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Research on Fuzzy Comprehensive Evaluation and Cultivation Mechanism of Entrepreneur Quality——An Empirical Study on Five Typical Entrepreneurs in S city China

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Abstract: Entrepreneurs are the subjects of entrepreneurial activity, their quality is directly related to business success. In the study of entrepreneurial management, the quality of entrepreneur and its evaluation are getting more and more attention. Entrepreneurs quality evaluation can help understand the quality status of entrepreneurs, provide the basis to nurture and develop quality for entrepreneurs. This paper builds specific entrepreneurs quality evaluation methods using fuzzy comprehensive evaluation method, and then selects five typical entrepreneurs from different industries in S city of China as the empirical study objects, evaluates the specific situation of their entrepreneurial quality. Based on these researches, the paper explores the overall quality requirements of entrepreneurs, and analyzes the importance of different indicators. At last, the paper combines entrepreneur quality analysis with the enterprise life cycle, discusses the specific entrepreneurial quality requirements at different stages of enterprise development, and gives some suggestions for the quality cultivation of entrepreneurs.

Keywords: Fuzzy Comprehensive Evaluation; Entrepreneur Quality; Quality Cultivation.

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1. ENTREPRENEUR QUALITY AND ITS EVALUATION

China's economic and social development has begun to enter a new normal state, it hopes to drive new economic growth by encouraging innovation and entrepreneurship in the whole society. Therefore, entrepreneurial activity is increasingly active in China. "college students entrepreneurship", "migrant workers entrepreneurship", "grassroots entrepreneurship", "science and technology entrepreneurship", "women entrepreneurship" and so on, these words have become hot topics, which indicates that China is entering the "public entrepreneurship" era slowly. Entrepreneurial boom has brought new industries, new technologies and new products, in recent years, China has created many small and medium enterprises, which maintains China's higher economic growth rate and lower unemployment rate.

In practice, the entrepreneurs are not always successful, even if they have entrepreneurial enthusiasm, generate entrepreneurial impulse and put into practice. Because the risk of entrepreneurship is great, as many as 90% of entrepreneurs fail in the end. There are many reasons for business failure, but the entrepreneurial factor is very critical. Because as a complex economic management activity, entrepreneurial activity raises a high demand for entrepreneur's quality and their growth. If the entrepreneurs lack good entrepreneurial quality and cannot learn quickly, they are bound to be eliminated by fierce market competition. Therefore, the research on the quality evaluation and development of entrepreneurs will help us to clarify the intrinsic link between entrepreneur quality and entrepreneurial activities, entrepreneurial performance. This can promote the objective evaluation of entrepreneurial quality and effective development. This paper tries to construct the evaluation index system of the entrepreneur's quality and uses the analytic hierarchy process and the fuzzy comprehensive evaluation to evaluate the comprehensive quality of the entrepreneurs. Based on this, the paper studies five typical entrepreneurs in S city China, dynamically explores the directional suggestions of the entrepreneur's quality development through the enterprise life cycle perspective.

2. THE DEVELOPMENT OF ENTREPRENEUR QUALITY EVALUATION INDEX SYSTEM

As one of the three core elements of entrepreneurship, entrepreneur is the main body of entrepreneurial activities, their own qualities and abilities run through the whole process of entrepreneurial activities. And with the growth process of enterprises, entrepreneur quality continues to evolve and enhance. Therefore, the quality evaluation of entrepreneur can not be separated from the different stages of enterprise development, it should reflect the relationship between entrepreneur quality improvement and entrepreneurial process.

Combined with the theory of enterprise life cycle, and then learning from some of the basic qualities that entrepreneurs should have, this paper attempts to develop entrepreneur quality evaluation index system. The system consists of two aspects: the basic quality dimension and the ability quality dimension. Among them, the entrepreneur ability is based on the basic quality, and is the deepening and sublimation of the entrepreneur quality, it is a unique quality that has been accumulated in the entrepreneurial process.

