The most important quantitative determinants affecting the transfer market of professional football players in Iraq

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Abstract

The research aimed to streamline the process for sports clubs in identifying and contracting professional players, focusing on the key quantitative determinants in the players' transfer market to assess their technical and commercial value. Additionally, it sought to achieve financial returns for the National Federation through the management of market access and the imposition of participation fees. The researchers employed a descriptive-analytical approach with correlational analysis to examine real-world data and identify relationships among variables, addressing the research objectives and questions. The study population comprised employees of the Iraqi Football Association involved in managing the Iraqi Stars League for the 2024-2025 season. The initial measure of quantitative determinants included 61 items, which was refined to 42 after establishing its scientific foundations. Key findings highlighted the Iraqi Football Federation's interest in establishing a professional players' transfer market in Iraq and its intention to assist clubs in reducing the time and effort required for contracting players. Based on these results, the researchers recommended creating a "virtual sports market" for player transfers in Iraq, incorporating quantitative determinants overseen by the Technical, Competitions, and Legal Committees. Furthermore, the management of this market should be conducted by the LALIQA Association under the direct supervision of the Executive Office of the Iraqi Football Federation, ensuring effective organization, transparency, and enhanced operational efficiency.

Keywords: Players Exchange, Financial Fair Play, Financial Licensing and Club Sustainability.

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Introduction

Professional sports clubs actively compete to contract athletes, including players and coaches, to win local and international championships. Achieving success in this competitive environment requires sufficient financial resources and timely communication with professional athletes, either through registered agents affiliated with national and international federations or via the player transfer market. Consequently, the establishment of a comprehensive database of professional players, both local and international, is crucial for managing contracts, particularly for those previously active in the Iraqi Stars League, and for facilitating renewals or transfers abroad. Such a database enables clubs to efficiently manage contracts, determine players' technical and marketing value, and optimize the allocation of financial and human resources while mitigating risks associated with unlicensed agents and intermediaries.

The technical and market value of a player is influenced by multiple factors, including chronological age, training age, performance level, and their contributions to the team. Club management and market dynamics, particularly supply and demand, also affect player valuation, emphasizing the necessity for federations to maintain accurate and comprehensive records. The absence of such a database in Iraq, combined with the lack of clearly defined quantitative determinants in the transfer market, delays contracting processes and increases financial and contractual risks. Therefore, the research problem focused on addressing these deficiencies, with two research questions: (1) Is there a virtual market (exchange) for professional players in Iraq? and (2) What quantitative determinants are necessary to evaluate players' technical and marketing value effectively?
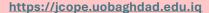
The study aimed to reduce the time and effort required for clubs to identify and contract players, define the most influential quantitative determinants in the transfer market, and achieve financial returns for the National Federation by establishing and managing market access. The researchers reviewed previous studies, designed a quantitative scale to assess determinants, and developed recommendations for the creation of a virtual transfer market supervised by the Iraqi Football Federation's Professionals Committee.

Margareta & Malinda (2022) provided empirical evidence that performance, age, transfer fees, and salary significantly influence football players' market value. Their study utilized data from 400 players across 40 European clubs, analyzed via multiple regression, confirming the positive impact of these factors on valuation. Similarly, Raffaele, Roger, & Loïc (2021) developed an econometric model revealing the primary determinants of transfer fees, emphasizing contract duration as a critical yet often overlooked factor explaining over 80% of fee variations. The study

concluded that effective transfer negotiations involve multiple elements, including contractual terms, negotiations, legal considerations, financial planning, and communications between clubs and agents.

In the context of Iraq, the absence of a formalized database for professional players and clear quantitative indicators in the transfer market presents a significant barrier to efficient player management. Establishing a virtual market for player transfers, overseen by the Professionals Committee of the Iraqi Football Federation, would enable clubs to evaluate the technical and marketing value of players objectively, streamline contract negotiations, and ensure financial integrity. This market would include all professional players active in the Iraqi Stars League and those previously involved in domestic leagues, promoting mobility, transparency, and fairness in player transactions.

