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Consuming Football: A Segmentation Study of Brazilian Football Fans

Consumindo Futebol: Estudo de Segmentação de Torcedores de Futebol Brasileiros

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ABSTRACT

This study aimed to investigate how the Brazilian football fans' market is segmented, using a sample of fans of a professional football team participating in the Brazilian league. Data were collected through an online survey to segment respondents based on fan characteristics, team identification and loyalty, and purchasing behavior of team merchandise, using cluster analysis. The study identified four segments of the Brazilian football fans' market – Fanatical Fans, Devoted Fans, Attached Fans, and Interested Individuals – each with specific characteristics, attitudes and behavior. The identified clusters reveal patterns that appear to transcend geographical and cultural boundaries, enriching the understanding of sports fan behavior.

Keywords: Football, Segmentation, Fan Behavior, Team Merchandise.

RESUMO

Este estudo investigou como o mercado de torcedores de futebol no Brasil pode ser segmentado, utilizando uma amostra de torcedores de um time profissional participante da liga brasileira. Os dados foram coletados por meio de uma survey online com torcedores de um clube de futebol brasileiro, com o propósito de segmentar essa população com base em características dos torcedores, identificação e lealdade ao time e comportamento de compra de produtos licenciados do time, utilizando análise de clusters. O estudo identificou quatro segmentos do mercado de torcedores de futebol brasileiros – Fãs Fanáticos, Fãs Dedicados, Fãs Envolvidos e Indivíduos Interessados – cada um deles com características, atitudes e comportamentos específicos. Os clusters identificados mostram padrões que transcendem fronteiras geográficas e culturais, enriquecendo a compreensão do comportamento de torcedores de esportes.

Palavras-Chave: Futebol, Segmentação, Comportamento do Torcedor, Produtos Licenciados do Time

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INTRODUCTION

Football, also known as soccer, originated in the 19th century as a leisure activity, and has since evolved into a global industry. Today, football clubs generate billions of dollars in revenue annually. For example, the professional football market in Europe alone was estimated at 29.5 billion euros in 2022 (Statista, 2024). A significant portion of these revenues stems from the sale of official merchandise, such as team jerseys, hats, scarves, cups, and various other accessories.

A sports fan is also a consumer of the sport. Loyal sport fans are unique consumers, as their allegiance to a team differs significantly from loyalty in other industries (Samra; Wos, 2014). While many industries grapple with declining brand loyalty, the sports industry boasts lifelong fans who remain committed even during periods of poor team performance. Unlike other sectors, sports clubs typically experience minimal loss of membership due to fans switching allegiances, as fan affiliation often stems from familial and regional influences.

The licensed sports merchandise global market is rapidly expanding, with an annual turnover of approximately US$35 billion (Future Market Insights, 2024). As an illustration of this industry's dynamism, within 24 hours of Cristiano Ronaldo's transfer from Real Madrid to Juventus Football Club, his new club sold 520,000 jerseys, generating US$60 million – nearly two thirds of his transfer fee (Campbell, 2018). The significance of merchandise sales extends beyond mere revenue generation, as they enable easy global distribution and enhance brand visibility (Habenstein et al., 2021). Yoshida et al. (2014) underscore the potential of merchandising not only to attract new fans and boost sales among existing ones but also to enhance fan engagement. The bonds fans form with their teams often translate into behaviors that benefit the organization (Funk; James, 2006), either through financial gains, such as attending games or purchasing merchandise, or through intangible benefits, such as creating an intense atmosphere in stadiums or engaging actively on social media platforms. Therefore, there is a need to delve deeper into the nuances of football merchandising and the strategies that foster brand loyalty, as well as to understand how different groups of fans consume football.

The relevance of Brazil in the global football scene is evidenced by its achievement of winning five FIFA World Cups, thus becoming "the most successful national team in history" (The Economist, 2024a, p. 35), and by the devotion of Brazilians to their teams. However, despite Brazil's immense interest in football, it has attracted limited attention from marketing scholars. Notable exceptions in the English-language literature include Mazzei et al.'s (2020) and Rocha and Fleury's (2017) research on factors influencing stadium attendance. Regarding articles published in Brazil, there has been a growing number of studies on football consumption over the last decade (e.g., Butier; Levrini, 2013; Pereira et al., 2017).