This paper divides the entrepreneur comprehensive quality into two aspects: basic quality and ability quality. The basic quality includes six key indicators: physical quality, psychological quality, ideological quality, knowledge quality, entrepreneurial experience and professional skills. Entrepreneur ability also includes six indicators, they are opportunity recognition, resource integration, entrepreneurial management, risk decision, network construction and innovation. This evaluation index system can not cover more entrepreneur quality indicators, but basically reflects the quality requirements of entrepreneurs in the different development stages of new enterprises. To a large extent, this indicator system is scientifically and viable.

In the process of evaluating the entrepreneur quality, quantitative analysis is very difficult , because the quality of the entrepreneur is a comprehensive system that contains many indicators, not just one indicator. In addition, the indicators have a certain degree of affiliation (not a simple level relationship), the value of these indicators is fuzzy, and difficult to accurately. Therefore, the quality evaluation of entrepreneurs is a comprehensive system involving multiple indicators and indicators level, the "multi-level fuzzy comprehensive evaluation" method in mathematics is more suitable for solving this problem. Based on the above analysis, this paper chooses the fuzzy comprehensive evaluation method to evaluate the quality of the entrepreneur.

3. FUZZY COMPREHENSIVE EVALUATION METHOD OF ENTREPRENEUR QUALITY

3.1 Determine the factor level

Firstly, there are “m” factors at the first level, and the level set is u，$u=\{u_1,u_2\ldots u_m\}$. The ui in the formula is the i-th factor in the hierarchy. Assuming ui contains “n” factors, these factors can be classified as the second level relative to the first hierarchy, and its set can still be expressed as $u_i=\{u_{i1},u_{i2}\ldots u_{in}\}$. Similarly, if it is necessary to continue to subdivide the third level or more level, we can continue to stratify. In general, the more detailed the level of the division, the evaluation results will be more accurate, but the amount of calculation will be greatly increased. In the actual evaluation, the factor level is determined according to the specific situation of the problem and the evaluation needs, there is little uniform situation.

3.2 Create a weight set

At each factor level, the importance of these factors is often different. Therefore, after establishing the factor hierarchy, we need to give the weights of each factor according to their different importance. If the weight is expressed by w, the corresponding weight of the first level factor can be expressed as $w_1,w_2,\ldots,w_m$, its set is $W=\{w_1,w_2,\ldots,w_m\}$. In the formula, wi is the weight of the i-th factor ui. And so on, in the second level of the factor ui, the factor weight set can be expressed as $w_i=\{w_{il},w_{i2},\ldots,w_{ij},\ldots,w_{in}\}$, where w_{ij} is the weight of the j-th factor. If there is a more detailed hierarchical division, we can continue to use the above method to determine the weight, establish the corresponding weight set. There is also a core issue, that is how to determine the weight of the index system. There are two common ways: one is based on the past experience of the researchers, according to their subjective judgments to determine the weight, such as Delphi method, empirical method and so on; the other is the mathematical methods, analytic hierarchy process and principal component analysis are often used. In order to evaluate the entrepreneur quality more scientifically, this paper combines the Delphi method with the analytic hierarchy process method to determine the weight of each index.

The steps to determine the weight using the analytic hierarchy process are as follows. First, establishing the hierarchical structure. It should be clear what is the problem, define it as a target layer, and then decompose the target layer into a criterion layer, which is a sub-layer of

the target layer formed by the decomposition of the problem and the target. Thus, we get the first level indicators, and then also need to continue to subdivide the criteria layer, refined into measures layer, which forms a secondary index system. Second, constructing the judgment matrix. It tends to put a certain factor on the hierarchy as a criterion, define the dominant relationship between the various factors of the next level. We can determine the importance of factors through the one-to-one comparison at the next level, as the comparison results, the score is the judgment matrix we need. The matrix can be expressed as $u=(u_{ij})n\times n$ (the matrix of the factor u in the criterion layer). In the comparison process, we need to determine the importance of the second level factor uij, and give it a certain score. We usually use the l-5 scale method proposed by Prof. TL. Suety to measure. The meanings of the five Arabic numerals are shown in the following table (Table 1).

