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Research Article

A Fuzzy Comprehensive Dynamic Evaluation Algorithm for Human Resource Quality Growth Based on Artificial Intelligence

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In the 21st century, the era of knowledge economy is coming. Today, when the management concept of "people-oriented" is advocated, the value of human resources is more and more prominent, and the evaluation of the value of human resources is more and more important. From the perspective of economic development, as the only dynamic resource, the important role of human resources in creating social wealth has gained a global consensus. The rational allocation of human resources has a decisive impact on the sustainable development of social economy. Among them, Colleges and universities, as the base for the country to transmit talents, take into account the training and the gathering of talents. The core of the work is college teachers. Therefore, the quantity and quality of college teachers are not only related to the development of colleges and universities but also to the comprehensive quality and competitiveness of the country. Fuzzy comprehensive evaluation methods have different advantages and disadvantages. However, the case analysis proves that the fuzzy comprehensive evaluation method is used to judge the human resource management situation in colleges and universities. Influencing indicators is a quantifiable and predictive scientific method. Based on this, this paper proposes a fuzzy comprehensive evaluation method to evaluate the teacher resources of G College in place A. The experimental results of this paper show that due to the comprehensive effect of each element, the comprehensive evaluation of the first-level evaluation index elements of the human resource management value evaluation system of G College reaches 84%. The comprehensive evaluation of the secondary evaluation indicators of the human resource management value evaluation system reached 72%.

1. Introduction

Now, the country is in a period of rapid development, and great attention has been paid to the rational use of human resources. With the rapid development of the economy, all walks of life now need suitable comprehensive talents. For this, scholars at home and abroad have made researches in related fields. However, there are many deficiencies in the traditional scientific and technological personnel appointment and employment system. Especially the rapid development of today's information age makes the traditional methods more and more inconsistent with the reality of the new era. The past principled standards are too general. Relying on the minds of leaders and leading teams to analyze and judge, it is often difficult to avoid mistakes in employment caused by making evaluations based on impressions. Colleges and universities are not only the base for cultivating and transporting talents, but also the place for gathering and using talents. The current situation of teachers in China's colleges and universities cannot be compared with developed countries in terms of the quantity, quality, structure of teachers, or the efficiency of management and allocation. This is far from meeting the needs of the development of the country and the times. Talent assessment is an important link and basic work. The fuzzy comprehensive evaluation method is an organic combination of quantitative and qualitative evaluation. The qualitative indicators are quantified, and the judgment results are objective and fair. At the same time, its theory is rigorous and its calculation is accurate. It has the characteristics of high reliability, logic, normativeness, and commonality. It has established the evaluation index system of human resources value in colleges and universities. It provides a new idea for the value measurement of human resource management in colleges

and universities. Applying it to the value measurement of human resources in colleges and universities will provide indispensable human resource information for college managers and improve the level of college managers. Therefore, it is necessary to strengthen the theoretical and practical research on human resource management of college teachers. While enriching and perfecting the theory of human resource management, it guides the construction of college teachers. It promotes the healthy development of colleges and universities and lays the foundation for the sustainable development of the country.

The development of science and technology is accompanied by the arrival of the era of knowledge economy, and the economic importance of human resources is increasing day by day and has gradually become the core production factor of enterprises and institutions. As the only active and living resource, the important role of human resources in the creation of social wealth has become a world consensus. In order to realize the rights and interests of human resources, full play should be given to the initiative and creativity of human resources. To realize the maximization of national, enterprise, and personal value, it is necessary to measure the value of human resources.

Human resource management in higher education is a whole and is affected by many factors. Fuzzy comprehensive evaluation is based on the standard and measurement value of the given evaluation index. It uses fuzzy mathematics to study and deal with objective fuzzy phenomena and comprehensively evaluate things affected by many factors. The comprehensive fuzzy evaluation of human resource management in colleges and universities is based on a series of interrelated factors that affect human resource management in colleges and universities. It conducts a comprehensive evaluation to obtain quantifiable and predictable results. This provides quantifiable and predictable scientific management methods for human resource managers in colleges and universities.

2. Related Work

The rational use of human resources is an important production factor in modern society. Its quality has attracted the attention of scientists and economists from all over the world. Akbari aims to investigate the impact of knowledge management (KM) procedures on enriching human resources in Iran's East Azerbaijan Water and Wastewater Company. The samples he used in the study included employees of a water and wastewater company in Tabriz, East Azerbaijan, Iran. The questionnaire was used to collect data on the employees of the companies mentioned above. He first tested its reliability and validity. The structural model was then analyzed using Smart Partial Least Squares 2.0. The results confirm the effectiveness of the introduced human resource enrichment model. His research results show that five variables of knowledge type, top management, information technology, culture, and knowledge organization have a significant impact on enriching human resources [1]. The rapid expansion of big data analytics is forcing companies to rethink their human resources (HR) needs. At the same time, however, it is unclear what types of job roles and skills make up this field. To this end, Mauro et al. identified the heterogeneity of skills required for big data professions by analyzing a large number of real-world job postings posted online. A novel, semiautomated, and fully reproducible analysis method based on a combination of machine learning algorithms and expert judgment is proposed. The results can support business leaders and HR managers in developing a clear strategy to acquire and develop the right skills needed to leverage big data at best [2], considering environmental management (EM) concerns and values when applying HR programs, resulting in increased efficiency and better environmental performance (EP). Masri and Jaaron presented an empirical assessment and measurement of the impact of GHRM practices on EP in manufacturing organizations in a Palestinian context. Their research methods use both qualitative and quantitative aspects. They extracted six major GHRM practices used in manufacturing organizations from literature reviews and field data by conducting 17 semistructured interviews with HR managers [3]. Kadochnikov and Fedyunina examined the impact of human and financial resources on the survival of Russian regional exports between 2002 and 2010. Taking into account uncertainty and time effects, they found that these effects decline over time and are more important for larger exporters. Therefore, there is evidence that exporters experience a learning curve as they become more effective over time in dealing with the resource and regulatory environment at the regional level [4]. Joel et al.'s research aimed to investigate how human resources policies and practices (PPHR) affect organizational citizenship behavior (OCB). The OCB represents the additional contribution that employees make to their organization and in some way represents the expected individual actions in a crisis situation or when managers change their time. Data were collected from 156 employees of public, private, and mixed companies located in the state of São Paulo. The results revealed a significant effect of PPHR on OCB, demonstrating that only professional participation showed a significant correlation [5]. The current state of HR in Caribbean ports and how this status affects the development of tourism and logistics in the region are examined. The Arhelo qualitative study was used to describe data collected from five different ports in the Caribbean. The documents and interviews were chosen because the study was limited to five ports and five senior managers. Research shows that an average of 20% of Caribbean port workers have acquired new skills in areas such as technology, HR development, information technology, health and safety, and handling of dangerous goods, and customs documents [6]. Although the research fields of the above scholars all have certain practicability, the influencing factors are diverse and the collection is incomplete. It makes its research results biased and cannot represent the whole. For the relevant research of the above scholars, a relatively large number of experimental samples are required. In this way, more accurate results can be obtained, and the sample source of the data is large and complicated, and a more complete data source cannot be obtained.