Methodology

The researchers used the descriptive analytical approach and correlational relationships, which is concerned with analyzing the realistic data obtained and finding correlations for the variables of the scale used to obtain the required results related to the research objectives and answering the two research questions. The research community was represented and appointed (employees in the management of the Iraqi Stars League for the sports season 2024-2025) by the Iraqi Football Association and as shown in Table (1).

Table (1) shows *the description of the research community and its sample*

"No."	Department Name	Nr_members	Reconnaissance	Construction Sample	Application Sample	Excluded
.1	Executive Office and Technical Committee	19	-	5	14	1
.2	Asian and International Lecturers	10	1	5	4	1
.3	the Competitions Committee	7	1	4	2	-
.4	Legal Commission	6	2	3	1	1
.5	The ACRSD	4	1	2	1	-
.6	GUIDEBOOK	3	-	1	2	-

.7	International Players Committee	4	1	2	1	1
.8	LALIQAAssociation	7	-	4	3	-
.9	Media Committee	5	1	2	2	-
.10	Licensing Committee	3	-	1	2	1
.11	The disciplinary committee...	4	-	2	2	1
		72	Desorb (v.) (Chem.)	Desorb (v.) (Chem.)	Desorb (v.) (Chem.)	Desorb (v.) (Chem.)
						Application Sample Mug = (28)

After completing the selection and description of the research community and its sample, the researchers used a set of means and tools in order to identify the most important metrics that contribute to obtaining and discussing the data and results related to the research topic. Therefore, the researchers conducted a field survey of many scientific libraries in Iraqi universities and Arab and international digital libraries to identify the most important metrics related to the research topic. The researchers did not find any of the scientific metrics related to the research objectives and to achieve a convincing answer to the proposed research questions. When drafting the phrases, the researchers took into account that the phrase should not be accepted more than one interpretation and have one meaning, that is, the phrases should be clear in meaning and understandable **(Eyad & Dawood, 2022)**. Therefore, the two researchers built (the scale of quantitative determinants of the transfer of professional football players in Iraq) and the researchers used a group of Arab and foreign sources to formulate phrases in line with the Iraqi environment of the Iraqi Stars League. The researchers followed the scientific steps to build scientific scales, including determining the idea and purpose of the scale, formulating appropriate and understandable phrases and presenting them to a group of experts in the field of (sports management, testing and measurement, working coaches with master's and doctoral degrees, working referees with master's and doctoral degrees), which numbered **(23)** experts. The researchers relied on the Likert scale triple (agreeing three degrees), (possible two degrees), (disagree one degree) and the researchers obtained the value of the apparent validity coefficient to know the validity of the scale phrases and as shown in Table (**2**).

Table (2) *shows the validity of the statements of the scale (apparent validity)*

"No."	Approvers	Disagree	Chi square	Sig	Result	Statement number	Approvers	Disagree	Chi square	Sig	Result
1.	23	0	23	0.00	Acceptable	2.	21	2	15.69	0.00	Acceptable
3.	22	1	19.17	0.00	Acceptable	4.	21	2	15.69	0.00	Acceptable
5.	21	2	15.69	0.00	Acceptable	6.	20	3	12.56	0.00	Acceptable
7.	21	2	15.69	0.00	Acceptable	8.	19	4	9.78	0.00	Acceptable
9.	18	5	7.38	0.00	Acceptable	10.	15	8	2.13	0.14	Rejected
11.	22	1	19.17	0.00	Acceptable	12.	22	1	19.17	0.00	Acceptable
13.	21	2	15.69	0.00	Acceptable	14.	19	4	9.78	0.00	Acceptable
15.	18	5	7.38	0.00	Acceptable	16.	18	5	7.38	0.00	Acceptable
17.	18	5	7.38	0.00	Acceptable	18.	18	5	7.38	0.00	Acceptable
19.	18	5	7.38	0.00	Acceptable	20.	14	9	1.08	0.29	Rejected
21.	16	7	3.52	0.61	Rejected	22.	19	4	9.78	0.00	Acceptable
23.	17	6	5.26	0.02	Acceptable	24.	19	4	9.78	0.00	Acceptable
25.	19	4	9.78	0.00	Acceptable	26.	20	3	12.56	0.00	Acceptable
27.	20	3	12.56	0.00	Acceptable	28.	20	3	12.56	0.00	Acceptable
29.	22	1	19.17	0.00	Acceptable	30.	18	5	7.38	0.00	Acceptable
31.	19	4	9.78	0.00	Acceptable	32.	21	2	15.69	0.00	Acceptable
33.	20	3	12.56	0.00	Acceptable	34.	20	3	12.56	0.00	Acceptable
35.	21	2	15.69	0.00	Acceptable	36.	22	1	19.17	0.00	Acceptable
37.	20	3	12.56	0.00	Acceptable	38.	18	5	7.38	0.00	Acceptable
39.	21	2	15.69	0.00	Acceptable	40.	17	6	5.26	0.02	Acceptable
41.	17	6	5.26	0.02	Acceptable	42.	19	4	9.78	0.00	Acceptable