The recent surge in interest in the subject stems from a legal shift in the organizational structure of Brazilian football clubs. This change allowed clubs to transition from non-profit associations to a new corporate model known as Sociedade Anônima do Futebol (SAF), aimed at promoting the professionalization of the sport. According to The Economist (2024b), "thanks to the rise of of SAFs and sports betting, Brazilian football is awash with money, […] making Brazil the most exciting market for investors in the beautiful game." However, despite the country's relevance in football, there remains a gap in the literature regarding Brazilian football fan segmentation.

Therefore, this study aims to address this gap by investigating how the Brazilian football market is segmented, using a sample of fans of a professional football team participating in the Brazilian Premier League. The following research question guided the study: "How can fans of a Brazilian football club be segmented based on their characteristics, attitudes, and purchasing behavior of team merchandise?"

The study offers both theoretical and practical contributions. From a theoretical standpoint, the study provides an understanding of football consumer segments in an emerging market, Brazil, a country known for producing world-class players and boasting a vast fan base. Regarding practical contributions, understanding the nuances of purchasing behaviors among Brazilian football fans presents an opportunity to uncover insights that can help football clubs refine their marketing strategies, enhance fan engagement, and ultimately bolster their sustainability and growth. This is particularly relevant as most Brazilian clubs struggle to monetize their fan base, especially in terms of merchandise sales. Due to their traditional nonprofit status, club management may not fully grasp the significance of their fan base in ensuring the organization's longevity and financial prosperity (Nakamura; Cerqueira, 2021; Rincón et al., 2023).

This paper proceeds as follows: after this introduction, we present a brief description of the study context. We then review the literature on purchasing behavior of licensed team merchandise, as well as sports and football segmentation studies conducted in several countries. The methodology, based on an online survey of football fans, is presented next, followed by a description and analysis of the segments identified in the study. Finally, we outline the study's conclusions, limitations, and potential avenues for future research.

THE CONTEXT

Botafogo Futebol e Regatas was founded in 1942, following the merger of two pre-existing clubs: Club de Regatas Botafogo (founded in 1894) and Botafogo Football Club (established in 1904). Throughout its history, the club has contributed significantly to Brazilian football, "supplying more players to Brazil's national team than any other club" (The Economist, 2024b). Botafogo clinched the Brazilian Premier League title in 1968 and 1995. In 2007, the club inaugurated its own stadium. However, in subsequent years, it faced severe financial crises, negatively impacting its performance—a situation similar to that of many other football clubs in Brazil.

In 2022, faced with substantial debt, the club underwent a transformation under North American entrepreneur John Textor, who acquired a 90% stake and implemented the SAF model. In addition to Botafogo, John Textor owns other football clubs in France, England, and the Netherlands. Following these changes, Botafogo embarked on a remarkable process of sporting and organizational renewal. Analyzing the financial impact of Botafogo's transition from the association model to SAF, Ferreira and Szuster (2024) noted that the club reaped several benefits from adopting the new model, particularly in attracting investments and generating new revenue streams. These revenues came from fan contributions, sponsorships, ticket sales, prizes, and player transfers.

Presently, the club operates two physical stores in Rio de Janeiro, an official online store, stadium kiosks selling team merchandise, and collaborates with third-party vendors for product distribution. Like most football clubs in Brazil, Botafogo offers fan memberships, providing benefits such as product and ticket discounts, priority ticket purchases, and access to team-

related experiences in exchange for a monthly fee. Botafogo offers four types of membership plans: Glorioso, the most expensive, which entitles the fan to more benefits; Alvinegro, the second most expensive; Preto, third most expensive; and Branco, the cheapest, entitling the fan to fewer benefits.

In 2024, Botafogo reached the pinnacle of its recent history by winning the Copa Libertadores trophy and participating in the FIFA Club World Cup. That same year, according to *Placar* magazine (2024), it held the 12th largest fan base in the country.

LITERATURE REVIEW

Fan Relationshisps with Teams: Basic Concepts

Scholars have employed multiple constructs to examine how fans relate to their teams. The most common include engagement, commitment, involvement, attachment, identification, and loyalty. These constructs are frequently used interchangeably, making the analysis of existing literature "an exercise in untangling semantic differences" (Funk; James, 2001, p.120). To clarify these concepts, selected definitions are presented in Table 1.

