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Evaluating Graduate Employment Quality through AHP-Entropy and Fuzzy Synthesis: Evidence from Lingang New Area of China (Shanghai) Pilot Free Trade Zone

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Abstract: *This study develops a comprehensive evaluation framework for university graduate employment quality, encompassing five dimensions—career development, job stability, compensation and benefits, job satisfaction, and skill alignment—supported by 25 specific indicators. By integrating the Analytic Hierarchy Process (AHP), the entropy weight method, and a fuzzy comprehensive evaluation, an empirical analysis was conducted on a sample of 167 graduates employed by enterprises in the Lingang area. The results indicate a moderately high overall employment quality score of 3.6729 (on a 5-point scale). Among the primary dimensions, job stability (3.8835) and job satisfaction (3.8413) received the highest scores, followed by compensation and benefits (3.7024), career development (3.5637), and skill alignment (3.5239). Furthermore, employment quality was significantly higher for graduates in leading industries such as artificial intelligence and integrated circuits, as well as those in R&D positions. A comparison across educational levels revealed that employment quality scores followed a descending order of doctoral > master's > associate > bachelor's degrees. Based on these findings, targeted optimization recommendations are proposed for government, universities, and enterprises.*

Keywords: *Employment Quality; Ahp-Entropy Weight Method; Fuzzy Comprehensive Evaluation; Lingang Enterprises; University Graduates*

1. Introduction

Against the backdrop of the ongoing massification of higher education, the continuous increase in university graduates has imposed higher demands on both educational quality and its alignment with the job market. As a national strategic hub, the Lingang New Area has clustered cutting-edge industries such as integrated circuits and artificial intelligence, creating an urgent demand for highly skilled talent. However, existing employment evaluation systems predominantly rely on single indicators, which fail to comprehensively reflect the multidimensional nature of employment quality. To address this gap, this study constructs an AHP-Entropy Weight-Fuzzy Comprehensive Evaluation Composite Model, aiming to provide a scientific basis for talent cultivation and policy formulation in the Lingang region.

2. Literature Review

Research on evaluating the quality of employment for college graduates has evolved from conceptual development to the establishment of frameworks and integration of methodologies. In the 1970s, the International Labour Organization introduced the concept of "decent work," laying the foundation for the notion of employment quality[1]. Domestic scholars such as Liu Suhua[2] and Ke Yu[3] have respectively established evaluation systems encompassing dimensions like employment conditions and work environment, as well as frameworks centered on core factors such as compensation levels and professional fit.In terms of evaluation methodologies, there has been a gradual shift from single methods toward composite models. For instance, Huang Bizhu[4] employed the Analytic Hierarchy Process (AHP) to determine weights, while Li Wen[5] et al. introduced the Entropy Weight-TOPSIS method. Peng Jianzhang et al. utilized the Fuzzy Comprehensive Evaluation method to convert qualitative language into quantitative assessments, thereby addressing the shortcomings of traditional approaches in quantifying qualitative indicators[6].However, existing research has limitations when adapting to employment scenarios with distinct industrial characteristics and regional

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features. Therefore, constructing a composite model integrating the Analytic Hierarchy Process (AHP), Entropy Weight Method, and Fuzzy Comprehensive Evaluation Method is crucial for achieving regionalized, precise, and systematic evaluation of employment quality.

