

# ANTECEDENTS OF FAN PURCHASE INTENTION FOR TEAM COLOR PRODUCTS

*Antecedentes da Intenção de Compra por Torcedores de Produtos com a Cor do Time*

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## Abstract

**Purpose:** This study sought to identify the influence of satisfaction, loyalty, subjective norms, and team image on fans' purchase intention for products in the team colors.

**Methods:** A survey was conducted with 301 soccer fans, and the results were analyzed with PLS.

**Findings:** The results suggest that the more satisfied a fan is with the team, the greater the influence of the opinion of third parties on them and the greater their loyalty to the team, and hence a greater intention to purchase

## Resumo

**Objetivo:** Este estudo buscou identificar a influência da satisfação, da lealdade, das normas subjetivas e da imagem do time na intenção de compra dos torcedores por produtos com as cores do time.

**Método:** Foi realizada uma pesquisa com 301 sócio-torcedores de times de futebol e os resultados analisados com o PLS.

**Resultados:** Os resultados sugerem que, quanto mais satisfeito um torcedor estiver com o time, maior seja a influência da opinião de terceiros sobre ele e maior seja sua

products in the team's colors. Regarding the relationship between team image and purchase intention, although the relationship was significant, the sign was negative, indicating an opposite trend in the relationship. In addition, the team's image did not influence the fan's loyalty.

**Managerial Contributions:** Colored product companies do not necessarily need to license team products, but instead focus their sales efforts on products with the team's colors when they recognize the preferences of soccer fans.

**Originality:** The novelty of this study is linked to its consideration of fan purchase intention for the team colors. Another justification is the possibility of clarifying the antecedents of fan purchase intention for products in the team's colors from the constructs of team image, satisfaction, and behavioral loyalty.

**Keywords:** fan behavior; team image; purchase intention; products with the team's color; fan behavioral loyalty.

lealdade para com o time, maior será a intenção de compra de produtos com as cores do time. No que se refere à relação entre a imagem do time e a intenção de compra, embora a relação seja significativa, o sinal foi negativo, indicando tendência oposta na relação testada. Além disso, a imagem do time mostrou não influenciar a lealdade do torcedor.

**Contribuições Gerenciais:** Empresas de produtos com cores não necessariamente precisam licenciar produtos do time, mas sim focar seus esforços de vendas em produtos com as cores do time quando reconhecerem as preferências de sócios torcedores.

**Originalidade:** A novidade deste estudo está ligada à intenção de compra do torcedor por produtos com as cores do time. Outra justificativa é a possibilidade de esclarecer os antecedentes da intenção de compra do torcedor por produtos com as cores do time a partir dos construtos imagem do time, satisfação, normas subjetivas e lealdade comportamental.

**Palavras-chave:** comportamento do torcedor; imagem do time; intenção de compra; produtos com a cor do time; lealdade comportamental do torcedor.

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## INTRODUCTION

Soccer involves social and market issues that have relevance beyond the playing field (Marques, Nobre, & Gordon, 2018). Vast values are traded in this market (Kwon, Trail, & James, 2007). Based on the passion of its fans, soccer is a great world passion according to Fleury, Cardoso, Fouto, Vance, and Marques (2014). In this context, soccer clubs have several sources of (financial) revenue to honor club maintenance commitments, including sales and media inside the stadium, ticket sales, TV revenue (broadcast rights) and marketing, sponsorship, licensing and product sales, and fan programs (Kim & James, 2016; Oliveira, Tobar, & Capraro, 2021).

Studies on fans have sought to understand their particularities and to highlight new opportunities for the soccer segment (Marquette, Pinto, Grohmann, & Battistella, 2017; Marques et al., 2018). For Fleury et al. (2014), no market has as many loyal customers as soccer. Loyal fans resist the temptation to switch to a more successful team and continue to support their favorite team, regardless of their results (Fleury et al., 2014; Marquette et al., 2017). These particularities of this market prompted the following line of questioning: what are the influences of the satisfaction, the loyalty of the fan with the team, the subjective norms and the image of the team, in the intention of buying products of the team colors by the fan? To answer this question, this study aimed to identify the influence of satisfaction, loyalty, subjective norms, and team image on a fan's intention to purchase products in the team colors.

The theoretical justification of this study is to point out the antecedents of the fan purchase intention for products with the team's color, as most studies on fan purchase intention have generally looked at other elements (eg Baek, Song, Kim, & Byon, 2020; Cho, Lee, & Chiu, 2021; Pradhan, Malhotra, & Moharana, 2020; Silva & Veríssimo, 2020). Marques et al. (2018) affirmed that sports marketing makes it possible to increase the club's revenues based on the study of fan characteristics, including education, age, gender, and fan club membership. An example is Baek et al. (2020), who claim that the team's relationship with its fans can generate purchase intentions for the team-licensed products. In this line, Cho et al. (2021) pointed out the need to investigate different aspects of fans purchase intention. Thus, the novelty of this study lies in the investigation of the purchase intention of fans for products with the team's colors, not referring to licensed products, but any product with the team's colors, something unprecedented in the literature.

Another justification for this discussion is the possibility of clarifying the antecedents of fan purchase intention for products in the team's colors from the constructs of team image, satisfaction, subjective norms and behavioral loyalty, as recent studies have dealt with constructs such as emotional attachment, psychological commitment, fan loyalty, price-to-sales ratio, and trust (Fleury et al., 2014; Marquette et al., 2017). The choice of these constructs is due to the fact that they have already been researched as antecedents of the fan purchase intention. For example, satisfaction in Kim and Kim (2018), team image in Yun, Rosenberger and Sweeney (2021), behavioral loyalty and subjective norms in McClung and Rynarzewska (2015). However, no studies were found that brought these constructs together in the same model, thus justifying this study.

This research is also justified in practice by providing data to marketers to develop strategies to sell products in the team colors, identifying whether elements such as team image, team satisfaction, and loyalty influence product sales by color and thus generating the possibility of increased sales (Katz, Baker, & Du, 2020; Kunkel, Doyle, Funk, Du, & McDonald, 2016; Marquette et al., 2017; Silva & Las Casas, 2017). Another important point is that the market of fan partners, the focus of this study, is characterized by providing opportunities for entrepreneurship in selling products that alluding to the favored team colors (Vamplew, 2018). It can also encourage the expansion of businesses aimed at selling products linked to team colors (Kwak, Kwon, & Lim, 2015), especially in Brazil, which is considered a key market of soccer fans (Freitas, Farias, & Flach, 2017).

