

Human Capital in Romania's Top Football League

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Abstract. *Human Resources Management suggests that organizations strategically alternate their human capital acquisition methods, choosing between internal employee training and external recruitment to optimize organizational outcomes. This research examines the decision-making processes for internal human capital development and external talent acquisition within Romania's professional football league. It specifically explores the relationship between these employment modes and organizational success. The analysis focuses on four key variables: financial performance, international talent recruitment, the structural quality of club academies, and the promotion rate of homegrown juniors, thereby exploring the link between talent sourcing and competitive efficiency. Linear regression and Pearson correlation analysis were used to test the sample. The paper concludes that while Romanian clubs are successfully building "human capital factories" through improved academy infrastructure, there is a distinct decoupling between player development and immediate competitive results. Strategic success in the SuperLiga requires a delicate balance: leveraging financial strength to secure an immediate ranking through experienced players, while maintaining a high-ranking academy to ensure long-term organizational sustainability. The transition from the academy to the senior squad is often hindered by a misalignment between developmental technical success and the immediate results-oriented demands of professional football. While this research offers preliminary insights, further studies are required to explore the long-term relationship between talent sourcing and sporting success. By extending the analysis across multiple seasons and diverse leagues, future research can more rigorously test the comparative impact of academy development versus external market acquisition decisions, providing club executives with a more robust empirical basis for strategic resource allocation.*

Keywords: human capital, performance in football, human capital strategies, investment in human capital, football academies.

Introduction

People play an essential role in carrying out activities within organizations and achieving their strategic objectives. As one of the most important resources available to society, human capital has attracted the attention of researchers and specialists over time because decisions and strategies related to it have influenced performance and created competitive advantage for companies. Effective human capital management is a key factor in the survival and growth of companies. The starting point is the company's decision to invest in developing existing human capital internally or to attract new talent from the external labor market (Lepak & Snell, 1999). This decision dictates the strategies and practices to be adopted to achieve optimal performance. Thus, it is important to study the main factors that influence the choice between these options, a decision that contributes to determining human capital. Based on their research, the findings of Harris et al. (2024) indicate that companies with older employees tend to adopt an internal human capital development strategy rather than a strategy focused on attracting external human capital. The performance is often assimilated with the concept of sustainable development (Jianu & Jianu, 2008).

Both the decision to invest in developing existing human capital internally and the attraction of new talent from the external labor market have advantages and disadvantages. Therefore, there

must be a balance between the two strategies. Investing in the development of existing human capital within the company can create stability in the workforce and increase employee satisfaction, knowing that the organization they belong to is concerned with their development needs. On the other hand, companies may limit exposure to new perspectives if external recruitment is limited. Attracting talent from outside can also bring greater staffing flexibility, new ideas, and diversity within the organization (Noe et al., 2021; Lepak and Snell, 1999, 2002). These advantages can lead to higher costs for the organization or to a mismatch between individuals and the company's culture and principles.

According to Maqueira et al. (2019), the sourcing of human capital in professional football has undergone a paradigm shift, transitioning from localized talent pipelines to a hyper-globalized market. The historic success of Celtic F.C. in 1967, achieved with a squad comprised exclusively of local talent, serves as a poignant illustration of an era defined by geographical constraints. This evolution mirrors broader trends in the corporate labor market, where organizations leverage a global talent pool to source labor and specialized expertise across borders. This globalization of human capital allows both clubs and firms to mitigate the shortage of local human capital by accessing a diverse and international workforce.

In the current context, human capital development in sport is no longer limited to simple technical training for young people. It also involves creating a talent development environment. This environment integrates infrastructure, training methodology, financial resources, and psychological support. These elements are essential for reducing the risk associated with the transition from junior to professional level. Thus, investigating academies through the lens of structural performance indicators is necessary to understand how clubs can sustain themselves outside the transfer market.

Although the literature has examined the advantages and disadvantages of each approach independently, organizations must balance these when choosing a human capital strategy. Therefore, it is important to examine the factors that influence their choice. While organizations use both internal strategies for developing human capital and external strategies for attracting personnel, they may have a dominant human capital management strategy, with the other strategy used to supplement the organization's human capital needs.

This research examines the decision-making processes for internal human capital development and external talent acquisition within Romania's professional football league. It specifically explores the relationship between these employment methods and organizational success. The analysis focuses on four key variables: financial performance, international talent recruitment, the structural quality of club academies, and the promotion rate of homegrown juniors, thereby exploring the link between talent sourcing and competitive efficiency.

Literature review

The extant literature presents diverging perspectives on the interplay between internal and external employment modes. While Lepak et al. (2003) identify a complementary relationship in which integrating both modes enhances organizational performance, subsequent research suggests an incompatibility. Specifically, Broschak and Davis-Blake (2006) contend that the simultaneous utilization of these modes may precipitate adverse organizational behaviors.