Table 1. Comparison score of judgment matrix

Scale	Definition	Description
1	the same importance	The two factors are compared and the importance is the same
2	slightly important	Two factors are compared, one factor is slightly more important than the other
3	obviously important	Two factors are compared, one factor is obviously more important than the other
4	much more important	Two factors are compared, one factor is much more important than the other
5	extremely important	Two factors are compared, one factor is extremely more important than the other

We use this method to build the entrepreneur quality evaluation index system in this article, the secondary index set under the indicator of u_1 is $\{u_{11},u_{12},u_{13},u_{14},u_{15},u_{16}\}$. Through the comparison of the importance of these six secondary indicators, we can draw the 6x6 order judgment matrix (denoted by u). The judgment matrix is shown in Table 2.

Table 2. Judgment matrix of indicator u1 importance

u	u_{11}	u_{12}	u_{13}	u_{14}	u_{15}	u_{16}
u_{11}	c_{11}	c_{12}	c_{13}	c_{14}	c_{15}	c_{16}
u_{12}	c_{21}	c_{22}	c_{23}	c_{24}	c_{25}	c_{26}
u_{13}	c_{31}	c_{32}	c_{33}	c_{34}	c_{35}	c_{36}
u_{14}	c_{41}	c_{42}	c_{43}	c_{44}	c_{45}	c_{46}
u_{115}	c_{51}	c_{52}	c_{53}	c_{54}	c_{55}	c_{56}
u_{16}	c_{61}	c_{62}	c_{63}	c_{64}	c_{65}	c_{66}

Note: c_{ij} in the above table is the value of the comparison between u_{ij} and u_{ij}, c_{ij} is the result of two factors reverse comparison; Obviously, c_{ij} and c_{ij} are reciprocal.

Third, calculate the relative weight of a single criterion layer. According to the data provided by the judgment matrix, the maximum eigenvalue and vector of arbitrary precision can be calculated by power law. The vector can reflect the weight of each factor. However, in the actual operation of the analytic hierarchy process, the requirements of accuracy is not very high, thus, these weights are essentially a qualitative meaning. So, when solving the eigenvalue, we can use the approximate solution method to make the operation more simple. We can follow the four steps to calculate. The first step is to calculate the product of each row factor in the

matrix, denoted by $M_i = \prod_{i=1}^{n} C\bar{i}$, $i = 1, 2, \ldots, n$. The second step is to solve the nth root of Mi. $W_i = \sqrt[m]{M_i}, i = 1, 2, \ldots, n$. The third step is to normalize vector. $W_i = \frac{w_i}{\sum_{i=1}^{n} w_i}, i = 1, 2, \ldots, n$. Then, the vector is the eigenvector of the judgment matrix, that is the weight of the corresponding indicator. The fourth step is the consistency test, that is to determine whether the evaluation matrix is reliable. We should calculate the random consistency index CI firstly, $CI = \frac{\lambda_{,max} - n}{n-1}, \lambda_{\max} = \frac{1}{n} \sum_{i=1}^{n} \frac{(uW)_i}{W_i}, \lambda_{\max}$, is the largest eigenvector root of the judgment matrix, and n is the order of the corresponding matrix. We also need to calculate the consistency ratio CR, $CR = CI/RI$, RI is the average random consistency index, only when the CR is less than 0.1, we can accept the consistency of the matrix.

3.3 Build a set of comment

No matter how many levels, the comment is always only one, assuming that there are p comment results, then the comment set can be expressed as $V = \{V_1, V_2 \cdots V_k \cdots V_p\}$, V_k is the k-th comment of the total commentary.

First - level fuzzy comprehensive evaluation

Multilevel fuzzy comprehensive evaluation is from the lowest level, and then layer by layer, until the last level (that is the highest level). We call the lowest level of the judge First - level fuzzy comprehensive evaluation in this method, if we have n levels, then the highest level of comprehensive evaluation will be called the n-level fuzzy evaluation. Assuming that the lowest level of the object is uij, the membership of the k-th result in the comment set is expressed as $r_{ijk}\left(i = 1, 2 \ldots m; j = 1, 2 \ldots n; k = 1, 2 \ldots p\right)$, so, the second level of single factor judgment matrix is $R_i = \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1p} \\ r_{21} & r_{22} & \cdots & r_{2p} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mp} \end{bmatrix}$, and its fuzzy comprehensive evaluation set is

$$B_i = W_i \cdot R_i = \left(w_{i1}, w_{i2}, \cdots, w_{ij}, \cdots w_{in}\right) \cdot \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1p} \\ r_{21} & r_{22} & \cdots & r_{2p} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mp} \end{bmatrix}$$

In the fuzzy comprehensive evaluation, there is also the problem of membership degree, this paper uses fuzzy statistics to determine the index evaluation value. The specific operation of the method is to ask the experts to give the evaluation index level according to the pre-prepared reviews, and then count the indicators frequency “m” in the various levels, expressed as $q_{ij} = m_{ij}/n, q_{ij}$ can be used to denote the membership of u_{ij} belonging to the Vk level. Table 3 is the common table for investigating the membership of the evaluation index.

