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Does Sporting Success Affect Financial Performance? Evidence from the Turkish Super League

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Sportif Başarı Finansal Performansa Etki Eder mi? Türkiye Süper Ligi'nden Kanıtlar

Abstract

Football has become a significant branch of the world's largest sports industry. It has been observed that clubs, which have transformed into more institutional structures under the influence of globalisation and competition and are now striving to create their economic values, have recently developed a significantly large economic structure. Therefore, it is essential to investigate the relationship between the effective management of football clubs and their sporting success and financial performance. This study aims to analyse the relationship between the sporting success and financial performance of four major football clubs (Fenerbahçe, Galatasaray, Beşiktaş and Trabzonspor) listed on Borsa Istanbul between 2014 and 2023. For this purpose, the study employed CRITIC-based MABAC methods for evaluating financial performance, and correlation analysis was used to determine the relationship between sporting success and financial performance. According to the results of the study, it was concluded that sporting success has a positive effect on financial performance.

Keywords : Football, Sporting Success, Financial Performance, MABAC.

JEL Classification Codes : L83, C65, L25, Z29.

Öz

Günümüzde futbol dünyanın en büyük spor endüstrisine sahip bir branş haline gelmiştir. Küreselleşme ve rekabetin etkisiyle daha kurumsal bir yapıya dönüşen ve kendi ekonomik değerlerini yaratma çabasıyla hareket eden kulüplerin son dönemde oldukça büyük bir ekonomik yapıya sahip oldukları gözlemlenmektedir. Bu nedenle futbol kulüplerinin iyi yönetilmesi ile sportif başarıları ve finansal performansları arasındaki ilişkinin belirlenmesi önemlidir. Bu çalışmanın amacı Borsa İstanbul'da işlem gören dört büyük futbol kulübünün (Fenerbahçe, Galatasaray, Beşiktaş ve Trabzonspor) 2014-2023 yılları arasında sportif başarıları ile finansal performansları arasındaki ilişkiyi analiz etmektir. Bu amaçla çalışmada, finansal performansın değerlendirmesinde CRITIC temelli MABAC yöntemi, sportif başarı ile finansal performans arasındaki ilişkinin belirlenmesinde ise korelasyon analizi kullanılmıştır. Analiz sonuçlarına göre sportif başarının finansal performans üzerinde olumlu etkisinin olduğu sonucuna varılmıştır.

Anahtar Sözcükler : Futbol, Sportif Başarı, Finansal Performans, MABAC.

1. Introduction

Performance measurement is one of the most effective methods for informing stakeholders about a company or institution's status (Karadağ-Ak et al., 2021: 282). The most crucial feature of firms that can withstand a competitive environment is to measure their performance periodically and evaluate the results to develop appropriate reactions and proactive solutions (Doğan, 2013: 215).

Over time, various techniques have emerged to measure financial performance. Due to the increase in the number of methods and the differentiation of their purposes and uses, a distinction has emerged between traditional and modern financial performance measurement techniques. While traditional measurements are described as accounting-based measures, modern measures are called value-based measures (Şenol & Ulutaş, 2018: 84).

In today's competitive environment, the football industry is interested in the financial success of clubs and their on-field sporting success. In this context, professional football club managers are not satisfied with the income the clubs receive solely from player sales. They also try to increase club revenues and increase the market value of clubs through commercial revenues such as broadcasting rights, brand revenues, match day revenues and sponsorship agreements, stadium revenues, credit cards issued on behalf of clubs, agreements made with telephone operators and restaurant chains (Kevser & Doğan, 2022: 439).

Based on this, the relationship between a club's financial performance and sporting success is an important issue that needs to be evaluated. The dataset used in the study consists of data published by the Turkish Football Federation and the Public Disclosure Platform. The reason for using integrated CRITIC-MABAC methods in the study can be explained as the fact that these techniques have similar steps, can give consistent results in the financial performance analysis of football clubs, can be easily applied, and that no other study has been found in financial performance analysis in which these two methods are used together. Thus, it is possible to say that the research can contribute to the literature while showing the original nature of this situation. Very few studies use both variables discussed in this study together, and this will be the first study to do so in the context of sports clubs. Therefore, the study's contribution to the literature is believed to be significant. It is believed that this research will be necessary in examining the impact of sporting success on the financial performance of the Big 4 football clubs from various perspectives.

The recent transformation of football clubs into businesses motivates us to examine Turkish football clubs' financial and sporting performance. The results obtained from the current study are significant for club managers and investors. The study discusses key financial performance indicators essential for clubs to maintain a healthy financial structure. Following the introduction section, previous studies were examined, and CRITIC-based MABAC methods were introduced. The study was completed with the findings and conclusion sections.