## **THEORETICAL FRAMEWORK**

### **Intention to purchase products in team colors**

Appearances matter: around 70% of the stimuli received by humans are visual (Calvo-Porrall & Lang, 2015). A single sensory stimulus visually received by a consumer generates a positive impact on purchase intention. This demonstrates the importance of studies on topics linked to the visual elements that drive purchase, such as packaging, colors, gondolas, clothing, and displays (Wu, Wu, Lee, & Lee, 2015).

Purchase intention represents a customer's willingness to buy a product and/or service (Wu et al., 2015). It tends to be influenced by several factors, some of which have previously been studied, such as perceived image (Calvo-Porrall & Lang, 2015), the role of emotions (Bagozzi, Belanche, Casaló, & Flavián, 2016; Moital, Bain, & Thomas, 2019), the influence of color (Kim & James, 2016), and age (Bouchet, Bodet, Bernache-Assollant, & Kada, 2011). According to Bagozzi et al. (2016), consumer purchase intention arises from rational and emotional factors, which in turn stimulate the product acquisition process. For example, fans can consider variables inherent in the product before deciding to buy, and these attributes focus on benefits to meet their needs and desires and that can be related to the team they support (Biscaia, Hedlund, Dickson, & Naylor, 2018; Ma & Kurscheidt, 2020). In this sense, before buying a product with the team colors, fans take into consideration factors such as team satisfaction and team image.

### **Fan satisfaction**

When talking about satisfaction, it is important to mention that it can be understood as a discrepancy between the customer's expectation and the perception of the benefit found in the product

(Nagel & Santos, 2017). Satisfaction is thus linked to the result of expectations in purchasing a product related to its expected performance (Silva & Veríssimo, 2020), so team satisfaction tends to be directly related to fans' buying attitudes (Biscaia et al., 2018).

Nagel and Santos (2017) have suggested that satisfaction may have a positive relationship with purchase or repurchase intention. Similarly, the study by Kim and Kim (2018) demonstrated that the satisfaction perceived by the consumer influences product purchase intention. Fan satisfaction presupposes a process by which satisfaction serves as a stimulus for identification with the team (Katz et al., 2020; Silva, 2020; Sullivan, Zhao, Chadwick, & Gow, 2021). This identification implies an attitude towards the team, which, in turn, can positively influence the intention of fans to purchase products related to the favored team (Biscaia et al., 2018; Sousa & Vieira, 2018).

Fleury, Nogami, Mazzon, and Veloso (2016) point out that consumption is directly related to fan satisfaction with and the situation of the team—that is, victories tend to provide an incentive for fan consumption, in the same way that defeats diminish this intention. For this purpose, satisfaction is analyzed from the point of view of the soccer team's performance related to fan intention to purchase products in the team colors; that is, it seeks to understand if, as satisfaction with the team increases, the fan intention to purchase products in the team colors increases as well. Thus, the present study tested the following hypothesis:

H1: Fan satisfaction with the team positively influences the intention to purchase products in the team colors.

### Fan loyalty

A fan's relationship with the team is one element of revenue generation that occurs more commonly with the consumption of products related to the team (Childs, Hardin, & Koo, 2019; Constandt, Parent, & Willem, 2020). According to Kunkel et al. (2016), it is not common for a person to change soccer teams. For soccer, fan loyalty to a team is more pronounced than in other markets (Marquette et al., 2017). According to Zhang, Zhang, Wang, Law, and Li (2013), satisfaction is a variable that precedes loyalty and is an inherent part of the process of building behavioral loyalty. A high level of fan satisfaction tends to generate a higher level of loyalty, that is, loyalty is the result of satisfaction (Sousa & Vieira, 2018; Zhang et al., 2013). The present study tested the following hypothesis:

H2a: Fan satisfaction with a team positively influences the fan's behavioral loyalty.

According to Marquette et al. (2017), soccer-related loyalty can be understood as an alliance relationship with the team, which is based on the fan's interest in the team and is developed over time. McClung and Rynarzewska (2015) has affirmed that a fan program represents a way to increase loyalty to the club, considering that loyalty is something inherent in the relationship with the team. Loyalty allows fans to have purchase or repurchase intention regarding team products (Ladeira Júnior, Santini, Araujo, & Finkler, 2014). In addition, Gray and Wert-Gray (2012) has pointed out that loyalty shows a trend of intention to purchase products in the team colors. Thus, it is possible to assume that the fan's behavioral loyalty will lead him to also consume products with the team's color, even if they are not licensed products. Thus, the present study tested the following hypothesis:

H2b: A fan's behavioral loyalty positively influences the intention to purchase products in the team colors.

### Team image

Team image is another element that requires research attention. Biscaia et al. (2018) pointed out that image is related to how human beings think. An image provides evidence of the emotional, cognitive, and behavioral elements, as well as the symbolic components, that constitute its attributes (Abosag, Roper, & Hind, 2012; Wang & Tang, 2018). Biscaia, Correia, Rosado, Maroco, and Ross (2012) have pointed out that team image is essential for attracting and keeping fans. Reiterating this understanding, Abosag et al. (2012), Ladeira Junior et al. (2014) and Biscaia et al. (2018) have suggested that it is possible that a team's positive image may have a positive effect on the intention to purchase

team products. Thus, it can be assumed that the image of the team in the fan's view can encourage him to buy products in general with the team's colors, not necessarily licensed products, but any type of product that has the team's colors. For this reason, the following hypothesis is suggested:

H3a: The image of the fan's team positively influences the intention to purchase products in the team colors.

As pointed out by Bauer, Sauer, and Exler (2008) and Beccarini and Ferrand (2006), the management process of a team must, above all, focus on managing the brand that the club represents, which for this study is related to the team colors, which form part of the brand identity. This means that the team image should generate emotional attachment in a fan to generate greater loyalty to the team. Loyalty tends to be one of the elements that help guarantee the continuity of the sports business due to the proximity of its fans. Diverse variables can therefore be associated with fan loyalty, including team image. A relationship is therefore expected between the team image and a fan's behavioral loyalty, considering that the more positive the team image, the greater the loyalty of the fan (Bauer et al., 2008; Kim & Trail, 2010). Thus, the present study tested the following hypothesis:

H3b: The team image positively influences fan behavioral loyalty

The study by Beccarini and Ferrand (2006) analyzing the factors that influence the satisfaction of fans who buy tickets for the entire soccer season, concluded that a positive team image could have a positive effect on satisfaction. Apostolopoulou and Papadimitriou (2018) have also pointed out that a positive team image may tend to generate increased satisfaction, considering that satisfaction consists of an evaluation due to performance and expectations met (Biscaia et al., 2018; Zhang et al., 2013). Considering the evidence pointed out, it can be assumed that the image of the team can be reflected in the general satisfaction of the fan, unlike what the literature brings, which focuses on specific aspects of fan satisfaction (Lee & Kang, 2015; Yun et al., 2021). Thus, the present study tested the following hypothesis:

H3c: The team image positively influences fan satisfaction.

