Jurnal Pendidikan Kepelatihan Olahraga: Pejuang
Volume 2 Nomor 3 Oktober 2026
E-ISSN: 3090-1278

Development and Standardization of a Scale Measuring the Entrepreneurial Leadership Characteristics of Board Members of Clubs in the Iraqi Stars League

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Article History
Received: 30-07-2026;
Reviewed: 20-08-2026;
Accepted: 23-09-2026;
Published: 27-10-2026.

ABSTRACT

The primary objective of this study was to construct and standardize a psychometrically robust scale measuring the entrepreneurial leadership characteristics of board members within clubs participating in the Iraqi Stars League, as well as to derive standardized scores (Z-scores and T-scores) and establish normative performance tiers for practical administrative diagnosis. Employing a descriptive survey methodology, the research targeted the entire population of administrative board members across all 20 professional clubs competing in the 2024–2025 season (N = 160). The sample structure was systematically organized across three developmental phases: an exploratory pilot sample (n = 10, 6.25%), a scale construction sample (n = 110, 68.75%), and a scale standardization sample (n = 150, 93.75%). Content and face validity were verified by an expert panel of 17 university professors in sports administration and psychometrics using Chi-square (χ^2) goodness-of-fit tests, confirming five theoretical domains: Creativity and Innovation, Strategic Leadership, Problem-Solving Competence, Calculated Risk-Taking, and Perseverance and Tenacity. Statistical item analysis utilizing the extreme groups method (upper vs. lower 27%, df = 58) demonstrated high discriminant power across items ($p < 0.001$). Internal consistency was established through item-total and item-domain Pearson correlation coefficients, resulting in the retention of 35 finalized items. Reliability analysis demonstrated high stability via the split-half method corrected by the Guttman formula ($r = 0.756$) and an exceptional Cronbach's alpha coefficient ($\alpha = 0.991$). Normative calibration on the standardization sample ($M = 97.82$, $SD = 9.47$, Skewness = 0.603) yielded five standard tiers: Very Good (4.66%), Good (13.33%), Average (70.00%), Acceptable (12.00%), and Poor (0.00%). The findings confirm that board members possess solid entrepreneurial leadership competencies, predominantly concentrated in average-to-high performance tiers. The study recommends adopting the standardized scale as a diagnostic benchmark for club governance, establishing leadership development programs, and incentivizing entrepreneurial venture creation in Iraqi professional sports.

Keywords: Entrepreneurial leadership; Iraqi Stars League; Scale standardization; Psychometrics; Sports club governance.

ABSTRAK

Tujuan utama dari penelitian ini adalah untuk mengonstruksi dan menstandardisasi skala psikometri yang valid dan reliabel guna mengukur karakteristik kepemimpinan kewirausahaan (entrepreneurial leadership) pada anggota dewan pengurus klub di Liga Bintang Irak (Iraqi Stars League), serta merumuskan skor standar (Z-score dan T-score) dan menetapkan tingkatan norma kinerja untuk diagnosis administratif. Menggunakan pendekatan deskriptif dengan metode survei, populasi penelitian mencakup seluruh anggota badan administratif di 20 klub profesional musim kompetisi 2024–2025 (N = 160). Struktur sampel dibagi secara sistematis ke dalam tiga tahap: sampel uji coba awal (n = 10; 6,25%), sampel konstruksi skala (n = 110; 68,75%), dan sampel standardisasi norma (n = 150; 93,75%). Validitas isi dan tampang diuji oleh panel ahli yang terdiri atas 17 profesor di bidang manajemen olahraga dan psikometri dengan uji Chi-kuadrat (χ^2), yang menyepakati lima domain teoretis: Kreativitas dan Inovasi, Kepemimpinan Strategis, Kompetensi Pemecahan Masalah, Pengambilan Risiko Terukur, serta Ketekunan dan Kegigihan. Analisis daya pembeda butir menggunakan metode kelompok ekstrem (27% kelompok atas vs. 27% kelompok bawah; df = 58) menunjukkan kemampuan diskriminasi yang signifikan ($p < 0,001$). Konsistensi internal diuji melalui korelasi Pearson butir-total dan butir-domain, menghasilkan 35 butir final yang dipertahankan. Uji reliabilitas menunjukkan stabilitas tinggi melalui metode belah dua yang dikoreksi dengan formula Guttman (r = 0,756) dan koefisien Cronbach's alpha yang luar biasa ($\alpha = 0,991$). Kalibrasi norma pada sampel standardisasi (M = 97,82; SD = 9,47; Skewness = 0,603) menghasilkan lima tingkatan standar: Sangat Baik (4,66%), Baik (13,33%), Rata-rata/Sedang (70,00%), Cukup/Dapat Diterima (12,00%), dan Buruk (0,00%). Temuan membuktikan bahwa pengurus klub memiliki karakteristik kepemimpinan kewirausahaan yang solid, dengan dominasi pada kategori sedang hingga sangat baik. Disarankan agar skala ini diterapkan sebagai tolok ukur evaluasi tata kelola klub, diselenggarakan lokakarya kepemimpinan berkala, dan diciptakan iklim organisasi yang mendorong inovasi kewirausahaan di industri sepak bola profesional Irak.