2. Literature

Numerous national and international studies examine the relationship between sporting success and football clubs' financial performance. Most studies in the foreign literature have generally discussed the relationship between the performance of publicly traded football clubs and the performance of their shares in the stock market. When examining the national literature, several studies empirically investigate the financial performance of football clubs using multi-criteria decision-making (MCDM) methods. The highlights of these studies are summarised chronologically below.

Renneboog and Vanbrabant (2000) investigated whether the stock prices of 17 football clubs traded on the London Stock Exchange (LSE) and the Alternative Investment Market (AIM) were affected by weekly match results. In the study, regression analysis was conducted using data from 3 seasons covering 1995-1997. As a result of the study, it was determined that football clubs experienced a positive return of 1% in stock prices following victories, a negative return of 0.6% in the event of a draw, and a 1.4% return in the event of a loss.

Barajas et al. (2005) investigated the relationship between Spanish football clubs' sports performance and revenues between 1998 and 2002. The study employed regression analysis, and the results indicated that sports performance had no explanatory effect on the clubs' economic outcomes.

Dimitropoulos (2010) analysed the financial performance of football clubs in the Greek First League between 1996 and 2006 using financial ratios. The study determined that Greek football clubs generally have high leverage and face challenges in generating profits.

Dimitropoulos et al. (2012) analysed the impact of corporate governance quality (i.e. board size, board independence, executive ownership, institutional ownership and CEO duality) on the profitability and sustainability of European Union football clubs from 2005 to 2009. The empirical results suggest that corporate governance quality is positively correlated with higher levels of profitability and sustainability. Based on the profitability and sustainability of clubs, the analysis shows that sound governance mechanisms are also crucial for clubs facing severe problems, such as bankruptcy and poor financial performance.

Ulun and Yetim (2016) examined the sporting success and financial structures of Galatasaray and Fenerbahçe Football Clubs in the Turkish Super League. Financial ratios derived from data from 2010 to 2015 were used in the study. The study determined that the clubs' cash and current ratios were below the desired value, while their financial structure ratios were above the required level.

Oral (2016) used the average 5-year financial statement data from companies operating in the sector between 2010 and 2014 in his study, aiming to rank sports clubs registered in Borsa Istanbul according to their financial performance. The study used Grey Relational Analysis (GRA) and analysed ten financial ratios. According to the findings,

profitability is the most important indicator for measuring the financial performance of sports clubs.

Çatı et al. (2017) analysed the financial and sporting performances of 23 teams that were the most successful in their national leagues among the teams competing in the Bundesliga, Primera Division, Premier League, Serie A, French League 1, and Turkish Super League, which are considered to be the five major leagues in Europe, between the years 2009-2014 using Entropy and TOPSIS methods, which are multi-criteria decision-making methods. According to the study, high transfer expenses do not always lead to high sporting success.

Winand et al. (2017) aimed to develop a tool for managing sports federations' financial performance. The study used factor analysis to measure the financial performance of sports federations in Belgium between 2001 and 2006. The study resulted in six categories of financial performance: public fund dependency, financial balance, resource attraction, financial budget, member services investment, and elite services investment. The interrelationship of financial categories forms the basis of a dynamic strategic management tool.

Sakınç et al. (2017) analysed the financial performance of 22 football clubs listed on various European stock exchanges with the TOPSIS method. They used Spearman's rank correlation coefficient method to compare the results with the UEFA club rankings. Ten financial ratios were used to rank these football clubs using the TOPSIS method. According to the results, Spearman's correlation coefficient was calculated to be 0.17, indicating a statistically significant relationship between sports success and financial performance.

Güngör and Kocamış (2018) aimed to analyse the financial performances of the clubs using the TOPSIS method, utilising data obtained from the financial statements of Arsenal, Everton, Manchester United, and Tottenham Hotspur clubs in the English Premier League published between 2012 and 2016. As a result of the study, it was determined that the financial performance rankings of football clubs varied over time, and low financial profitability rates were identified as a common issue among football clubs.

Galariotis et al. (2019) aimed to test the relationship between the sports performance and financial performance of French football clubs. The authors employed the PROMETHEE II method for measuring financial performance. After that, they examined the relationship between different dimensions based on rankings obtained from the PROMETHEE II method, using the Partial Least Squares Structural Equation Modelling Approach, and the league table positioning for each club. As a result of the study, it was determined that financial performance has a significant impact on sports performance, with a one-way inverse relationship.

Blake et al. (2019) sought to determine whether the financial returns of companies that sponsor sports in South Africa differed significantly from those of companies that did

not. The study included companies listed on the Johannesburg Stock Exchange (JSE) that had sponsored sports continuously for at least two years between 2000 and 2015. Using the Mann-Whitney U test and t-test, the study concluded that companies that sponsor sports did not experience better stock prices or revenue growth compared to companies that did not sponsor sports.

