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A New Approach Factor- Entropy Analysis Method Application to Business Costs in SMEs of Shanghai Model

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Abstract

The purpose of this paper is effectively resolving the issue of simplification and assignment evaluation index system on business costs of Small and Medium Enterprises (SMEs) in Shanghai. We try to use factor analysis to interpret the data on indicators and considering objective empowerment with entropy method. We show that combination factor analysis and entropy method to evaluate business cost for SMEs has advantages. We make an empirical analysis using of a sample of 36 SMEs in shanghai. Finally, we show that Factor-Entropy analysis method is an objective evaluation method, which indicators can reflect and explain scientific phenomena. We find that proposals to help developing of SMEs and manage business costs.

Keywords: Entropy; Factor analysis; Evaluation of business costs for SMEs

Introduction

In recent, business costs of Shanghai has been high in China, such as labor, raw materials, land and environment resources. In the case of the general appreciation of the RMB channel and developed countries face "re-industrialization" of the new trend, low-cost era has been away from China, let alone Shanghai. In particular, the reliance on "cost drivers" and the lower end of the global industrial chain in Shanghai SMEs, the rapid rise in the cost of business-to-business development poses a severe test, which will face a new round of attacks. This is to say, it is imminent how to reduce the cost of doing business for SMEs Shanghai.

In 2002, JIANG Yi-ren, Vice Mayor of Shanghai, the opening meeting of the third speech Economist Roundtable on Shanghai on February 28, said Shanghai will strive to reduce the cost of doing business for investors. Since then Scholars set off on a wave of study on business cost in Shanghai.

Currently, there are about the business cost research methods can be divided into three situations in China. First, one of kind is a comparative analysis method, a representative is Ann Lai Wei, Li - feng, Zhao Shu-dong [1], Nanjing, Wuxi, Kunshan, Ningbo, Shanghai 's business cost comparison study; Zhejiang enterprises investigation Team (2004), comparing Jiangsu, Zhejiang, Shanghai, Guangdong, Fujian satisfaction business costs; Zhou zheng-zhu, Sun ming-gui [2], A comparative study of six eastern coastal provinces and four provinces in central the level of business cost structure. Not surprisingly then, recent studies have looked at mainly comparative analysis of the various regions within business costs and business costs among the various components, each component can explain the differences between regions of specific indicators. However, these indicators of studies are too specific. Although these studies have provided a good contrast of this phenomenon, the performance implications of this strategy to SMEs and regions development remain under-explored.

Second, another of kind is a comprehensive evaluation method to application subjective weighting of Evaluation method, such as An Li-wei, Li Feng, Zhao Shu-dong [1] established a system of three indicators to measure the cost of doing business, and using the Delphi method; Shi Fang [3] selection of AHP method; Chen Jianjun [4] for each factor costs and transaction costs constitute weighting factors; Empowering subjectivity is relatively strong, would lead to a factor assessment is too high or low, the true objectivity of the evaluation process is affected.

Third, there is a comprehensive evaluation method based on an objective evaluation of weighting method, such as Pan Fei et al. [5] using factor analysis, the impact of various factors on the business costs of foreign direct investment is significant; Guo Ying [6] decomposition model of business costs; Zhou Zheng- zhu [2] applied the structural model and the DS evidence theory model used in corporate relocation decisions case application analysis; Zhou column, Wang Zu-zhu, Sun Ming-gui [7] Comprehensive Evaluation Model and Empirical Research entropy correction G1 method regional business costs based on the use of a comprehensive weighting method. Although the latter adopted an objective weighting method, this article has some instructive, too small for index classification does not reflect a comprehensive information.

In summary, this paper takes into account the specific business cost of the Shanghai SMEs goals are more related to the field of policy-oriented, technological innovation, resources and environment, market operations. Multi-target of Business-cost is hard to measure. Therefore, studying a few targets with less skill to overcome the drawbacks of subjective empowerment, has some scientific. We find that approach contributes positively to reflect the cost of doing business for SMEs to evaluate the information. However, the information is not sufficient that the case does not give an accurate quantitative evaluation value, and evaluation research how to make and how to evaluate multi-attribute is relatively small. For the above-mentioned problems, this paper presents a comprehensive solution.

Methodologies

Factor analysis

Factor analysis was first proposed by Charisa Spearman in 1904, the American psychologist whose basic idea is to multiple indicators measured, using a linear combination of a few potential independent factor can be formed reflecting the main message of the original multiple measured. Assuming the number of samples to be evaluated as, Shanghai SME evaluation P. Original variable index denote X1,X2, …,XP their integrated indicators and targets for the new variables Z1,Z2,…,Zm(m≤ p),

Z1 =l11 X1+ l12 X2+ ……+ l1p Xp

Z2 =l21 X1+ l22 X2+ ……+ l2p Xp

Zm =lm1 X1+ lm2 X2+ ……+ lmp Xp

Z=(lijXP)nxm the coefficient lij is determined by the following principles:

Zi and Zj(i,j,ij=1,2,…,m) Independent of each other;

b) Z1 is X1, X2,..., Xp linear combination of all the greatest variance.Z2 and Z1 are not related to X1, X2,..., Xp of all linear combinations of greatest variance; Zm and Z1, Z2,..., Z (m-1) is not associated with X1, X2,..., Xp, Zm is all linear combinations of greatest variance. The new variable indexes z1,z2,,…,zm (m≤p) are referred to the original variable indicators X1,X2,…,XP, which are the main component. z1 in which the proportion of the total variance of the largest, z2,,…,zm variance in descending order.