3. Research Design

3.1 Development of Evaluation Indicator System

Based on literature analysis and the characteristics of the Lingang industry, a five-criterion framework was established, encompassing career development (Q7-Q11), job stability (Q12-Q16), compensation and benefits (Q17-Q21), job satisfaction (Q22-Q26), and skill alignment (Q27-Q31). Specific criteria include: Q10 Career Planning Alignment, Q11 Certification Support, Q12 Job Task Stability, Q13 Business Stability, Q14 Labor Contract Compliance, Q15 Policy Assistance, Q16 Job Transition Security, Q17 Monthly Salary Alignment, Q18 Incentive Pay Transparency, Q19 Benefit Contribution Status, Q20 Specialized Benefit Quality, Q21 Talent Subsidy Coverage, Q22 Work-Life Balance, Q23 Team Collaboration Efficiency, Q24 Environmental Safety Assurance, Q25 Career Aspiration Responsiveness, Q26 Lifestyle Convenience, Q27 Knowledge-Skill Alignment, Q28 Skill Matching, Q29 Technical Proficiency, Q30 Innovative Thinking Alignment, Q31 Collaborative Ability Suitability. Additionally, it includes two overall evaluations: Q32 Employment Quality Evaluation and Q33 Corporate Talent Attractiveness.

3.2 Research Methodology

3.2.1 Determining Subjective Weights Using the AHP Method

The AHP method constructs a hierarchical evaluation framework, decomposing the comprehensive evaluation objectives for employment quality of Lingang college graduates into 5 criterion levels and 25 indicator levels. Integrating the talent demand characteristics of Lingang New Area's dominant industries—including integrated circuits, artificial intelligence, and biomedicine—six experts familiar with Lingang's industrial development and university talent cultivation were invited. Using a 1-9 rating scale, they conducted pairwise comparisons of indicators across each level to construct a judgment matrix:

$$A = (a_{ij})_{n\times n} \tag{1}$$

n denotes the number of indicators within a hierarchy, and a_{ij} represents the importance ratio of the i-th indicator relative to the j-th indicator. The matrix satisfies reciprocity and reflexivity.The weight calculation employs the eigenvalue method, with the following specific steps:

① Normalize each column of the judgment matrix A to obtain the normalized matrix:

$$B = a_{ij} / \sum_{k=1}^{n} a_{kj} \tag{2}$$

②Sum the rows of B to obtain the row sum vector:

$$V = \sum_{j=1}^{n} B_{ij} \tag{3}$$

③Perform V-normalization to obtain the eigenvectors:

$$W = V_i / \sum_{j=1}^{n} V_j \tag{4}$$

④Calculate the maximum eigenvalue λ_{max} :

$$\lambda_{max} = \frac{1}{n}\sum_{i=1}^{n}\frac{(AW)_i}{w_i} \tag{5}$$

AW denotes the product of matrix A and its eigenvector W .

⑤Consistency Test: Calculation Formulas for Consistency Index CI and Consistency Ratio CR :

$$CR = CI / RI \tag{6}$$

$$CI = (\lambda_{max} - n) / (n - 1) \tag{7}$$

RI (Random Index of Consistency) is a standard value obtained by consulting the standard value table based on the matrix order n .When CR < 0.1, the matrix passes the consistency test, indicating that the weights are reasonable. This method yields the weights of the criterion layer relative to the objective layer and the subjective weights of the indicator layer relative to its corresponding criterion layer (after normalization, the sum of indicator weights under each criterion equals 1).

3.2.2 Determining Objective Weights Using the Entropy Weighting Method

The Entropy Weighting Method, based on 167 valid questionnaires regarding the employment quality of graduates from universities in Lingang, quantifies objective weights through the dispersion of indicator data. This approach addresses the limitation of the Analytic Hierarchy Process (AHP) method, which relies heavily on expert subjective judgment. The calculation steps are as follows:

① Data Standardization: Since employment quality indicators have different measurement scales and are all positive indicators (higher scores indicate better employment quality), the range standardization formula is applied to eliminate the influence of measurement scales:

$$x'_{ij} = x_{ij} - \min(x_j) / \max(x_j) - \min(x_j) \tag{8}$$

x_{ij} denotes the raw value of the j-th indicator for the i-th graduate， $\max(x_j)$ 、$\min(x_j)$ represent the maximum and minimum values of the respective indicators. After standardization, $x'_{ij} \in [0,1]$.