Table 3. Common membership questionnaires

	V_1	V_2	V_3	V_4	V_5
Indicator 1					
Indicator 2					
...					
Indicator n					

Second - level fuzzy comprehensive evaluation

In accordance with the above judgments, we move the next level of evaluation results up, in fact, that is single factor evaluation of the adjacent level.If there are only two levels in evaluation index system, evaluating the first level factors $(u_i = \{1,2,\ldots m\})$ can bring second-level judgments, its one-factor judgment set corresponds to the first-level judgment matrix $R = \begin{bmatrix} B_1 \\ B_2 \\ \cdots \\ \cdots \\ B_m \end{bmatrix} = \begin{bmatrix} w_1 R_1 \\ w_2 R_2 \\ \cdots \\ \cdots \\ w_m R_m \end{bmatrix}$, correspondingly, the secondary judgment set is $B = W \cdot R = W \cdot \begin{bmatrix} w_1 R_1 \\ w_2 R_2 \\ \cdots \\ \cdots \\ w_m R_m \end{bmatrix} = (b_1, b_2, b_3, \ldots b_k \ldots, b_p)$. Bk is the degree to which the subject of the evaluation belongs to the k-th result of the evaluation set in the second-level judgment process. If there are two or more levels of factors, we can follow the above calculation until complete all the evaluation work.

3.4 Process the evaluation results

In order to distinguish and quantify the evaluation results better, this paper uses the percentile system to reflect the hierarchical weighting vector, $V = (v_1, v_2, v_3, v_4, v_5) = (100, 90, 80, 70, 60)$. We can sum the evaluation index, and then use the evaluation index divided by the sum, so the normalized number of indicators is 1.This formula is $b = \sum_{i=1}^{5} b_k$, the evaluation results after the weighted operation are $\sum_{i=1}^{5} b_i \times v_i$. Putting the calculation results into Table 4, we can draw a specific rating level.

Table 4. Evaluation rating table

evaluations number	level	evaluations number	level
90-100	AAA	80-89	AA
79-79	A	60-69	BBB
60 or less	BB		

4. EMPIRICAL EVALUATION OF TYPICAL ENTREPRENEURS IN SCITY

4.1 The data source of evaluation

In order to evaluate the entrepreneur quality with the fuzzy comprehensive evaluation method, this paper selected five well-known private enterprise entrepreneurs (labeled as A, B, C, D and E) in S city as the empirical research objects, who are from the IT industry, manufacturing, wholesale and retail, catering industry. This paper conducted a questionnaire survey on ten experts, these experts give the comparison matrix of the index weights. Then, the paper uses the analytic hierarchy process to derive the index weight.

In addition, the five entrepreneurs have a high reputation, their entrepreneurial process is also widely known. This article briefly summarizes their entrepreneurial experience and entrepreneur quality, and ask the experts to evaluate the quality indicators of entrepreneurs. Through these work, we obtain the evaluation data, which reflects the indicators attached to the different levels of comment set. After the statistical analysis of the questionnaire, we calculated the final qualitative score of the five entrepreneurs using fuzzy comprehensive evaluation.

4.2 Quality Evaluation of the Five Entrepreneurs in S City

This paper has developed the entrepreneur quality evaluation index system which contains three levels, the lowest level of the index is the first level of judgment, the next level (target level) as the secondary evaluation.