### **Subjective norms**

According to Chen and Tung (2014), subjective norms are elements linked to the determinants of human behavioral intention and can be understood as a social pressure exerted by relevant people who influence (or not) the execution of an individual's behavior. Thus, when important people approve of a behavior, the perceived social pressure tends to increase an individual's motivation to perform such behavior (Ajzen, Czasch, & Flood, 2009; Han, Hsu, & Sheu, 2010). Previous studies (Chen & Tung, 2014; Han et al., 2010) have demonstrated that a set of individuals can impact a person's buying behavior, thus indicating that social interaction can result in the action of another—that is, that is a generating stimulus for actions.

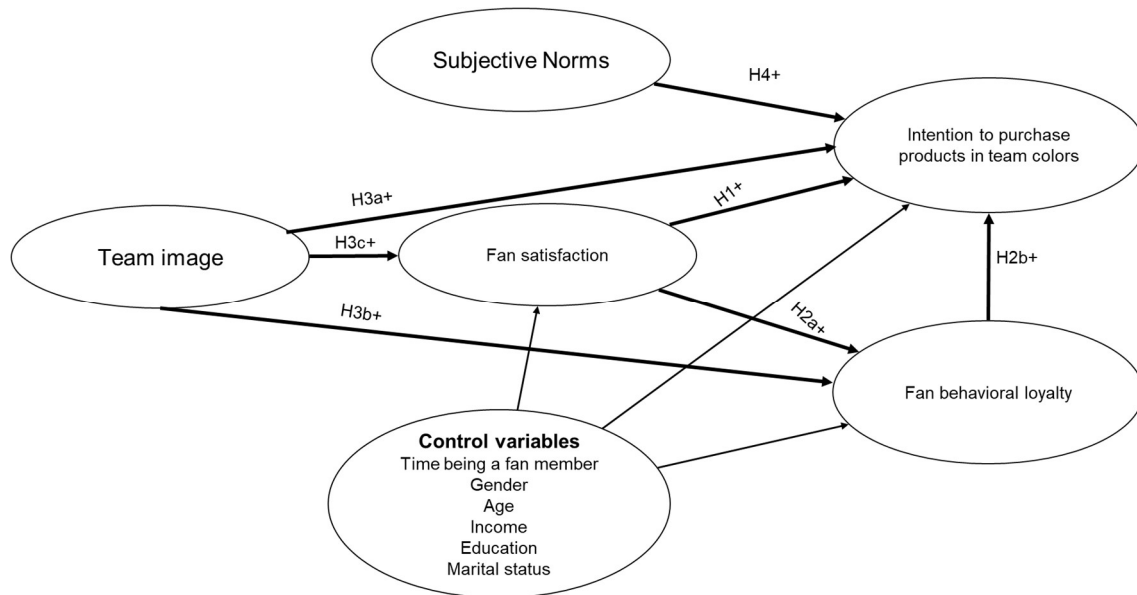
A subjective norm thus refers to the opinions of people who influence decision-making, such as family, close friends, work friends, and business partners (Han et al., 2010). For Cunningham and Kwon (2003), people are influenced by social norms to participate in sporting events. Sierra, Taute and Heiser (2012) show that the determinants of sports consumption can include psychological (such as pleasure and entertainment) and social aspects (eg, third-party influences). Within the aspects pointed out by other studies (Beccarini & Ferrand, 2006; Han et al., 2010), it is expected that pressure linked to important people (subjective norms) can have an effect on purchase intention. Thus, we investigated the following hypothesis:

H4: Subjective norms positively influence a fan's intention to buy products in the team colors.



## Proposed model

Based on the literature review and the stated hypotheses, Figure 1 presents the model developed for this research, which is based on the concept of purchase intention that has direct and indirect antecedents, as presented in the model. It is important to note that all constructs are reflectives.



Source: Author's own elaboration

**Figure 1.** Proposed Model.

The basis of this model is the premise that purchase intention is influenced by satisfaction, because it is characterized as a direct antecedent (Biscaia et al., 2012; Nagel & Santos, 2017). This study presents a novel study of the fan, as well as verifying whether fan satisfaction with the team influences the intention to purchase products in the team colors. It is noteworthy that loyalty influences and is also an antecedent related to customers' purchase intention (Biscaia et al., 2012; Biscaia et al., 2018; Marquette et al., 2017). Thus, this study sought to analyze the positive influence of fan behavioral loyalty in the intention to purchase products in the team colors. Because people relevant to an individual can influence purchasing behavior (Chen & Tung, 2014), this study investigated whether subjective norms have a positive influence on a fan's intention to purchase products in the team colors. We also sought to verify the influence of the team's image on the intention to purchase products in the team colors, fan satisfaction, and fan behavioral loyalty.

Regarding the controls (gender, age, marital status, education, monthly income, and time as a fan), they were chosen to isolate the effects of the hypotheses, as well as to ensure that the significance of the hypotheses is not masked by not consider the controls, as indicated by Mainardes, Souza and Correia (2020). According to the authors, it is necessary to control the other variables to know the real effect of one construct on the other. Thus, the chosen variables tend to have some effect on the endogenous constructs, being important to consider them to estimate the unique effect of a construct on another construct. The variables used are socio-economic or directly related to the object of study, as guided by Bowen and Guo (2011) and Hair, Ringle and Sarstedt (2013).

## METHODS

To achieve the objectives of this study, we used a quantitative, descriptive methodology with cross-sectional and primary data, focusing on the antecedents of the fan's intention to purchase products in the team colors. This was a sports marketing survey in which the target population was composed of fans with active membership. To work only with fans with active registration, those

respondents who did not fit into this category were removed from the survey. Two population control questions were thus inserted in the questionnaire: “Are you a supporting member?” and “Are you registered in a partner program fan?” As we were not certain about the number of fans with an active record, a non-probabilistic sampling technique was used for accessibility as this makes it possible to select the participants to whom we have access.