3. Artificial Intelligence–Based Fuzzy Comprehensive Evaluation Method for Human Resources

3.1. The Role of Fuzzy Judgment Theory in Human-Resource Management. When analyzing the effect of the evaluation center, western management scholars found [7] that the correct rate of managers randomly selected by company leaders is only 15%. For managers promoted and recommended at all levels, the correct rate was 35%. And through the test screening of the evaluation center, the correct rate is more than 70% [8].

Comprehensive evaluation refers to the overall evaluation of things or phenomena affected by multiple factors. In other words, according to a given condition, each object is assigned a nonnegative real number, and each object is sorted according to its value.

Fuzzy comprehensive evaluation refers to the application of the comprehensive principle of fuzzy relation based on fuzzy mathematics. According to the given judgment, it is a method to comprehensively evaluate some factors with unclear boundaries and difficulty in quantifying through fuzzy transformation. This method is an organic combination of quantitative and qualitative evaluation, so that the qualitative indicators are quantified, and the evaluation results are objective and fair. At the same time, its theory is rigorous, its calculation is accurate, and it has the characteristics of high reliability, logic, normativeness, and generality.

Many facts show that the ability to make meaningful and precise measurements declines as things or systems become more complex. And vague measurement means can often pave the way for the other side that is relatively accurate [9]. In the field of human-resource management, there are many interacting factors in measuring the value of HR. As the complexity of the system increases, so does the uncertainty and imprecision in describing the system, namely ambiguity [10]. Usually, people's evaluation is always from two aspects. There is no absolute standard for evaluating good and bad employees, only vague impressions [11]. Therefore, the fuzzy evaluation theory is introduced into the quantitative research of human-resource management. It helps to minimize bias and imprecision in impression evaluation. It has achieved good results in practical applications [12].

To better identify HR quality issues, this study uses an intensity assessment matrix to measure various HR quality influencing factors to compare their importance in HR assessment [13]. The matrix evaluation method can be regarded as a generalized form of the list. It can illustrate which behaviors affect which environmental characteristics and indicate the magnitude of the impact. The measurement model of human-resource quality is shown in Figure 1.

3.2. Fuzzy Comprehensive Evaluation. In practice, people often value something that is influenced by many factors. Such as assessing the design quality of a project, including appearance, structure, cost and suitability.

The usual approach to making rational solutions to the effects of these multiple factors is to use a comprehensive assessment method. In practice, the subject matter involved often has various uncertain factors, the most important of which is the fuzzy factor.

The difference between the fuzzy comprehensive evaluation method and the comprehensive evaluation method is that the fuzzy comprehensive evaluation cannot be represented by some simple numerical values. And then the total score method is used to sum or this weighted average method to get a total score and then complete it by sorting and selecting the best.

Fuzzy comprehensive evaluation must establish a set of influencing factors of the object to be judged $A = [a1, \ldots, an]$ and establish a set of evaluation words $U = [u1, \ldots, ui]$. The expert evaluation requires the production of a matrix based on other methods [14]:

$$\widetilde{K} = (kji)_{n\times i} \in H(A \times U). \tag{1}$$

Comprehensive evaluation and other steps are carried out through suitable fuzzy operators.

For any factor $a1 \in A$, there is an evaluation of $\mathrm{a1}d\widetilde{U} = [u1, \ldots, un] \in H(U)$. So, the fuzzy mapping can be decided:

$$T\colon A \longrightarrow H(U), T(a1) = (ki1, \ldots, kin). \tag{2}$$

With its assumption $\widetilde{\mathrm{K}} \in \mathrm{H}(A \times U)$, there exists a unique fuzzy evaluation map:

$$T_{\widetilde{k}}\colon A \longrightarrow H(U). \tag{3}$$

Let $\forall Q \in A, T_{\widetilde{k}}(Q) = \widetilde{k}(\alpha, \cdot)$, in the opposite case, any fuzzy set has a unique fuzzy relation $\widetilde{K}_j \in \mathrm{H}(A \times U)$, satisfying

$$\forall (Q, e) \in A \times U, \widetilde{k}(Q, e) = T(Q)(C). \tag{4}$$

The evaluation of the variable factor set also has a result, so $\widetilde{\mathrm{k}}$ is called a fuzzy evaluation matrix [15].

3.3. Problems Existing in the Current Talent Evaluation System. In this study, several application scenarios of talent evaluation are introduced. Human-resource evaluation is widely used. It has effective applications from personnel recruitment to communication and interaction, as well as personnel organization. As shown in Figure 2, the significance of talent evaluation can be seen from it. Although the domestic talent evaluation career has entered a stage of successful development, compared with foreign countries, the domestic talent evaluation is still in its infancy [16]. There are few research and service institutions for talent evaluation, and theoretical research is weak. In addition, there is a shortage of professionals, lack of evaluation tools, and unclear laws and regulations [17]. Therefore, it is difficult for talent assessment to develop in depth and breadth, and many problems will inevitably occur in practical applications [18]. Some evaluation institutions are small in scale and often rely on their own technology to provide services due to lack of industrialization capabilities. This

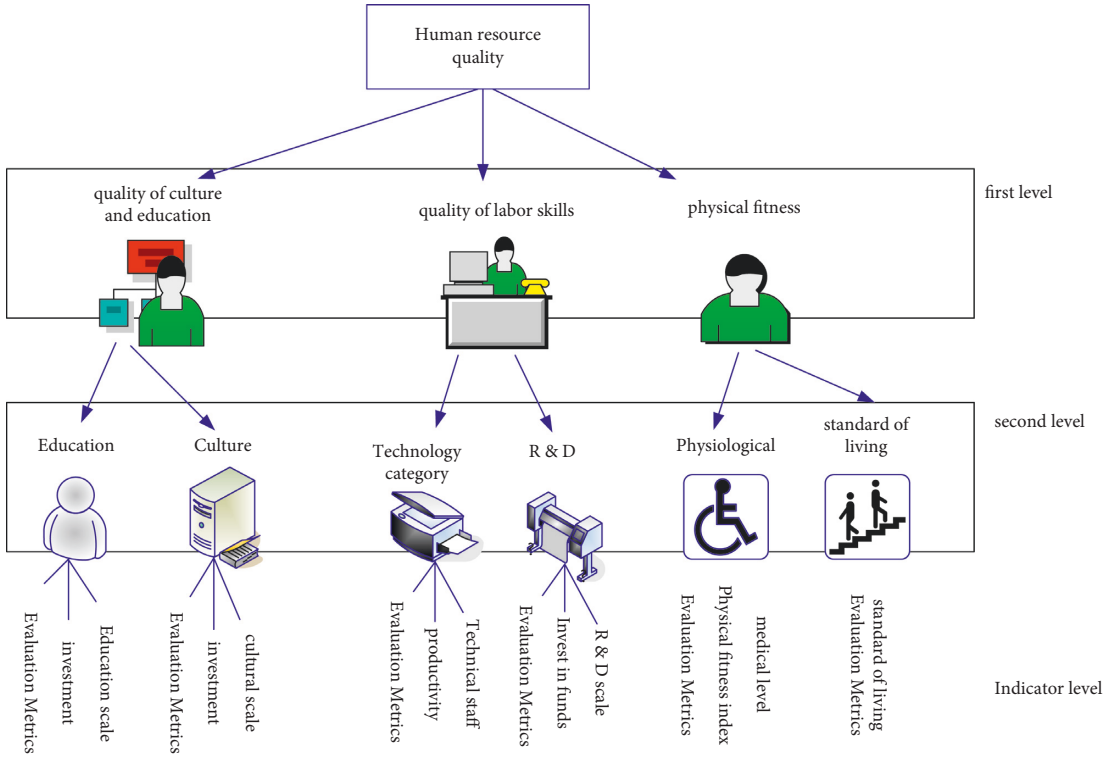

Figure 1: Human-resource quality assessment model.