Kata Kunci: Kepemimpinan kewirausahaan; Liga Bintang Irak; Skala psikometri; Standardisasi skala; Tata kelola klub olahraga.

INTRODUCTION

The contemporary landscape of sports management is undergoing a profound paradigm shift driven by commercialization, professionalization, and heightened institutional competition. In elite athletic environments, sports organizations are no longer managed merely as social or amateur clubs, but rather as multifaceted sports enterprises requiring visionary leadership, strategic governance, and robust human capital development (Chelladurai & Kerwin, 2018). The governing board members of sports clubs occupy the executive nexus of strategic decision-making, where administrative prowess, fiscal sustainability, brand equity, and athletic performance intersect. Achieving sustained competitive excellence demands that administrative personnel possess advanced capabilities to anticipate market dynamics, navigate

environmental uncertainty, and implement innovative managerial solutions (Escamilla-Fajardo et al., 2020; Scott, 2022).

Entrepreneurial leadership has emerged in contemporary organizational theory as a vital catalyst for institutional rejuvenation and performance excellence. Rooted in the convergence of entrepreneurship and strategic leadership, entrepreneurial traits encompass an integrated set of cognitive, behavioral, and interpersonal qualities that empower leaders to identify opportunities, mobilize limited resources, embrace calculated risks, and foster an organizational climate centered on innovation (Covin & Slevin, 2017; Kuratko, 2017). In sports organizations, entrepreneurial leaders excel at transforming organizational inertia into dynamic capability, enabling clubs to adapt to regulatory changes, cultivate diverse revenue streams, and maintain competitive positioning in professional league tables (Ratten, 2020).

The foundational significance of entrepreneurial traits possessed by administrative personnel in Iraq represents an essential strategic pillar. As Ghassan Muhammad Sadiq (1990) emphasized, leadership characteristics play an instrumental role in institutional and social progress, moving individuals beyond routine bureaucratic compliance toward proactive, creative contributions. In football clubs, administrative work must be underpinned by entrepreneurial qualities including creativity, problem-solving, strategic risk-taking, and tenacity. Differences in professional background, educational attainment, age, and organizational tenure naturally generate variations in leadership competencies across board members (Caza, 2012).

Despite the pivotal importance of leadership attributes in professional sports governance, the Iraqi football landscape presents unique structural and operational challenges. Following the comprehensive restructuring of the Iraqi domestic football pyramid and the inauguration of the Iraqi Stars League under modernized commercial and licensing standards, clubs face rigorous performance pressures. Administrative boards are tasked with competing for league championships, securing regional tournament qualification, or averting relegation, all while operating under stringent financial constraints and public scrutiny. However, casual observations and field reviews indicate marked discrepancies in the managerial capabilities and entrepreneurial mindsets of club directors. Many clubs continue to rely on traditional, reactive management modalities rather than structured entrepreneurial strategies.

A critical scientific impediment in addressing these governance challenges has been the total absence of psychometrically validated, standardized diagnostic instruments specifically designed to measure the entrepreneurial leadership characteristics of sports board members in the Iraqi context. Without calibrated measurement tools, objective evaluation of administrative strengths, diagnostic profiling, and targeted professional development initiatives remain unattainable. This empirical deficit crystallized the core problem of the current investigation: Do members of the administrative bodies of Iraqi Stars League clubs possess the necessary entrepreneurial leadership characteristics, and how can these traits be scientifically measured, standardized, and benchmarked?