To obtain the research data, this study used a questionnaire prepared on a free online platform (Google forms), containing 28 statements, extracted from constructs validated by the literature and adapted semantically for this study. The questionnaire statements were divided into: purchase intention, four statements (Bearden & Netemeyer, 1999); fan satisfaction, seven statements (Bacha & Figueiredo Neto, 2014); team image, ten statements (Beccarini & Ferrand, 2006); subjective norms, three statements (Han et al., 2010); and fan behavioral loyalty, four statements (Bauer et al., 2008). The answer options were on a 5-point Likert scale, starting from 1 (strongly disagree) to 5 (strongly agree). We also inserted six questions to obtain sociodemographic information about gender, age, marital status, education, monthly income, and time as a fan.

Content validation was carried out through a pre-test with 10 fans with active registration, which resulted in no changes being necessary. A link to the questionnaire was then sent to the relationship departments of 11 soccer clubs in Brazil (Flamengo, Corinthians, São Paulo, Palmeiras, Vasco, Cruzeiro, Grêmio, Botafogo/RJ, Remo, Paysandu, and Tuna Luso). Four teams—Paysandu, Tuna Luso, Remo, and Botafogo/RJ—confirmed receipt of the email and that they would send the questionnaire link to their fans. The link was forwarded to the general public via WhatsApp with a request to participate in the survey.

The survey was conducted in its entirety from September 2019 to October 2019, reaching a total of 318 respondents, from which 301 were valid questionnaires (94.65%). Questionnaires were only considered valid if the participants answered “yes” to the control questions—that is, that they are fan and that they are also registered as an active fan. Thus, 17 questionnaires were excluded (5.35%) because respondents answered “no” to the control questions. To verify the minimum sample size, the software G\*Power 3.1.9.4 was used. The parameters were 0.95 for test power and 0.15 for effect size. The construct intention to purchase products with the team's color was considered as the base construct for calculating the minimum sample (the construct that receives the most effects). The test result showed 129 completely filled out questionnaires as the minimum necessary for model analysis. As 301 were obtained, the sample was statistically validated, being suitable for the analysis of the structural model. These procedures are described in Ringle, Silva and Bido (2014).

The researched sample has the following characteristics: most are male (277 respondents, 92.03%), single (159 respondents, 52.82%), and with higher education (178 respondents were graduates, 59.14%). Many fans had an income between BRL 2,501 to BRL 5,000 (107 respondents, 35.55%) and age between 21 and 30 years (98 respondents, 32.56%). Over half had been a fan for more than five years (157 respondents, 52.16%).

These characteristics are in line with those found in previous studies, which found that the profile of the fan is composed mostly of men with an average age of 25 years (as in Bouzdine-Chameeva, Ferrand, Valette-Florence, & Chanavat, 2015). It is also noteworthy that the studies already carried out have shown that fans are mostly single, most with schooling equal to or higher than higher education, and with an income equal to or greater than BRL 2,500.00 (Abosag et al., 2012; Beccarini & Ferrand, 2006; Biscaia et al., 2012). According to Bouzdine-Chameeva et al. (2015), such possession of such characteristics make individuals more likely to be fan. Because the sample obtained in this study is like those obtained in previous studies, comparison is possible.

Before analyzing the data, to test data invariance, the common method bias (CMB) and the common method variance (CMV) were verified. Following Podsakoff, MacKenzie, Lee and Podsakoff (2003) and Fuller, Simmering, Atinc, Atinc and Babin (2016): (i) constructs were used whose statements did not allow for socially desirable responses; (ii) constructs that have already been validated and tested in other studies and that indicated reliability were used; and (iii) confidentiality of individual responses was guaranteed. In addition, the single factor Harman's test was used (Fuller et al., 2016). This test is suitable for research with self-report, single source and cross-sectional data. The results obtained did

not indicate CMB, since five factors were obtained, with eigenvalues greater than 1 and which explain 65.1% of the total variance.

For data analysis, structural equation modeling (SEM) was used, with partial least squares (PLS) estimation, which made it possible to test the proposed model. To validate the constructs, we performed confirmatory factor analysis (CFA) to verify the existence of convergent and discriminant validities. The convergent validity of the constructs was determined by evaluation of the factor loadings, the average variance extracted (AVE), composite reliability (CR), Cronbach's alpha, and Spearman's correlation. To verify the discriminant validity, we analyzed the factor loadings and cross-loadings using the Heterotrait-Monotrait Ratio (HTMT) and the criteria of Fornell and Larcker (1981), in which the correlation between the constructs must be less than the square root of the AVE for discriminant validity to exist. After the constructs were validated, the hypothesis test was performed.

## DATA ANALYSIS

### Validation of the measurement model

To validate the measurement model of the study, we performed CFA to highlight the convergent and discriminant validities. According to Hair, Hult, Ringle, and Sarstedt (2017), convergent validity is used to measure the degree of correlation between the indicators of each construct. In view of the factor loadings obtained after the first CFA, we found that the variables TI 05, TI 06, and TI 10 from the team image construct; BL 01 from the fan behavioral loyalty construct; and SA 03 and SA 06 from the fan satisfaction construct obtained factor loadings below 0.708, meaning that they were outside the bounds indicated by Hair et al. (2017), which explain that, in reflective constructs, items with low factor loadings (below 0.708) should be removed. Unlike formative constructs, which do not allow exclusions, reflective constructs may miss some items without compromising the measurement accuracy of the construct (Hair et al., 2017), and it is recommended to remove items with low factor loadings. After removing these items, CFA was carried out again and the results of this analysis are shown in Table 1.

**Table 1**  
Convergent Validity Indicators

Construct	Variable	Factor Loadings	AVE	Cronbach's alpha	Spearman's correlation	CR
Intention to purchase products with the team's color Bearden and Netemeyer (1999)	PI 01: I intend to purchase products in team colors	0.76	0.58	0.76	0.76	0.85
	PI 02: My intention is to use things with the color of my team	0.81				
	PI 03: If I could, I would like not to purchase products with the colors of rival teams	0.71				
	PI 04: I consider the color of my team as the first choice to purchase	0.76				
Fan satisfaction Bacha and Figueiredo Neto (2014)	SA 01: I speak well of my team to my friends	0.77	0.59	0.83	0.83	0.88
	SA 02: I try to spread good news about my team	0.81				
	SA 03: I am very satisfied with the quality of the players on my team	EXC				
	SA 04: I have been following reports on my team frequently in the media	0.77				
	SA 05: I have often watched my team's games on television	0.72				
	SA 06: My team is not impacted by scandals	EXC				
	SA 07: I have recommended my team to many people	0.78				
Team image	TI 01: My team is a great club	0.78	0.76	0.95	0.95	0.96