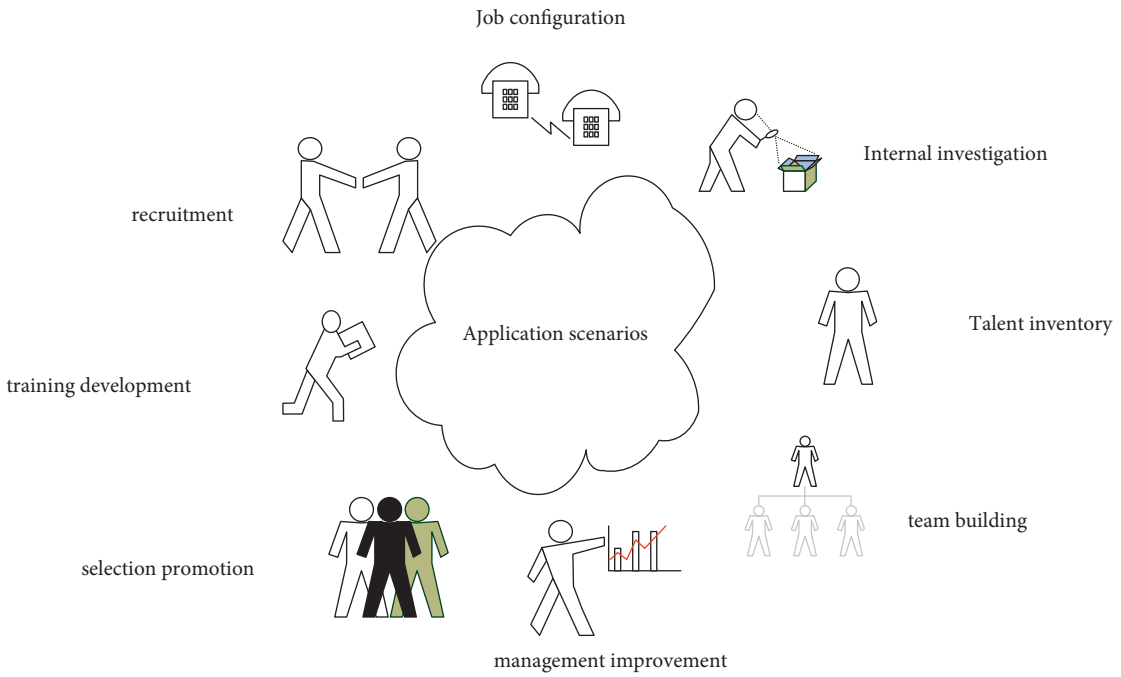

Figure 2: Application scenarios of talent assessment.

makes China's talent evaluation blank in the macro management [19].

4. Application of Fuzzy Comprehensive Evaluation Theory in Human-Resource Management in Colleges and Universities

The empirical research in this paper takes G College in place A as an example. G College is a local comprehensive university with a long history, complete majors, and good school spirit. After a long period of development, the university already has the standard conditions for using talent assessment. Colleges and universities integrate teaching and social services, and the update of theoretical knowledge is fast. For the quality of HR, there is a strong growth potential. Therefore, the evaluation of HR is of practical significance [20].

4.1. Current Situation of Human-Resource Management in Colleges and Universities. For universities, teaching is at the heart of a good university. In teaching, teachers are an important key point of a university [21]. A teaching staff with sufficient quantity and stable quality structure makes the teaching of the university stable [22]. With the popularization of higher education, universities across the country are expanding year by year, and the enrollment growth rate of G College increases with an annual probability of 6.92%. At the same time, it is difficult for schools to absorb and accommodate hundreds of full-time teachers at the same time. As a result, the number of full-time teachers in schools has grown very slowly, and the ratio of teachers to students has further increased [23].

Among the number of teachers with professional titles in Table 1, the highest proportion of age is between 31 and 40 years old, and the number of teachers in this college is mostly between 31 and 50 years old. The highest number is in the senior and intermediate levels, and the others are the lowest [11].

Figure 3 shows the statistics of the number of teachers and the number of titles in G College in the past four years, as well as the percentage of the total number of titles. It can be seen from this that the number of teachers in G College has not changed much in the past four years. There was an insignificant upward trend, and the number [24] in 2005 was 1,825. In terms of the personnel composition of professional titles, the number of deputy high-ranking officers is increasing. The number of junior titles has dropped significantly in recent years, from 599 at the beginning to 102.

4.2. Current Situation of Human-Resource Management in Colleges and Universities: Teachers Need to be Further Stabilized. G College located in place A is one of the higher education institutions in the region. Due to the differences in economic development between regions and the limitations of locations, the introduction of excellent talents and the stability of self-owned talents have been hindered to a certain extent. Every qualified teacher needs to go through a long period of training and accumulation of experience. The serious loss and instability of the teaching team have seriously affected the improvement of teaching quality and the normal progress of teaching.

Table 1: The age structure of professional titles in colleges and universities from 2002 to 2005.

		≤30	31–40	41–50	51–60	61–65	≥66
2002 year	Total	255	728	273	119	75	41
	Deputy high	0	29	42	32	63	40
	Middle pole	0	248	186	78	14	0
	Primary	115	432	40	12	0	0
	Other	75	18	0	0	0	0
2003 year	Total	61	6	1	0	0	0
	Deputy high	236	747	342	114	66	51
	Middle pole	0	31	58	30	54	51
	Primary	0	227	221	75	10	0
	Other	90	455	62	12	0	0
2004 year	Total	80	25	1	0	0	0
	Deputy high	68	10	0	0	0	0
	Middle pole	243	700	451	115	46	65
	Primary	79	17	88	9	0	65
	Other	62	5	1	0	0	0
2005 year	Total	342	693	555	130	35	70
	Deputy high	1	27	113	40	26	70
	Middle pole	5	325	173	79	8	0
	Primary	64	425	114	10	0	0
	Other	78	22	1	0	0	0

According to the transfer situation of college teachers in Table 2, the largest transfer number was in 2005, and the transfer number of junior professional titles was 183. On the whole, with the growth of time, the number of transfers between titles has become more frequent, and the number of people has gradually increased.

On the contrary, the older the year, the rarer the movement of personnel and the smaller the number of people. 61% of the teachers lost were highly educated teachers (PhD or Master). Among the lost teachers with senior professional titles, 9 are in the 41–50 grade, 3 are in the 31–40 grade, 6 have doctoral degrees, and 6 have master's degrees [25].

5. Based on the Application of Fuzzy Comprehensive Evaluation Theory in Human-Resource Management in Colleges and Universities

5.1. Construction of Human-Resource Value Evaluation Index System in Colleges and Universities Based on Fuzzy Comprehensive Evaluation. Based on the diversification of the influencing factors of HRs, this paper collects the evaluation indicators of the quality of HRs and examines the literature. Through the difference between the internal and external factors of the influencing factors, some suitable evaluation criteria are selected. It refines the evaluation index system and analyzes, counts, and summarizes the index items. It has established an evaluation index system for the value of HRs in colleges and universities, as shown in Figure 4.