Accordingly, this study was structured around two fundamental research objectives: (1) to construct and psychometrically validate a specialized multidimensional scale measuring the entrepreneurial leadership characteristics of board members of clubs in the Iraqi Stars League; and (2) to derive standardized normative scores (Z-scores

and adjusted T-scores) and establish standardized performance levels for the scale. The research delimited its human scope to the board members of clubs in the Iraqi Stars League, its spatial scope to the official administrative headquarters of the clubs across Iraqi governorates, and its temporal scope to the competitive season from March 25, 2024 to May 26, 2024.

METHODS

This investigation adopted a descriptive survey methodology coupled with psychometric scale construction and standardization procedures. Descriptive survey research is recognized as the optimal methodological framework for investigating organizational phenomena, evaluating behavioral constructs, and systematically gathering empirical data to establish normative standards across representative populations (Creswell & Creswell, 2018; Thomas et al., 2015).

The research population comprised all active board members serving on the administrative bodies of the 20 professional football clubs competing in the Iraqi Stars League during the 2024–2025 sporting season, totaling 160 individuals. A purposive complete-enumeration sampling technique was utilized, as delineated in Table 1.

Table 1. Distribution of the Research Population across Iraqi Stars League Clubs (2024–2025 Season)

No.	Club Name	Board Members (n)	No.	Club Name	Board Members (n)
1	Limits	7	11	Al-Zawra'a	9
2	Al-Kahraba	8	12	Al-Karama	7
3	Al-Karkh	6	13	Duhok	8
4	Al-Mina	10	14	Erbil	8
5	Oil	8	15	Karbala	8
6	Najaf	6	16	Diyala	8
7	Al-Qasim	8	17	Maysan Oil	9
8	Air Force	9	18	Basra Oil	10
9	Police	7	19	Nowruz	8
10	Student	8	20	Zaho	8
Total	20 Clubs				160 Members

To execute the scale development and standardization procedures with methodological precision, the sample was systematically structured across three distinct phases: an exploratory pilot sample (n = 10, 6.25%), a scale construction sample (n = 110, 68.75%), and a scale standardization sample (n = 150, 93.75%). As established in psychometric standardization protocols (Nunnally & Bernstein, 1994), the standardization sample incorporated the responses of the 110 construction participants augmented by 40 additional members who were administered the finalized instrument to minimize sampling bias and ensure distributional stability, as detailed in Table 2.

Table 2. Breakdown of Research Sample across Scale Development Phases

Phase / Sample Category	Sample Size (n)	Percentage of Total Population (%)
Exploratory Pilot Study Sample	10	6.25%

Scale Construction & Calibration Sample	110	68.75%
Scale Standardization Sample	150	93.75%
Total Target Research Population	160	100.00%

The development of the Entrepreneurial Leadership Scale followed rigorous psychometric procedures encompassing eight sequential phases: (1) conceptual definition and operationalization of the target construct; (2) formulation of scale objectives; (3) theoretical framework delineation; (4) domain specification; (5) preliminary item drafting; (6) expert panel validity assessment; (7) exploratory pilot testing; and (8) statistical item analysis.

Based on extensive literature review (Covin & Slevin, 2017; Kuratko, 2017; Sadiq, 1990) and preliminary exploratory interviews with sports management specialists, the researcher operationalized entrepreneurial leadership across five core domains: (1) Creativity and Innovation; (2) Strategic Leadership; (3) Problem-Solving Competence; (4) Calculated Risk-Taking; and (5) Perseverance and Tenacity.

Content and face validity of the proposed domains were established by presenting the operational definitions to an expert panel of 17 university professors specializing in sports management, educational administration, and psychometrics. The Chi-square (χ^2) goodness-of-fit test was applied to evaluate expert consensus. All five domains achieved 100% agreement (17 agreeing vs. 0 disagreeing), yielding $\chi^2 = 17.000$ ($p < 0.001$, $df = 1$), well exceeding the critical threshold of 3.841, as displayed in Table 3.

Table 3. Expert Agreement on Proposed Domains of Entrepreneurial Leadership Scale (N = 17)

No.	Domain / Dimension	Agree	Disagree	Chi-Square (χ^2)	p-value	Decision
1	Creativity and Innovation	17	0	17.000	0.000	Accepted (Significant)
2	Strategic Leadership	17	0	17.000	0.000	Accepted (Significant)
3	Problem-Solving Competence	17	0	17.000	0.000	Accepted (Significant)
4	Calculated Risk-Taking	17	0	17.000	0.000	Accepted (Significant)
5	Perseverance and Tenacity	17	0	17.000	0.000	Accepted (Significant)

Note: Critical χ^2 at df = 1, $\alpha = 0.05$ is 3.841. All domains significant at $p < 0.001$.

