error summary statistics such as the root mean squared error (RMSE). The mean absolute error (MAE), and the mean absolute percentage error (MAPE) assess the predictive performance of their PLS path models for the manifest variables (indicators), allowing a comparison of the predictive performance of alternative PLS path models.

Consequently, it is also possible to report the predictive validity of all the indicators of the two dependent variables using *PLSpredict* (Shmueli *et al.*, 2016). Table 4 shows the same differences described above to determine whether the dimensions of organizational culture predict customer loyalty and the indicators of organizational performance. If the differences between PLS-SEM values and mean (linear model regression (LM)) values are negative, the PLS-SEM error is smaller than the linear regression. This demonstrates that using the proposed model with PLS improves the predictive relevance of the available indicator data and, compared to the LM outcomes, the PLS-SEM results have a lower prediction error (RMSE and MAE) than LM. With regard to Q^2, the differences between PLS-SEM and LM should be positive (Felipe *et al.*, 2017). In our case, most of the values are negative for errors (RMSE and MAE) and positive for Q^2, except the Q^2 for R1 (-0.042).

*Please insert Table 4 here *

5. Conclusions and implications

5.1. Conclusions

The findings suggest that organizational culture is positively related to both customer loyalty and organizational performance. The results also show that the four main dimensions of organizational culture that influence this relationship, in order of effect size, are organizational presence (also significant), formalization, atmosphere, and service-equipment. Furthermore, organizational culture predicts both dependent variables quite well at both construct and indicator levels.

Until now, this topic has received scant attention in the field of sport, let alone the fitness sector. The first authors to introduce customers into the study of this variable were MacIntosh and Doherty (2010), and MacIntosh and Walker (2012), who studied the influence of organizational culture on employee satisfaction or work situations within the organization.

Nonetheless, the literature review yields no research that analyzes how organizational culture might influence customer loyalty or organizational performance. Nor is there any research relating to organizational culture that predicts organizational performance and customer loyalty together.

The positive and direct relationship between organizational culture and customer loyalty could be supported by the influence of employees on customer satisfaction (Davidson, 2003) and, consequently, loyalty (García-Fernández *et al.*, in press). The interaction between employees and clients is therefore critical for customer loyalty (Bitner *et al.*, 1997), and the culture adopted by organizations has a decisive effect on their behavior (Kao *et al.*, 2016). Our findings also corroborate the results of different studies that relate organizational culture to performance (Nazarian *et al.*, 2017) and provide evidence to predict this. Jogaratnam (2017) states that organizations with a strong market-oriented culture would perform better; and for this reason, the development of a strong organizational culture would have repercussions for a superior organizational performance. Similarly, the results show that a culture based on the proper management of human resources influences and determines organizational performance (García-Fernández *et al.*, 2014b).

The data analysis highlights the dimensions that have a greater influence on customer loyalty and organizational performance: organizational presence, followed by formalization. In particular, the presence of the health club and its positive image in the neighborhood, and the procedures adopted or the standards of homogeneity among the employees are the factors that most affect customer loyalty and organizational performance. Our first conclusion therefore, is that organizational culture has a positive relationship with customer loyalty and organizational performance, mainly thanks to the dimensions of organizational presence and formalization. We can also confirm the capacity of organizational culture to predict the values of organizational performance and customer loyalty, as seen in our results. In fact, our

analysis is one of the first applications of the PLS-SEM algorithm developed by Shmueli *et al.* (2016) to test the predictive validity included in the SmartPLS 3.2.7 software package (Ringle *et al.*, 2015).

5.2. Practical implications

Some recommendations to managers of health clubs could be made to help them to improve their organizational performance and customer loyalty. First, the results show that fitness organizations should promote a culture based on the care of their human resources, encouraging cooperation among its members, allowing them to carry out specific actions that they are responsible for, where the outcome depends on their performance. Likewise, it is necessary for health clubs to promote their activities so that their neighbors are aware of their sports services, fostering a positive image in the community. These managers also need to establish standards and procedures so that all their staff act in the same way, creating positive working environments. In this way, employees will find themselves satisfied in their workplace, which will encourage members of the health clubs to participate voluntarily in the organization's progress.

5.3. Limitations and future research

This study has some limitations, the first being that the research is cross-sectional. However, it should be noted that it is difficult to conduct longitudinal studies in this area, since this would require commitment from a high number of health clubs. Not only was this study conducted within the private sector, but another barrier was the reluctance of many companies to participate, being unwilling to disclose potentially sensitive organizational data. Another limitation is that the researchers measured organizational performance using subjective measures. The results obtained for organizational culture and performance are therefore the

views of the holder of the highest position in each organization in the sample, but this perception may differ if other employees working in the same health club were asked. Equally, customer loyalty is measured by future intentions. While this scale has been used in numerous investigations, it is a subjective measure of behavior. Lastly, our model does not test the relationship between customer loyalty and organizational performance (Reicheld and Sasser, 1990), given that time needs to pass before one variable, such as customer loyalty, affects organizational performance (Martelo-Landroguez *et al.*, 2015). In other words, managers should not expect instant results within organizational performance with regard to customer loyalty.