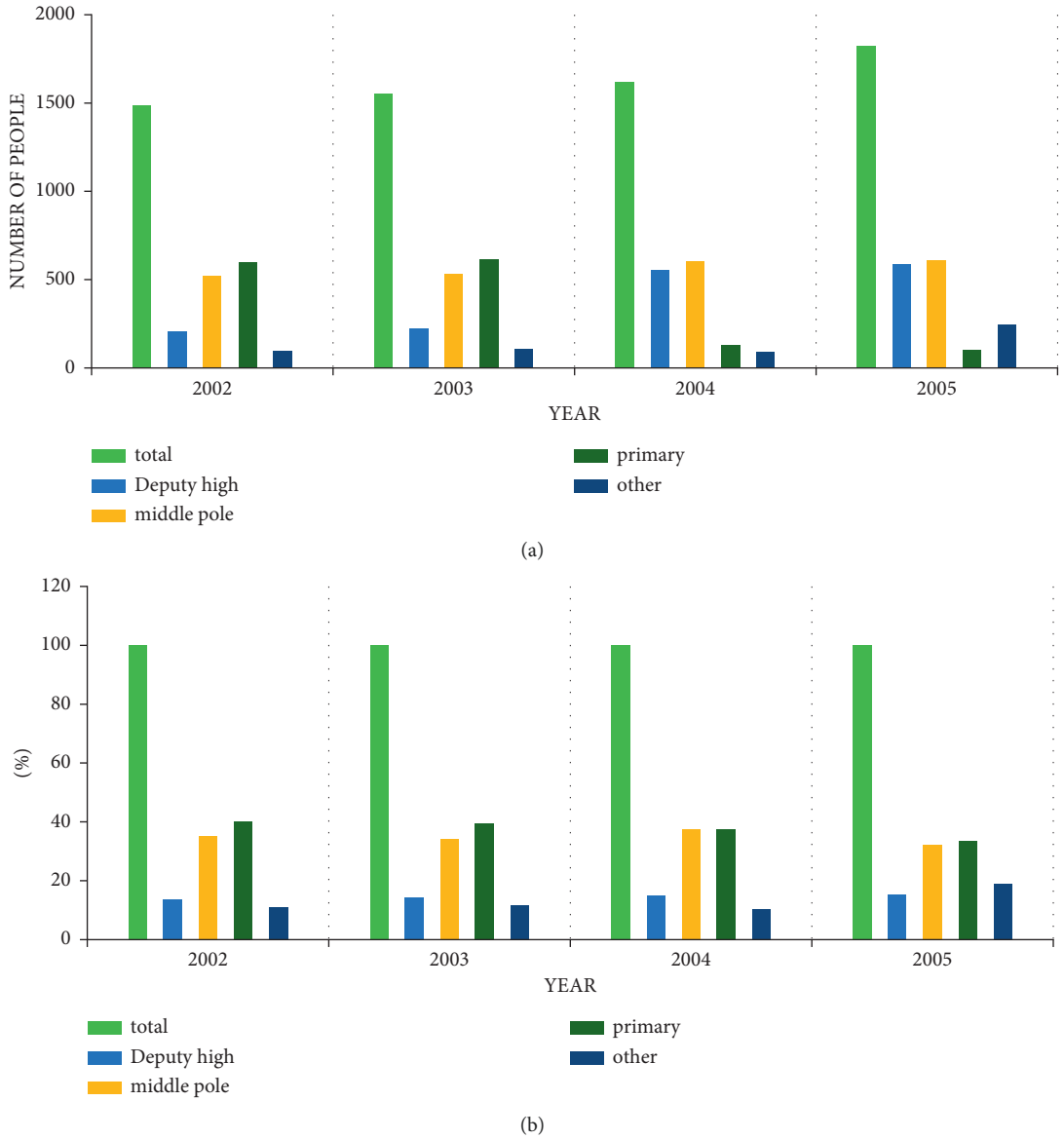

Figure 3: The number of teachers and the proportion of professional titles from 2002 to 2005.

Table 2: Statistics on the transfer of teachers with professional titles.

Year	High title		Deputy senior title		Intermediate		Primary	
	Tune in	Tune out	Tune in	Tune out	Tune in	Tune out	Tune in	Tune out
1997	0	0	7	6	11	11	0	4
1998	2	0	3	3	3	7	2	12
1999	0	0	4	3	3	7	6	10
2000	2	0	5	5	4	4	11	7
2001	0	5	5	8	3	7	9	6
2002	0	3	8	3	10	5	9	2
2003	5	3	8	6	15	5	7	0
2004	4	5	7	3	2	4	12	2
2005	4	3	10	5	26	9	183	7
2006	4	4	3	10	37	22	67	4

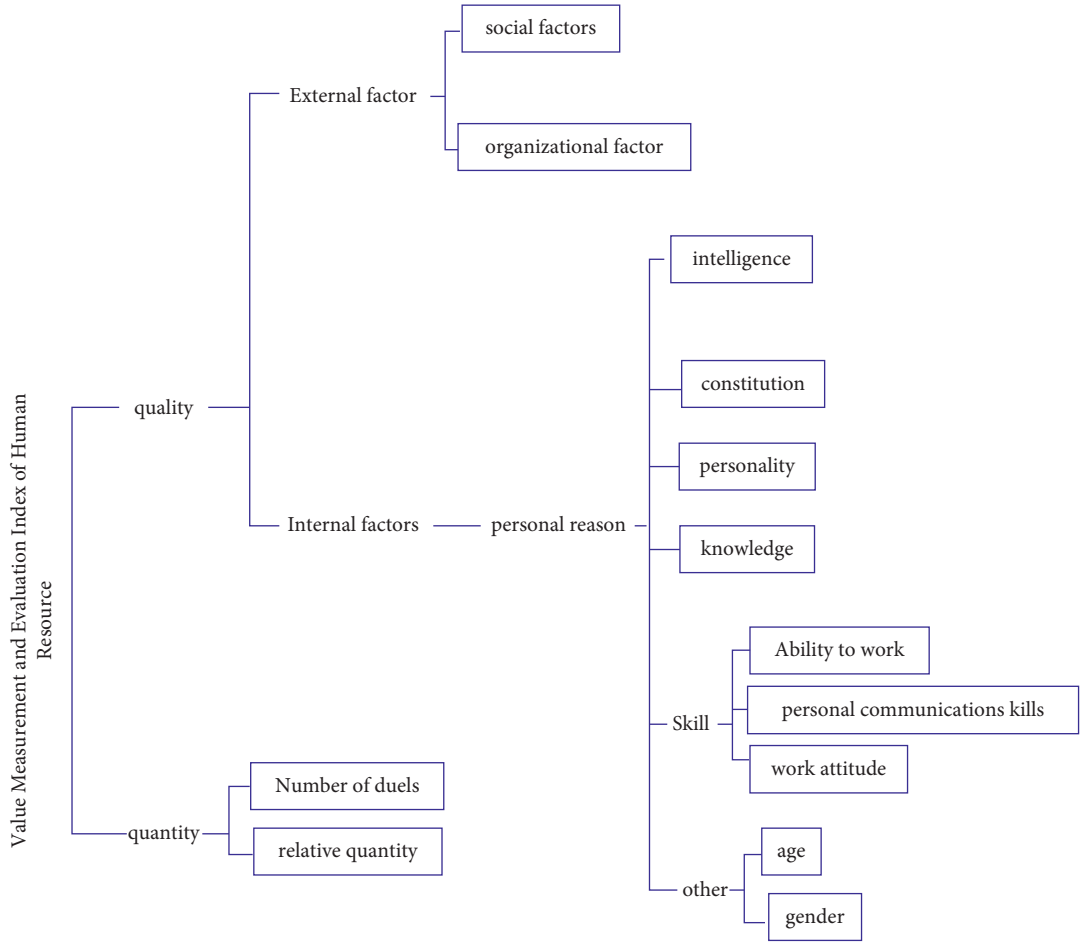

Figure 4: Human-resource value evaluation indicators.