Table 1 – Selected Definitions of Key Constructs

Construct	Definitions
Involvement	"…a 'state of motivation, arousal or interest toward a recreational activity or associated product'." (Funk; James, 2001, p.130)
Engagement	"…a sport consumer's extrarole behaviors in nontransactional exchanges to benefit his or her favorite sport team, the team's management, and other fans." (Yoshida et al., 2014, p.403)
Commitment	"…the durability and impact of those associations [physical and psychological] that produce a strong, persistent relationship with a team or sport." (Funk; James, 2001, p.121)
Attachment	"…the degree or strength of association based upon the perceived importance attached to physical and psychological features associated with a team or sport." (Funk; James, 2001, p.121)
Identification	"…a fan's psychological connection to a team and […] the extent to which the fan views the team as an extension of his or herself" (Wann et al., 2011, p. 76)
	"…a sense of attachment among highly allegiant individuals, regardless of competition outcome or even overall team record." (Branscombe; Wann, 1991, p. 117)
Loyalty	"…the degree of attitude formation towards a sport object that is characterized by: persistence […] resistance to change […], biases in cognitive processing [and] guides to behaviour." (Funk; James, 2001; p.136)
	"…an allegiance or devotion to a particular team that is based on the spectator's interest in the team that has developed over time." (Wakefield; Sloan, 1995, p.159)

Involvement can be considered an initial stage in the fan–team relationship, whereas engagement reflects active participation in team-related activities. Commitment represents a psychological state linking the individual to the team. Attachment and engagement are

commonly viewed as antecedents of loyalty (Kim et al., 2021; Tsiotsou, 2013). Attachment is also closely associated with team identification (Wan et al., 2011). Finally, loyalty reflects consistent, enduring support for the team over time.

Fans' Purchasing Behavior of Licensed Team Merchandise

Several authors have investigated the extent to which team merchandise consumption relates to identity and self-concept. Identification with a team can vary in degree depending on several factors, including its implications for the individual's self-concept. Wann and Branscombe (1990) introduced two concepts to explain this phenomenon: BIRGing (basking in reflected glory) and CORFing (cutting off reflected failure). BIRGing indicates the desire to associate with a successful team, whereas CORFing involves distancing from an unsuccessful one. Their study on U.S. university students revealed that those with high team identification tend to BIRG more and CORF less, while moderate or low identifiers show the opposite tendency. This phenomenon often manifests in sports fans' use of team merchandise, such as shirts or buttons. Kural and Özbek (2023) found a positive and significant relationship between social identity and football consumption behavior in Turkey, with team loyalty acting as a mediator between these constructs.

Kwon et al. (2006) conducted a study in a U.S. university setting to explore the social-psychological attachment of sport consumers and its impact on their purchasing and wearing behavior of licensed sports apparel. Drawing from social identity theory and symbolic self-completion theory, they argued that licensed merchandise consumption is driven by the desire to reinforce belongingness to the team and compensate for identity-related deficiencies. By purchasing licensed merchandise, sport consumers maintain and enhance their self-identity. Kwon et al. (2006) found that identification with the team is the most significant driver of purchasing and wearing behaviors, followed by identification with the university and with the sport. This consumption serves to affirm the consumers' actual self-concept, reflect their ideal self, and express their lifestyle, thus reinforcing their group membership.

Kwon and Armstrong (2002) investigated impulse buying behavior of licensed team merchandise among U.S. university students. Their study revealed that the primary determinant of impulse purchasing was fans' identification with the team, alongside three other predictors: financial availability, time availability, and shopping enjoyment. Gutierrez et al. (2022) found that the fan–player bond and attendance at special events had a positive and significant effect on team merchandise sales. Two studies in Brazil also highlighted the relevance of team identification and fan support in the consumption of team-related products: Pereira et al. (2017) found that team identification positively and significantly influences the intention to buy a fan membership, and Butier and Levrini (2013) indicated that club support, price, and payment method were the most important factors in the purchase of official textile products by low-income fans.

Loyalty to the team has also been examined in several studies. Rincón et al. (2023) found a positive and significant relationship between symbolic consumption of football team merchandise and brand loyalty among fans in Colombia. Stroebel et al. (2021) analyzed the impact of team merchandise usage on fan identification and loyalty, finding that merchandise acts as a catalyst for both. Habenstein et al. (2021) conducted a study in Germany to investigate the role of price, shipping speed, and free added values in fans' choice of licensed sports merchandise when shopping online. The findings revealed that although price was the most significant factor, the online supplier's role in the sports industry was crucial, surpassing the

importance of added values and shipping speed. Loyal fans were more inclined to buy from the official fan shop, recognizing that their purchases directly supported the club, even if prices were slightly higher. Highly loyal fans showed less price sensitivity and were less likely to seek alternatives, whereas low-loyalty fans were more price-sensitive and engaged in extensive information search and evaluation.