Following domain validation, an initial pool of 41 items was drafted using a 5-point Likert response scale (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree). The items were distributed across the five domains and submitted to the 17-member expert panel to evaluate their linguistic clarity, theoretical suitability, and domain congruence. Goodness-of-fit Chi-square analysis resulted in the approval of 40 items with significant consensus ($p < 0.05$). Item 34 in Domain 5 yielded 9 agreeing vs. 8 disagreeing experts ($\chi^2 = 0.059$, $p = 0.808$) and was accordingly removed, as summarized in Table 4.

Table 4. Summary of Expert Validity Evaluation and Item Filtering (N = 17)

Domain	Initial Items	Retained Items	Excluded Items	Calculated χ^2 Range	Significance Level	Decision
1. Creativity and Innovation	7 (1–7)	7	None	17.000	$p < 0.001$	Retained for Trial
2. Strategic Leadership	7 (8–14)	7	None	4.765 – 17.000	$p \leq 0.029$	Retained for Trial
3. Problem-Solving Competence	10 (15–24)	10	None	7.118 – 17.000	$p \leq 0.008$	Retained for Trial
4. Calculated Risk-Taking	7 (25–31)	7	None	7.118 – 17.000	$p \leq 0.008$	Retained for Trial
5. Perseverance and Tenacity	10 (32–41)	9	Item 34	7.118 – 17.000	$p \leq 0.008$	Item 34 Excluded ($p=0.808$)
Total Scale	41	40	1	4.765 – 17.000	$p < 0.05$	40 Items for Trial

An exploratory pilot study was conducted on March 25, 2024, involving 10 club board members to verify instructional lucidity, gauge completion time (averaging 12–15 minutes recorded via Casio digital stopwatch), and identify potential logistical obstacles. The pilot study verified administrative receptivity, and both physical paper forms and secure digital links were implemented to ensure maximum response capture across geographical locations.

The primary scale construction experiment was administered to the construction sample (n = 110) between May 15, 2024 and May 26, 2024. Descriptive statistical analysis of the total raw scores confirmed normal distribution parameters, with a skewness coefficient of 0.236 (well within the acceptable normality range of ±1.0), as shown in Table 5.

Table 5. Descriptive Statistics of the Construction Sample for the Entrepreneurial Leadership Scale (N = 110)

Statistical Parameter	Obtained Value	Standard Error
Arithmetic Mean (M)	143.9273	1.1451
Median (Mdn)	141.0000	-
Standard Deviation (SD)	12.0097	-
Skewness Coefficient	0.2360	0.2300
Minimum Observed Score	118.0000	-
Maximum Observed Score	171.0000	-

Construct validity was evaluated through two core empirical procedures: discriminant validity analysis and internal consistency assessment. Discriminant validity was examined using the extreme groups method. Total raw scores of the 110 participants were arranged in ascending order, and the upper 27% (n1 = 30) and lower 27% (n2 = 30) cohorts were segregated. Independent samples t-tests were conducted for each item. As presented in Table 6, all items demonstrated statistically significant discriminant power between high- and low-scoring groups at df = 58 ($p < 0.001$), indicating strong construct differentiation.

Table 6. Item Discriminant Validity Analysis Using the Extreme Groups Method (n1 = n2 = 30, df = 58)

Domain / Item Range	Upper 27% Mean (SD)	Lower 27% Mean (SD)	Calculated t-value Range	p-value	Result
Domain 1: Creativity (Items 1–7)	4.800 – 5.000 (0.000 – 0.407)	2.067 – 2.667 (0.254 – 0.648)	-19.650 to -63.327	< 0.001	Significant Discrimination
Domain 2: Leadership (Items 8–14)	4.367 – 5.000 (0.000 – 0.490)	1.567 – 2.633 (0.466 – 0.679)	-16.784 to -29.178	< 0.001	Significant Discrimination
Domain 3: Problem-Solving (Items 15–24)	4.567 – 5.000 (0.000 – 0.504)	1.833 – 2.567 (0.450 – 0.592)	-19.254 to -33.286	< 0.001	Significant Discrimination
Domain 4: Risk-Taking (Items 25–31)	4.533 – 5.000 (0.000 – 0.507)	1.567 – 2.467 (0.346 – 0.626)	-15.901 to -35.762	< 0.001	Significant Discrimination
Domain 5: Perseverance (Items 32–40)	4.200 – 5.000 (0.000 – 0.714)	1.167 – 2.400 (0.254 – 0.504)	-17.333 to -50.817	< 0.001	Significant Discrimination

Note: Critical t at df = 58, $\alpha = 0.05$ is 2.001. All t-values significant at $p < 0.001$.