5.2. Investigation and Data Collation. The research method adopted in this research is to collect the original data through questionnaire survey and conduct a questionnaire survey among the teachers of G College. It asks the respondents to give a score according to their importance. The collected data corresponds to the factors in the human-resource value evaluation index factor table, and 30 factors are extracted to make a questionnaire. According to the values given by the respondents, the average value of each evaluation index factor was calculated, and the average value was sorted to determine the importance of each evaluation index factor. The data survey analysis is shown in Table 3.

5.3. Fuzzy Comprehensive Evaluation of Primary Index Elements.

(1) The importance of ordinal value of each factor Ua: according to the personal opinions and relevant experience of the invited experts, its important ordinal value Ca is delimited, and it is determined by $Ca \in (1, 2, \ldots, n)$, for the most important factor, taking $Ca = n$. The most minor factor is taken as $Ca = 1$, and the factor importance sequence positioned by the Qth expert is denoted as $Ca(Q)$. Each expert is required to provide a Ua out of Ca appraisal table.

(2)The priority score table for the compilation of statistical HRs evaluation indicators: according to the factor importance sequence Ca provided by the above method, the following statistics are performed.

When

$$\frac{C_i(Q)}{C_j(Q)} > 1, Uij(Q) = 1. \tag{5}$$

When

$$\frac{C_i(Q)}{C_j(Q)} < 1, U_{ij}(Q) = 0. \tag{6}$$

It assumes that there are x number of experts participating in the evaluation, and the cumulative sum of the values $U_{ij}(Q)$ of all evaluation experts is

$$Uij = \sum_{K=1}^{n} U_{ij}(Q), i, j = 1, 2, \ldots, n. \tag{7}$$

From this, the priority score composed of $n \times n$ statistical values U_{ij} is obtained as shown in Table 4.

Table 3: Ranking table of HRs evaluation survey results.

Serial number	Indicator variable	Total score	The average score	Serial number	Indicator variable	Total score	The average score
1	Intelligence	3845	8.57	16	Professionalism	29.5	6.59
2	Ability to work	3727	8.45	17	Management ability	2801	6.35
3	Professional knowledge and skills	3702	8.4	18	Judgment	2740	6.21
4	Research innovation	3678	8.34	19	Work motivation	2692	6.11
5	Interpersonal communication	3619	8.2	20	Thinking ability	2665	6.04
6	Knowledge structure	3608	8.18	21	Personality	2535	5.75
7	Knowledge	3589	8.16	22	Observation	2428	5.51
8	Communication	3494	7.92	23	Imagination	2340	5.3
9	Sense of responsibility	3462	7.78	24	Creativity	2332	5.29
10	Knowledge	3378	7.65	25	Style of working	2270	5.15
11	Theoretical level	3326	7.54	26	Collaborative spirit	2213	5.02
12	Work attitude	3281	7.43	27	Aggressive attitude	2150	4.87
13	Knowledge update	3182	7.21	28	Health status	1974	4.47
14	Ideological and moral	3116	7.06	29	Age	1705	3.86
15	Professional ethics	3098	7.02	30	Gender	1360	3.08

Table 4: Priority score statistics table.

Ordinal factor	A1	A2	...	An
A1	U11	U12	...	U1n
A2	U12	U22	...	U2n
...	...	...	...	...
An	Un1	Un2	...	Unn

(3)The calculation of the mean value $\sum Ua$ of each evaluation index factor according to the values given by the respondents: From the sum of the data of each row in the table, the cumulative value of U_{ij}, we get

$$\sum Ua = \sum_{j=1}^{n} Uij, i = 1, 2, \ldots, n. \tag{8}$$

Make

$$\begin{aligned} \sum U\max &= \max\left\{\sum U1, \sum U2, \ldots, \sum Un\right\}, \\ \sum U_{\min} &= \min\left\{\sum U1, \sum U2, \ldots, \sum U_n\right\}, \\ \sum U_{\min} &= \min\left\{\sum U1, \sum U2, \ldots, \sum U_n\right\}. \end{aligned} \tag{9}$$

The evaluation factor corresponding to $\sum U_{\max}$ has a high degree of importance, and relatively speaking, the evaluation factor corresponding to $\sum U_{\min}$ is far less important than other factors.

(4)Calculation of range k: Make

$$b\max = 1, \text{ain} = 0.1. \tag{10}$$

So,

$$k = \frac{\sum U\max - \sum U\min}{b\max - b\min}. \tag{11}$$

(5) Calculate the importance b_1 of the first-level index evaluation factors:

b_1 can be calculated by the following:

$$b1 = \frac{\sum U_i - \sum U_{\min}}{b} + 0.1\,(i = 1, 2, \ldots, n). \tag{12}$$

Or

$$b1 = \frac{\sum U_{\max} - \sum U_i}{b}\,(i = 1, 2, \ldots, n). \tag{13}$$

Therefore, the fuzzy set of the importance of the required factors is obtained

$$U = (U1, U2, \ldots Un). \tag{14}$$

Teachers surveyed were asked to rank four Tier 1 index items according to their perceived importance to intelligence, personality, knowledge, and skills. A total of 80 questionnaires were distributed and 61 valid questionnaires were returned. According to the values given by the surveyed teachers, the excel table of each evaluation index factor is counted. Figure 5 shows the priority score (Uij) obtained from data investigation and analysis.

As shown in Figure 5, it is a statistical chart of the priority scores for the first-level index element indexes. Judging from the trend of the data, the value of the importance b_1 of the required evaluation factor, the highest is the skill, which reaches 1. The lowest is the character indicator, which is only 0.1. Overall, it shows that in the evaluation of HR, more emphasis is placed on the skills held by the characters.