43.	17	6	5.26	0.02	Acceptable	44.	20	3	12.56	0.00	Acceptable
45.	21	2	15.69	0.00	Acceptable	46.	23	0	23	0.00	Acceptable
47.	19	4	9.78	0.00	Acceptable	48.	21	2	15.69	0.00	Acceptable
49.	22	1	19.17	0.00	Acceptable	50.	22	1	19.17	0.00	Acceptable
51.	22	1	19.17	0.00	Acceptable	52.	18	5	7.38	0.00	Acceptable
53.	17	6	5.26	0.02	Acceptable	54.	19	4	9.78	0.00	Acceptable
55.	18	5	7.38	0.00	Acceptable	56.	20	3	12.56	0.00	Acceptable
57.	22	1	19.17	0.00	Acceptable	58.	20	3	12.56	0.00	Acceptable
59.	20	3	12.56	0.00	Acceptable	60.	20	3	12.56	0.00	Acceptable
61.	19	4	9.78	0.00	Acceptable	62.	20	3	12.56	0.00	Acceptable
63.	18	5	7.38	0.00	Acceptable	64.	22	1	19.17	0.00	Acceptable

After the researchers presented the scale to the building sample, the raw grades were divided in descending order from the highest grade to the lowest grade, and a percentage of (**29%**) was adopted, equal to (**9** members) of the building sample grades, which represent the lowest grades, and a percentage of (**29%**), equal to (**9** members) of the building sample grades, which represent the highest grades, thus the total number of the two end groups reached (**18**) members, and the results were extracted from the application of the equation (**t.test**) for independent samples and using the statistical bag (**spss**), and it was found that all the phrases were significant except for (**20** phrases) were non-significant and sequentially (**9, 10, 12, 14, 16, 18, 19, 20, 27, 33, 34, 35, 36, 38, 40, 42, 43, 45, 56, 57**). As shown in table (**3**).

Table (3) *shows the discriminating ability of the scale phrases*

"No."	Upper Group		Lower Group		Calculated t value	Sig
	You will	Pr	You will	Pr		
1.	3	0.00	1.44	0.88	5.29	0.00
2.	3	0.00	1.44	0.88	5.29	0.00
3.	3	0.00	1.44	0.88	5.29	0.00
4.	3	0.00	1.44	0.88	5.29	0.00
5.	3	0.00	1.44	0.88	5.29	0.00
6.	3	0.00	1.44	0.88	5.29	0.00
7.	3	0.00	1.44	0.88	5.29	0.00
8.	3	0.00	1.44	0.88	5.29	0.00
9.	11.2	0.92	2.44	0.88	0.78	0.44
10.	2.66	0.50	2.22	0.97	1.22	0.24