Studies in Brazil have investigated fan relationships with teams, on-field performance, stadium attendance, and the purchase of club merchandise. Garcia et al. (2023) report that fan engagement positively influences the intention to purchase club-related merchandise, even when satisfaction with team performance is low. Borges and Petry (2016) found that team performance did not affect stadium attendance, while Fleury et al. (2014) and Sharf and Pacheco (2018) identified a significant relationship between stadium attendance frequency and merchandise consumption. Similarly, Ladeira et al. (2014) showed that purchase intention is more closely linked to brand loyalty than to the club's current image. However, Rogers et al. (2023) present contrasting findings, indicating that team performance affects team image, which subsequently influences fan loyalty and purchasing behavior.

Other authors have examined additional factors associated with team merchandise consumption. Lee et al. (2011) found that consumer values and perceived product attributes drive consumption of licensed sports merchandise. Blumrodt et al. (2012) indicated that perceived ethicality in the sports entertainment industry impacts brand image, which in turn predicts French fans' purchase behavior.

Segmentation Studies

Two conceptual studies focused on sports fans in general. Samra and Wos (2014) conducted a review of sports fan studies published between 1997 and 2004 to develop a classification of fan types. They identified three archetypal categories: temporary fans, devoted fans, and fanatical fans. Temporary fans exhibit time-limited interest in sports, losing motivation once the interest wanes. Devoted fans integrate their fan identity into their self-concept, remaining loyal even after specific events or changes in circumstances. Fanatical fans demonstrate unwavering loyalty and deep affection for the team or player, often expressing their passion through extreme behaviors such as body painting or elaborate costumes, transcending mere attendance at games. Trail and James (2015) categorized fans into four groups: non-fans, interested individuals, attached fans, and loyal fans. Non-fans exhibit little to no interest in the team, possibly attending games for business purposes but lacking a personal connection. Interested individuals show some interest in the team, often for social or situational reasons, but lack a strong personal connection. Attached fans consider themselves fans and engage with team-related activities to some extent. Loyal fans demonstrate consistent and persistent consumption behaviors, investing significantly more in team merchandise and attending a higher number of games compared to other fan groups.

Several empirical studies have specifically examined the segmentation of football fans and spectators across various countries. Notably, two studies were conducted in the U.K. Tapp and Clowes (2000) conducted a study on supporters of top-tier clubs in the English Premier League using customer value and benefits sought as primary segmentation variables, alongside geodemographic and psychographic characteristics. Their study identified three major segments (regulars, casuals, and fanatics), each associated with other geodemographic and psychographic segments. Pick and Gillett (2018) revisited Tapp and Clowes' (2000) study, focusing on supporters of lower-tier clubs. Their segmentation results mirrored those of the

previous study, with the addition of a new category named enthusiasts. A study in Germany (Jaeger, 2021), using qualitative methods based on in-depth interviews, identified five segments: active fans, consuming fans, event fans, corporate fans, and passive followers. Gächter et al.'s (2024) study in Switzerland revealed four segments: football aficionados, casual users, joy-seeking spenders, and online media enthusiasts.

Attachment and involvement emerged as critical segmentation variables in two studies. Alexandris and Tsiotsou (2012) examined Greek football spectators, revealing two distinct segments characterized by varying levels of attachment. Highly attached spectators exhibited greater self-expression and team involvement compared to their less attached counterparts. Sondhi and Basu (2018) employed type of involvement among football fans in India as a segmentation criterion, identifying four distinct segments.

Additionally, two studies emphasized purchasing and consumption behavior as key segmentation criteria. Biscaia et al. (2012) segmented the Portuguese football market into three groups labeled 'Occasional,' 'Die-hard,' and 'Weekend Lovers,' each differing in service quality perceptions and purchasing intentions. Kościółek and Nessel (2019) conducted a study in Poland, identifying four football fan segments: avid, casual, die-hard, and regular. Their findings highlight the pivotal role of team identity in shaping fans' consumption behaviors and their resilience to fluctuations in team performance. Moreover, elevated levels of fan engagement serve as a reliable marker for identifying individuals belonging to the avid fan segment, distinguished by their heightened consumption tendencies.

Two other studies used the construct of "eFANgelism" as a segmentation criterion, one in Croatia (Pepur et al., 2023) and the other in Korea (Park et al., 2023). This construct considers four types of evangelistic behavior: advertising, advocating, assimilating, and antagonizing. The Korean study identified three segments (eFANgelists, stationary fans, and mild supporters), while the Croatian study further divided the first segment into two (eFANgelist and eFANgelist pacifist), in addition to the segments of stationary fans and mild supporters.