Gonçalves et al. (2020) examined the relationship between sports performance and economic-financial performance in the following year based on revenue sources of Brazilian sports clubs between 2013 and 2017. Sports performance was measured by position in the national league and overall team performance in all championships. The authors utilised net income and other revenue streams, including broadcasting, matchday revenue, advertising, and player sales, to assess economic and financial performance. Using panel data analysis, they found that team performance positively and significantly impacted clubs' economic and financial performance the following year. The findings confirm the export market pattern in Brazil, as revenue from player sales was the variable most strongly explained by previous sports performance.

Pawlowski (2020) states that the primary goal of this study is to assess the financial and asset condition of clubs participating in the Polish Ekstraklasa events. The index analysis has focused on determining the liquidity, debt, and profitability of the analysed football clubs. It has been concluded that the liquidity ratios of clubs in the Polish league (Ekstraklasa) are low compared to the standards, and their borrowing rates are significantly higher than the average.

Doğan et al. (2021) investigated the impact of Public Disclosure Platform (KAP) notifications from Beşiktaş, Galatasaray, Fenerbahçe, and Trabzonspor football clubs on stock returns. The study utilised data from the 2009-2010 and 2019-2020 seasons to determine changes in stock returns. As a result of the study, it was found that notifications regarding football clubs generated high returns on stocks, indicating that the market was not efficient.

Hoş (2022) determined the importance levels of the data using the Entropy method, which utilised the financial data of Beşiktaş, Fenerbahçe, Galatasaray, and Trabzonspor football clubs for the years 2010-2020. The football clubs were then ranked according to the GRI relational analysis method. In this study, covering the years 2010-2020, it was concluded that the equity ratio, liquidity ratio, net working capital, and active profitability ratio criteria were the most important, while the debt ratio criterion was the least important. Additionally, Fenerbahçe had the highest financial performance, while Beşiktaş had the lowest.

Sönmez (2023) aimed to analyse the financial performance of football clubs traded on Borsa Istanbul. The MABAC method, a multi-criteria decision-making approach, was employed to assess financial performance in the study, covering the period from 2017 to

2021. As a result of the survey, GSRAY performed the best among football clubs in 2018 and 2019. BJKAS had the worst performance among football clubs in 2019 and 2020.

Balçıklı and Kocabıyık (2024) examined the financial performance of sports companies associated with sports clubs traded on Borsa İstanbul. In the study, the annual financial statements and market data of Beşiktaş, Fenerbahçe, Galatasaray and Trabzonspor football clubs traded on Borsa İstanbul for the period 2016 - 2020 were analysed within the scope of financial performance. The financial ratios calculated from the financial data and the market ratios obtained from investment companies were weighted using the CRITIC method and then examined using the GRI Relational Analysis method. As a result of the study, the financial performance rankings of the football clubs were Fenerbahçe, Galatasaray, Trabzonspor, and Beşiktaş.

Rompotis (2024) examined the financial performance of seven clubs from the Greek football league using correlation and regression analysis for the seasons 2015-2016 and 2021-2022. The study measured financial performance using three alternative indicators: return on assets, equity, and profit margin. As a result of the study, the positive and negative effects of club size, liquidity status, leverage ratio, efficiency, and ability to utilise assets on financial performance were identified. The results indicate that the clubs under investigation are highly leveraged and have poor liquidity, with extensive annual and accumulated losses.

3. Data and Methodology

3.1. Dataset

This study examines the relationship between the financial performance and sporting success of the four major football clubs in Borsa Istanbul for the 2014-2023 period. Ratios regarding the financial indicators of the four football clubs mentioned were obtained from the official website of the Public Disclosure Platform (www.kap.org.tr). Data on sporting success was taken from the official website of the Turkish Football Federation (www.tff.org). The football clubs included in the study are listed in Table 1 below.

Table: 1
Football Clubs and Codes

No	Football Club	Code
1	Galatasaray	GS
2	Fenerbahçe	FB
3	Beşiktaş	BJK
4	Trabzonspor	TS

Table 2 presents the financial ratios, which serve as the evaluation criteria in this study, along with information about these ratios.

Table: 2
Financial Ratios Used as Criteria, Their Codes and Purpose

No	Financial Ratio	Code	Purpose
1	Current Ratio	R1	Maximum
2	Liquidity Ratio	R2	Maximum
3	Cash Ratio	R3	Maximum
4	Return on Assets	R4	Maximum
5	Net Profit Margin	R5	Maximum
6	Leverage Ratio	R6	Minimum
7	Short Term Liabilities/Assets	R7	Minimum
8	Receivables Turnover	R8	Maximum
9	Inventory Turnover	R9	Maximum

The performance evaluation problem requires making decisions based on multiple decision criteria. For this reason, the CRITIC method was used to determine the objective weights for the decision criteria used in the study. Additionally, the MABAC method was employed to assess the performance of football clubs. In the final stage, a correlation analysis was conducted. These methods will be mentioned below.

