## Research on Stability of Foreign Talents Based on FAHP

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**Abstract.** With the rapid and international development of China's economy, the demand for international talents is increasing day by day, especially the demand for foreign talents has attracted the attention of regional development. At the same time, the instability of foreign talents is also highlighted. This paper adopts the fuzzy analytic hierarchy process (FAHP) to excavate and analyze the relevant factors affecting the stability of foreign talents, and proposes a stability evaluation model. Firstly, the indicator system of influencing factors is extracted, including 4 first-level indicators and 17 second-level indicators; Secondly, Delphi method and Likert five-level scale are used to determine the first-level and second-level indicators, and the comprehensive weight is calculated to build the evaluation weight system; Finally, taking the survey data of foreign talent stability in Dalian as an example, the model is verified, and the results show that the model provides an effective method for foreign talent stability evaluation.

Index Terms-stability of foreign talent, FAHP, foreign talent, stability research

## **1. Introduction**

With the rapid development of China's economy, the demand for talents is increasing. For foreign talents, China has always been vigorously introducing and promoting various policies and benefits for them, striving to provide a good employment and living environment for foreign talents, and contributing more knowledge and technology to China's development. In order to further increase economic development, China has established 21 pilot free trade zones, including not only large groups, but also the world's top 500, with the most advanced high-tech, and the most convenient policies. At the same time, it also provides a good stage for foreign talents.

Simultaneously, many places in China have attached great importance to the introduction of overseas scientific and technological innovation talents, and have also introduced a series of policies and measures to attract talents to return home and foreign talents. For instance, Shanghai further relaxed the restrictions on age, education and work experience, allowed foreign scientific and technological personnel to work part-time, and recognized highly skilled talents with recognized skills certificates; Guangdong provides foreigners with "four conveniences" in handling relevant work procedures; Tianjin has put forward six preferential conditions to support foreign talents to innovate and start businesses in the Free Trade Zone; Jiangsu has put

forward 19 innovative measures to facilitate the work and life of foreign talents. Similar initiatives have been launched in various parts of China.

However, the stability of foreign talents is a new challenge, and relevant scholars have raised concerns about this issue. Gu Huijuan and Zhang Lihui pointed out that the point-to-point introduction of foreign talents faces many disadvantages such as high introduction cost and poor stability of foreign talents [1]. Huang Jiale and Huang Xiaolin pointed out in his own research that the stability of foreign teachers is poor [2][3]. It can be seen that the stability of foreign talents have given some preferential conditions, but how to make foreign talents settle down and devote themselves to innovation work still needs to further explore the factors that affect the stability of foreign talents.

## 2. Stability factors of foreign talents

Although China has increased its attraction to foreign talents, the current loss rate of foreign talents is also high. For the problem of poor stability of foreign talents, relevant scholars have carried out some in-depth research and found out relevant unstable factors. Wang Lanlan and Li Shijie discussed the relevant issues of "entry, retention and control" of foreign personnel in Hainan Free Trade Port from the perspective of employment system [4]. Ma Wentian drew on Japan's "highly talented" point system and put forward relevant measures to retain foreign talents [5]. Dang Junqi and others took Yiwu Foreign Business Friend Card as an example, and proposed to use foreign resident card to improve stability [6]. Yang Fan and Ren Xinhong have built an integrated foreign talent introduction and management service to provide a certain role in stabilizing foreign talents [7]. Sakai Yuka explicitly put forward in his own research that the external factors affecting the professional development of foreign teachers are social and cultural factors, institutional factors and school factors [8]. Lin Yicong made policies according to the situation from the aspects of legal perfection, operational norms and social security to promote the naturalization of foreign athletes on the track of legalization, standardization and socialization [9]. Cao Xiaoli etc. found that the stability of foreign talents can be improved in terms of introduction channels, legal risk review and evaluation mechanism, assessment mechanism, talent pricing, development platform and funding [10]. According to the situation of foreign talents in Beijing, Gu Xiangdong proposed the one-stop service of "one window acceptance, two licenses joint processing" for foreigners' work permit and residence permit in China [11]. Xue Qihui and Chen Luqi have made a comparative study on the overseas talent problem in Beijing, Tianjin, Shanghai, Hangzhou, Shenzhen, Guangzhou from the aspects of policy object, incentive policy, safeguard policy, development policy, etc., and put forward reasonable suggestions on the stability of foreign talent [12]. From the perspective of foreign postdoctoral management in colleges and universities, Chen Zongchun proposed to increase the stability of foreign talents in terms of service guarantee and cultural exchange [13]. Taking L Community in Yiwu City as an example, Chen Jiansheng proposed that the "resident" integration of foreigners coming to China can better retain talents [14]. By studying the risk management of foreign talents, Gao Ziping proposed to focus on four dimensions: national political and strategic security, employment competition and economic security, cultural identity, and social integration [15].