11.	3	0.00	1.44	0.88	5.29	0.00
12.	11.2	0.92	2.44	0.88	0.78	0.44
13.	3	0.00	1.44	0.88	5.29	0.00
14.	2.66	0.50	2.22	0.97	1.22	0.24
15.	3	0.00	1.44	0.88	5.29	0.00
16.	11.2	0.92	2.44	0.88	0.78	0.44
17.	3	0.00	1.44	0.88	5.29	0.00
18.	2.66	0.50	2.22	0.97	1.22	0.24
19.	11.2	0.92	2.44	0.88	0.78	0.44
20.	2.66	0.50	2.22	0.97	1.22	0.24
21.	3	0.00	1.44	0.88	5.29	0.00
22.	3	0.00	1.44	0.88	5.29	0.00
23.	3	0.00	1.44	0.88	5.29	0.00
24.	3	0.00	1.55	0.88	4.91	0.00
25.	3	0.00	1.44	0.88	5.29	0.00
26.	3	0.00	1.44	0.88	5.29	0.00
27.	2.66	0.50	11.2	0.92	1.58	0.13
28.	3	0.00	1.44	0.88	5.29	0.00
29.	3	0.00	1.44	0.88	5.29	0.00
30.	3	0.00	1.44	0.88	5.29	0.00
31.	2.88	0.33	1.44	0.88	4.59	0.00
32.	3	0.00	1.44	0.88	5.29	0.00
33.	2.33	0.86	11.2	0.92	0.52	0.60
34.	2.66	0.50	2.22	0.97	1.22	0.24
35.	11.2	0.92	2.44	0.88	0.78	0.44
36.	2.33	0.86	11.2	0.92	0.52	0.60
37.	3	0.00	1.44	0.88	5.29	0.00
38.	2.66	0.50	2.22	0.97	1.22	0.24
39.	3	0.00	1.44	0.88	5.29	0.00
40.	2.33	0.86	11.2	0.92	0.52	0.60
41.	2.77	0.44	1.44	0.88	4.05	0.00
42.	2.66	0.50	2.44	0.88	0.65	0.52
43.	2.55	0.72	11.2	0.92	1.13	0.27
44.	3	0.00	1.44	0.88	5.29	0.00
45.	2.66	0.50	2.22	0.97	1.22	0.24
46.	2.88	0.33	1.66	1	3.47	0.00
47.	3	0.00	1.44	0.88	5.29	0.00
48.	3	0.00	1.44	0.88	5.29	0.00
49.	3	0.00	1.44	0.88	5.29	0.00
50.	3	0.00	1.44	0.88	5.29	0.00
51.	3	0.00	1.44	0.88	5.29	0.00
52.	3	0.00	1.44	0.88	5.29	0.00
53.	3	0.00	1.44	0.88	5.29	0.00
54.	3	0.00	1.55	0.88	4.91	0.00
55.	3	0.00	1.44	0.88	5.29	0.00
56.	2.33	0.86	2.22	0.83	0.27	0.78
57.	2.66	0.50	11.2	0.92	1.58	0.13

58.	3	0.00	1.44	0.88	5.29	0.00
59.	3	0.00	1.44	0.88	5.29	0.00
60.	3	0.00	1.44	0.88	5.29	0.00
61.	2.88	0.33	1.88	1.05	2.71	0.01

Results

Table (4) shows *the internal consistency of the statement correlation with the total score of the scale*

"No."	Correlation coefficient (Maths.)	Sig
1.	0.99	0.00
2.	0.98	0.00
3.	0.99	0.00
4.	0.98	0.00
5.	0.98	0.00
6.	0.96	0.00
7.	0.99	0.00
8.	0.99	0.00
9.	0.92	0.00
10.	0.96	0.00
11.	0.95	0.00
12.	0.97	0.00
13.	0.99	0.00
14.	0.94	0.00
15.	0.98	0.00
16.	0.97	0.00
17.	0.99	0.00
18.	0.99	0.00
19.	0.99	0.00
20.	0.99	0.00
21.	0.93	0.00
22.	0.98	0.00
23.	0.99	0.00
24.	0.99	0.00
25.	0.99	0.00
26.	0.95	0.00
27.	0.99	0.00
28.	0.93	0.00
29.	0.98	0.00
30.	0.98	0.00
31.	0.98	0.00
32.	0.99	0.00
33.	0.98	0.00
34.	0.94	0.00
35.	0.99	0.00
36.	0.97	0.00
37.	0.97	0.00
38.	0.99	0.00