Beccarini and Ferrand (2006)	TI 02: My team has a committed team	0.92	0.88	0.93	0.94	0.96
	TI 03: My team is an ambitious club	0.90				
	TI 04: My team is brave	0.90				
	TI 05: My team is well managed	EXC				
	TI 06: My team is not impacted by scandals	EXC				
	TI 07: My team has a good training center	0.79				
	TI 08: In my team the players show combativeness	0.91				
	TI 09: My team management is always competent	0.88				
	TI 10: The results achieved in games by my team can be better	EXC				
	SN 01: Most people who are important to me think that I should use my team's color (s)	0.95				
Subjective norms Han, Hsu and Sheu (2010)	SN 02: Most people who are important to me would like me to use my team's color(s)	0.95	0.67	0.76	0.76	0.86
	SN 03: People whose opinions I value prefer me to use my team's color (s)	0.92				
	BL 01: I always follow my team at the stadium	EXC				
Fan behavioral loyalty Bauer, Sauer and Exler (2008)	BL 02: I always follow my team on social media	0.79	0.67	0.76	0.76	0.86
	BL 03: I always buy products related to my team	0.85				
	BL 04 - I always use the colors related to my team	0.82				

Source: Research data. Caption: AVE: Average Variance Extracted; CR: Composite Reliability; EXC: Excluded

To verify the convergent validity of the indicators of the constructs used, we verified the AVE, and also considered Cronbach's alpha, CR, and Spearman's Correlation ( $\rho_A$ ). In view of the AVE results, which were equal to or greater than 0.50, the convergent validity appeared to be adequate according to Hair et al. (2017). In this study, the results were between 0.58 and 0.88, within the criterion, as shown in Table 1. Regarding CR, the results were above 0.70, as recommended by Hair et al. (2017), thus indicating the internal consistency of the variables of the constructs (Table 1).

The internal consistency of the variables was then checked (Cronbach's alpha), as well as the intensity of the relationship between the variables (Spearman's correlation). In view of the results, it appears that all results meet the criteria suggested by the literature, shown in Table 1. Cronbach's alpha was greater than 0.70 and  $\rho_A$  was close to 1. Values for Spearman's correlation should be in the range from -1 to 1 and the closer the variables are to the extremes, the greater the relationship becomes, claimed by Hair et al. (2017).

After assessing convergent validity, the presence of discriminant validity was examined following Fornell and Larcker (1981). The square root of the AVE of each construct was greater than the correlation with the other constructs in the model, as shown in Table 2 (values in bold), thus showing discriminant validity. It should also be noted that the factor matrix presents the particularities of the constructs used by their factor loadings (table 1), indicating that there were no crossed factor loadings. In addition, cross-loadings are found in the appendix.

**Table 2**  
Discriminant Validity - Fornell and Larcker (1981)

	PI	TI	BL	SN	SA
Intention to purchase products with the team's color: PI	0.76				
Team image: TI	0.22	0.87			

Fan behavioral loyalty: BL	0.48	0.26	0.82		
Subjective norms: SN	0.41	0.11	0.56	0.94	
Fan satisfaction: SA	0.40	0.75	0.39	0.26	0.77

Source: Research data. Note: Values on the main diagonal represent the square root of the AVE

Following the criteria suggested by Henseler, Ringle, and Sarstedt (2015), the HTMT ratio was used. Values below 0.85 represent satisfactory discriminant validity. Given the results (Table 3), the values are considered satisfactory, as they are less than 0.85.

**Table 3**  
Discriminant Validity – HTMT

	PI	TI	BL	SN	SA
Intention to purchase products in team colors: PI					
Team image: TI	0.26				
Fan behavioral loyalty: BL	0.64	0.31			
Subjective norms: SN	0.48	0.12	0.66		
Fan satisfaction: SA	0.51	0.84	0.49	0.30	

Source: Research data. Note: Average value of item correlations between constructs, in relation to the mean of the average correlations for the items that measure the same construct.

### Analysis of the structural model

After the constructs were validated, the hypothesis test was performed using SEM with estimation using PLS to verify the relationships between construct and the nature of each relationship (Hair et al., 2017). First, all of the control variables were linked to the constructs: fan satisfaction, fan behavioral loyalty, and intention to purchase products in the team colors (endogenous variables). Based on the results, there was a significant difference between gender and behavioral loyalty (BL), as well as marital status and BL and the intention to purchase products in the team colors (PI). Income, age, and education had a significant relationship to fan satisfaction (SA), and finally, time as a fan had a significant relationship with SA, BL, and PI—that is, all of endogenous variables. The other relationships were not significant and were thus excluded from the analysis.

Direct hypothesis test without the control variables was then performed (results in Table 4). The results show that H1, H2a, H2b, H3c, and H4 were significant at 5%, but H3a and H3b were not significant at 5%. The control variables that showed significance in the first test were inserted (time as a fan, age, income, education, gender, and marital status) and H1, H2a, H2b, H3a, H3c, and H4 were supported at 5%, but H3b was not (results in Table 4). In all three stages, the bootstrapping procedure with 5,000 interactions was used to perform the test of significance in the relationships, following Hayes (2017), which indicates that 5,000 interactions are an adequate number for the bootstrapping technique.

With the results presented in Table 4, it was found that these hypotheses were supported at 5% (considering the control variables): H1 ( $\Gamma = 0.33$ ;  $f^2 = 0.06$ ;  $q^2 = 0.03$ ;  $p\text{-value} < 0.05$ ); H2a ( $\Gamma = 0.37$ ;  $f^2 = 0.07$ ;  $q^2 = 0.06$ ;  $p\text{-value} < 0.05$ ); H2b ( $\Gamma = 0.27$ ;  $f^2 = 0.07$ ;  $q^2 = 0.03$ ;  $p\text{-value} < 0.05$ ); H3c ( $\Gamma = 0.66$ ;  $f^2 = 0.63$ ;  $q^2 = 0.45$ ;  $p\text{-value} < 0.05$ ); and H4 ( $\Gamma = 0.17$ ;  $f^2 = 0.03$ ;  $q^2 = 0.01$ ;  $p\text{-value} < 0.05$ ). Although the H3a ratio was significant ( $\Gamma = -0.17$ ;  $f^2 = 0.02$ ;  $q^2 = 0.01$ ;  $p\text{-value} < 0.05$ ), the hypothesis was not supported, because the sign of the relationship is negative and the hypothesis had a positive direction. Unlike the other hypotheses, H3b ( $\Gamma = -0.05$ ;  $f^2 = 0.00$ ;  $q^2 = 0.00$ ;  $p\text{-value} > 0.05$ ) was not supported at 5%.