Finally, some studies examined specific segments of football fans, such as women (Hallmann et al., 2022), older fans and fans with disabilities (Paramio Salcines et al., 2014), early adopters of a new team (McDonald et al., 2016), and fans of foreign teams (Merten et al., 2024; Uhrich et al., 2023). Table 2 provides a list of the segmentation studies reviewed and their characteristics.

METHODOLOGY

An online survey of fans of Botafogo Football Club, a team from the Brazilian League, was conducted to segment this population based on fan characteristics, team identification and loyalty, and purchasing behavior of team merchandise. Appendix 1 presents the variables used in the study and their operationalization.

Given the absence of a complete population list, Botafogo fans were identified and recruited through social media groups and a snowball sampling procedure. Employing diverse recruitment methods tends to attract respondents with varying demographic and webographic characteristics (Schillewaert et al., 1998). This diversity is largely inevitable due to the lack of a complete population list, necessitating the use of a non-probabilistic sample. Respondents included both genders and were predominantly holders of undergraduate degrees. This latter aspect reflects the considerable disparities in educational attainment within the Brazilian

population, which pose challenges in reaching less-educated individuals through online surveys.

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Table 2 – Selected Segmentation Studies

Author (year)	Main Variables	Country	Population	No. of segments	Segments Identified
Tapp and Clowes (2000)	customer value and customer benefits sought, geodemographics and psychographics	U.K.	football fans	3 large segments with several related sub-segments	regulars, casuals, fanatics; carefree casuals, committed casuals; etc.
Alexandris and Tsiotou (2012)	attachment to the team, self-expression, team involvement	Greece	football spectators	2	high attachment, low attachment
Biscaia et al. (2012)	demographics, consumer behavior, service quality, and behavioral intentions	Portugal	members of a professional football club	3	occasional, die-hard, weekend lovers
Samra and Wos (2014)	motivations	n.a.	sports fans	3	temporary, devoted, fanatical
Trail and James (2015)	intention to purchase, psychological commitment, attitude towards merchandise	n.a.	sport spectators	4	non-fans, interested individuals, attached fans and loyal fans
Pick and Gillett (2018)	customer value and customer benefits sought	U.K.	supporters of lower-league football clubs	5	carefree casuals, committed casuals, regulars, enthusiasts, true fanatics
Sondhi and Basu (2018)	type of involvement with football	India	football spectators	4	team involved, player involved, game involved, team-game involved
Kościółek and Nessel (2019)	team identification, satisfaction with team's performance, and engagement in team's social media	Poland	football fans	4	avid, casual, die-hard, and regular
Jaeger (2021)	several	Germany	football fans	5	active fans, consuming fans, vent fans, corporate fans and passive followers
Park et al. (2023)	eFANgelism	Korea	football fans	3	eFANgelist, stationary fans, mild supporters
Pepur et al. (2023)	eFANgelism	Croatia	football fans	4	eFANgelist, eFANgelist pacifist, stationary fans, mild supporters
Gächter et al. (2024)	fan identification, online media usage motivation, emotions, entertainment	Switzerland	football fans	4	football afficionados, casual users, joy-seeking spenders, and online media enthusiasts

n.a. = not available

The data collection instrument consisted of an online questionnaire adapted from various validated measures in the literature, designed to assess fans' engagement and consumption behavior. These variables were measured using a 5-point Likert-type scale ranging from "totally disagree" to "totally agree." In addition, demographic questions were included to characterize the sample. Since all respondents were Brazilian, the instrument was administered in Portuguese. To ensure translation reliability, a back-translation protocol was employed (Douglas; Craig, 2007; Sperber, 2004). The questionnaire was pre-tested to assess ease of understanding, resulting in minor revisions for clarity. The final version comprised 28 items, with a target response time of three to five minutes. The questionnaire was structured into four blocks: the first assessed socio-demographic information, including age, gender, marital status, number of children, education, and residential location. The second contained a single question regarding membership level. The third included eight questions on team identification and loyalty, while the fourth comprised 13 questions on consumer behavior.

The online survey was developed and hosted on Google Forms and remained active for two weeks. Participants provided informed consent to access the questionnaire, and confidentiality was ensured through direct and anonymous access. As respondents completed the survey, their responses were immediately stored in a database, enabling real-time monitoring of response rates and facilitating data processing after data collection was completed. A total of 230 responses were received. After excluding respondents who did not fit the expected profile, the final sample consisted of 185 responses. The data were initially imported into StatTools, an analysis software running on Microsoft Excel.