39.	0.99	0.00
40.	0.93	0.00
41.	0.73	0.00

Table (5) *Statistical analysis of the application sample for the scale of quantitative determinants market for the transfer of professional football players*

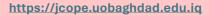| You will	Hypothetical	Pr	median	Modulus of torsion = torsion modulus (Mech.)	The high point.	Lowest Score
109.82	82	3.59	110	.205	116	101

Table (6) *Frequencies, percentage, weighted arithmetic mean, standard deviation and relative weight of scale statements*

"No."	(Duplicates) & (%)	Agree	possible	Disagree	Weighted	Pr	Relative weight	Likert Response Mug	Phrase Level
					Significant				
1.	recurrences.	24	4	-	2.85	0.35	0.95	Agree	High
	%	85.7	14.3	-					
2.	recurrences.	25	3	-	2.89	0.31	0.96	Agree	High
	%	89.3	10.7	-					
3.	recurrences.	23	4	1	2.78	0.49	0.92	Agree	High
	%	82.1	14.3	3.6					
4.	recurrences.	25	3	-	2.89	0.31	0.96	Agree	High
	%	89.3	10.7	-					
5.	recurrences.	20	7	1	2.67	0.54	0.89	Agree	High
	%	71.4	25	3.6					
6.	recurrences.	8	17	3	2.17	0.61	0.72	possible	Medium
	%	28.6	60.7	10.7					
7.	recurrences.	7	18	3	2.14	0.59	0.71	possible	Medium
	%	25	64.3	10.7					
8.	recurrences.	21	7	-	2.75	0.44	0.91	Agree	high
	%	75	25	-					
9.	recurrences.	17	7	4	2.46	0.74	0.82	Agree	high

	%	60.7	25	14.3					
10.	recurrences.	24	3	1	2.82	0.47	0.94	Agree	high
	%	85.7	10.7	3.6					
11.	recurrences.	25	2	1	2.85	0.44	0.95	Agree	high
	%	89.3	7.1	3.6					
12.	recurrences.	27	1	-	2.96	0.18	0.89	Agree	high
	%	96.4	3.6	-					
13.	recurrences.	10	16	2	2.28	0.59	0.76	possible	Medium
	%	35.7	57.1	7.1					
14.	recurrences.	8	16	4	2.14	0.65	0.71	possible	Medium
	%	28.6	57.1	14.3					
15.	recurrences.	20	6	2	2.64	0.62	0.88	Agree	high
	%	71.4	21.4	7.1					
16.	recurrences.	23	3	2	2.75	0.58	0.91	Agree	high
	%	82.1	10.7	7.1					
17.	recurrences.	11	13	4	2.25	0.70	0.75	possible	Medium
	%	39.3	46.4	14.3					
18.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
19.	recurrences.	17	7	4	2.46	0.74	0.82	Agree	high
	%	60.7	25	14.3					
20.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
21.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
22.	recurrences.	24	4	-	2.85	0.35	0.95	Agree	high
	%	85.7	14.3	-					
23.	recurrences.	22	5	1	2.75	0.51	0.91	Agree	high
	%	78.6	17.9	3.6					
24.	recurrences.	11	12	5	2.21	0.73	0.73	possible	Medium
	%	39.3	42.9	17.9					
25.	recurrences.	23	5	-	2.82	0.39	0.94	Agree	high
	%	82.1	17.9	-					
26.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
27.	recurrences.	19	9	-	2.67	0.47	0.89	Agree	high
	%	67.9	32.1	-					