Internal consistency was rigorously scrutinized through three successive analytical tiers: (1) item-total score correlations; (2) item-domain score correlations; and (3) domain-total score correlations. In the first tier, Pearson correlation coefficients between each item score and the total scale score were computed. Items failing to achieve statistical significance at the 0.05 level ($r < 0.20$) were eliminated. Items 1 ($r = -0.024$, $p = 0.870$), 12 ($r = 0.006$, $p = 0.953$), and 26 ($r = 0.122$, $p = 0.205$) were non-significant and were consequently excluded, as shown in Table 7.

Table 7. Correlation Coefficients between Item Scores and Total Scale Score (N = 110)

Item No.	Pearson r	p-value	Result	Item No.	Pearson r	p-value	Result
1	-0.024	0.870	Non-Sig (Excluded)	22	0.442**	0.000	Significant
2	0.457**	0.000	Significant	23	0.441**	0.000	Significant
3	0.357**	0.000	Significant	24	0.497**	0.000	Significant
4	0.291**	0.002	Significant	25	0.285**	0.000	Significant
5	0.394**	0.000	Significant	26	0.122	0.205	Non-Sig (Excluded)
6	0.340**	0.000	Significant	27	0.218*	0.000	Significant
7	0.368**	0.000	Significant	28	0.389**	0.000	Significant
8	0.202*	0.034	Significant	29	0.541**	0.000	Significant
9	0.463**	0.000	Significant	30	0.480**	0.000	Significant
10	0.364**	0.000	Significant	31	0.337**	0.000	Significant
11	0.468**	0.000	Significant	32	0.413**	0.000	Significant
12	0.006	0.953	Non-Sig (Excluded)	33	0.270**	0.000	Significant
13	0.530**	0.000	Significant	34	0.435**	0.000	Significant
14	0.443**	0.000	Significant	35	-0.274**	0.000	Significant
15	0.484**	0.000	Significant	36	0.419**	0.000	Significant

16	0.396**	0.000	Significant	37	0.284**	0.000	Significant
17	0.351**	0.000	Significant	38	0.339**	0.000	Significant
18	0.541**	0.000	Significant	39	0.477**	0.000	Significant
19	0.362**	0.000	Significant	40	0.210*	0.003	Significant
20	0.353**	0.000	Significant	-	-	-	-
21	0.410**	0.000	Significant	-	-	-	-

*Note:*** Correlation significant at p < 0.01; * correlation significant at p < 0.05. Items 1, 12, 26 excluded.

In the second tier, the correlation between each item and its respective parent domain score was evaluated. As displayed in Table 8, two items in Domain 5 failed to reach significant correlation: Item 34 (r = 0.185, p = 0.053) and Item 39 (r = 0.136, p = 0.158), and were accordingly removed. This refined the scale structure to exactly 35 items distributed across the five domains: Domain 1 (6 items), Domain 2 (6 items), Domain 3 (10 items), Domain 4 (6 items), and Domain 5 (7 items).

Table 8. Item-Domain Correlation Coefficients and Final Scale Configuration

Domain	Item Number	Item-Domain Pearson r	p-value	Validation Status
Domain 1: Creativity & Innovation (6 items)	2, 3, 4, 5, 6, 7	0.419** – 0.560**	0.000	Retained (Item 1 Excluded)
Domain 2: Strategic Leadership (6 items)	8, 9, 10, 11, 13, 14	0.253** – 0.488**	0.000 – 0.008	Retained (Item 12 Excluded)
Domain 3: Problem-Solving (10 items)	15, 16, 17, 18, 19, 20, 21, 22, 23, 24	0.329** – 0.614**	0.000	All 10 Items Retained
Domain 4: Risk-Taking (6 items)	25, 27, 28, 29, 30, 31	0.360** – 0.710**	0.000	Retained (Item 26 Excluded)
Domain 5: Perseverance (7 items)	32, 33, 35, 36, 37, 38, 40	0.304** – 0.465**	0.000 – 0.001	Retained (Items 34, 39 Excluded)
Total Scale	35 Final Items	0.253** – 0.710**	p < 0.01	Final Validated Scale

In the third tier, inter-correlations between each domain total and the overall scale score were calculated. Pearson correlation coefficients ranged from r = 0.319 to r = 0.805 (p < 0.01), confirming that each domain contributed meaningfully to the overarching construct of entrepreneurial leadership, as delineated in Table 9.