Regarding indirect effects, the relationship between team image  $\rightarrow$  fan satisfaction  $\rightarrow$  fan behavioral loyalty  $\rightarrow$  intention to purchase products in the team colors was not significant at 5% ( $\Gamma = 0.07$ ;  $p\text{-value} > 0.05$ ), nor was the relationship between team image  $\rightarrow$  fan behavioral loyalty  $\rightarrow$  intention to purchase products in the team colors ( $\Gamma = -0.01$ ;  $p\text{-value} > 0.05$ ). The indirect relationship between team image  $\rightarrow$  fan satisfaction  $\rightarrow$  intention to purchase products in the team colors was significant at 5% ( $\Gamma = 0.22$ ;  $p\text{-value} < 0.05$ ), as was the indirect relationship between team image  $\rightarrow$  fan satisfaction  $\rightarrow$  fan behavioral loyalty ( $\Gamma = 0.05$ ;  $p\text{-value} < 0.05$ ).

The relationship between the control variables and the endogenous constructs was also

observed, with significance at 5% in the following relationships, according to Table 4: marital status and fan behavioral loyalty (p-value < 0.05); gender and fan behavioral loyalty (p-value < 0.05); and time as a fan and fan satisfaction (p-value < 0.05). Marital status and fan gender thus appear to influence behavioral loyalty, while time as a fan can influence fan satisfaction.

**Table 4**

Results Without/With Control Variables – Direct and Indirect Effects

Results		Coef. $\Gamma$	P-Value	Coef. $\Gamma$	P-Value
Direct effects		Without controls		With controls	
H1	Fan satisfaction → Intention to purchase products in team colors	0.35	<b>0.01</b>	0.33	<b>0.01</b>
H2a	Fan satisfaction → Fan behavioral loyalty	0.44	<b>0.00</b>	0.37	<b>0.01</b>
H2b	Fan behavioral loyalty → Intention to purchase products in team colors	0.28	<b>0.01</b>	0.27	<b>0.01</b>
H3a	Team image → Intention to purchase products in team colors	-0.13	0.07	-0.17	<b>0.04</b>
H3b	Team image → Fan behavioral loyalty	-0.07	0.28	-0.05	0.39
H3c	Team image → Fan satisfaction	0.75	<b>0.00</b>	0.66	<b>0.00</b>
H4	Subjective Norms → Intention to purchase products in team colors	0.18	<b>0.04</b>	0.17	<b>0.05</b>
Control Variables				Coef. $\Gamma$	P-Value
Marital status → Intention to purchase products in team colors				-0.10	0.07
Marital status → Fan behavioral loyalty				-0.17	<b>0.01</b>
Education → Fan satisfaction				-0.07	0.10
Age → Fan satisfaction				-0.01	0.86
Income → Fan satisfaction				0.05	0.34
Gender → Fan behavioral loyalty				0.18	<b>0.02</b>
Time as a fan → Intention to purchase products in team colors				0.85	0.23
Time as a fan → Fan behavioral loyalty				0.50	0.46
Time as a fan → Fan satisfaction				0.15	<b>0.02</b>

Source: Research data. Note: Bold numbers represent significance (p-value < 0.05)

To adjust the quality of the model, Hair et al. (2017) suggest checking the determination coefficients ( $R^2$ ), which are acceptable at values above 0.2. In this study, the  $R^2$  values are higher (results in figure 2), therefore, considered satisfactory according to the criteria by Hair et al. (2017).

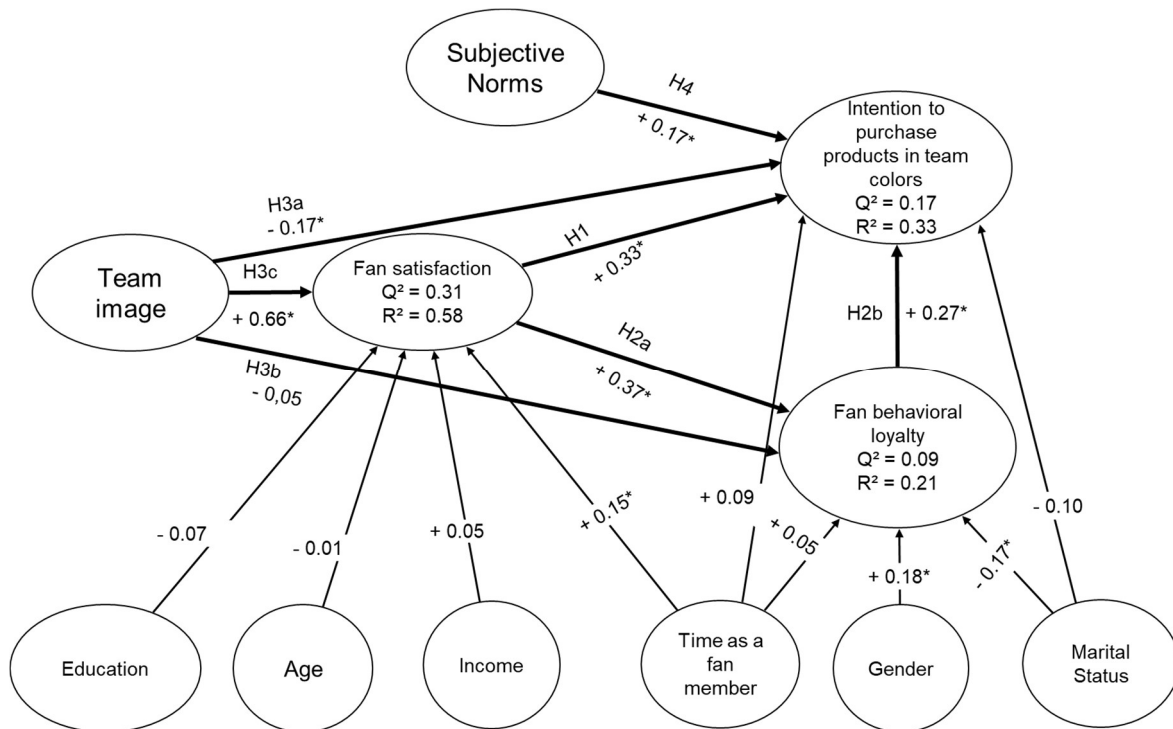
$Q^2$  confirms the accuracy of the model with a value greater than zero (Hair et al., 2017), and the  $Q^2$  values obtained in this study are greater than zero (results in Figure 2). This indicates that the model has predictive relevance. Multicollinearity was also observed by means of the variance inflation factor (VIF). VIF values up to 10 are considered acceptable and indicate that the model was properly estimated (Hair et al., 2017); in this study, the VIF values for the model's indicators ranged from 1.37 to 3.46. The results are shown in Figure 2.