3.2. CRITIC Method

The CRITIC method (Criteria Importance Through Intercriteria Correlation), developed by Diakoulaki et al. (1995), is a technique used to determine the importance levels of criteria in multi-criteria decision-making (MCDM) problems. With this method, criterion weights are obtained from the conflict that forms the structure of the decision-making problem and the intensity of this conflict (Diakoulaki et al., 1995). They first normalised the criteria using the following equations: (1) and (2), then applied (3) to calculate the correlation. Correlation is commonly used to measure the dependency between two variables. Eqs. (4) and (5) were used for calculating the weights.

The steps of the method are as follows (Jahan et al., 2012):

Step 1. Firstly, the initial decision matrix is formed.

Step 2. Then, the decision matrix is normalised using Eq. (1).

$$r_{ij} = \frac{x_{ij} - x_j^{max}}{x_j^{max} - x_j^{min}} \quad \text{For benefit criteria} \tag{1}$$

$$r_{ij} = \frac{x_j^{max} - x_{ij}}{x_j^{max} - x_j^{min}} \quad \text{For cost criteria} \tag{2}$$

Step 3. Eq. (3) is used to determine the correlation coefficient among attributes.

Step 4. The standard deviation of each attribute is estimated by Eq. (3).

$$\rho_{jk} = x = \frac{\sum_{i=1}^{m}(r_{ij} - r_j^-)(r_{ik} - r_k^-)}{\sqrt{\sum_{i=1}^{m}(r_{ij} - r_j^-)^2 \sum(r_{ik} - r_k^-)^2}} \tag{3}$$

Step 5. The index (H) is calculated using Eq. (4).

$$H_j = \sigma_j \sum_{k=1}^{K} 1 - r_{jk} \tag{4}$$

Step 6. The weights of the attributes are determined by Eq. (5).

$$w_j = \frac{H_J}{\sum_{j=1}^{n} H_J} \tag{5}$$

3.3. MABAC Method

The MABAC (Multi-Attributive Border Approximation Area Comparison) method, developed by Pamučar and Ćirović (2015), is a multi-criteria decision-making method. The stages of the MABAC method are given below (Pamučar & Ćirović, 2015: 3016-3020).

Step 1. Determining the Decision Matrix (X).

$$X = \begin{array}{c} \\ A_1 \\ A_2 \\ \cdots \\ A_m \end{array} \begin{array}{c} \begin{array}{cccc} C_1 & C_2 & \cdots & C_n \end{array} \\ \begin{bmatrix} x_{11} & x_{12} & \cdots & x_{1n} \\ x_{21} & x_{22} & & x_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ x_{m1} & x_{m2} & \cdots & x_{mn} \end{bmatrix} \end{array} \tag{6}$$

Step 2. Creating the Normalised Decision Matrix.

$$X = \begin{array}{c} \\ A_1 \\ A_2 \\ \cdots \\ A_m \end{array} \begin{array}{c} \begin{array}{cccc} C_1 & C_2 & \cdots & C_n \end{array} \\ \begin{bmatrix} n_{11} & n_{12} & \cdots & n_{1n} \\ n_{21} & n_{22} & & n_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ n_{m1} & n_{m2} & \cdots & n_{mn} \end{bmatrix} \end{array} \tag{7}$$

Eq (8) is used for max values.

Eq (9) is used for min values.

$$n_{ij} = \frac{x_{ij} - x_i^-}{x_i^+ - x_i^-} \tag{8}$$

$$n_{ij} = \frac{x_{ij} - x_i^+}{x_i^- - x_i^+} \tag{9}$$

Step 3. Weighting of the Decision Matrix

$$v_{ij} = w_i . (n_i + 1) \tag{10}$$

Step 4. Preparation of Border Proximity Area Matrix (G):

$$g_i = \left(\prod_{j=1}^{m} v_{ij}\right)^{\frac{1}{m}} \tag{11}$$

$C_1 \quad C_2 \quad \cdots \quad C_4$

$G = [g_1 \quad g_2 \quad \cdots \quad g_n]$

m: Number of decision alternatives

v_{ij}: Weighted values

Step 5. Determination of Distance to Border Proximity Area values ($\boldsymbol{Q}$).