The above scholars described the factors that affect the stability of foreign talents from different perspectives. Through comparative analysis and summary, the paper concludes four kinds of influencing factors: economic factors, social factors, policy factors, and cultural factors. Economic factors includes: job opportunities, job satisfaction, salary; Social factors: social environment, friendmaking environment, social activity frequency, social network, social acceptance, racial discrimination; policy factors include policies and regulations, healthcare and education, social services, government support, problems of foreign residents; Cultural factors includes: cultural identity, cultural activities, recommend to foreign friends.

## 3. FAHP model description

FAHP evaluation method combines fuzzy comprehensive evaluation (FCE) and analytic hierarchy process (AHP), which is widely used in system evaluation, effectiveness evaluation, system optimization, etc. According to the characteristics of FAHP, it is very suitable for solving the stability problem of foreign talents. Specifically, the stability factor set is determined by chromatography, and then the stability evaluation effect is determined by fuzzy comprehensive evaluation. The fuzzy method is based on the hierarchical method. The two methods are integrated and have good reliability for evaluation. The steps of this method are as follows.

#### 3.1. Determine the weight of the indicator system

- Several experts were invited to issue the evaluation questionnaire to compare and score the
  relative importance of the two factors of the indicators at the same level and in the same
  subordinate relationship. The Likert Scale nine level scale method was used to subdivide
  the dimensions [16].
- In combination with the definition of fuzzy complementary matrix in equation (1), it is the basic requirement that the scoring results of two indicators meet the fuzzy complementary matrix. The scoring matrix that finally meets the scoring results of the fuzzy complementary matrix is recorded as S [17], as shown in equation (1):

$$\mathbf{T} = \begin{bmatrix} t_{11} & t_{12} & \cdots & t_{1n} \\ t_{21} & t_{22} & \cdots & t_{21} \\ \vdots & \vdots & \vdots & \vdots \\ t_{n1} & t_{n2} & \cdots & t_{nn} \end{bmatrix}$$
(1)

If matrix T satisfies the following equation (2), then matrix T can be a fuzzy complementary matrix.

$$0 \le t_{ij} \le \mathbf{1}, t_{ii} = \mathbf{0}, \mathbf{5}, t_{ij} + t_{ji} = \mathbf{1}, (i, j = \mathbf{1}, \mathbf{2}, \dots, n)$$
(2)

If matrix T satisfies conditional equation (2) and equation (3) at the same time, T can be called as a fuzzy consistent matrix.

$$t_{ij} = t_{ik} - t_{jk}, (i, j, k = 1, 2, ..., n)$$
(3)

Calculate the weight of each element according to equation (4) and equation (5).

First, sum the fuzzy judgment matrix T obtained by experts by rows, and use equation (4) to obtain row column matrix  $t_i$ :

$$t_i = \sum_{k=1}^n t_{ik} , (i, k = 1, 2, \dots, n)$$
(4)

Secondly, divide the value of each element in the determinant matrix obtained in the previous step by the sum of each element to obtain the weight coefficient. The calculation process is shown in equation (5):

$$r_i = \frac{t_i}{\sum_{i=1}^n}$$
(5)

Third, calculate the weight of each element in the above way, and use the determinant of the weight coefficient as RI, as shown in equation (6):

$$\mathbf{RI} = \begin{bmatrix} r_1 & r_2 & \dots & r_n \end{bmatrix}^T \tag{6}$$

· Consistency test of fuzzy judgment matrix.