Figure 6 shows the evaluation indexes of the first-level elements. Through the data collection of the questionnaire, it is scored. The score is divided into "excellent," "good," "average," "poor," and "bad" and adopts a 5-point scoring model, which decreases in turn. Judging from the number of people who scored in Figure 6, (1) the number of people is concentrated on excellent and good. However, from the perspective of factor indicators, the number of people is mostly concentrated on intelligence and knowledge. (2) The

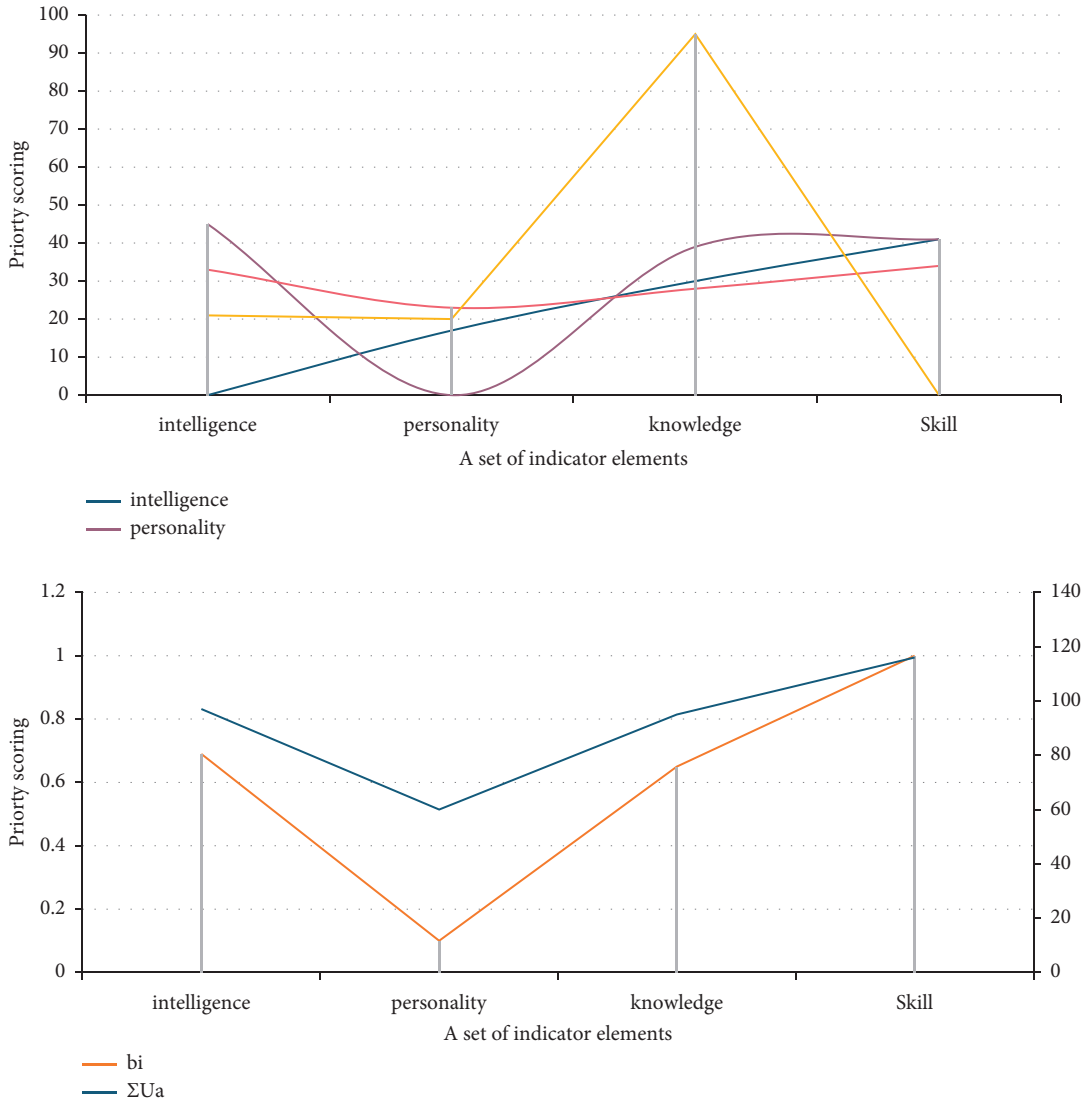

Figure 5: Priority scores for Tier 1 indicator elements.

evaluation scores in Figure 6 also focus more on excellence, and the factor indicators focus on knowledge. This may be related to the reason that the sample collection site is a university.

So

$$H_1 = \begin{Bmatrix} 0.35 & 0.49 & 0.17 & 0.04 & 0 \\ 0.2 & 0.41 & 0.22 & 0.11 & 0.06 \\ 0.46 & 0.32 & 0.21 & 0.05 & 0 \\ 0.34 & 0.38 & 0.2 & 0.06 & 0.02 \end{Bmatrix}. \quad (15)$$

Calculate the range K.

From the above equation, we can get

$$b\max = 1, b\min = 0.1. \quad (16)$$

So

$$k = \frac{\sum U \max - \sum U \min}{b \max - b \min} = \frac{116 - 60}{1 - 0.1} \approx 62.2. \quad (17)$$

It can be obtained from $b_1 = \sum Ui - \sum U \min/b + 0.1\,(i = 1, 2, \ldots, n)$;

$$b_1 = \frac{116 - 97}{1 - 0.1} \approx 0.68. \quad (18)$$

In the same way, $b_2 = 0.1, b_3 = 0.65, b_1 = 1$ are obtained, then

$$U_i = (0.69, 0.1, 0.66, 1). \quad (19)$$

MATLAB software integrates many powerful functions such as numerical analysis, matrix calculation, scientific data visualization, and modeling and simulation of nonlinear dynamic systems. It provides better solutions in an easy-to-use windows environment. Therefore, using MATLAB software to calculate, then