## DISCUSSION OF RESULTS

Soccer is a sport that provokes feelings, such as passion, satisfaction, and loyalty in its fans (Fleury et al., 2014; Marquette et al., 2017). The objective of this study was to identify the influence of satisfaction, loyalty, subjective norms, and team image on fan intention to purchase products in the team colors.

H1 suggested that fan satisfaction with the team positively influences the intention to purchase products in the team colors; the analysis results ( $\Gamma = 0.33$ ;  $f^2 = 0.06$ ;  $q^2 = 0.03$ ; p-value < 0.05) indicate a positive and significant effect, supporting the hypothesis. The results are in accordance with the results obtained by Fleury et al. (2016), who suggested customer satisfaction has a strong and positive impact on purchase intention. Thus, the present results are in line with previous studies (Katz et al., 2020; Silva, 2020; Sullivan et al., 2021), because satisfaction tends to have a positive influence on intention and

purchase, and the more satisfied the fan is with favored club, the more likely they are to have greater purchase intention for products in the team colors. The novelty of this result is that the purchase intention influenced by satisfaction is for products with team colors, not necessarily team or licensed products. Being satisfied with the team, the fan has a tendency to value products with the colors that represent the team of his heart.



Source: Research data

**Figure 2.** Estimated model of structural equations (with controls).

Caption: \* $p < 0.05$ ;  $R^2$ , Determination coefficient;  $Q^2$ , Predictive relevance.

H2a proposed that fan satisfaction positively influences behavioral loyalty, which was supported ( $\Gamma = 0.37$ ;  $f^2 = 0.07$ ;  $q^2 = 0.06$ ;  $p\text{-value} < 0.05$ ). This is in line with the studies by Zhang et al. (2013) and Campos et al. (2015), who stated that satisfaction is a variable that precedes loyalty and is an inherent part of the process of building behavioral loyalty. Fan satisfaction also tends to have a positive influence on behavioral loyalty, that is, the more satisfied the fan is, the greater the degree of commitment to the team. This suggests an action to perform behaviors that indicate their motivation to maintain or expand their relationship with the team. This result reinforces the connection between satisfaction and fan loyalty, and such loyalty usually results in favorable fan behaviors towards their team, as indicated by H2b.

H2b sought to verify fan behavioral loyalty positively influences the intention to purchase products in the team colors, and the results ( $\Gamma = 0.27$ ;  $f^2 = 0.07$ ;  $q^2 = 0.03$ ;  $p\text{-value} < 0.05$ ) indicated a positive and significant effect, which supports the hypothesis and corroborates the results of Biscaia et al. (2018), who found that loyalty positively impacts purchase intention. Complementarily, Silva and Las Casas (2017) claimed that a high level of customer loyalty tends to generate purchase intention. Thus, the fan program can be perceived as a team alliance behavior by the fan, suggesting that the fan behavioral loyalty possibly has a positive influence on the intention to purchase products in the team colors. This result is a novelty, as the loyalty of the fan usually impacts the intention to purchase the team's own or licensed products (Ladeira Júnior et al., 2014). What was identified here is that, more than team products, the loyal fan also tends to have the intention of buying different products that have the team's colors.

H3a suggested that team image positively influences the intention to purchase products in the

team colors. Although the relation for H3a was significant at 5% ( $\Gamma = -0.17$ ;  $f^2 = 0.02$ ;  $q^2 = 0.01$ ;  $p$ -value  $< 0.05$ ), the hypothesis was not supported, because the sign of the relationship is negative and the hypothesis proposed a positive effect. The results of this study are thus not in line with the findings by Biscaia et al. (2018), who found that a positive image had a positive effect on purchase intention. Here, we found that the team image tended to have a negative effect on the fan intention to purchase products in the team colors. Counter-intuitively, this negative effect suggests that if the image of the team is bad, fans possibly tend to have a greater intention to purchase products in the team colors, possibly to reinforce their support for the team.

H3b proposed that team image positively influences fan behavioral loyalty. The results showed that the hypothesis was not significant at 5% ( $\Gamma = -0.05$ ;  $f^2 = 0.00$ ;  $q^2 = 0.00$ ;  $p$ -value  $> 0.05$ ), which is not in line with the findings of Biscaia et al. (2012), who suggested that team image represents a way to attract and retain customers and tends to have a positive effect on loyalty, that is, the better the image, the greater the customer loyalty. Still, it is worth nothing that, regardless of the team's image, fans remain loyal to their favorite team.

H3c proposed identifying whether team image positively influences fan satisfaction. The results indicate that the hypothesis has a positive and significant effect ( $\Gamma = 0.66$ ;  $f^2 = 0.63$ ;  $q^2 = 0.45$ ;  $p$ -value  $< 0.05$ ). This is in line with previous studies (Biscaia et al., 2018; Zhang et al., 2013) that pointed out that market image tends to positively influence customer satisfaction. It can thus be inferred that fan satisfaction possibly suffers a positive impact from team image—that is, if the team's image in the soccer market is positive, it tends to generate greater fan satisfaction.

It is worth mentioning that the direct relationship between team image and fan behavioral loyalty (H3b) was rejected, although there is evidence in previous studies that points to a positive relationship (Bauer et al., 2008; Biscaia et al., 2012). However, when analyzing the indirect relationship team image  $\rightarrow$  fan satisfaction  $\rightarrow$  fan behavioral loyalty, there is a positive and significant effect ( $\Gamma = 0.25$ ;  $p$ -value  $> 0.01$ ), which supports a mediating effect—that is, it indicates that when fan satisfaction is present in the relationship between team image and behavioral loyalty, the team image tends to influence behavioral loyalty positively and indirectly. Thus, team image tends to influence fan satisfaction, which tends to influence fan behavioral loyalty.

H4 was supported ( $\Gamma = 0.17$ ;  $f^2 = 0.03$ ;  $q^2 = 0.01$ ;  $p$ -value  $< 0.05$ ), having a positive and significant effect. This is in line with previous research, as subjective norms have a positive effect on human behavior, as suggested by Chen and Tung (2014). The opinion of the social group thus tends to have a positive and significant effect on fan intention to purchase products in the team colors. For the fan, the favorable opinion of those people close to the fan tends to strengthen the intention to purchase products in the favored team's colors.