First, it needs to be processed by fuzzy consistency, and the whole process can be processed by equation (7):

$$r_{ij} = \frac{(n-1)(r_i - r_j)}{2} + 0.5$$
(7)

After processing with Formula 7, the fuzzy consistent matrix A can be obtained, as shown in equation (8):

$$\mathbf{A} = \begin{bmatrix} r_{11} & r_{12} & \dots & r_{1n} \\ r_{21} & r_{22} & \dots & r_{21} \\ \vdots & \vdots & \vdots & \vdots \\ r_{n1} & r_{n2} & \dots & r_{nn} \end{bmatrix}$$
(8)

Second, the consistency of the fuzzy judgment matrix A is checked, and equation (9) can be used to calculate the consistency value.

$$CI(T, A) = \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} |A_{ij} - T_{ij}|}{n^2}$$
(9)

Finally, compare and judge the size of the finally solved CI value. According to the consistency judgment rules of fuzzy analytic hierarchy process, generally speaking, the smaller the CI value is, the better the consistency of this group of data is. When CI < 0.1, it means that this group of data meets the fuzzy consistency requirements [18].

#### 3.2. Fuzzy comprehensive evaluation

- Establish the comment set. According to the background of research problem and characteristics of foreign talents, determine the rating standard for the evaluation indicators, which is generally five grades, and describe each grade to form the comment probability set  $S = \{ S_1, S_2, S_3, S_4, S_5 \}$ .
- In the process of scoring statistics, assuming that the total number of scorers is N, the number of scorers corresponding to each evaluation grade is recorded as  $N_1, N_2, N_3, N_4, N_5$ , in turn, then  $S = \{S_1, S_2, S_3, S_4, S_5\} = \{N_1, N_2, N_3, N_4, N_5\}$ . The total number of scorers at all levels should be equal to the total number of scorers. The whole process should meet equation (10):

$$N_1 + N_2 + N_3 + N_4 + N_5 = N \tag{10}$$

• Calculation of evaluation results: multiply the single factor rating scoring matrix  $S_i$  by the weight coefficient  $R_j$  of each single factor indicator, and sum it to obtain the evaluation result matrix  $P=\{P_1, P_2, P_3, P_4, P_5\}$ , as shown in equation (11):

$$P_i = \sum_{j=1}^n S_i R_j \tag{11}$$

• Next, sort the size of elements in the row matrix P as a whole, refer to the definition of comment set, find out the comment set corresponding to the largest element, and check the attribution of hierarchical elements to get the final evaluation result of the model analysis method [19].

# 4. Application of FAHP model in the stability analysis of foreign talents

#### 4.1. Establishment of Indicator System

Based on the previous analysis of the factors affecting the stability of foreign talents, this paper draws four first level and 17 second level indicators. The system is generally divided into three layers: the first layer is the target level, which is the core of the research, described as the stability of foreign talent, set as R; The second layer is the first level indicators, including economic factors  $R_1$ , social factors  $R_2$ , policy factors  $R_3$ , and cultural factors  $R_4$ ; The third layer is the second level indicator. The second level indicator  $R_{ij}$  (i,j=1,2,...,n) is subdivided under the first level indicator. There are 17 second level indicator factors involved in the comprehensive arrangement. The evaluation indicator model of factors affecting the stability of foreign talents is obtained by sorting out and summarizing all levels, as shown in table 1:

| Evaluation target layer | First level indicators               | Second level indicators   |
|-------------------------|--------------------------------------|---|
|                         |                                      | Job opportunities <i>R</i> <sup>11</sup>  |
|                         | Economic factors $R_1$               | Job satisfaction $R_{12}$   |
|                         |                                      | Salary $R_{13}$   |
|                         |                                      | Social environment $R_{21}$   |
|                         | Social factors <i>R</i> <sub>2</sub> | Friendmaking environment $R_{22}$   |
|                         |                                      | Social activity frequency $R_{23}$  |
|                         |                                      | Social network $R_{24}$   |
| Stability of            |                                      | Social acceptance $R_{25}$  |
| Foreign                 |                                      | Racial discrimination $R_{26}$  |
| Talents R               | Policy factors <i>R</i> <sub>3</sub> | Policies and regulations $R_{31}$   |
|                         |                                      | Healthcare and education $R_{32}$   |
|                         |                                      | Social services <i>R</i> <sub>33</sub>  |
|                         |                                      | Government support $R_{34}$<br>Problems of foreign residents $R_{35}$<br>Cultural identity $R_{41}$ |
|                         | Cultural factors R <sub>4</sub>      | Cultural activities <i>R</i> <sub>42</sub>  |
|                         |                                      | Recommend to foreign friends $R_{43}$   |

Table 1. Relationship table of stability evaluation indicators of foreign talents.