(1) Determine the evaluation factor set.This article divides the entrepreneur quality as the basic quality and the ability quality, the factor set can be expressed as: the entrepreneur quality u:{basic quality ul,ability quality u_2}. Among them, u_{11} contains six secondary indicators, the factor set can be subdivided into: basic quality u_1: {physical quality u_{11}, psychological quality u_{12}, ideological quality u_{13}, knowledge quality u_{14} ,entrepreneurial experience u_{15}, professional skill u_{16}}. Similarly, the ability quality u_2: {opportunity recognition u_{21}, resource integration u_{22}, entrepreneurial management u_{23}, risk decision u_{24}, network construction u_{25}, innovation u_{26} }. Therefore, the quantification of the factor set is $u:\{u_1,u_2\},u_1:\{u_{11},u_{12},\ u_{13},u_{14},u_{15},u_{16}\};u_2:\{u_{21},u_{22},u_{23},u_{24},u_{25},u_{26}\}$.

(2) Determine the weight of the index. In this paper, we use the Delphi method to determine the relative importance of each factor, obtain the comparison matrix number, which is the original data of the analytic hierarchy process. So we can determine the relative weight of the index through the above two methods. The comparison matrix is shown in Table 5.

Table 5. Indicators importance comparison matrix of entrepreneur basic qualities (u1)

u	u_{11}	u_{12}	u_{13}	u_{14}	u_{15}	u_{16}
u_{11}	1	1/2	1	1/2	1/3	1/2
u_{12}	2	1	2	1	1/2	1
u_{13}	1	1/2	1	1/2	1/3	1/2
u_{14}	2	1	1	1	1/2	1
u_{15}	3	2	3	2	1	2
u_{16}	2	1	2	1	1/2	1

Because $M_{\bar{i}} = \prod_{i=1}^{n} C_{\bar{i}}, W_{\bar{i}} = \sqrt[n]{M_{\bar{i}}}$, therefore $w_n = . \sqrt[6]{1 \times \frac{1}{2} \times 1 \times \frac{1}{2} \times \frac{1}{3} \times \frac{1}{2}} = \sqrt[6]{\frac{1}{24}} = 0.59$ Using the same calculation method, we have $w_{12} = \sqrt[6]{2} = 1.12, w_{13} = \sqrt[6]{\frac{1}{24}} = 0.59, w_{14} = \sqrt[6]{2} = 1.12, w_{15} = \sqrt[6]{72} = 2.04, w_{16} = \sqrt[6]{2} = 1.12$,

Then the fuzzy comprehensive evaluation method is used to normalize the vector, and the eigenvector W_1 is obtained。

$\sum_{I=1}^{6} W_i = 0.59 + 1.12 + 0.59 + 1.12 + 2.04 + 1.12 = 6.58,$ using the formula- $W_i = \frac{w_i}{\sum_{i=1}^{n} w_i}$, we can calculate:

$w_n = \frac{w_{1i}}{\sum_{i=1}^{6} w_i} = \frac{0.59}{6.58} = 0.09$.

Similarly, $w_{12} = 0.17, w_{13} = 0.09, w_{14} = 0.17, w_{15} = 0.31,\ w_{16} = 0.17.$ So, $w_1 = \{w_{11}, w_{12}, w_{13}, w_{14}, w_{15} w_{16}\}^T = \{0.09$ $0.17, 0.09, 0.17, 0.31, 0.17\}^T$. Combined with Tab.3.1 data and w1, $uw_1 = \begin{bmatrix} 0.54 \\ 1.03 \\ 0.54 \\ 1.03 \\ 1.87 \\ 1.03 \end{bmatrix}$, thus, the largest eigenvalue $\lambda_{\max} = \frac{1}{n} \sum_{i=1}^{n} \frac{(uW)_i}{W_i} = \frac{1}{6}\left(\frac{0.54}{0.09} + \frac{1.03}{0.17} + \frac{0.54}{0.09} + \frac{1.03}{0.17} + \frac{1.87}{0.31} + \frac{1.03}{0.17}\right) = 6.035$.

Next, we conduct a consistency test, $CI = \frac{\lambda_{\max} - n}{n-1} = \frac{6.035 - 6}{6-1} = 0.007, RI_1 = 1.26$, so we have $CR_1 = \frac{0.007}{1.26} = 0.006$, consistency test is passed.

Using the same method, the score table for factor u2 is shown in Table 6.