H1, H2a, H2b, H3c, and H4 maintained their significant results after analysis, with positive effects both with and without the inclusion of control variables. This implies that the sociodemographic characteristics of the collected sample did not generate sufficient effects to modify the results of the hypotheses. For H3a, however, it was found that without the control variables the relationship was not significant at 5%, but after the inclusion of the control variables, the relationship became significant with a negative sign, demonstrating that the sample's sociodemographic characteristics had sufficient influence to modify the result of the relationship. Despite this, H3a was not supported, because the expected sign was positive. Finally, H3b was not significant at 5% both with and without the control variables, thus demonstrating that the sociodemographic characteristics did not influence the relevant results.

In view of the results, the constructs of fan satisfaction, fan behavioral loyalty, and subjective norms tend to directly influence the intention to purchase products in the team colors. Regarding team image and the intention to purchase products in the team colors, despite the relationship having significance, the sign of the relationship was negative, indicating the opposite direction—that is, team image inversely influences the intention to purchase products in the team colors. Fan satisfaction can promote behavioral loyalty, but team image does not tend to influence fan loyalty directly, according to the results presented, but only does so through fan satisfaction.



## CONCLUSIONS

The objective of this research was to identify the influence of satisfaction, loyalty, subjective norms, and team image on fan intention to purchase products in the team colors. The results indicated that, directly, the more satisfied the fan is with their team, the greater the influence of favorable third party opinions, the greater their loyalty to the team, and thus the greater the likelihood to intend to purchase products in the team colors. The reverse occurred with the team image, as already discussed. This leads to the conclusion that, having met fan expectations in terms of team results, the happier fans will be and as a consequence, the greater their intention to purchase products in the team colors and the greater their loyalty to the team.

Fan loyalty to the team becomes a factor that may generate a greater intention to purchase products in the team colors—that is, fans more loyal to the team will possibly have a greater intention to purchase such products. Social pressure (subjective norms) exerted by the opinions of people the fan considers relevant also tends to exert an influence on fan intention to purchase products in the team colors. Regarding team image, it tends to generate an opposite effect on the intention to purchase products in the team colors. Team image also tends not to influence fan behavioral loyalty—that is, regardless of the team's image, the fan tends not to switch teams and thus demonstrates their loyalty to the team.

As a theoretical contribution, the present study provides an unprecedented model for investigating the foundations for the fan purchase intention for products in the team colors. It thus adds to the existing literature by relating constructs previously studied (Bacha & Figueiredo Neto, 2014; Bauer et al., 2008; Han et al., 2010) to fan intention to purchase products in the team colors, which is a novel development. The findings of this study expand the understanding of soccer fans, as it was noticed that, in addition to the fan relating to his favorite team, going to matches and buying products from the team, he has a tendency to buy products with the colors of the soccer team, even if these products are not related to the team itself (own or licensed products). This finding is unprecedented in the sports marketing literature, as it demonstrates the significance of relationships not yet observed in the literature.

As a practical contribution, this research makes it possible to identify relevant elements that can assist companies and marketers to develop strategies to sell products in team colors, generating the possibility of increased sales. The results indicate elements of fan behavior that tend to influence their intention to purchase products in the team colors. The results may also be useful for people or companies thinking of investing in the market for products alluding to teams (e.g., in team colors) to assist in the construction of strategic plans focusing on the fan market. That is, companies that manufacture and sell products with colors can take advantage of the soccer fan's tendency to value the team's colors to promote their products, even if they do not have any licensing agreement with the team itself. When looking at soccer fans who are openly cheering for a certain team, offering products with the team's colors tends to be more successful.

Despite these contributions, this study has some limitations. The first is the timing of data collection, due to its cross-sectional nature. Future studies should adopt a longitudinal approach to determine evidence of fan behavior over time. Second is the non-probabilistic sampling, which prevents generalization of the results achieved. However, the research showed elements related to fan behavior and purchase intention for products in the team colors that can be confirmed in future studies.

We suggest that this study be replicated with fans from different clubs to compare the results and to seek evidence of whether the results about fan behavior related to purchase intention for products in team colors are similar to those found here. New studies could evaluate the existence of mediating effects in the relationships indicated in the present model, because only direct relationships were evaluated here. New studies could also add new constructs to the model (e.g., trust, behavioral belief, or motivation) to expand the discussion on fan purchase intention for products in team colors, bearing in mind that it is a relevant market that can generate increased sales for the businesses involved with soccer teams. Especially, to investigate soccer fan engagement, which, according to the literature (eg Sullivan et al., 2021), is an important construct to explain fan behaviors. Including model engagement can help reveal other types of soccer fans' intentions.

## Research ethic statement

The authors declare that this article is original and has not been previously published.

## Author contribution statement

The authors Fernando and Emerson were responsible for the design of the research, as well as the execution of the research and writing of the article. Author Danilo collaborated with the research and writing of the article.

## Declaration of conflicting interests

The authors declare that there is no conflict of interest.

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## Appendix

### Cross-loadings

Indicator	Fan behavioral loyalty (BL)	Fan satisfaction (SA)	Intention to purchase products with the team's color (PI)	Subjective norms (SN)	Team image (TI)
TI 01	0.190	0.592	0.163	0.066	0.776
TI 02	0.226	0.697	0.225	0.079	0.923
TI 03	0.178	0.678	0.149	0.044	0.903
TI 04	0.253	0.729	0.207	0.027	0.902
TI 07	0.285	0.581	0.237	0.237	0.796
TI 08	0.237	0.641	0.232	0.077	0.905
TI 09	0.209	0.629	0.181	0.143	0.876
PI 01	0.328	0.265	0.758	0.263	0.070
PI 02	0.420	0.241	0.892	0.322	0.100
PI 03	0.374	0.409	0.708	0.188	0.315
PI 04	0.340	0.317	0.756	0.459	0.183
BL 02	0.787	0.410	0.333	0.408	0.308
BL 03	0.852	0.263	0.438	0.547	0.166
BL 04	0.818	0.281	0.415	0.405	0.164
SN 01	0.542	0.288	0.412	0.947	0.120
SN 02	0.536	0.241	0.419	0.953	0.091
SN 03	0.488	0.203	0.320	0.920	0.094
SA 01	0.254	0.766	0.352	0.199	0.533
SA 02	0.209	0.808	0.370	0.212	0.592
SA 04	0.398	0.774	0.296	0.184	0.603
SA 05	0.365	0.719	0.247	0.232	0.499
SA 07	0.268	0.779	0.318	0.188	0.645

Source: Research data.