## 4.2. Model stability evaluation test

Calculate the weight of the first level indicators of the model: according to the indicator system of the stability evaluation model of foreign talents established above, design the corresponding scoring questionnaire for the weight coefficient evaluation. On this basis, 10 experts, Including foreign capital or joint venture management personnel and foreign experts [16], were invited to fill in the questionnaire, and the collected scoring data were collated and averaged to form the final unified data. The fuzzy judgment matrix corresponding to the scoring data of the first level indicators is recorded as T:

$$\mathbf{T} = \begin{bmatrix} 0.5 & 0.47 & 0.4 & 0.34 \\ 0.53 & 0.5 & 0.43 & 0.37 \\ 0.6 & 0.57 & 0.5 & 0.44 \\ 0.66 & 0.63 & 0.56 & 0.5 \end{bmatrix}$$

First, use equation (4) and equation (5) above to calculate the weight determinant RI as follows:

 $RI = [0.214 \ 0.229 \ 0.264 \ 0.294]^T$ 

Then, use the above weight determinant to carry out fuzzy consistency processing through the equation (7) fuzzy judgment matrix to obtain the final fuzzy consistent matrix and record it as A:

| A <b>=</b> | 0.5<br>0.522  | 0.478 0.425<br>0.5 0.448 |              | 0.38<br>0.402 |
|------------|---------------|--------------------------|--------------|---------------|
|            | 0.575<br>0.62 | 0.552<br>0.597           | 0.5<br>0.545 | 0.455<br>0.5  |

Finally, formula equation (9) is used for fuzzy consistency test, and the fuzzy consistency value of the first level indicator is calculated to be CI=0.017\$<\$0.1, which meets the consistency requirements. Thus, the weight matrix table of the first level indicator of the stability of foreign talents can be determined, as shown in table 2:

Table 2. Weighting table of primary indicators.

| Stability R                     | $\mathbf{R}_1$ | $\mathbf{R}_2$ | <b>R</b> <sub>3</sub> | R4   | Weight(R <sub>i</sub> ) |
|---------------------------------|----------------|----------------|-----------------------|------|-------------------------|
| Economic factors R1             | 0.5            | 0.47           | 0.4                   | 0.34 | 0.214                   |
| Social factors R <sub>2</sub>   | 0.53           | 0.5            | 0.43                  | 0.37 | 0.229                   |
| Policy factors R <sub>3</sub>   | 0.6            | 0.57           | 0.5                   | 0.44 | 0.264                   |
| Cultural factors R <sub>4</sub> | 0.66           | 0.63           | 0.56                  | 0.5  | 0.294                   |

• Calculate the weight of secondary indicators of the model: similarly, the expert scoring data of other secondary indicators can be processed in the same way, the fuzzy judgment matrix can be obtained by sorting and calculating, the weight value of secondary indicators can be determined, and the fuzzy consistency test can be passed. Due to the limited writing space of the paper, a large number of repeated calculations will be omitted here. In order to read the weight results more intuitively, the final conclusion weight can be obtained by multiplying the weight value of the secondary indicators and the weight value of the primary indicators. Here, the final weight coefficients of each indicator factor are summarized as shown in table 3.

| First level indicators        | Weight | Second level indicators                  | Peer weight | Conclusion weight |
|-------------------------------|--------|--|-------------|-------------------|
|                               | 0.214  | Job opportunities $R_{11}$               | 0.291       | 0.062             |
| Economic factors $R_1$        |        | Job satisfaction $R_{12}$                | 0.364       | 0.078             |
|                               |        | Salary R <sub>13</sub>                   | 0.344       | 0.074             |
| Social factors R <sub>2</sub> | 0.229  | Social environment $R_{21}$              | 0.159       | 0.036             |
|                               |        | Friendmaking environment R <sub>22</sub> | 0.177       | 0.041             |
|                               |        | Social activity frequency $R_{23}$       | 0.175       | 0.04              |
|                               |        | Social network $R_{24}$                  | 0.17        | 0.039             |

Table 3. Weight coefficient table of secondary indicators of foreign talents stability.

|                                 |       | Social acceptance $R_{25}$                | 0.166 | 0.038 |
|---------------------------------|-------|---|-------|-------|
|                                 |       | Racial discrimination R <sub>26</sub>     | 0.153 | 0.035 |
|                                 |       | Policies and regulations $R_{31}$         | 0.219 | 0.058 |
|                                 | 0.264 | Healthcare and education $R_{32}$         | 0.2   | 0.053 |
| Policy factors $R_3$            |       | Social services $R_{33}$                  | 0.2   | 0.053 |
|                                 |       | Government support <i>R</i> <sub>34</sub> | 0.182 | 0.048 |
|                                 |       | Problems of foreign residents $R_{35}$    | 0.199 | 0.053 |
| Cultural factors R <sub>4</sub> | 0.294 | Cultural identity <i>R</i> <sup>41</sup>  | 0.322 | 0.095 |
|                                 |       | Cultural activities $R_{42}$              | 0.373 | 0.11  |
|                                 |       | Recommend to foreign friends $R_{43}$     |       |       |