Table 9. Pearson Correlation Matrix between Domains and Total Scale Score (N = 110)

Domain No.	Domain Name	Number of Items	Correlation with Total (r)	p-value	Result
Domain 1	Creativity and Innovation	6	0.589**	0.000	Statistically Significant
Domain 2	Strategic Leadership	6	0.711**	0.000	Statistically Significant
Domain 3	Problem-Solving Competence	10	0.805**	0.000	Statistically Significant
Domain 4	Calculated Risk-Taking	6	0.677**	0.000	Statistically Significant

Domain 5	Perseverance and Tenacity	7	0.319**	0.001	Statistically Significant
Total Scale	Entrepreneurial Leadership Scale	35	1.000	-	Validated Construct

*Note:*** Correlation significant at p < 0.01 (2-tailed).

Scale reliability was evaluated through two distinct psychometric methodologies: split-half reliability and internal consistency modeling. In the split-half method, items were divided into odd and even halves. The uncorrected Pearson correlation between the two halves was r = 0.608. Application of the Guttman split-half formula yielded a corrected reliability coefficient of r = 0.756, establishing substantial measurement stability. Furthermore, internal consistency analysis using Cronbach's alpha across all items produced an exceptional coefficient of α = 0.991, affirming remarkable scale precision and homogeneity.

Scale objectivity was safeguarded through structured administrative protocols, unambiguous item phrasing, and a standardized Likert scoring key (ranging from 1 to 5), eliminating subjective interpretation during scoring. The finalized 35-item scale was subsequently deployed in the standardization experiment across 150 board members, followed by computerized data processing using SPSS.

RESEARCH RESULTS

The primary empirical objective of the standardization phase was to determine the descriptive statistical properties of the Entrepreneurial Leadership Scale, construct standardized score conversion matrices (Z-scores and adjusted T-scores), and establish normative performance cutoffs for board members of Iraqi Stars League clubs.

The descriptive statistics obtained from the standardization sample (N = 150) are summarized in Table 10. The sample achieved an arithmetic mean of M = 97.8200 with a standard deviation of SD = 9.4656. The median was Mdn = 96.0000, and the skewness coefficient was 0.6030, indicating that the response distribution closely conforms to the standard bell-shaped normal curve, with observed scores ranging between a minimum of 80.00 and a maximum of 122.00.

Table 10. Descriptive Statistics of the Final Entrepreneurial Leadership Scale in the Standardization Sample (N = 150)

Scale Variable	Sample Size (N)	Mean (M)	Standard Deviation (SD)	Median (Mdn)	Skewness Coefficient
Entrepreneurial Leadership Characteristics	150	97.8200	9.4656	96.0000	0.6030

To transform raw scores into standardized, interpretable psychometric metrics, standard Z-scores were calculated using the standard formula: Z = (X - M) / SD. Because Z-scores possess negative values and decimal fractions, linear normalization was performed to derive standardized T-scores using the formula: T = 50 + 10(Z). The complete standardized score conversion table across the empirical score distribution (from 80 to 122) is presented in Table 11.

Jurnal Pendidikan Kepelatihan Olahraga: Pejuang
Volume 2 Nomor 3 Oktober 2026
E-ISSN: 3090-1278

Table 11. Standardized Norm Conversion Table (Raw Scores, Standard Z-Scores, and Normalized T-Scores)