$$Q = \begin{bmatrix} q_{11} & q_{12} & \cdots & q_{1n} \\ q_{21} & q_{22} & \cdots & q_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ q_{m1} & q_{m2} & \cdots & q_{mn} \end{bmatrix} \tag{12}$$

The q_{ij} values obtained here are obtained from the difference between the weighted matrix values and boundary proximity values.

$$Q = V - G = \begin{bmatrix} v_{11} - g_1 & v_{12} - g_2 & \cdots & v_{1n} - g^n \\ v_{21} - g_1 & v_{22} - g_2 & \cdots & v_{2n} - g_n \\ \cdots & \cdots & \cdots & \cdots \\ v_{m1} - g_1 & v_{m2} - g_2 & \cdots & v_{mn} - g_n \end{bmatrix} \tag{13}$$

Step 6. Determination of the Situations of the Alternatives According to the Border Proximity Area.

Using Eq. (13), the status of each alternative is calculated according to the border proximity area represented by (A_i) according to the previously calculated (q_{ij}) scores.

$$A_i \in \begin{cases} G^+ \; if \; q_{ij} > 0 \\ G \; if \; q_{ij} = 0 \\ G^- \; if \; q_{ij} < 0 \end{cases} \tag{14}$$

As can be seen from Eq. (14), alternatives can be located either in the upper boundary proximity field (G^+) in the boundary proximity domain (G), or in the boundary proximity sub-space (G^-). The alternative that contains most of the criterion values in the $[\![(\mathrm{G}^+)$ area is stated as the best alternative.

Step 7. Determination of Final Performance Values ($\mathbf{S_i}$) and Ranking of Alternatives.

$$\mathrm{S_i} = \sum_{\mathrm{j}=1}^{\mathrm{n}} \mathrm{q_{ij}}, \; \mathrm{j} = 1,2, \ldots, \mathrm{n}, \mathrm{i} = 1,2, \ldots, \mathrm{m} \tag{15}$$

4. Findings

The study's importance weights were first calculated using the CRITIC method. Since the study spans 10 years, from 2014 to 2023, 2014 is an example for the application in this context. The criterion weights calculated for the remaining years are shown in Table 5. First,

a decision matrix was created for the values of 9 criteria. The decision matrix created for 2014 is shown in Table 3.

Table: 3
Decision Matrix for 2014

Club	R1	R2	R3	R4	R5	R6	R7	R8	R9
1-GS	0,41	0,41	0,33	0,17	-0,43	-45,84	0,64	7,57	0,00
2-FB	0,24	0,20	0,15	-0,36	-0,40	-2,44	0,83	21,11	30,66
3-BJK	0,08	0,07	0,04	-1,38	-1,01	-1,29	3,04	18,19	60,00
4-TS	0,07	0,07	0,00	-0,31	-0,48	-3,23	1,34	6,80	0,00

After creating the decision matrix, Table 4 presents the normalised values obtained using Eq. (1) for the benefit criteria and Eq. (2) for the cost criteria.

Table: 4
Normalised Decision Matrix for 2014

Club	R1	R2	R3	R4	R5	R6	R7	R8	R9
1-GS	1,00	1,00	1,00	1,00	0,95	1,00	1,00	0,05	0,00
2-FB	0,50	0,38	0,45	0,66	1,00	0,03	0,92	1,00	0,51
3-BJK	0,03	0,00	0,12	0,00	0,00	0,00	0,00	0,80	1,00
4-TS	0,00	0,00	0,00	0,69	0,87	0,04	0,71	0,00	0,00

The weight coefficients calculated for all years included in the analysis are shown in Table 5.

Table: 5
Weight Coefficients (w_j) of All Years

Year	R1	R2	R3	R4	R5	R6	R7	R8	R9
2014	0,072	0,073	0,071	0,081	0,102	0,095	0,085	0,199	**0,223**
2015	0,064	0,067	0,063	0,099	0,070	0,114	0,147	**0,241**	0,134
2016	0,062	0,062	0,077	0,085	0,090	0,189	**0,195**	0,137	0,103
2017	0,090	0,089	0,080	0,133	0,127	**0,150**	0,141	0,090	0,100
2018	0,094	0,096	0,099	0,116	0,116	0,167	0,061	0,065	**0,185**
2019	0,080	0,080	0,086	0,122	0,134	0,085	0,089	0,187	**0,137**
2020	0,102	0,103	0,116	0,120	0,121	0,105	**0,149**	0,092	0,091
2021	0,088	0,087	0,084	0,099	0,135	**0,162**	0,130	0,127	0,087
2022	0,080	0,080	0,081	0,116	0,113	0,125	0,079	0,187	**0,140**
2023	0,074	0,074	0,073	0,104	0,087	**0,253**	0,072	0,153	0,110

In Table 6, the weight coefficients of each evaluation criterion for the last stage of the CRITIC method are presented using Eq. (6). According to the findings in Table 6, it is evident that the leverage ratio was the most important financial performance criterion for football clubs in 2017, 2021, and 2023. However, although the most critical financial performance criterion was the receivables turnover criterion in 2015, it was determined to be the inventory turnover criterion in 2014, 2018, 2019, and 2022.