In addition, the distribution of the weights of different indicators on the three levels is graphically displayed, and the weights of each indicator can be basically reflected by comparison, as shown in figure 1.



## 4.3. Take the stability evaluation of Dalian foreign talents as an example

After determining the weight of stability indicators of foreign talents, this paper uses the indicator system to evaluate the stability of foreign talents in Dalian. In the form of a questionnaire, foreign talents from Dalian enterprises, including those from enterprise management, universities and scientific research institutions, were investigated, which take

| back 356 valid   | questionnaires.   | The statistical | table of stab | oility indicators | evaluation | of foreign |
|------------------|-------------------|-----------------|---------------|-------------------|------------|------------|
| talents obtained | d is shown in tab | ole 4.          |               |                   |            |            |
|                  |                   |                 |               |                   |            |            |

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| Eval                   | Scoring statistics results    |        |       |        |        |      |
|------------------------|-------------------------------|--------|-------|--------|--------|------|
| First level indicators | Second level indicators       | low    | lower | Middle | Higher | High |
|                        | Job opportunities             | 0.05   | 0.09  | 0.17   | 0.46   | 0.23 |
| Economic factor        | sJob satisfaction             | 0.09   | 0.12  | 0.2    | 0.31   | 0.28 |
|                        | Salary                        | 0.25   | 0.37  | 0.21   | 0.1    | 0.08 |
|                        | Social environment            | 0.08   | 0.14  | 0.17   | 0.36   | 0.25 |
|                        | Friendmaking environmen       | nt0.08 | 0.12  | 0.21   | 0.33   | 0.26 |
|                        | Social activity frequency     | 0.08   | 0.12  | 0.21   | 0.35   | 0.25 |
| Social factors         | Social network                | 0.08   | 0.1   | 0.17   | 0.4    | 0.25 |
|                        | Social acceptance             | 0.11   | 0.1   | 0.23   | 0.3    | 0.26 |
|                        | Racial discrimination         | 0.3    | 0.24  | 0.17   | 0.2    | 0.09 |
|                        | Policies and regulations      | 0.07   | 0.12  | 0.21   | 0.37   | 0.24 |
|                        | Healthcare and education      | 0.4    | 0.3   | 0.05   | 0.05   | 0.2  |
| Policy factors         | Social services               | 0.08   | 0.11  | 0.22   | 0.34   | 0.24 |
|                        | Government support            | 0.07   | 0.13  | 0.19   | 0.33   | 0.27 |
|                        | Problems of foreign residents | 0.11   | 0.12  | 0.21   | 0.32   | 0.24 |
|                        | Cultural identity             | 0.1    | 0.1   | 0.24   | 0.33   | 0.23 |
| Cultural factors       | Cultural activities           | 0.1    | 0.1   | 0.2    | 0.34   | 0.26 |
|                        | Recommend to foreign friends  | 0.1    | 0.11  | 0.19   | 0.33   | 0.26 |

Table 4. Statistical table of stability indicators evaluation of Dalian foreign talents.

According to the scoring table above, Quantify the proportion of each grade of each factor scored by experts to obtain the membership matrix. For example, when job opportunities of Dalian are evaluated, 5% of participants think that job opportunities are low, 9% of participants think that they are lower, 17% of participants think that they are medium, 46% of participants think that they are higher, and 23% of participants think that they are high. From this, we can get the single factor evaluation result of job opportunities in the economic factors is (0.05 0.09 0.17 0.46 0.23), and then we can get the fuzzy membership matrix of the first-level indicators.