② Calculate the weight:The proportion of the i-th sample under the j-th indicator is as follows:

$$p_{ij} = x'_{ij} / \sum_{i=1}^{m} x'_{ij} \tag{9}$$

③ Calculate information entropy: The formula for the information entropy of the j-th indicator is as follows:

$$e_j = -k \sum_{i=1}^{m} p_{ij} \ln p_{ij} \tag{10}$$

$k = 1/\ln m$ is the normalization coefficient ensuring $e_j \in [0,1]$.

④ Calculate the objective weight w'_j for the j-th indicator using the formula:

$$\mathrm{w}'_j = (1 - e_j) / \sum_{j=1}^{n} (1 - e_j) \tag{11}$$

3.2.3 Fuzzy Comprehensive Evaluation

The fuzzy comprehensive evaluation method is employed to handle fuzzy linguistic variables in employment quality assessment. By integrating weights derived from the Analytic Hierarchy Process (AHP) and entropy weighting method, it converts qualitative evaluations into quantitative scores. This approach enables comprehensive quantification of employment quality for graduates from Lingang universities, forming a complete evaluation loop. Calculation steps:① Construct a fuzzy evaluation matrix: Based on the five-level rating scale in the questionnaire ("Very Satisfied, Satisfied, Average, Dissatisfied, Very Dissatisfied"), define the evaluation level set $V = \{v_1, v_2, v_3, v_4, v_5\}$, and assign it the corresponding score vector $(5,4,3,2,1)$ .The set of evaluation metrics is denoted as $U = \{u_1, u_2, \ldots, u_n\} (n = 25)$ .Using fuzzy statistics, calculate the membership degree $r_{ij} = f_{ij} / m$ for the frequency f_{ij} of selecting the j-th evaluation level v_j for the i-th indicator u_i among m valid questionnaires. Finally, arrange the membership degree vectors of all indicators in rows to construct the

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fuzzy evaluation matrix $R=(r_{ij})_{n\times 5}$; ② Calculate combination weights: Multiply the AHP partial weight of each indicator by the criterion layer weight of its corresponding criterion to obtain the AHP subjective weight wj used for combination calculations. Second, the weighting coefficient α=0.5 is adopted to ensure that subjective expert judgments carry equal weight with objective data characteristics. A linear weighted combination formula is applied:

$$w_j^{''}=\alpha w_j+(1-\alpha)w_j^{'} \tag{12}$$

w_j is the subjective weight in AHP, and $w_j{'}$ is the objective weight in the entropy weight method. To ensure the sum of all indicator weights equals 1, the weight vector for the $w_j^{''}$ combination undergoes normalization processing:

$$\overline{w}_j=w_j''/\sum_{j=1}^{n}w_j'' \tag{13}$$

③ Fuzzy Synthesis and Score Calculation: Employing the weighted average method for fuzzy synthesis operations, the fuzzy evaluation vector B is obtained:

$$B=\overline{W}\circ R \tag{14}$$

$\overline{W}=[\overline{w}_1,\overline{w}_2,\ldots,\overline{w}_{25}]$ is the normalized composite weight vector for all indicators,"∘" denotes matrix multiplication. The composite score S is calculated through the dot product of B and the grade value V. Based on the S score, evaluations are categorized into five levels: ≥4 is Excellent; 3.5 ≤ score < 4 is Above Average; 3 ≤ score < 3.5 is Average; 2 ≤ score < 3 is Needs Improvement; Below 2 is Poor. The specific formula is given below:

$$S=B\cdot V^T \tag{15}$$

4. Empirical Analysis

4.1 Data Sources and Sample Characteristics

The data for this study were derived from 167 valid questionnaires completed by college graduates employed at Lingang enterprises, along with an AHP judgment matrix scoring sheet completed by six experts using a 1-9 scale. Key findings by module: - Biotechnology and new energy industries shared the highest job share (15.00%) - R&D positions accounted for 24.00% - Bachelor's degree holders constituted 49.70% - Industry-aligned majors represented 64.70% - Employees with 1 year or less experience made up 35.30% - Online recruitment platforms facilitated 25.70% of hires. The reliability and validity tests revealed that the overall Cronbach's α coefficient for the questionnaire was 0.893. The Cronbach's α coefficients and KMO values for all five guideline levels exceeded 0.7, and the Bartlett's test results were significant (p<0.001), indicating that the reliability and validity standards were met.