According to Eq. (10), each value in the normalised decision matrix is multiplied by the criterion weight values obtained from the CRITIC method to obtain the weighted decision matrix. The weighted decision matrix for 2014 is shown in Table 6.

Table: 6
Weighted Decision Matrix for 2014

Club	R1	R2	R3	R4	R5	R6	R7	R8	R9
1-GS	0,12	0,13	0,13	0,20	0,18	0,66	0,17	0,25	0,22
2-FB	0,09	0,09	0,10	0,13	0,18	0,11	0,16	0,51	0,52
3-BJK	0,06	0,06	0,08	0,01	0,10	0,09	0,00	0,45	0,81
4-TS	0,06	0,06	0,07	0,14	0,17	0,12	0,12	0,24	0,22

Table 7 presents the border proximity area matrix for 2014, obtained using Eq. (11).

Table: 7
The Border Proximity Area Matrix for 2014

	R1	R2	R3	R4	R5	R6	R7	R8	R9
g_i	0,083	0,082	0,091	0,074	0,153	0,168	0,052	0,344	0,381

Table 8 presents the alternatives' distances to the border proximity area for 2014, calculated using Eq. (13).

Table: 8
Distance Matrix of Alternatives to Border Proximity Area for 2014

Club	R1	R2	R3	R4	R5	R6	R7	R8	R9
1-GS	0,040	0,046	0,041	0,122	0,024	0,492	0,121	-0,089	-0,158
2-FB	0,010	0,006	0,007	0,058	0,028	-0,060	0,108	0,162	0,143
3-BJK	-0,018	-0,019	-0,014	-0,066	-0,052	-0,074	-0,050	0,108	0,431
4-TS	-0,020	-0,019	-0,022	0,064	0,017	-0,050	0,071	-0,103	-0,158

Table 9 presents the values obtained by applying Equation (15) at the final stage of the MABAC method, along with the findings regarding football clubs' financial performance rankings.

Table: 9
MABAC Financial Performance Results for All Years

Club	2014		2015		2016		2017		2018	
	S_i	Rank	S_i	Rank	S_i	Rank	S_i	Rank	S_i	Rank
1-GS	0,6391	1	0,3646	1	0,0982	3	0,0665	3	0,9328	1
2-FB	0,4613	2	0,0102	3	0,3248	1	0,3489	1	0,6869	2
3-BJK	0,2456	3	0,0146	2	0,1285	2	0,0911	2	0,1661	3
4-TS	-0,2193	4	-0,1736	4	-0,3369	4	-0,2952	4	-0,2770	4
Code	**2019**		**2020**		**2021**		**2022**		**2023**	
	S_i	Rank	S_i	Rank	S_i	Rank	S_i	Rank	S_i	Rank
1-GS	-0,0947	3	0,3838	1	-0,1212	2	-0,5233	4	0,2880	1
2-FB	0,6094	1	0,1014	3	-0,1379	3	0,7169	1	0,2879	2
3-BJK	-0,0952	4	0,0670	4	0,9226	1	0,3892	2	0,2434	3
4-TS	0,0265	2	0,1549	2	-0,2616	4	-0,0081	3	-0,0960	4

Following this part of the study, which investigates the relationship between football clubs' financial performance and sporting success, the Super League rankings of the relevant clubs in the analysis period were obtained from the Turkish Football Federation's official website (tff.org). The Super League rankings in question are presented in Table 10.

Table: 10
Super League Rankings

Club	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1-GS	2	1	6	4	1	1	6	2	13	1
2-FB	1	2	2	3	2	6	7	3	2	2
3-BJK	3	3	1	1	4	3	3	1	6	3
4-TS	4	5	12	6	5	4	2	4	1	6

In the final part of the analysis, the 10-year Super League rankings and financial performance rankings were turned into a series. Spearman Correlation Analysis was then performed to determine the relationship between these rankings. According to the correlation analysis results in Table 11, the correlation coefficient between football success and financial performance is 0.618. This coefficient is significant at the 1% significance level ($p = 0.000$; $n = 40$). This result indicates that as football clubs' sporting success increases, their financial success will also increase.