In a high-performing club, the relationship between internal human capital development and financial performance indicators is very important. Financial turnover provides the capital to invest in infrastructure.

Szymanski and Kuypers (1999) found a 90% correlation between a club's wage expenditure and its average league position over time. Studies in the Journal of Sports Economics suggest that while high turnover allows for utility maximization (winning trophies), it doesn't always lead to profit maximization. Instead, Gerrard (2005) argued that clubs often over-invest in talent to achieve sporting success, making turnover a prerequisite for, but not a guarantee of, efficiency. Also, García-Sánchez (2007) used Data Envelopment Analysis (DEA) to show that league points are heavily dependent on offensive and defensive efficiency. Di Simone and Zanardi (2021) argue that it isn't just turnover that predicts success, but a club's ability to manage liquidity and return on assets.

H1. There is a statistically significant relationship between financial performance indicators, squad composition, sporting efficiency, and the final league position of football clubs.

Currie (2018) and Relvas et al. (2010) highlight that the transition from youth to professional football entails a significant increase in physical and tactical demands. Academies often produce players who are technically gifted but not ready yet for the high-stakes environment of a first division. Barajas et al. (2005) note that first-team coaches are often evaluated on short-term results. Because integrating youth players can mean potential mistakes that cost points, successful teams in mid-tier European leagues often favor experienced veterans to secure immediate stability. Also, high-ranking academies can act as talent factories. Their success is measured by the number of professional-level players they produce, not the points those players earn in their first season.

H2. The number of junior players promoted to the senior squad is not a direct and significant predictor of league position in the model analyzed.

For the Romanian Football Federation (FRF), developing football at the children's and junior levels by improving academy activities and raising the standard of competitions is a strategic objective. Investing in children's and youth centers provides the ideal opportunity to discover young talent, which, when integrated into the appropriate competitive system, contributes directly to the development of football and delivers the sporting results.

In this context, FRF has started the classification process based on the quality standards of academies, clubs with children's and junior activities, and youth football centers in Romania. The project was set up with the support of the Dutch company NMC Bright, which has over 15 years of experience in evaluating, classifying, and consulting for European football academies. The use of models like the NMC Bright classification is part of a broader European trend toward standardization and accountability. They are known for providing independent, expert assessments of the youth policies of amateur and professional football clubs.

The classification introduced in Romanian youth football is based on several criteria, evaluated on a scale from 0 to 4, and aims to lead both to the development of football nurseries, giving them the reputation necessary for new sources of funding, and to the widening of the selection pool within communities, setting the premises for long-term performance.

The objectives of the junior academy classification include:

- Continuously raising the level of football in Romania by developing training and competition support for the youngest players.
- Ensuring quality standards at the management and sporting levels for clubs so that parents can choose the best environment for their children's talent.
- Continuously improving football infrastructure at the club level to provide players and spectators with high-quality facilities.

- Strengthening integrity and raising the quality of children's and junior competitions organized by FRF.
- Setting a benchmark in terms of technical and administrative staff, infrastructure, sports facilities, results, and education for academies in Romania.

The evaluation procedure covers seven fundamental areas for achieving performance in youth football, each comprising several categories. Each category is evaluated on a scale of 0 to 4 points and has a different weighting in the overall evaluation assessment. The final score is the result of assessing all categories in the 7 areas, taking into account both the weighting of each category and the weighting of each area. The 7 areas and their weighting, with each academy able to obtain a maximum of 100 points:

- Strategy and philosophy: 10.98%
- Teams and players: 12.20%
- Technical staff: 18.67%
- Support staff: 7.21%
- Training and matches: 8.93%
- Infrastructure and facilities: 21.51%
- Results: 20.50%

Norwegian Academy Classification (Academy Classification Model, 2025) shows that these systems successfully professionalize the environment, creating a predictable production line of talent.

According to FRF, starting with the 2025-2026 season, SuperLiga teams must always have at least one player born on or after January 1, 2004, on the field. By March 2026, 94 U21 players had played in the league, scoring 50 goals and providing 39 assists. This means that young players have scored 8.15% of the 613 goals scored so far and have contributed, through goals or assists, to 14.51% of the total goals. Thus, the U21 rule, as it was conceived from the outset, aims to be a tool to increase investment in Liga 1 club academies, rather than an end in itself. Over the years, the rule on the introduction of juniors on the field has undergone various changes, so that the second U21 player that needed to be on the field (as in previous years) has been replaced by other measures aimed at increasing investment in the clubs' own academies. Also, a minimum financial investment ceiling was introduced: Liga 1 clubs must invest at least 5% of their revenue in their own academy starting in 2022, 6.5% starting in 2023, and 7.5% starting in 2024. Liga 1 and Liga 2 clubs with a second team will receive extra points if at least 50% of the second team's players in the 2025-2026 season are academy graduates with at least 1 year of experience in the 16-19 age group. Starting with the 2026-2027 season, this percentage will increase to 75%.