4.2 Consistency Test

Table 1: Consistency Test Results for the Guideline Layer Judgment Matrix

Expert	λmax	CI	CR
1	5.0331	0.0083	0.0074
2	5.1933	0.0483	0.0432
3	5.0873	0.0218	0.0195
4	5.0331	0.0083	0.0074
5	5.2344	0.0586	0.0523
6	5.0715	0.0179	0.0160

Table 1 shows that the consistency ratio (CR) of the criterion-level judgment matrix for all six experts is below the 0.1 threshold, indicating good consistency in expert scoring. The judgment matrix passes the test. Table 2 shows that both the average and maximum CR values for each criterion are below the 0.1 threshold, indicating that experts also demonstrate good logical consistency in the

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indicator-level judgments.

Table 2: Consistency Ratio Statistics for the Indicator Layer Judgment Matrix

Criterion	CR Mean	CR Standard Deviation	CR Minimum	CR Maximum
Career Development	0.0353	0.0130	0.0196	0.0552
Job Stability	0.0810	0.0089	0.0744	0.0989
Compensation and Benefits	0.0610	0.0081	0.0463	0.0713
Job Satisfaction	0.0547	0.0165	0.0366	0.0754
Skill Alignment	0.0749	0.0175	0.0636	0.0993

4.3 Brief Analysis of Overall Employment Quality Evaluation Data Based on AHP-Entropy Weighting Method and Fuzzy Comprehensive Evaluation Method

Overall Employment Quality Evaluation Results (Maximum Score: 5): The comprehensive employment quality score for Lingang college graduates is 3.6729, indicating an “above-average” level. The component scores are as follows: Career Development (3.5637), Job Stability (3.8835), Compensation and Benefits (3.7024), Job Satisfaction (3.8413), and Skill Matching (3.5239). Job Stability emerged as the highest-performing criterion level.

Fuzzy Evaluation Vector for Employment Quality: Membership degrees for each rating level are as follows: Very Dissatisfied: 0.0001 Dissatisfied: 0.0366 Average: 0.4078 Fairly Satisfied: 0.4013 Very Satisfied: 0.1542 Thus, the “Average” and “Fairly Satisfied” ratings account for the highest proportion.

Table 3 shows: First, under the skill matching criterion, Q31 (0.0960) is the most important evaluation factor among all indicators; under the career development criterion, Q10 (0.0788) has a significantly higher composite weight than other indicators under the same criterion, while Q11 (0.0186) has the lowest composite weight; under the job satisfaction criterion, Q24 becomes the core indicator with a composite weight of 0.0732. Under the compensation and benefits criterion, Q19 (0.0540) and Q21 (0.0528) have relatively high weights, while Q17 (0.0119) has the lowest weight. Under the job stability criterion, Q15 (0.0407) has the highest composite weight within this criterion layer, and Q16 (0.0153) has the lowest. Second, Q14 (4.5868) in the Job Stability criterion layer, Q19 (4.4790) in the Compensation and Benefits criterion layer, and Q24 (4.2335) in the Job Satisfaction criterion layer were the three highest-scoring indicators overall. Their standard deviations were also relatively low at 0.4924, 0.4996, and 0.4231 respectively. indicating small data dispersion, suggesting generally strong performance across these indicators with minimal inter-company variation. Third, Q22 (2.8144 points) in the job satisfaction criterion layer scored the lowest among all indicators, with a standard deviation of 0.5539. This relatively concentrated data reflects overall weak performance for this indicator. Within the compensation and benefits criterion layer, Q18 (3.1018 points) and Q20 (3.2515 points) scored significantly lower than Q19 and Q21 in the same layer, exhibiting a pattern of “strong basic benefits but weak incentive benefits.”