Table 6. Indicators Importance Comparison Matrix of Entrepreneur Ability Qualities (u2)

u	u_{21}	u_{22}	u_{23}	u_{24}	u_{25}	u_{26}
u_{21}	1	1/2	1/3	1/2	1	1/3
u_{22}	2	1	1/2	1	2	1/2
u_{23}	3	2	1	2	3	1
u_{24}	2	1	1/2	1	2	1/2
u_{25}	1	1/2	1/3	1/2	1	1/3
u_{26}	3	2	1	2	3	1

So, $W_2 = \{0.08, 0.15, 0.27, 0.15, 0.08, 0.27\}$.

After the above work, we completed the first level evaluation, then, we can move up to evaluate the secondary level. The comparison of the importance of the primary indicators and the weight values are shown in Table 7.

Table 7. Comparison matrix for primary indicators

	u_1	u_2
u_1	1	1/2
u_2	2	1

So, $W_1 = 0.33, W_2 = 0.67$, and by the calculation, consistency test also meet the requirements. Summarize all the above calculations, we have

$$W = (W_1, W_2) = (0.33, 0.67)$$

$$W_1 = (0.09, 0.17, 0.09, 0.17, 0.31, 0.17)$$

$$W_2 = \{0.08, 0.15, 0.27, 0.15, 0.08, 0.27\}$$

(3) Build a set of comment. As mentioned above, we use a common set of comment, $V = (AAA, AA, A, BBB, BB)$, in this expression, AAA means very good, AA means good, A means better, BBB means the general, BB means poor.

(4) The First - level fuzzy comprehensive evaluation of entrepreneur quality. Through the quality score of the five entrepreneurs given by ten experts, we take the entrepreneur A as an example to do the first-level fuzzy comprehensive evaluation. Table 8 is the result of expert evaluation.

Table 8. Evaluation scores of ten experts on entrepreneur a

	AAA	AA	A	BB	B
physical quality	2	5	2	1	0
psychological quality	2	4	3	1	0
ideological quality	1	4	4	1	0
knowledge quality	1	3	4	2	1
entrepreneurial experience	2	3	3	1	1
professional skill	1	4	3	2	0
opportunity recognition	3	3	3	1	0
resource integration	2	5	2	0	1
entrepreneurial management	1	6	2	1	0
risk decision	4	3	1	1	1
network construction	0	3	4	2	1
innovation	2	4	3	1	0

From the above table we can obtain matrix R1 and R2, combined with the previously determined weight(w), we have

$$B_1 = W_1 \cdot R_1 = (0.09, 0.17, 0.09, 0.17, 0.31, 0.17) \cdot \begin{bmatrix} 0.2 & 0.5 & 0.2 & 0.1 & 0 \\ 0.2 & 0.4 & 0.3 & 0.1 & 0 \\ 0.1 & 0.4 & 0.4 & 0.1 & 0 \\ 0.1 & 0.3 & 0.4 & 0.1 & 0.1 \\ 0.2 & Q3 & 0.3 & 0.1 & 0.1 \\ 0.1 & 0.4 & 0.3 & 0.2 & 0 \end{bmatrix} = (0.157, 0.362, 0.317, 0.117, 0.048)$$

Using the same method, $B_2 = (0.195, 0.438, 0.238, 0.098, 0.038)$.

We can get evaluation matrix of the first level indicators through B1 and B2, that is $R=(R_1,R_2)$, combined with $W=(W_1,W_2)=(0.33,0.67)$, we have $B=W\cdot R=(0.185,\ 0.263,0.101,0.042)$.

Finally, comprehensive quality score of entrepreneur A is: 0.185× 100+0.412 ×90+0.263 ×80+0.101×70+0.042×60=85.76, his basic quality score is:

0.157 ×100+0.362×90+0.317×80+0.117×70+0.048×60=84.62;

his ability quality score is:

0.159×100+0.438×90+0.238×80+0.093×70+0.038×60=86.32.

And then we do a detailed calculation, can get the score of entrepreneur A in the secondary level indicators. The score is shown in Table 9.