$$F_a^t = Ua \times Ha = (0.87, 0.95, 0.46, 0.12, 0.03). \quad (20)$$

After normalization, we get $BT = (0.361, 0.391, 0.245, 0.048, 0.011)$

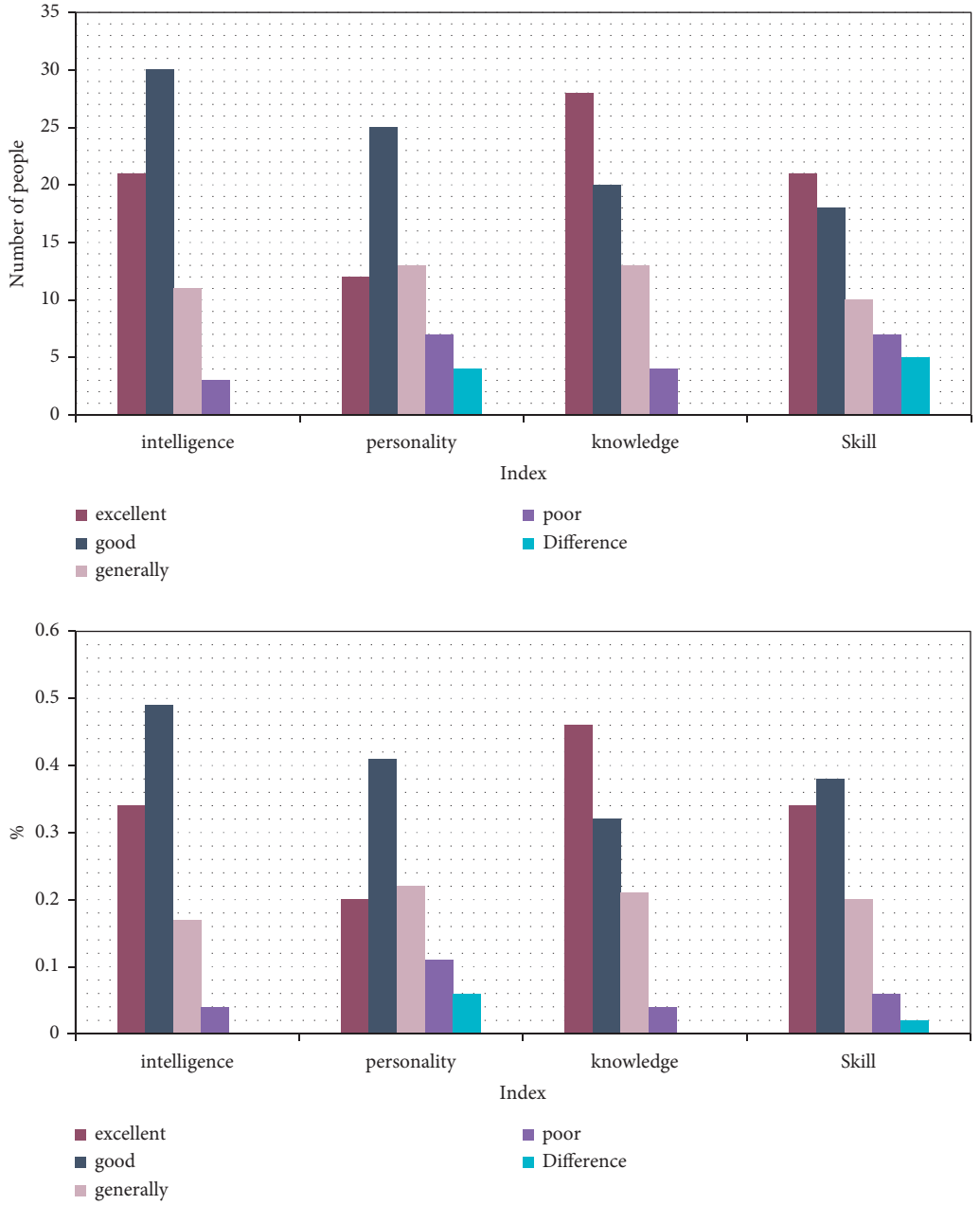

Figure 6: Statistics on the evaluation criteria of indicators in the first episode of HR.

The above results show that among the 62 faculty and staff respondents, 36.1% rated the first level of the human-resource management value system of G College as good. 39.1% rated it as good, 24.5% rated it as satisfactory, 4.8% rated it as poor, and 1.1% rated it as insufficient. Since the scoring standard is 5, the scores for the 5 grades are 5, 4, 3, 2, and 1, respectively. The score for the first level in the human-resource management value system of G College is P.

$$P1 = F_a^t \times \left\{ \begin{matrix} 5 \\ 4 \\ 3 \\ 2 \\ 1 \end{matrix} \right\} = 4.2. \tag{21}$$

The membership degree of the score P is $L = 4.2/5 = 0.84$

The score calculation results show that the comprehensive score of the first-level evaluation index elements of the human-resource management value evaluation system of G College is "excellent." The calculation results of membership degree show that the comprehensive score level of the first-level evaluation index elements of the human-resource management value evaluation system of G College is calculated as 100%. Due to the comprehensive effect of each element, the comprehensive score of the first-level evaluation index elements of the human-resource management value evaluation system of G College reached 84%.

5.4. Fuzzy Comprehensive Evaluation of Secondary Index Elements Based on Human-Resource Quality. Similarly, for the comprehensive fuzzy evaluation of secondary index elements, the first 15 secondary index elements are selected from the 30 secondary index elements in table for evaluation. Similarly, the priority value (U_{ij}) of the secondary indicator shown in Figure 7 is

The optimal score of the secondary index elements shown in Figure 7 does not show an obvious change trend as a whole. But in terms of details, both the optimal score and the required b_i value are the lowest scores for the theoretical level factor. The scores of each factor at the theoretical level showed an insignificant increase.

Then the H2 value can be obtained from Table 5.

Calculations were carried out using MATLAB software to obtain

$$F_a^t = Ua \times Ha = (0.80, 0.66, 0.80, 0.87, 0.96, 0.78, 1.00, 047, 0.93, 0.65, 0.10). \quad (22)$$

After normalization, we get $b2 = (0.28, 0.29, 0.25, 0.10, 0.08)$.

The results show that in the whole survey, 28% of teachers believe that the second level of the human-resource management value system of G College is excellent. 29.3% were good, 24.6% were fair, 10.03% were poor, and 8.0% were bad. Since we set the scoring standard as 5, the values of 5 are 5, 4, 3, 2, 1, and the value of G College's human-resource management value scoring system is P.

$$P2 = F_a^t \times \begin{Bmatrix} 5 \\ 4 \\ 3 \\ 2 \\ 1 \end{Bmatrix} = 3.59. \quad (23)$$

The membership degree of the score P is $Z = 3.59p/5 = 0.72$

The score calculation results show that the total score of the secondary evaluation index elements of the human-resource management value evaluation system of G College is "excellent." The calculation results of membership degree show that the total score of each element of the secondary evaluation index of the human-resource management value evaluation system of G College is calculated as 100%. Due to the comprehensive effect of various elements, the total score of the second-level evaluation index of G College's human-resource management value evaluation system is 72%.

5.5. Application Suggestions of Fuzzy Comprehensive Evaluation Results of G Human-Resource Value in Colleges and Universities. This paper applies the comprehensive fuzzy judgment model to measure the value of HR in colleges and universities and obtains a preliminary evaluation level. From the evaluation process and analysis results, it is a systematic and complicated process to use the comprehensive fuzzy evaluation model to measure the value of HR [26]. In order to make better use of this model to evaluate the value of HR in colleges and universities, the following application suggestions are formulated.

(1) It sets up an expert group to evaluate the G-type HR in colleges and universities. Experts and professors with a major in human-resource management will be invited to become members of the committee. It is necessary to give full play to the role of experts and professors in evaluating the value of HR and establish measures for talent evaluation, employment, promotion, and incentive mechanisms [27]. At the same time, in the comprehensive fuzzy evaluation, whether the determination of the fuzzy set U is compatible with the importance of each element directly affects the result of the comprehensive evaluation. In order to evaluate and measure the value of school HR objectively, fairly, and accurately, a quick and effective method is to use the collective wisdom of experts and professors. It determines the importance coefficient (weight) of each factor in the evaluation problem or decision problem. At the same time, when studying HR evaluation factors, only experts can make objective, fair, and accurate judgments on HR evaluation index factors.

(2) There is an introduction to the evaluation index factors of G resources in colleges and universities. There are many nonmonetary measures of human-resource value. It is a complex system influenced by many factors. This article refers to a large number of literatures and consults a large number of materials. It screens, collects, summarizes, and classifies the factors of human-resource value evaluation indicators. It has 5 social factors, 5 organizational factors, and 53 personal factors. According to the characteristics and actual situation of colleges and universities, make use of the talent advantages of experts and professors. It screens, selects, and determines the HR evaluation index of G College and uses the comprehensive fuzzy evaluation model to measure the school. We will prepare to apply a fuzzy evaluation model to measure the value of university HR.