Table 3: Summary of Comprehensive Weighting and Scoring for Indicators

Criteria Layer	Indicator Layer Code	AHP Global Weight	Entropy Weight Method Weights	Comprehensive Weights	Average Score	Standard Deviation
Career Development	Q7	0.0503	0.0204	0.0353	3.5988	0.7427
Career Development	Q8	0.0917	0.0170	0.0544	3.4910	0.6274
Career Development	Q9	0.0331	0.0204	0.0268	3.5629	0.7304
Career Development	Q10	0.0371	0.1204	0.0788	3.6228	0.6153
Career Development	Q11	0.0154	0.0218	0.0186	3.4611	0.7238
Job Stability	Q12	0.0080	0.0472	0.0276	3.7126	0.5801
Job Stability	Q13	0.0387	0.0089	0.0238	3.7425	0.7089
Job Stability	Q14	0.0170	0.0539	0.0354	4.5868	0.4924
Job Stability	Q15	0.0159	0.0654	0.0407	3.6707	0.6785
Job Stability	Q16	0.0060	0.0245	0.0153	3.3473	0.8111
Compensation and Benefits Remuneration	Q17	0.0131	0.0107	0.0119	3.5988	0.7427
Compensation and Benefits Remuneration	Q18	0.0798	0.0255	0.0526	3.1018	0.7229

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Compensation and Benefits Remuneration	Q19	0.0346	0.0734	0.0540	4.4790	0.4996
Compensation and Benefits Remuneration	Q20	0.0259	0.0251	0.0255	3.2515	0.787
Compensation and Benefits Remuneration	Q21	0.0402	0.0654	0.0528	3.7485	0.7638
Job Satisfaction	Q22	0.0109	0.0037	0.0073	2.8144	0.5539
Job Satisfaction	Q23	0.0282	0.0358	0.0320	3.7665	0.6829
Job Satisfaction	Q24	0.0472	0.0991	0.0732	4.2335	0.4231
Job Satisfaction	Q25	0.0323	0.0170	0.0247	3.2754	0.7942
Job Satisfaction	Q26	0.0214	0.0444	0.0329	3.6946	0.7068
Skill Alignment Spot-on	Q27	0.0180	0.0555	0.0368	3.6707	0.7130
Skill Alignment Spot-on	Q28	0.1026	0.0203	0.0615	3.1976	0.7679
Skill Alignment Spot-on	Q29	0.0491	0.0519	0.0505	3.6946	0.7068
Skill Alignment Spot-on	Q30	0.0432	0.0203	0.0318	3.1976	0.7679
Skill Alignment Spot-on	Q31	0.1401	0.0519	0.0960	3.6946	0.7068

4.4 Comparison of Employment Quality Across Industries, Job Types, and Educational Levels

① Industry Type: The artificial intelligence industry achieved the highest average employment quality score (3.7483, above average), followed by integrated circuits (3.6035), biopharmaceuticals (3.6304), high-end equipment manufacturing (3.6867), new energy (3.6656), and “other” industries (3.5000) all scored above average. Modern services recorded the lowest score (3.4133, average). Overall, employment quality in dominant industries outperformed non-dominant industries. ② Job Type: R&D positions scored exceptionally high at 4.1580, significantly higher than operations management (3.7400, upper-medium), production and manufacturing roles (3.5914, upper-medium), marketing and sales roles (3.3434, medium), and functional support roles (3.3214, medium). “Other” job types scored lowest (2.9343, needs improvement). Job technical content positively correlates with employment quality. ③ Educational Level: Employment quality follows the distribution pattern of Doctorate (4.9000, Excellent) > Master’s (3.9026, Above Average) > Vocational College (3.3686, Average) > Bachelor’s (3.3051, Average), with bachelor’s graduates scoring slightly lower than vocational college graduates.