|         | 0.05 | 0.09 | 0.17 | 0.46 | <b>0.23</b> ] |
|---------|------|------|------|------|---------------|
| $R_1 =$ | 0.09 | 0.12 | 0.2  | 0.31 | 0.28          |
|         | 0.25 | 0.37 | 0.21 | 0.1  | 0.08          |

|                         | <b>30.0</b> ]  | <b>0.14</b>   | 0.17 | 0.36 | 0.25 | 1 |
|-------------------------|----------------|---------------|------|------|------|---|
|                         | 0.08           | <b>0.12</b>   | 0.21 | 0.33 | 0.26 |   |
| <b>R</b> . •            | _   0.08       | <b>3 0.12</b> | 0.21 | 0.35 | 0.25 |   |
| <i>π</i> <sub>2</sub> • | <b>-</b>   0.0 | 8 0.1         | 0.17 | 0.4  | 0.25 |   |
|                         | 0.1            | 1 0.1         | 0.23 | 0.3  | 0.26 |   |
|                         | L 0.3          | 0.24          | 0.17 | 0.2  | 0.09 |   |
|                         | <b>⊺0.0</b> 7  | 0.12          | 0.21 | 0.37 | 0.24 | 1 |
|                         | 0.4            | 1 0.3         | 0.05 | 0.05 | 0.2  |   |
| <i>R</i> <sub>3</sub> : | =   0.08       | 3 0.11        | 0.22 | 0.34 | 0.24 |   |
|                         | 0.07           | 0.13          | 0.19 | 0.33 | 0.27 |   |
|                         | L <b>0.1</b> 1 | 0.12          | 0.21 | 0.32 | 0.24 | 1 |
|                         | [ <b>0.</b> 1  | 1 0.1         | 0.24 | 0.33 | 0.23 |   |
| $R_4 =$                 | =   0.1        | 1 0.1         | 0.2  | 0.34 | 0.26 |   |
|                         | L <b>0.1</b>   | 0.11          | 0.19 | 0.33 | 0.26 |   |

Next, the equation (11) in the article model is used to calculate the row matrix of evaluation results as follows:

## P = [0.1236 0.1445 0.1943 0.3073 0.2307]

The elements in the above row matrix P are compared and sorted. The stability level corresponding to the maximum value is the stability level corresponding to the evaluation of the stability of foreign talents. It can be seen from the above calculation results that the maximum value is 0.3073, and the corresponding stability level is "Higher". The second value is 0.2307, and the corresponding stability is high. That is to say, the stability of foreign talents based on fuzzy analytic hierarchy process is evaluated as lower risk.

Further analysis for risk, some secondary indicators have a key impact, including job satisfaction, salary, cultural identity, cultural activities, recommend to foreign friend. In order to reduce risks, Dalian Government can adjust the relevant contents of the above five secondary indicators. In addition, according to the overall evaluation results of the stability level, the second P value is high stability, it shows that there are still some unstable factors in foreign talents. According to the results of quantitative analysis, Dalian Government should focus on solving the stability problem and eliminating or weakening the relevant factors affecting stability.

## 5. Summary

As an important driving force that can drive technological innovation, foreign talents provides an effective improvement for China's economic and technological development and internationalization. This paper takes foreign talents as the main perspective of the study, studies the evaluation of stability, and establishes a stability factor analysis and evaluation model based on fuzzy analytic hierarchy process.

- First of all, against the background of China's rapid economic development, the demand for scientific and technological innovation and development is increasing day by day. The paper combined with the relevant research progress at home and abroad and the needs of summing up their own practical work experience, a conceptual model of foreign talents stability evaluation was proposed, and then the relevant indicators of the problem were further defined, as well as the classification of indicators involved in the problem.
- Secondly, Starting from the problems of foreign talents in various high-tech development areas in China, and taking the stability of foreign talents as the core of the problem, this paper analyses the influencing factors and main sources of the stability, and through the existing domestic and foreign references, selects the fuzzy analytic hierarchy process as the analysis and evaluation method of the problem.
- Thirdly, in the process of establishing the model, the indicators are selected by reference to relevant literature for refining, and the selection of evaluation indicators is as comprehensive and consistent with the actual situation of foreign talents as possible, taking full account of the key stability indicators in the actual operation process, avoiding the redundancy and excessive idealization of indicator selection, and establishing a more practical evaluation model system.
- Finally, the paper takes Dalian as an analysis sample, and conducts an empirical test and analysis on the risk evaluation model established in the paper to determine the practicality and effectiveness of the evaluation method model.

Through the application research of the fuzzy hierarchy process in the stability of foreign talents in this paper, the effectiveness of this method has been proved. In order to improve the accuracy of the research results, we can further reflect the comprehensiveness and diversity of the stability indicators and the selection of experts of foreign talents.

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