(3) There is an establishment of a value evaluation system for G-type talents in colleges and universities. Based on the perception of the talent crisis and the concept of strengthening the school with talents, we have constructed a talent evaluation system for secondary colleges, namely, the school evaluation system and the university evaluation system [28]. At the school level, we evaluate and measure the total value of the school's HR G to regulate and rationally allocate the school's HR. At the college level, the human-resource value of individual faculty members is assessed and measured. It establishes the talent pool of the college and records the actual situation of the personal human-resource value of the faculty and staff of the college, in order to avoid the randomness of personnel promotion, the blindness of talent

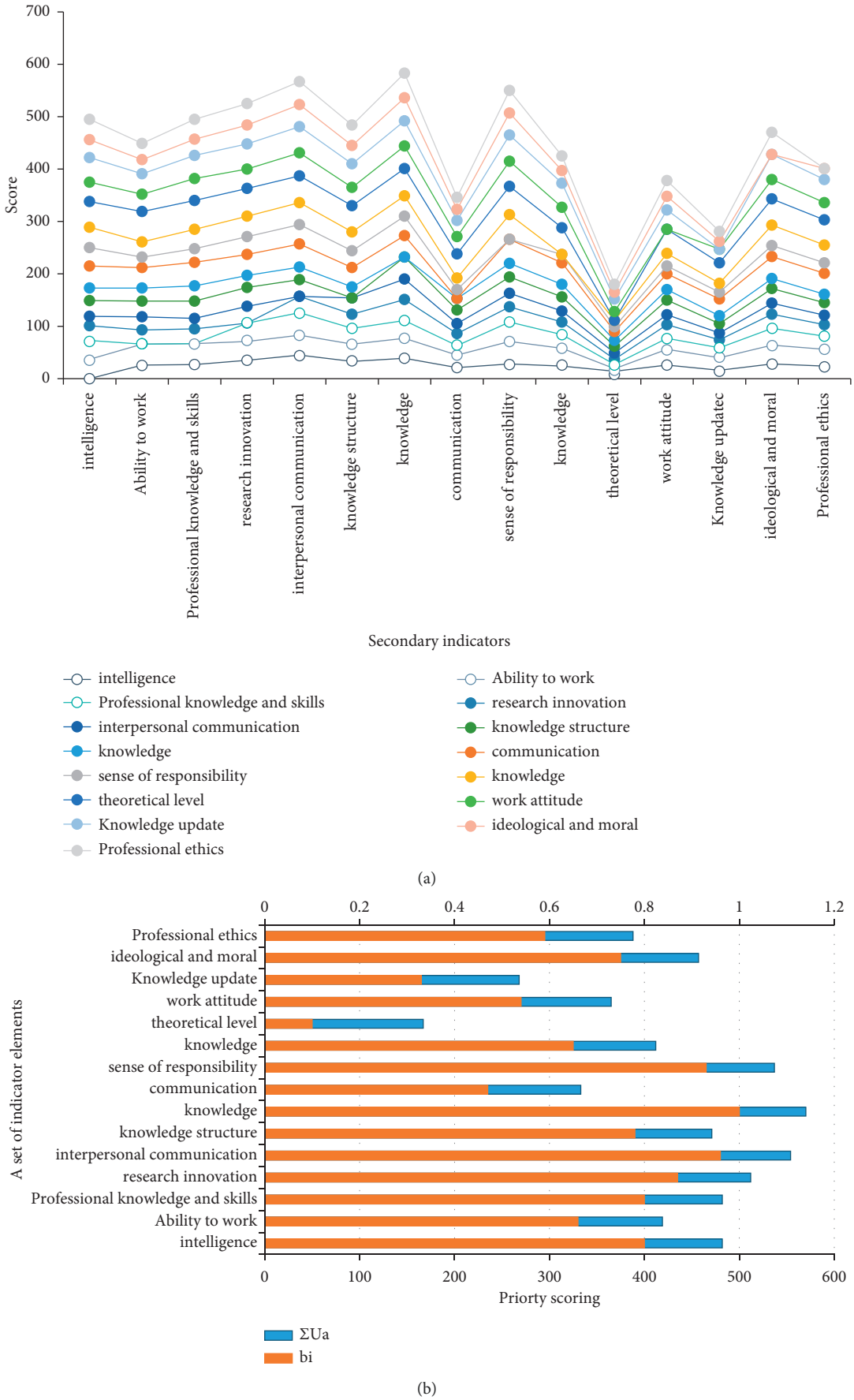

Figure 7: Priority scores for secondary indicator elements.

Table 5: Evaluation table for secondary elements.

Serial number	Indicator variable	Judgment level				
		$h1$	$h2$	$h3$	$h4$	$h5$
1	Intelligence	0.3	0.3	0.2	0.15	0.05
2	Ability to work	0.3	0.3	0.3	0.1	0.1
3	Professional knowledge and skills	0.4	0.2	0.2	0.1	0.1
4	Research innovation	0.2	0.3	0.3	0.1	0.1
5	Interpersonal communication	0.2	0.4	0.3	0.1	0.1
6	Knowledge structure	0.35	0.2	0.3	0.1	0.05
7	Knowledge	0.3	0.3	0.3	0.05	0.1
8	Communication	0.2	0.3	0.3	0.1	0.1
9	Sense of responsibility	0.3	0.3	0.2	0.1	0.1
10	Knowledge	0.3	0.3	0.2	0.1	0.1
11	Theoretical level	0.4	0.2	0.2	0.15	0.05
12	Work attitude	0.3	0.3	0.2	0.1	0.1
13	Knowledge update	0.2	0.3	0.3	0.1	0.1
14	Ideological and moral	0.3	0.3	0.2	0.15	0.05
15	Professional ethics	0.3	0.3	0.3	0.05	0.05

introduction, and the randomness of incentive measures.

(4) The evaluation and measurement methods of human-resource value are formulated. The fuzzy comprehensive evaluation and measurement of human-resource value is a systematic process. The measurement of HR and influencing factors is complicated and the amount of data is large. The fuzzy comprehensive evaluation method simplifies complex problems and expresses the subjective judgment of people in a mathematical form. It can be used in modern office to realize the computerization of data processing. At the same time, the comprehensive fuzzy evaluation method is very theoretical, the calculation method is fixed, and the steps are clear and definite. It can be handled entirely by creating a computer program. Therefore, the development of computing software and the development of accounting computerization will help to measure the human-resource value of school personnel quickly and accurately.

6. Conclusions

At present, the domestic talent structure research and evaluation system still remain in the traditional state of digital statistics. The current situation of its single research method and backward research methods is far from being able to adapt to the new situation of the management and use of HR by the rapid development of society. Institutions of higher learning are talent-intensive social groups. It is an urgent task for them to build their own talent dynamic analysis system, optimize talent structure, and use talent resources efficiently to meet the needs of new forms. Therefore, it is necessary to develop a talent evaluation system that can comprehensively evaluate and analyze the knowledge, ability, and quality of senior scientific and technological talents efficiently, conveniently, and reliably and to popularize it. Based on this background, this paper proposes a fuzzy comprehensive evaluation method to evaluate the teacher talent resources of G College. Fuzzy comprehensive evaluation expresses people's subjective judgment in the form of mathematics, which simplifies complex problems and achieves comprehensive evaluation of talents. The model made a fuzzy comprehensive evaluation on the primary and secondary indicators of the value of HR in colleges and universities and obtained a preliminary evaluation level. It provides a numerical basis for school administrators to develop, manage, and make decisions on school HR. This reflects the possibility of applying the theoretical model in practice and provides a good guide for the human-resource management of G College.

Data Availability

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

Conflicts of Interest

The author states that this article has no conflicts of interest.

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