5. Results and Discussion

(1) Overall Assessment of Employment Quality: The comprehensive score for employment quality among Lingang graduates was 3.6729 (out of 5), indicating an overall “above average” level. The distribution of affiliation scores reveals a “central concentration with dispersion at both ends” pattern in graduates’ employment quality evaluations: over 80% of responses clustered around the ‘average’ and “fairly satisfied” ratings, while only 15.42% indicated “highly satisfied.” This suggests that most graduates generally accept their current employment status, though it falls short of meeting their higher-level career development aspirations.

(2) Analysis of Evaluation Results Across Dimensions: Among the five evaluation dimensions, job stability and job satisfaction scored highest, reflecting Lingang enterprises’ relatively robust practices in labor contract standardization and environmental safety safeguards. The compensation and benefits dimension scored relatively low, with notable deficiencies in incentive pay transparency and specialized benefit quality, revealing a structural weakness characterized by “strong foundational support but weak incentives.” Skill alignment and career development scored at moderate levels, indicating that graduates’ skills generally match job requirements, though room for improvement exists in career advancement pathways and ongoing development support.

(3) Analysis of Industry and Job Type Differences: Employment quality in leading industries like artificial intelligence and integrated circuits generally surpasses that of traditional sectors such as modern services. Technical R&D positions ranked highest with a score of 4.1580, earning an

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"Excellent" rating, while market sales and functional support roles scored lower. Other job types even received a "Needs Improvement" rating. This indicates a positive correlation between job technical complexity and employment quality, demonstrating that Lingang's industrial upgrading significantly drives the absorption of highly skilled talent and enhances employment satisfaction.

(4) Relationship between Academic Level and Employment Quality: Employment quality across different academic levels follows the distribution pattern of doctoral graduates > master's graduates > associate degree holders > bachelor's graduates. Doctoral graduates achieved the highest employment quality (4.9000), followed by master's graduates (3.9026). Meanwhile, the score for bachelor's graduates (3.3051) fell below that of associate degree holders (3.3686). This indicates a gap between individual employment expectations of bachelor's graduates and market realities, as well as a structural mismatch between regional talent cultivation and industrial demands. This requires joint attention from both higher education institutions and employers.

6. Policy Recommendations

6.1 Government Level: Strengthen Synergy Between Industrial and Talent Policies to Enhance Employment Quality

It is recommended that the Lingang New Area integrate employment quality enhancement into its industrial policy framework. First, when implementing tax incentives and individual income tax subsidies for key industries, clear transmission mechanisms should be established to incentivize enterprises to convert policy benefits into tangible investments in human capital. This includes optimizing compensation structures, developing transparent short- and long-term incentive mechanisms, and systematically constructing welfare systems encompassing affordable housing, healthcare access, and family support programs to address the issue of inadequate incentives despite strong foundational safeguards. Second, industrial development policies should align with talent upgrading objectives. By leveraging regional talent initiatives to continuously expand access to cutting-edge technology application scenarios and providing startup funding, the creation of high-value employment opportunities can be accelerated. Simultaneously, enterprises should be encouraged to utilize the "International Data Economy Industrial Development Service Package"[7] to enhance operational capabilities, thereby creating more high-value positions. This will foster a virtuous cycle where "high-quality industries attract top talent, and top talent drives industrial upgrading."

6.2 University Level: Deepen Industry-Education Integration and Career Education to Enhance Talent Alignment

Universities should actively establish partnerships with key enterprises in the Lingang New Area to jointly build training bases and collaborative laboratories. Institutions can also effectively integrate learning outcomes from "order-based classes" and project-based practices into their curricula and credit systems. During teaching implementation, universities should closely align with the list of urgently needed occupations published by the Lingang region, actively promoting the "integration of courses and certifications"—that is, the deep integration of curricula with vocational qualification certificates—to help students obtain market-recognized skill certificates and thereby enhance their skill alignment and starting salary competitiveness. Additionally, universities should prioritize career planning education for undergraduate students. By introducing corporate mentors and organizing visits to Lingang enterprises, institutions can guide students in setting realistic employment expectations while encouraging them to pursue technical R&D roles and emerging industry sectors. This educational approach not only deepens students' understanding of industry demands but also ignites their interest and passion for specific career fields, laying a solid foundation for their professional development.