Cluster analysis was used to divide the population into a concise number of mutually exclusive groups based on existing similarities. This method does not assume predefined groups but instead reveals and identifies them. Therefore, a cluster analysis was conducted to segment Botafogo supporters using the variables measuring identification, loyalty, and purchasing behavior. Finally, the identified clusters were described based on their characteristics.

RESULTS

The analysis proceeded in two steps. Initially, a hierarchical cluster analysis was conducted using the Ward method with Mahalanobis distance. Two-, three-, four-, five- and six-cluster solutions were examined, and dendrograms were used to identify the best solution. Based on theoretical discrimination between clusters, the four-cluster solution (comprising 42, 94, 40, and 9 cases) was selected for its stronger theoretical support. Figure 1 illustrates the dendrogram for the four-cluster solution generated by StatTools software. Subsequently, the clusters were characterized using categorical variables (Appendix 2).

The four identified clusters were labeled Fanatical Fans, Devoted Fans, Attached Fans, and Interested Individuals. These findings are broadly consistent with prior research conducted in other countries. Each cluster displays distinct characteristics, which are presented and compared with those reported in previous studies.

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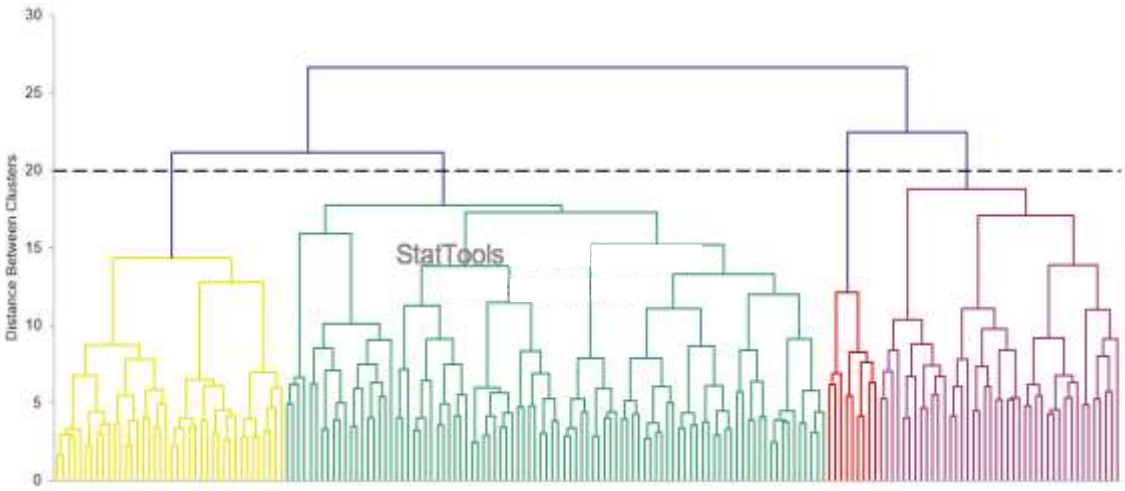


Figure 1 - Dendogram

Cluster 1 – Fanatical Fans

This cluster was labeled Fanatical Fans, a designation previously used by Tapp and Clowes (2000), Samra and Wos (2014), and Pick and Gillett (2018) to identify a distinct football market segment. To some extent, the eFANgelist segments identified by Park et al. (2023) and Pepur et al. (2023) share characteristics with the Fanatical Fans segment described in this and other studies. This segment typically comprises individuals aged over 35, predominantly married with children. Among all clusters, it exhibits the highest proportion of members with subscription plans, reflecting strong loyalty and commitment to the team. Members frequently attend matches at the stadium and follow Botafogo games on TV when unable to attend in person. They also actively stay informed about team news and updates. Fanatical Fans commonly incorporate the team's jersey into their daily attire and consistently purchase team-related merchandise. Notably, this segment demonstrates a discerning nature, placing greater importance on purchasing factors compared to other segments, except for on-the-field performance, which is more significant for another cluster. They tend to avoid unofficial channels, preferring purchases from the official store and the team's website. Comparisons with other studies reveal similarities regarding consumer fanaticism, characterized by "strong and intense levels of commitment, allegiance, devotion, passion, emotional attachment, enthusiasm and involvement" (Samra; Wos, 2014, p.270). The substantial proportion of fans who regularly wear the Botafogo jersey aligns with prior research, which distinguishes fanatical fans from devoted fans by their heightened attendance at games and engagement in practices such as body painting in team colors (Samra; Wos, 2014), collecting team merchandise, or even "living and breathing" football (Tapp; Clowes, 2000).