Seq.	Raw Score	Z-Score	T-Score	Seq.	Raw Score	Z-Score	T-Score
1	80	-1.8826	31.17	24	104	+0.6529	56.53
2	81	-1.7769	32.23	25	105	+0.7585	57.59
3	82	-1.6713	33.29	26	106	+0.8642	58.64
4	83	-1.5657	34.34	27	107	+0.9698	59.70
5	84	-1.4600	35.40	28	108	+1.0755	60.75
6	85	-1.3544	36.46	29	109	+1.1811	61.81
7	87	-1.1431	38.57	30	110	+1.2868	62.87
8	88	-1.0374	39.63	31	111	+1.3924	63.92
9	89	-0.9318	40.68	32	112	+1.4981	64.98
10	90	-0.8262	41.74	33	114	+1.7093	67.09
11	91	-0.7205	42.79	34	115	+1.8150	68.15
12	92	-0.6149	43.85	35	116	+1.9206	69.21
13	93	-0.5092	44.91	36	117	+2.0263	70.26
14	94	-0.4036	45.96	37	118	+2.1319	71.32
15	95	-0.2979	47.02	38	119	+2.2376	72.38
16	96	-0.1923	48.08	39	120	+2.3432	73.43
17	97	-0.0866	49.13	40	122	+2.5545	75.55
18	98	+0.0190	50.19	-	-	-	-
19	99	+0.1247	51.25	-	-	-	-
20	100	+0.2303	52.30	-	-	-	-
21	101	+0.3360	53.36	-	-	-	-
22	102	+0.4416	54.42	-	-	-	-
23	103	+0.5472	55.47	-	-	-	-

Based on the properties of the standard normal distribution curve, the sample was partitioned into five normative performance tiers: Very Good (+2.0 SD and above), Good (+1.0 to +1.99 SD), Average (-0.99 to +0.99 SD), Acceptable (-1.0 to -1.99 SD), and Poor (-2.0 SD and below). The observed frequencies and percentage distributions of the standardization sample across these five tiers are delineated in Table 12.

Table 12. Normative Performance Levels, Standardized Score Ranges, Frequency, and Percentage Distribution (N = 150)

Performance Level	Theoretical %	Raw Score Range	Standard Z Range	Standard T Range	Frequency (n)	Observed %
Very Good	2.14%	≥ 117	≥ +2.026	≥ 70.26	7	4.66%
Good	13.59%	108 – 116	+1.075 to +1.920	60.75 – 69.21	20	13.33%
Average	68.27%	89 – 107	-0.931 to +0.969	40.68 – 59.70	105	70.00%
Acceptable	13.59%	79 – 88	-1.880 to -1.037	31.17 – 39.63	18	12.00%
Poor	2.14%	≤ 78	< -1.880	< 31.17	0	0.00%

Total	100.00%	80 – 122	-1.88 to +2.55	31.17 – 75.55	150	100.00%

The empirical distribution in Table 12 demonstrates that the vast majority of Iraqi Stars League board members (70.00%, n = 105) fall within the 'Average' category, followed by 'Good' (13.33%, n = 20), 'Acceptable' (12.00%, n = 18), and 'Very Good' (4.66%, n = 7). Notably, not a single participant fell within the 'Poor' tier (0.00%, n = 0). Combined, 87.99% of board members demonstrated average, good, or very good entrepreneurial leadership qualities, corroborating the foundational administrative capacity within Iraqi professional football clubs.

DISCUSSION

The empirical findings of this study demonstrate that the newly constructed 35-item Entrepreneurial Leadership Scale possesses high psychometric rigor, enabling objective measurement and standardization of administrative leadership competencies in elite sports governance. The distribution of participants across normative levels—where 70.00% occupied the Average category, 13.33% achieved Good, 4.66% reached Very Good, and 0% were classified as Poor—reveals an encouraging baseline of managerial competence among Iraqi Stars League board members.

The prominent concentration of scores within the Average and Good tiers reflects the ongoing professional transformation within Iraqi football. Following recent institutional reforms, commercial broadcasting partnerships, and mandatory AFC club licensing criteria, board members have been increasingly compelled to transcend obsolete administrative routines. As Ghassan Muhammad Sadiq (1990) emphasized, leadership characteristics play a decisive role in the advancement of organizations and societies because they equip individuals with the vision and agency to move beyond bureaucratic inertia. In sports organizations, entrepreneurial traits do not develop in a vacuum; rather, they are forged through continuous interaction between organizational demands, crisis mitigation, and strategic goal setting (Chelladurai & Kerwin, 2018; Ratten, 2020).

The complete absence of participants in the 'Poor' category (0.00%) is particularly revealing. This outcome can be attributed to the rigorous sociopolitical and electoral vetting processes through which club board members are chosen in Iraq. Individuals elected to club administrative bodies typically possess accumulated athletic experience, professional credibility, or commercial acumen, which shields the executive tier from individuals completely lacking leadership efficacy. Furthermore, the high stakes associated with Iraqi Stars League competition—where club boards are subjected to immense public scrutiny, media coverage, and performance accountability from supporter bases—instills a persistent imperative for executive diligence.