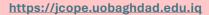| #								
28.	recurrences.	24	3	1	2.82	0.47	0.94	Agree	high
	%	85.7	10.7	3.6					
29.	recurrences.	18	4	6	2.42	0.83	0.80	Agree	high
	%	64.3	14.3	21.4					
30.	recurrences.	22	6	-	2.78	0.41	0.92	Agree	high
	%	78.6	21.4	-					
31.	recurrences.	14	10	4	2.35	0.73	0.78	Agree	high
	%	50	35.7	14.3					
32.	recurrences.	21	4	3	2.64	0.67	0.88	Agree	high
	%	75	14.3	10.7					
33.	recurrences.	20	5	3	2.60	0.68	0.86	Agree	high
	%	71.4	17.9	10.7					
34.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
35.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
36.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
37.	recurrences.	28	-	-	3	0.00	100	Agree	high
	%	100	-	-					
38.	recurrences.	19	7	2	2.60	0.62	0.86	Agree	high
	%	67.9	25	7.1					
39.	recurrences.	19	5	4	2.53	0.74	0.84	Agree	high
	%	67.9	17.9	14.3					
40.	recurrences.	18	7	3	2.53	0.69	0.84	Agree	high
	%	64.3	25	10.7					
41.	recurrences.	14	10	4	2.35	0.73	0.78	Agree	high
	%	50	35.7	14.3					
Measure of quantitative determinants of transfers of professional football players in Iraq					2.67	0.27	0.89	Agree	high

Discussion

Tables (5) and (6) indicate full acceptance of the scale, with an average weighted mean of 2.67, suggesting a high level for all scale phrases. Therefore, the committee supervising the virtual player transfer market can include all quantitative determinants. Biological and training age are critical factors affecting a player's market value, as early maturity and coaching age influence

performance and attractiveness in the transfer market (James Parr, 2020; Jamie et al., 2022; Kevin et al., 2017).

Including current and historical marketing values allows club managers to track fluctuations, identify reasons for changes, and make informed contracting decisions. Overall performance in competitions provides objective assessments for transfer decisions, supporting clubs in forming competitive teams within budgetary constraints (Giovanni & Hvattum, 2021; Kaukab, 2022). Offensive capabilities, minutes played, goals, and contributions to team success enhance market value and inform contracting decisions (Yalçınkaya & Murat, 2024; Prayoga et al., 2023).

Player versatility, such as transitions between defense and attack, speed, endurance, and tactical compliance, as well as set-piece proficiency, significantly impacts market value. Tactical behavior in various phases of play (attack, defense, transitions) informs strengths and areas for improvement, which are critical for transfer decisions (Leander et al., 2023). Scoring efficiency, defensive contributions, and technical performance metrics, tracked via analysis programs, provide quantitative and qualitative indicators for the transfer market (Carlos, 2020).

Visual scanning, aerial duels, dribbling success, and participation indices reflect players' sensory perception, tactical awareness, and physical and technical abilities. Players' nationality, team quality, FIFA ranking, and participation in critical matches inform market evaluation (Anton et al., 2017; C. d. et al., 2022). Offensive contributions, such as goal opportunities and decisive passes, influence the transfer market and assist clubs in evaluating player performance and tactical effectiveness (Bransen et al., 2019).

Errors, penalties, and psychological stability are also considered, as repeated mistakes affect contract decisions. Proper psychological management can mitigate negative impacts, making emotional and mental indicators crucial alongside technical, tactical, and physical metrics in evaluating players for transfer (G. J. et al., 2007).

Conclusions

The Iraqi Football Association demonstrates a strong interest in establishing a market for the transfer of professional players within Iraq, aiming to assist sports clubs in reducing the time and effort required to secure appropriate contracts with these players. The high quality of the quantitative determinants developed by the researchers supports their adoption within the Iraqi professional players' transfer market. Furthermore, effective management of this market by the Iraqi Football Federation enhances its budgetary resources through the imposition of participation and access fees in the digital virtual platform for player contracting.

Recommendations

The establishment of a virtual sports market for player transfers in Iraq, incorporating quantitative determinants provided by the Technical, Competitions, and Legal Committees, is proposed by the researchers. Management of this transfer market should be overseen by LALIQA under the direct supervision of the Executive Office of the Iraqi Football Association. Participation fees would be imposed on sports clubs through dedicated electronic accounts for the Sports Contracting Committee, enabling clubs to recruit or sell players. Additionally, professional player agents wishing to register and offer services in the transfer market would be charged fees, as would individuals interested solely in browsing within the professional player transfer market.

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