Table: 11
Results of The Spearman Correlation Test

		Super League Ranking	Financial Performance
Super League Ranking	**Correlation Coefficient**	1,000	0,618*
	Sig. (2-tailed)	-	0,000
	N	40	40
Financial Performance	**Correlation Coefficient**	0,618*	1
	Sig. (2-tailed)	0,000	-
	N	40	40

** Correlation is significant at the 0.01 level (2-tailed).*

5. Conclusion

The recent transformation of football clubs into businesses motivates us to examine Turkish football clubs' financial and sporting performance. The results of this study reveal the necessity of sporting successes in protecting the interests of clubs' shareholders and various stakeholders, as well as in maximising the clubs' economic benefits and social returns. In the first part of this study, which aimed to evaluate the relationship between the sporting success and financial performance of the four major football clubs in Türkiye, the CRITIC-based MABAC method was employed, and financial performance rankings were generated. In the second stage, correlation analysis was used. Accounting-based financial indicators were used as evaluation criteria in the study. Accounting-based financial criteria are examined in 4 groups: liquidity ratios, profitability ratios, financial structure ratios and operating ratios.

In the first stage of the model proposed for performance measurement in the study, importance weights for the criteria were determined using the CRITIC method. This method provides an objective evaluation. According to the findings obtained through applying the CRITIC method, the leverage ratio (R6) and inventory turnover (R9) ratios are the most critical performance criteria compared to other criteria in the analysis. After that, the financial performance of the football clubs examined within the scope of the study was evaluated using the MABAC method. According to the results obtained with this method,

the football club with the highest financial performance in the middle of the analysis period is Galatasaray. Additionally, Fenerbahçe is the second most successful club in Türkiye. Beşiktaş and Trabzonspor, respectively, followed these two clubs. The MABAC method is a relatively new approach in the national and international literature that has gained prominence recently. However, this study is the first to use integrated CRITIC MABAC methods on financial performance.

After determining the financial performance of football clubs, correlation analysis was used to evaluate the relationship between financial performance and sporting success. According to the results of the correlation analysis, a positive and significant relationship exists between the two rankings, indicating that increased financial performance is associated with enhanced sporting success. The results obtained from the study are important for both the management of these football clubs and the broader economy. The financial performance of the four major football clubs, which are among the most prominent in Türkiye, closely concerns both the stakeholders of these clubs, encompassing large masses and various sectors of the economy.

Elden-Ürgüp and Demir found a statistically significant relationship between the financial performance rankings and sports success rankings of the four major football clubs in Türkiye. Ecer and Böyükaslan (2014), Pradhan et al. (2016), Erdoğan et al. (2020), and Kevser and Doğan (2021) obtained similar findings in their studies. Therefore, it can be said that our research overlaps with the existing literature.

This study has some limitations. The most significant aspect is that it only covers four clubs. This is because other clubs in the Super League are not listed on Borsa Istanbul. Another limitation of the study is that it covers the period from 2014 to 2023. Additionally, the MABAC method, a multi-criteria decision-making (MCDM) approach, was employed in the study. In future studies, comparisons can be made by changing the period and the method. However, more in-depth analyses can be conducted by combining market-based ratios with accounting-based ratios.

In summary, success in football is primarily defined by winning. Therefore, clubs create value in financial terms and in terms of winning. Thus, all stakeholders, including clubs and regulators, can work together to maintain the scientifically validated regularities in this study, thereby creating financially sustainable clubs that can efficiently balance resources and investment to optimise results in all performance dimensions, ultimately achieving success in the sport.

References

Balçıklı, S. & T. Kocabıyık (2024), "Borsa İstanbul'da işlem gören spor kulüplerinin finansal performanslarının gri ilişkisel analiz yöntemiyle incelenmesi", *Anadolu Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 25(2), 256-284.

Barajas, Á. et al. (2005), "Does Sports Performance Influence Revenues and Economic Results in Spanish Football?", *Working Paper*, SSRN, http://dx.doi.org/10.2139/ssrn.986365

Blake, J. et al. (2019), "The relationship between sports sponsorships and corporate financial returns in South Africa", *International Journal of Sports Marketing and Sponsorship*, 20(1), 2-25.

Çatı, K. et al. (2017), "Futbol takımlarının finansal ve sportif etkinliklerinin ENTROPİ ve TOPSIS yöntemiyle analiz edilmesi: Avrupa'nın 5 büyük ligi ve süper lig üzerine bir uygulama", *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 13(1), 199-222.

Diakoulaki, D. et al. (1995), "Determining objective weights in multiple criteria problems: The CRITIC method", *Computers & Operations Research*, 22(7), 763-770.

Dimitropoulos, P.E. (2010), "The financial performance of the Greek football clubs", *Choregia Sport Management International Journal*, 6(1), 5-27.

Dimitropoulos, P.E. & A. Tsagkanos (2012), "Financial performance and corporate governance in the European football industry", *International Journal of Sport Finance*, 7(4), 280-308.