H3. There is a positive and significant relationship between the quality of youth infrastructure (expressed by the Academy Rank) and the club's ability to promote juniors to the senior squad (Number of Juniors).

Methodology

The main purpose of this research is to examine decisions about investing in developing existing human capital within the organization and attracting talent from outside the organization. This paper also examines the link between attracting external human capital and developing internal human capital through team performance, focusing on financial indicators, international players attracted to teams, investments in youth academies, and the promotion of juniors to senior teams. Therefore, we will analyze these decisions in the context of Romania's top soccer league, called SuperLiga. A quantitative research approach was used, and the necessary data were collected from

various public sources, including the websites of the Romanian Football Federation (www.frf.ro and www.hailafotbal.ro), the Professional Football League (www.lpf.ro), TransferMarkt (www.transfermarkt.com), the official websites of the clubs, and www.lpf2.ro, www.labtof.ro, www.superliga.ro. To test the hypotheses, we will use a sample of five teams from Romania's first-division football league over a five-year analysis period. These teams were chosen based on their performance over the last five seasons, with the number of times they ranked among the top five teams with the best results at the end of each season. Thus, SC Fotbal Club FCSB SA, FC CFR 1907 Cluj SA, and Universitatea Craiova appeared among the top five teams in each of the seasons analyzed, followed by Farul Constanța (with three appearances) and Fotbal Club Rapid 1923 SA (with two appearances).

To test hypotheses 1 and 2, we used linear regression, with the position in the ranking as the dependent variable and the goal difference, the number of foreign players in the squad, the number of juniors in the squad, the position of the club's own football academy in the national academies ranking, the club's turnover, the net result, and the club's debts as independent variables.

To test hypothesis 3, we used Pearson's correlation analysis to examine the relationship between the number of juniors promoted in the senior team and the football academies' rankings.

Results and discussions

Based on the results from five seasons analyzed, we observe that the team with the best overall points scored, ranking third in the first three seasons and first in the following two, is FCSB. It is followed by CFR Cluj, which was champion in the first two seasons, finished third in the 2022-2023 season, and was runner-up in the 2023-2024 and 2024-2025 seasons. Universitatea Craiova placed third in four seasons and fourth in the 2022-2023 season. Farul Constanța ranked fifth in the 2021-2022 season, became champion in 2022-2023, finished fourth in 2023-2024, and ninth in 2024-2025. Rapid București was ninth in 2021-2022, fifth in the 2022-2023 and 2024-2025 seasons, and sixth in 2023-2024. In June 2021, FC Viitorul Constanța (which was in the first division) and FC Farul Constanța 1920 (which played in the second division in 2020-2021) merged, forming the new team called Farul Constanța. Additionally, in the 2020-2021 season, Rapid București competed in the second division and earned promotion to the first division.

The tested model for Hypothesis 1 is statistically significant ($p = 0.006$, $R^2 = 0.536$), and the selected variables are related to sports performance, as reflected in the rankings.

Table 1. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827 ^a	.684	.536	1.57263

Source: Authors' own research

Table 2. ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.120	7	11.446	4.628	.006 ^b
	Residual	37.098	15	2.473		
	Total	117.217	22			

a. Dependent Variable: Position

b. Predictors: (Constant), Liabilities, Club Turnover, Football Academies Rankings, Net Income, Goal Difference, Number of Juniors, Number of Foreign Players

Source: Authors' own research.

Approximately 53.6% of the variation in the ranking position is explained by the variables included in the model. Goal difference is the most important factor ($\beta = -0.443$). The negative sign indicates that a higher (better) goal difference "pulls" the team towards the top places (1, 2, 3). It is the only predictor that has reached the strict significance threshold ($p = 0.027$). Although borderline ($p = 0.053$), turnover has a major influence ($\beta = -0.343$). This suggests that a club's financial strength is an essential driver of performance. With a β of -0.421 , debt appears to have a large impact, but due to the small sample size, the result is not yet statistically significant ($p = 0.130$). In this model, the number of foreign and junior players does not appear to directly influence the ranking. Thus, it is not the number of young or foreign players that matters, but their quality, as reflected in the goal difference and the club's financial strength. Although they have a negative coefficient (which is good, as a better ranking in the academies helps to achieve a better position in the standings), the impact of the clubs' own football academies is not decisive in this data set.