Table 9. The basic quality evaluation of entrepreneur a

The secondary indicators	weight（W）	final score
physical quality	0.09	7.62
psychological quality	0.17	14.38
ideological quality	0.09	7.62
knowledge quality	0.17	14.38
entrepreneurial experience	0.31	26.23
professional skill	0.17	14.38
total		84.62

Similarly, we have the ability scores of entrepreneurs A (as shown in Table 10)

Table 10 the ability quality evaluation of entrepreneur a

The secondary indicators	weight（W）	final score
opportunity recognition	0.08	6.91
resource integration	0.15	12.95
entrepreneurial management	0.27	23.31
risk decision	0.15	12.95
network construction	0.08	6.91
innovation	0.27	23.31
total		86.32

Table 11. Comparison of the entrepreneur quality in the five entrepreneurs

	A	B	C	D	E
comprehensive quality score	85.76	87.45	85.61	84.15	85.15
basic quality score	84.62	86.86	84.37	82.68	83.72
ability quality score	86.32	87.74	86.22	84.88	85.85

From the above calculation we can see that the comprehensive quality score of entrepreneur A is 85.76, corresponding to the AA level, the performance is excellent. In the basic quality, entrepreneurial skills play a more important role(score 26.23), followed by experience, psychological and knowledge quality, and the finally is physical fitness; in the ability quality, innovation and entrepreneurship management are the most important(score of 23.31), followed by the ability of resource integration and risk decisions.

Using the same methods and steps, we evaluate the other four entrepreneurs, their scores of overall quality, basic quality and ability are shown in the table below (Table 11).

From the table we can see that the total quality score of the five entrepreneurs are more than 80 points, in a good state. Entrepreneur B's comprehensive score (87.45) was the highest, and D's score was the lowest, at 84.15. There is a trend in the five scores, that is, entrepreneurial ability score is higher than the basic quality score. That is to say, entrepreneurial ability is more important than the basic quality, play a more important role in the entrepreneurial process.

Although the five typical entrepreneurs come from different industries, their entrepreneurial experience is not the same, they all have good quality and ability related to entrepreneurship, these are important cornerstone of their entrepreneurial success. In these qualities, entrepreneurial skills, entrepreneurial experience, psychological and intellectual quality are essential to the success of entrepreneurship; entrepreneurial ability, such as resource integration, innovative and so on, are more important. And in practice, although there are difference in quality structure and quality level, successful entrepreneurs generally do not have the short board of quality, that is to say, there may be some deficiencies in the quality of the entrepreneur, but this deficiency does not lead to business failure or greater performance loss. Therefore, entrepreneurs should pay attention to their own comprehensive quality, and constantly upgrade their basic quality and ability to achieve their own growth and business development.

5. SOME SUGGESTIONS ON THE CULTIVATION OF ENTREPRENEUR QUALITY

According to the above empirical research, combined with the specific characteristics of different stages in the life cycle of entrepreneurial enterprises (this article divides entrepreneurial enterprise growth stage into entrepreneurial preparation stage, start-up stage, growth stage and maturity stage), we put the entrepreneurs quality in the different stages of business growth, look at the quality of entrepreneurial development dynamically, then we can get some conclusions on cultivation and development of the entrepreneur quality.

First of all, in the entrepreneurial preparation stage, entrepreneurs should have a strong ability to collect and analyze information, combined with their own needs they can find , identify and use opportunities. Therefore, at this stage, the cultivation of entrepreneur quality should focus on the self-demand awareness, the entrepreneurial information collection and the opportunity recognition. Second, as the empirical research for the five entrepreneurs we have done, the ability of resource integration and innovation are more important to entrepreneurship. Therefore, at the enterprise start-up stage, entrepreneurs in particular need to develop their capabilities of resources development and integration. When the enterprise develops into the growth stage, entrepreneurs need to rely on the team success to promote the sustainable development of enterprises. Therefore, at this stage, the key to the entrepreneurial quality development is the ability of team building and management, as well as the skill of employee motivation and the ability of enterprise culture building. Through the formation of these

entrepreneurial skills and the accumulation of entrepreneurial experience, entrepreneurs can promote the company rapid development. Finally, at the mature stage, entrepreneurs should strive to cultivate the knowledge and skills of business management, the ability of entrepreneurial network construction and innovation, only in this way can they ensure the sustainable development and growth of enterprises.

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