Cluster 2 – Devoted Fans

The second cluster was labeled Devoted Fans, a term also used by Samra and Wos (2014). Like Fanatical Fans, members of this segment consider themselves loyal and committed to the team. However, they differ primarily in their lower tendency to wear the Botafogo jersey or purchase team-related merchandise. This cluster shows minimal concern for price, quality, aesthetics, or on-field performance when making purchasing decisions. The label "devoted" aptly captures these fans, as they demonstrate commitment to consuming Botafogo products regardless of the

team's performance. Their consumption behavior reflects a deep-seated affiliation with the team, forming an integral part of their identity. This segment aligns with the Devoted Fans described by Samra and Wos (2014), who view their fan identity as integral to their self-identification. These authors also note that Devoted Fans maintain their allegiance to the team even after temporary events geographic relocation. Similarly, in the present study, a notable proportion of respondents living outside Brazil belong to this fan category.

Cluster 3 – Attached Fans

This segment was labeled Attached Fans, following Trail and James (2015). Among the four clusters, it has the highest proportion of women, with most members not holding membership plans. Attached Fans exhibit lower loyalty and commitment compared to Fanatical and Devoted Fans. They purchase fewer team-related items, engage less with Botafogo news, and attend games less frequently, either in person or via TV, showing limited response to match outcomes. Price sensitivity is notable, and they are less likely to buy through official team channels, which typically generate higher revenue for the team. This segment aligns with the corresponding group identified by Trail and James (2015 as these fans consider themselves supporters and express intentions to consume team-related products, by watching games on TV, purchasing merchandise, or attending occasional matches. However, their level of consumption intensity is notably lower compared to other fan segments. While they show psychological commitment to the team, it is less continuous and persistent than that of loyal fans.

Cluster 4 – Interested Individuals

The final cluster identified in this study is labeled Interested Individuals, following the terminology of Trail and James (2015). This segment appears under different fan labels in other studies, such as mild supporters (Park et al., 2023; Pepur et al., 2023), which share similar characteristics. This group has the highest prevalence of non-members and engages in consuming team-related merchandise and following Botafogo matches and news on TV. However, few members feel truly committed to the team, and they do not identify with the statement that nothing can deter their support for Botafogo. Among the four segments, they are the least likely to attend matches at the stadium. On-field performance is the most significant factor influencing their purchasing decisions, with fans primarily buying products when the team is successful. As Wann and Branscombe (1990) noted in their definition of CORFing, these fans are expected to refrain from purchasing merchandise following team failure, distancing themselves from an unsuccessful team. Trail and James (2015) classified Interested Individuals as those who have some level of interest in the team and may hold a positive attitude but lack strong commitment. As highlighted by these authors, Interested Individuals may occasionally attend games due to situational factors, choosing games based on sport preference or as an alternative form of entertainment. While they show some interest in attending games, they maintain minimal personal connection to the team.

CONCLUSION

Football team fans can be effectively segmented into distinct groups based on their characteristics, attitudes toward the team, and purchasing behavior. Furthermore, the market segments identified share similarities with those found in studies conducted in other contexts and countries, suggesting the existence of global segments of football fans. In other words, the identified clusters reveal patterns that may transcend geographical and cultural boundaries, enriching the broader understanding of sports fan behavior.

The study's findings offer valuable insights for professionals in the sports industry. The Fanatical Fans segment, characterized by high commitment levels and frequent match attendance, shows a strong inclination towards team-related merchandise. Their discerning purchasing behavior, particularly regarding on-field performance, underscores the importance of tailored merchandising strategies targeting this group. The Devoted Fans segment demonstrates unwavering loyalty, regardless of short-term events or team performance, making them pivotal for long-term merchandising strategies. Despite lower engagement in match attendance and merchandise purchases, the Attached Fans group should not be overlooked, as they represent an additional revenue opportunity through targeted strategies, particularly during favorable team phases. Finally, Interested Individuals, while less engaged, present an opportunity to stimulate consumption, especially during upward team trajectories. Exploring potential player idols and leveraging situational factors, such as weekend games and commemorative dates, can enhance their engagement and purchasing propensity. In summary, understanding distinct fan clusters — Fanatical Fans, Devoted Fans, Attached Fans, and Interested Individuals — facilitates strategic product-market differentiation, such as customizing merchandise, refining marketing channels to match segment preferences, or launching event-specific campaigns for performance-driven segments.