These limitations suggest future lines of research and action: variables measured through the perceptions of the health club managers in the sample should also, in a sector characterized by high staff turnover, note the views of employees from any level within the hierarchy. Furthermore, studies analyzing human resources in health clubs are attracting interest, but there is still little research that describes the characteristics of their personnel, or their functions and competencies (Campos-Izquierdo *et al.*, 2016). This could be an indication to health clubs of whether these functions could be better targeted, and indicate the requirements for future studies in the fitness sector. Employee satisfaction and customer satisfaction could also be included as mediating variables in models such as the one presented in this study. The analysis of customer loyalty and its implications for organizational performance is therefore a new and interesting line of research.

The proposed future lines of research are intended to benefit the management of health clubs, emphasizing the importance of further research in the fitness sector, and highlighting the direct applicability of future findings to health clubs and their managers. As for the methodological issues of PLS-SEM, the validity of the results could be improved by accounting for observed heterogeneity (e.g., moderation or multigroup analyses) and by

identifying unobserved heterogeneity (e.g., by latent class segmentation or prediction-oriented segmentation). Furthermore, the use of the importance-performance analysis would improve the interpretation and discussion of PLS-SEM outcomes and would be an interesting new paper. Nevertheless, the strength of this paper is the predictive value of PLS-SEM (Cepeda *et al.*, 2016) and the application of Shmueli's algorithm implemented by SmartPLS 3.2.7.

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Table 1: Reliability, convergent validity, and discriminant validity values of outer model.

Construct	rho_A (ρ)	Composite reliability	Cronbach's alpha	AVE	HTMT (CL)
Customer Loyalty (CL)	0.954	0.968	0.951	0.911	
Organizational Performance (OP)	0.775	0.833	0.734	0.559	0.106

Table 2. Organizational culture dimensions.

Dimensions	Weights	VIF values	t-values	Confidence intervals (95%)	
				5%CI$_{li}$	95%CI$_{hi}$
Staff competency	0.089	1.67	0.393	-0.347	0.417
Atmosphere	0.265	1.89	1.171	-0.116	0.602
Connectedness	-0.052	1.47	0.196	-0.449	0.372
Formalization	0.332	2.05	1.211	-0.171	0.730
Sales	0.060	1.67	0.333	-0.224	0.350
Service-equipment	0.213	1.99	0.980	-0.172	0.513
Service-programs	0.094	1.16	0.306	-0.375	0.616
Organizational presence	0.416*	2.31	1.690	0.040	0.734

Note: *$p<0.05$ (based on a Student t (4999). one-tailed test). t (0.05; 4999)=1.645158499

Table 3. Construct effects on endogenous variables (incl. lower and upper bounds of 95% confidence interval).

Hypotheses	Path Coef.	Confidence intervals		Supported	f²
		5%CI$_{li}$	95%CI$_{hi}$		
H1: Organizational culture → Customer loyalty	0.385	0.184	0.576	Yes	0,174
H2: Organizational culture → Organizational performance	0.416	0.301	0.622	Yes	0,209

Table 4. Predictive validity scores from *PLSpredict* for indicators.

	PLS-SEM			LM			PLS-LM		
	RMSE	MAE	Q^2	RMSE	MAE	Q^2	RMSE	MAE	Q^2
CL1	0,457	0,367	0,031	0,473	0,377	-0,041	-0,016	-0,203	0,072
CL2	0,423	0,336	0,059	0,434	0,348	0,006	-0,011	-0,246	0,053
CL3	0,444	0,343	0,075	0,451	0,356	0,046	-0,007	-0,243	0,029
R1	1,211	0,97	0,062	1,184	0,988	0,104	0,027	0,383	-0,042
R2	1,473	1,142	0,028	1,538	1,199	-0,06	-0,065	-1,334	0,088
R3	1,344	1,018	-0,003	1,348	1,049	-0,009	-0,004	0,507	0,006
R4	1,061	0,776	0,089	1,078	0,806	0,057	-0,017	-0,294	0,032

Notes: CL1; CL2; CL3: Customer Loyalty indicators; R1; R2; R3; R4: Organizational Performance indicators. LM: Linear model regression. Predictive validity exist when the PLS-LM columns are negative for errors (RMSE and MAE) and positive for Q^2.