Hypothesis 2 is supported by the data in the table below, suggesting that the mere presence of juniors does not guarantee immediate success on the scoreboard ($p = 0.951$), but rather players' experience does.

Table 3. Analysis of the impact of sporting and financial factors on the performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.434	8.044		2.167	.047
	Goal Difference	-.075	.031	-.443	-2.454	.027
	Number of Foreign Players	.020	.083	.057	.247	.808
	Number of Juniors	-.005	.082	-.014	-.063	.951
	Football Academies Rankings	-.115	.096	-.240	-1.194	.251
	Club Turnover	-2.968E-8	.000	-.343	-2.104	.053
	Net Income	2.537E-8	.000	.181	1.049	.311
	Liabilities	-2.076E-8	.000	-.421	-1.603	.130

a. Dependent Variable: Position

Source: Authors' own research.

Hypothesis 3 tested the existence of a positive and significant relationship between the quality of youth infrastructure (as measured by the position of academies in the national ranking) and the club's ability to promote juniors to the senior team (number of juniors promoted).

Pearson's correlation analysis revealed a positive, medium-strength, statistically significant relationship between the score of football academies and the number of juniors promoted ($r = .481$, $p = .015$, $N = 25$). The results suggest that the structural performance of academies is a key determinant of the flow of young players into the main team. Investing in a top academy (facilities, coaches, methodology) increases the likelihood that young players will reach the level required to make it into the first team. Although this correlation is significant, juniors do not automatically guarantee a better ranking. So, academies produce players, but immediate success in the rankings seems to depend more on financial factors and goal difference.

Table 4. Analysis of the association between the performance of football academies and the integration of young players into senior teams.

		Number of Juniors	Football Academies Rankings
Number of Juniors	Pearson Correlation	1	.481*
	Sig. (2-tailed)		.015
	N	25	25

		Number of Juniors	Football Academies Rankings
Football Academies Rankings	Pearson Correlation	.481*	1
	Sig. (2-tailed)	.015	
	N	25	25

*. Correlation is significant at the 0.05 level (2-tailed)

Source: Authors' own research.

Conclusion

The analysis of the five-season period reveals that while FCSB and CFR Cluj have maintained the highest levels of competitive consistency, their success is primarily driven by economic and clinical factors. The statistical model indicates that approximately 53.6% of a team's league position is explained by a combination of goal difference and financial turnover. Notably, while youth academies successfully fulfill their role in developing players for the first team, as evidenced by the significant correlation in Hypothesis 3 ($r = .481$), this youth integration does not translate into immediate league success. The transition from the academy to the senior squad is often hindered by a misalignment between developmental technical success and the immediate results-oriented demands of professional football. The juniors lack the competitive maturity and experience required to navigate the high-stakes environment of a first-division league. Instead, veteran experience and the ability to convert financial strength into a superior goal difference remain the primary predictors of a top finish.

The statistical dominance of Goal Difference as a predictor of league position serves as a powerful reminder that financial investment, in isolation, is insufficient. Financial turnover is a necessary condition for success, providing the means to hire high-quality technical and support staff, but it is the conversion of these financial resources into clinical on-field performance (i.e., scoring efficiency and defensive solidity) that ultimately determines the final standings. Consequently, clubs that over-index on raw financial spending without matching it with strategic recruitment that improves goal difference face a higher risk of underperformance.

For club management, these findings suggest a pivot in recruitment philosophy. Rather than viewing the academy and the transfer market as competing strategies, leaders should adopt an integrated Human Resource Architecture where the academy serves as a base for utility players, while high-turnover budgets are reserved for impact positions that directly influence goal difference. By investing in youth development, football clubs can identify and nurture talent that can grow in the spirit of the club, embracing its values and sense of belonging. With the necessary resources and a well-designed development plan, the club can then achieve the desired results.

A significant limitation of this study is the small sample size (five teams observed over five years), which may limit the results' applicability to the entire professional league. The study uses a five-season analysis window, which may be insufficient to fully capture the return on investment in youth infrastructure. Developing domestic human capital is a long-term process, and the correlation between academic quality and immediate success in rankings may be blurred by the time juniors mature athletically. While not statistically significant in this sample, the high coefficient of the debt variable suggests that with a larger sample size (more seasons or more teams), debt might be revealed as a major drag or accelerant on performance.

Acknowledgments

During the preparation of this work, the author utilized Grammarly Pro and ChatGPT Plus to enhance readability and language clarity, as well as to obtain instructions for new users of the IBM SPSS

Statistics software. Following the use of these tools, the author meticulously reviewed and revised the content as necessary and assumes full responsibility for the final content of this publication.

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