

Research on the Evaluation and Countermeasures of College Students' Employment Environment Based on Entropy Weight TOPSIS Method

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Abstract: Currently, with the continuous strengthening of China's economic strength, the country's emphasis on talent cultivation and demand is increasing. This article is based on the entropy weight TOPSIS method to construct an effective evaluation system for the employment environment of college students, aiming to provide a comprehensive and objective assessment of the current employment environment faced by college students. Taking a certain university as an example, this paper evaluates the current employment environment for college students by combining the entropy weight TOPSIS method, and proposes relevant employment guidance strategies, in order to provide scientific basis and reference opinions for college students' employment and career choices, improving the quality of college students' employment, and effectively optimize the employment environment for college students.

Keywords: Entropy Weight TOPSIS Method; Employment Environment for College Students; Evaluation System; Countermeasure Research

1. Introduction

At present, with the continuous deepening and popularization of higher education in China, the social economy has developed rapidly. Among them, due to various employment and career selection issues faced by college students, the employment situation is not ideal, and the employment problem of college students has become one of the key focuses of current society. Currently, for college students, due to the complex and ever-changing employment environment, they lack life planning and career awareness, which leads to difficulties in making decisions when choosing

employment and career choices. Therefore, in order to improve the employment efficiency of college students and optimize the employment environment for college students, it is necessary to understand college students objectively and comprehensively. By constructing a scientific evaluation system for the employment environment, such as using the entropy weight TOPSIS method to identify the key factors that affect college students' difficulty in finding employment, and based on this, propose targeted solutions to effectively alleviate the employment pressure of college students and improve their employment quality.

2. Evaluation of Employment Environment for College Students Based on Entropy Weight TOPSIS Method

2.1 Entropy Weight TOPSIS Method

Entropy weighting method is currently a common weighting method with good objectivity. It mainly divides different weights by calculating the information entropy of evaluation indicators, and further objectively and scientifically reflects the direct differences and utility value between relevant data and relevant information. TOPSIS is a multi-attribute decision analysis model that ranks the objects to be evaluated by calculating the degree of difference between ideal and non ideal values. By constructing a decision matrix and effectively processing the raw data, the optimal and worst solutions are obtained. By calculating the distance between the evaluation object and the optimal and worst solutions, the degree of difference interval can be understood. The entropy weight TOPSIS method combines entropy weighting with TOPSIS method, which can comprehensively consider the importance of each evaluation index and the degree of difference with the evaluation index, thereby improving the accuracy and objectivity of

evaluation [1]. Among them, the calculation method of entropy is:

$$H(M) = -K \sum_{i=1}^n P(M_i) \times \ln P(M_i) \quad (1)$$

Among them, k is a coefficient greater than 0 and $\sum_{i=1}^m P(M_j) = 1$

2.2 Evaluation of Employment Environment for College Students Based on Entropy Weight TOPSIS Method

Taking a certain university as an example, when evaluating the employment environment of college students based on the entropy weight TOPSIS method, the first step is to determine the evaluation indicators, that is, to evaluate the cognitive ability, personal comprehensive quality, psychological endurance, practical ability and other aspects of college students' career outlook and career ideals in combination with the current employment environment of college students; Secondly, collect and process data on relevant evaluation indicators, using methods such as questionnaire surveys and

combining historical school employment data to collect and organize the data, and eliminate the impact of differentiation. At the same time, by combining various data and using the entropy weight formula to calculate the entropy weight, the weights of the above evaluation indicators are calculated, effectively reflecting the importance and information content of different evaluation indicators. Finally, the TOPSIS method was used for evaluation. By constructing a decision matrix, the optimal and worst solutions were calculated, and the differences between each evaluation index and the optimal and worst solutions were analyzed and effectively ranked [2].

2.3 Empirical Research

The research subjects are undergraduate students from a certain university from 2023 to 2024. The entropy weight TOPSIS method is used to evaluate the employment environment of college students. The weights of the evaluation indicators are shown in Table 1:

Table 1. Weight Table of Undergraduate Employment Environment Evaluation Indicators in a Certain University from 2023 to 2024

Indicator	cognitive ability	personal quality	psychological quality	practical ability
Weight	0.2341	0.3341	0.2093	0.3421

According to relevant research data, the main factors affecting the employment of college students are related to their practical ability, personal quality, cognitive ability, psychological quality, and other factors. In order to improve the employment efficiency of college students, targeted employment strategies should be developed based on the above evaluation indicators.