A detailed examination of domain interrelationships elucidates the operational dynamics of entrepreneurial leadership. Problem-Solving Competence demonstrated the strongest correlation with the overall scale (r = 0.805, 10 items), underscoring that crisis resolution is the paramount daily responsibility of sports administrators in developing professional leagues. Board members frequently confront acute challenges, including unexpected cash flow deficits, player transfer disputes, disciplinary controversies, and stadium logistics. Directors who possess superior analytical

problem-solving competencies can navigate these crises without destabilizing the athletic program (Escamilla-Fajardo et al., 2020).

Strategic Leadership emerged as the second most influential domain (r = 0.711, 6 items). In professional sports clubs, entrepreneurial leadership cannot function merely as an individual trait; it requires the capacity to inspire administrative colleagues, delegate operational authority, and articulate a coherent long-term strategic vision (Caza, 2012; Covin & Slevin, 2017). This alignment is critical in clubs navigating the transition toward corporate commercialization under the Iraqi Stars League framework.

Calculated Risk-Taking (r = 0.677, 6 items) and Creativity & Innovation (r = 0.589, 6 items) represent vital drivers of competitive differentiation. Traditionally, Iraqi clubs relied almost exclusively on governmental subsidies and ministry allocations. In modern professional sport, however, entrepreneurial leaders must undertake calculated financial and organizational risks, such as investing in private youth academies, negotiating commercial shirt sponsorships, and developing club merchandise infrastructure. As Kuratko (2017) highlighted, entrepreneurial management hinges on the calculated willingness to commit resources to unproven opportunities while managing downside vulnerability.

Finally, Perseverance and Tenacity (r = 0.319, 7 items) provides the psychological resilience required to sustain long-term strategic initiatives amidst short-term athletic setbacks. As Bandura (1986) noted in social cognitive theory, entrepreneurial characteristics shape an individual's self-efficacy and behavioral persistence through continuous social learning and experiential adaptation. When board members cultivate perseverance within the executive culture, clubs maintain stability through inevitable match losses, managerial turnover, and competitive turbulence.

In summary, the development of this standardized instrument addresses an essential empirical gap identified in the literature, providing the Ministry of Youth and Sports, the Iraqi Football Association, and the clubs themselves with an objective psychometric tool to evaluate executive capacity, identify institutional vulnerabilities, and guide targeted managerial training.

CONCLUSIONS AND RECOMMENDATIONS

Based on the psychometric construction and standardization findings of this study, the following conclusions were reached:

1. A specialized multidimensional scale measuring the entrepreneurial leadership characteristics of board members of clubs in the Iraqi Stars League was successfully constructed, validated, and standardized across five core domains comprising 35 finalized items.
2. The standardized scale demonstrated superior psychometric properties, characterized by high content validity (χ^2 = 17.000, $p < 0.001$), pronounced discriminant validity across all items ($p < 0.001$), substantial split-half reliability corrected via the Guttman formula (r = 0.756), and exceptional internal consistency (Cronbach's α = 0.991).
3. The overall distribution of board members across normative tiers revealed that 87.99% operate within the Average (70.00%), Good (13.33%), and Very Good (4.66%) categories, with a complete absence of participants in the Poor category (0.00%),

demonstrating a robust foundational level of administrative capability across the league.

4. Standardized Z-score and T-score conversion matrices were successfully established, providing an objective psychometric benchmark for administrative evaluation and developmental diagnosis in Iraqi professional sports governance.

In light of the obtained conclusions, the following actionable recommendations are proposed:

1. Formal adoption and regular implementation of the standardized Entrepreneurial Leadership Scale by Iraqi Stars League clubs, the Iraqi Football Association, and the Ministry of Youth and Sports as an objective diagnostic tool for assessing administrative competence.
2. Establishment of specialized executive training institutes and intensive professional development workshops focused on cultivating calculated risk-taking, modern commercial sports entrepreneurship, and creative problem-solving among club board members.
3. Creation of supportive internal organizational climates within sports clubs that empower administrative personnel to propose, test, and implement innovative managerial and commercial initiatives without punitive fear of operational failure.
4. Encouraging sports club boards to transition from state-dependent administrative models toward autonomous commercial enterprise models by leveraging entrepreneurial marketing, youth academy monetization, and strategic brand management.
5. Conducting future empirical research to cross-validate and standardize the scale across other athletic federations, women's sports clubs, and regional sports directorates throughout Iraq and the Arab world.

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