Doğan, M. et al. (2021), "Analysis of the relationship between notifications of football clubs and stock returns using event study method", *Sosyal Ekonomik Araştırmalar Dergisi*, 21(1), 66-75.

Doğan, M. (2013), "Measuring bank performance with grey relational analysis: The case of Turkey", *Ege Academic Review*, 13(2), 215-226.

Ecer, F. & A. Boyukaslan (2014), "Measuring performances of football clubs using financial ratios: The grey relational analysis approach", *American Journal of Economics*, 4(1), 62-71.

Elden-Ürgüp, S. & E. Demir (2021), "Finansal performans ile sportif başarı arasındaki ilişkinin belirlenmesi Türkiye'deki 4 büyük futbol kulübü üzerine bir analiz", *Finans Ekonomi ve Sosyal Araştırmalar Dergisi*, 6(2), 240-250.

Erdoğan, N.K. et al. (2020), "Analyzing the financial performance of football clubs listed in BIST using entropy-based COPRAS methodology", *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, (63), 39-53.

Galariotis, E. et al. (2018), "A combined methodology for the concurrent evaluation of the business, financial and sports performance of football clubs: the case of France", *Annals of Operations Research*, 266(1), 589-612.

Gonçalves, R. et al. (2020), "The Influence of sports performance on economic-financial performance: An analysis of Brazilian soccer clubs from 2013 to 2017", *Contextus-Contemporary Journal of Economics and Management*, 18(17), 239-250.

Güngör, A. & T. Uzun-Kocamış (2018), "Halka açık futbol kulüplerinde finansal performansın TOPSIS yöntemi ile analizi: İngiltere uygulaması", *Hitit Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 11(3), 1846-1859.

Hoş, S. (2022), "Entropi Temelli Gri İlişkisel Analiz Yöntemiyle Dört Büyük Futbol Kulübünün Finansal Performanslarının Değerlendirilmesi", *Uşak Üniversitesi Uygulamalı Bilimler Fakültesi Dergisi*, 2(2), 12-29.

Karadağ-Ak, Ö. et al. (2021), "BIST Banka Endeksinde Yer Alan Mevduat Bankalarının Finansal Performanslarının COPRAS Yöntemiyle Değerlendirilmesi", *Çankırı Karatekin Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 12(1), 280-305.

Kevser, M. & M. Doğan (2022), "Comparative analysis of the financial performance of 5 major football clubs in UEFA ranking", *Muhasebe Bilim Dünyası Dergisi*, 24(2), 436-460.

Oral, C. (2016), "Financial performance evaluation of sport clubs traded in Borsa Istanbul by using grey relational analysis", *International Journal of Economics and Finance*, 8(5), 293-299.

Pamučar, D. & G. Ćirović (2015), "The selection of transport and handling resources in logistics centers using Multi-Attributive Border Approximation Area Comparison (MABAC)", *Expert Systems with Applications*, 42(6), 3016-3028.

Pawłowski, J. (2020), "Financial condition of football clubs in the Polish Ekstraklasa", *Journal of Physical Education and Sport*, 20(5), 2839-2844.

Pradhan, S. et al. (2016), "Applying grey relational analysis to Italian football clubs: a measurement of the financial performance of Serie A teams", *International Review of Economics and Management*, 4(4), 1-19.

Rompotis, G. (2024), "Assessing the Financial Performance of the Greek Football Clubs", *International Journal of Business and Economic Studies*, 6(2), 129-142.

Sakınç, İ. et al. (2017), "Evaluation of the relationship between financial performance and sport success in European football", *Journal of Physical Education and Sport*, 17(1), 16-22.

Sönmez, Y. (2023), "BİST'de işlem gören futbol kulüplerinin finansal performanslarının analizi", *Nişantaşı Üniversitesi Sosyal Bilimler Dergisi*, 11(3), 261-276.

Şenol, Z. & A. Ulutaş (2018), "Muhasebe temelli performans ölçümleri ile piyasa temelli performans ölçümlerinin CRITIC ve ARAS yöntemleriyle değerlendirilmesi", *Finans Politik ve Ekonomik Yorumlar*, (641), 83-102.

Ulun, C. & A.A. Yetim (2016), "Türkiye'deki futbol kulüplerinin sportif başarı düzeyi ve mali yapı açısından rasyo (oran) analizi ile incelenmesi: Galatasaray ve Fenerbahçe örneği", *Sportif Bakış: Spor ve Eğitim Bilimleri Dergisi*, 3(1), 70-81.

Winand, M. et al. (2012), "A financial management tool for sport federations", *Sport, Business and Management: An International Journal*, 2(3), 225-240.