The study has several limitations. First, it examines a single Brazilian football team, potentially limiting the generalizability of the findings to other geographic and cultural contexts. Second, the use of a non-probabilistic sample does not allow to extrapolate results to the broader fan population, as some segments may not have been captured. Third, the relatively small sample size may reduce the statistical power of the analysis. Fourth, to ensure a short response time, several constructs were measured with a single item, potentially affecting reliability. Nonetheless, the identified segments are likely present in the broader population, as similar patterns have been reported in previous studies.

Numerous gaps in the literature present potential avenues for future research. Longitudinal studies spanning multiple seasons could provide a more nuanced understanding of how fan clusters evolve in response to team performance, marketing strategies, and external factors. Moreover, including fans with diverse educational backgrounds, income levels, and geographic regions within Brazil could enhance the study's external validity and offer a more comprehensive view of Brazilian fan behavior. Cross-cultural studies involving teams from different cultures could further improve the generalizability of findings. Further research is needed to advance our understanding of football consumers across time and contexts.

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Appendix 1 – Variables and Operationalization

Dimension	Variable	Operationalization
Fan characteristics	Gender	Male; Female; Other/Rather not tell
	Age	19-24 years; 25-34 years; 35-44 years; 45-54 years; 55 or more
	Marital status	Married; Single; Divorced; Widowed
	Children	None; 1; 2; 3; 4; 5 or more
	Place of residence	Rio de Janeiro City; Other cities in Rio de Janeiro State; Other Brazilian States; Other countries
	Level of education	Middle School or less; High School; College
Membership	Membership type	Not a Member; Branco; Preto; Alvinegro; Glorioso
Identification and loyalty	*Answers in 5-point Liker type scale, 1 = totally disagree to 5 = totally agree*	
	Loyalty	I am a real fan of Botafogo.
	Commitment	I am very committed to Botafogo.
	Fidelity	There is nothing that could change my commitment to Botafogo.
	Team performance impact on mood	The results of Botafogo games strongly influence my mood.
	Stadium attendance	Whenever I can, I try to go to the stadium to watch Botafogo matches.
	TV watching	When I don't go to the stadium, I try to watch Botafogo matches on TV.
	Level of news coverage	I often follow reports and news about Botafogo through the media.
	Frequency of use of team jersey	I frequently wear the Botafogo jersey in my daily life.
Consumption frequency	Quantity of products purchased	I bought many Botafogo-related products in 2023.
Purchase decision factors	Price	The price of the products has a great influence on my decision to purchase team-related merchandise.
	Quality	The quality of the products has a great influence on my decision to purchase team-related merchandise.
	Aesthetics	The beauty of the products has a great influence on my decision to purchase team-related merchandise.
	Official product	Being an official Botafogo product has a lot of influence on my decision to buy or not to buy Botafogo-related products.
	Team performance	Botafogo's performance on the field has a great influence on my decision to purchase team-related merchandise.

	New products launch	The launch of new products has a lot of influence on my decision to buy or not buy team-related products.
Purchasing channels	Official physical store	I usually buy Botafogo-related products in a Botafogo's official physical store.
	Other physical store	I usually buy Botafogo-related products in an unofficial Botafogo's physical store.
	Official website	I usually buy Botafogo-related products in the Botafogo official store website.
	Unofficial website	I usually buy Botafogo-related products in an unofficial Botafogo's website.
	Inside the team's stadium	I usually buy Botafogo-related products inside the Nilton Santos stadium.
	Around the team's stadium	I usually buy Botafogo-related products from vendors around the Nilton Santos stadium.

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Appendix 2 – Description of the Clusters by Demographic Characteristics

Variable	Categories	Fanatical	Devoted	Attached	Interested	Total
Gender	Male	90%	82%	69%	89%	81%
	Female	10%	18%	31%	11%	19%
Age	Até 34	40%	56%	62%	78%	55%
	35-44	35%	29%	21%	22%	28%
	45-54	10%	5%	5%	0%	14%
	55 ou mais	16%	9%	12%	0%	3%
Marital status	Single	28%	49%	45%	56%	44%
	Married	70%	48%	50%	44%	53%
	Divorced	3%	3%	5%	0%	3%
No. of children	None	40%	67%	71%	78%	63%
	1	30%	10%	14%	0%	15%
	2	28%	16%	10%	22%	17%
	3 or more	3%	7%	5%	0%	6%
Place of residence	Rio (city)	75%	71%	69%	89%	72%
	Rio (state)	5%	5%	14%	11%	8%
	Other	21%	24%	17%	0%	20%
Membership	Not member	23%	32%	40%	44%	32%
	Member	77%	68%	60%	56%	68%