3. Research on Employment Strategies for College Students Based on Entropy Weight TOPSIS Method

3.1 Establish a Correct Career Outlook and Career Ideals

Firstly, effective career planning education should be provided to students, and their career planning abilities should be improved through forms such as offering employment guidance courses. In teaching, incorporating career guidance courses into mandatory courses enables students to clarify their personal interests and ideals, have a clear career direction, and establish a correct career outlook during the period from freshman enrollment to senior career choice. Secondly, the school

organizes symposiums on employment to provide students with a new understanding of different types of professions, guiding them to realize that there is no distinction between noble and inferior professions, and allowing them to choose suitable careers based on their own conditions and abilities. Finally, help students establish lofty career ideals and contribute to the country and society. In the process of daily learning and employment guidance, career planning guidance should be provided based on students' actual characteristics to help them more accurately understand their own career development direction.

3.2 Enhance Students' Overall Personal Qualities

For college students, personal comprehensive abilities play an important role in employment. To improve their employability, it is necessary to continuously enhance their personal comprehensive qualities during their university years. Firstly, it is necessary to strengthen professional knowledge and skills. Schools optimize curriculum design by combining professional characteristics to ensure that

students can steadily improve their ability to master professional knowledge during their learning period, and help them stand out in the competition of motivation. Secondly, it is necessary to strengthen the cultivation of students' comprehensive abilities, by conducting general education, enhancing their communication, cooperation, and problem-solving skills, in order to better meet the diversified choices of the market. Finally, it is necessary to provide students with various ways of social practice, such as on campus and off campus internships, volunteer services, etc., to help students understand the employment environment in advance and improve their adaptability.

3.3 Strengthen Employment Psychological Counseling

To enhance the employment environment for college students, it is necessary to strengthen psychological counseling for their employment. By establishing a professional psychological counseling team with "employment guidance" as the core, equipped with professional psychological counselors, we provide personalized employment counseling services for students. At the same time, we regularly provide psychological health education to students, offer compulsory courses on psychological health, hold psychological health lectures, comprehensively popularize employment knowledge and psychological health knowledge, and help students establish a healthy and positive attitude. In addition, we also provide stress management education to students, teach them effective stress management methods, learn to release psychological pressure, regulate emotions, and effectively alleviate various negative emotions that may arise during employment.

3.4 Optimize School Enterprise Cooperation and Enrich Students' Social Practice

To enhance students' employment rate and enable them to choose jobs that are more suitable for themselves, schools should optimize school enterprise cooperation and enrich students' social practice abilities. By deepening the school enterprise cooperation model and establishing long-term and good school enterprise cooperation relationships with relevant enterprises based on the characteristics of professional settings, we will develop a

school enterprise talent training plan to provide students with more choices. At the same time, we provide students with multi platform internship and training opportunities, allowing them to experience real work environments and lay a solid foundation for future employment. In addition, providing innovation and entrepreneurship platforms for students, by creating incubation bases for college students' innovation and entrepreneurship, helping students start businesses, enhancing their innovation abilities, and providing more ideas and directions for future career choices.

4. Conclusion

In summary, based on the entropy weight TOPSIS method to evaluate the employment environment of college students, the results are objective and can provide a more comprehensive understanding of the current employment situation of college students. By adopting a scientific and effective evaluation model, objective factors that affect the employment environment of college students can be effectively identified, and targeted solutions can be proposed based on relevant factors. Therefore, it can be seen that the entropy weight TOPSIS method is of great significance for evaluating the employment environment of college students. Under the evaluation of the entropy weight TOPSIS method, by helping college students establish correct career views and ideals, improving their personal comprehensive quality, strengthening employment psychological counseling, optimizing school enterprise cooperation, enriching students' social practice and other employment strategies, the employment efficiency of college students can be improved, providing effective guidance for college students' employment and entrepreneurship.

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