6.3 Corporate Level: Focusing on Incentives and Development to Enhance Talent Belonging

Enterprises should implement systematic improvements to address structural issues identified in the study, such as "strong basic safeguards but weak incentives" and obstructed career advancement pathways. First, enterprises should proactively integrate into Lingang's "funds + base"[8] industrial ecosystem and actively connect with park platform resources. Building on this foundation, they should strive to establish an "incentive-driven development" compensation and benefits system: significantly enhance the transparency and fairness of short-term incentives by disclosing performance calculation standards and optimizing bonus distribution mechanisms; simultaneously integrate regionally

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distinctive benefits such as talent apartments, commuting support, and health care to systematically enhance the overall perceived value of benefits. Enterprises should, secondly, dismantle single-track career progression constraints by instituting a dual-path development framework that integrates technical and managerial tracks. Specifically, this framework ought to incorporate industry-aligned, on-the-job training programs and certifications—particularly for Lingang's priority sectors (e.g., artificial intelligence, integrated circuits)—to systematically enhance employees' skill-job compatibility and long-term career potential. Through synergistic optimization of compensation incentives and career development mechanisms, talent's sense of belonging, competitiveness, and long-term retention intent can be comprehensively enhanced, fostering a virtuous cycle where 'industry empowers talent, and talent in turn nurtures the enterprise.'

7. Conclusion

The AHP-Entropy Weight Method-Fuzzy Comprehensive Evaluation Model developed in this study effectively achieves multidimensional monitoring of employment quality for graduates from universities in the Lingang area. Results indicate that overall employment quality is satisfactory, though room for improvement remains in compensation incentives and career development. It is recommended to establish a closed-loop mechanism of "monitoring-feedback-optimization" to continuously enhance regional talent employment quality.

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References

[1] Szirony G M, Kontosh L G. Workplace issues and placement: What is high quality employment?[J]. Work, 2007, 29(4): 357-358.
[2] Liu S H. Steps and methods for establishing a quantitative evaluation system of employment quality in China[J]. Population & Economics, 2005, (6): 36-40.
[3] Ke Y. Construction of evaluation index system for employment quality of college graduates[J]. China Higher Education Research, 2007, (7): 82-84.
[4] Huang B Z. Research on Employment Quality of Vocational College Graduates[D]. Tianjin University, 2017.
[5] Li W, Zhong Y T. Current situation evaluation of employment quality of college graduates staying in Jiangxi—Based on entropy weight-TOPSIS method[J]. Journal of Ningbo Open University, 2025, 23(01): 58-63+67.
[6] Peng J Z, Ao X H, Wang X. An empirical study on the evaluation system of employment work quality of college graduates based on fuzzy comprehensive evaluation method[J]. Journal of North China Electric Power University (Social Sciences), 2015, (02): 127-133.
[7] National Development and Reform Commission. Shanghai Lingang New Area releases service package for international data economy industry development, helping enterprises ride the waves in the international data blue ocean[EB/OL].(2025-09-08)[2025-11-20].https://www.ndrc.gov.cn/xwdt/ztzl/xhyshj/dfdt/202509/t20250910_1400393. html
[8] Shanghai Municipal Commission of Economy and Informatization. Build and share, coexist and win-win! 2025 Lingang Group Industrial Ecology Conference Held[EB/OL].(2025-09-08)[2025-11-20].https://www.shanghai.gov.cn/nw31406/20250908/9550c892d74e47c0a2e8765318d10fcd.html.