Entropy method

Entropy is a thermodynamic concept. In 1948, CE Shannon introduced the concept of entropy in information theory, which put forward the "information entropy" concept. Which is a measure of system uncertainty, or the degree of ordering of the system, the greater the entropy, the greater the uncertainty of variables, the greater the amount of information required. System more orderly, entropy lowers [8-11]. A system more confuses, the higher the entropy. According to the basic principles of information theory, information is a measure of the degree of ordering of the system. Entropy is a measure of the degree of disorder of the system, both absolute values are equal, but opposite in sign. Entropy method is passed in accordance with the amount of information to decision makers each indicator to determine the right size of the corresponding index weight [12]. Assuming the number of samples to be evaluated n index of Shanghai SME business cost m, the index data matrix is denoted by z=(zij)n×m for some index Zj, information entropy. If the entropy index of information entropy a smaller index value indicates the degree of variation, the greater the amount of information provided, the greater the share of the weight, the greater the comprehensive evaluation of the role; Conversely, if the index information of a the greater the entropy, the smaller the index value indicates the degree of variation, the smaller the amount of information provided, the less weight in the evaluation of the role of the smaller.

Ideas and steps of Factor - entropy analysis

We can show Ideas of factor-entropy analysis (Figure 1).

①Raw data normalized.
②Standardized matrix calculated correlation matrix.
③Computing eigenvalues, eigenvectors.
①Raw data normalized.
②Standardized matrix calculated correlation matrix.
③Computing eigenvalues, eigenvectors.
⑦ Determine the main component indexes.
⑧Non-negative processing of component index matrix.
⑨ Calculate the entropy and entropy weight.
⑩ Comprehensive evaluation score is calculated.

Figure 1: Ideas of factor-entropy analysis.

We have drown the specific steps.

● Select n number of Shanghai SMEs, the initial business cost index number p, the matrix X=(xij)n×m λ1≥λ2……. ≥λp p, where Xij denotes the item j business cost index data i Shanghai SMEs.

● Initial financial indicators standardized, eliminating indicators incommensurability, reveals a new data matrix as follows: Y=(yij)n×p, Among

$$y_{ij}=\frac{X_{ij}-X_j}{\sqrt{\mathrm{var}(X_j)}}$$

(ij=1,2,…,p), as item j business cost index data the mean and variance of item j business cost index data.

● We can calculate the correlation coefficient matrix R, Rij(ij=1,2, …,p) of the original variables Yi and Yj correlation coefficient is calculated as:

$$R_{ij}=\frac{\sum_{k=1}^{n}(Y_{ki}-Y_i)(Y_{ki}-Y_j)}{\sqrt{\sum_{k=1}^{n}(Y_{ki}-Y_i)^2\sum_{k=1}^{n}(Y_{ki}-Y_j)^2}}$$

● calculated eigenvalues and eigenvectors.

Solutions of the characteristic equation

$$|\lambda E-R|=0$$

Eigen values λi(i=1,2,…,p). Since R is a positive definite matrix, eigenvalues λi are positive, arranged in order of size, that λ1 ≥ λ2 ≥…≥ λp ≥ 0. The characteristic value is the variance of the principal component, which reflects the size of the object being evaluated is described on the role of each main component. Then,

$$|R-\lambda|U=0$$

to determine the matrix of eigenvectors U.

● Factor calculated contribution rate and cumulative contribution rate to determine the number of principal components factor. The Zi contribution rate factor is

$$\lambda_{i/}\sum_{j=1}^{p}\lambda_j$$

then cumulative contribution rate.

$$\sum_{j=1}^{m} \lambda_j / \sum_{j=1}^{p} \lambda_j$$

Generally the cumulative contribution rate is 80% - 95% of the eigenvalues λ1 ≥ λ2 ≥ …≥ λm corresponding, 1,2,…,p and m (m ≥ p) a main component. By SPSS statistical software to calculate the eigenvalues, the contribution rate, the cumulative contribution rate to determine the main ingredients.

● Component load calculation to determine the value of the principal component indicators, new economic significance of each main component gives a reasonable explanation.

● Establish the principal component index matrix z=(zij)n×m, ( )j n m Z zi × = with poor transform non-negative treatment.

$$\bar{z} = \frac{z_{ij} - \min_j\{z_{ij}\}}{\max_j\{z_{ij}\} - \min_j\{z_{ij}\}}$$

zijϵ[0,1]

● Calculated item j No. i index value of the proportion of enterprises standardized indicators:

$$p_{ij} = \frac{z_{ij}}{\sum_{i=1}^{m} z_{ij}}$$

(i=1,2…..n,j=1,2,…,m)

● item j index calculated entropy where k is Boltzmann's constant k>0, so that k=1/lnn.

$$e_{ij} = k \sum_{i=1}^{n} \ln p_{ij}$$

(i=1,2…..n,j=1,2,…,m),0 ≤ ej ≤ l0

● Calculate the coefficient of variation in item j indicators. For item j index, the greater the difference in index ij z, the greater the weight right on the greater role of program evaluation. Make the difference coefficients gj, gj=1-ej, when gj is larger, the more important indicator of item j According to the calculated entropy, Entropy j indicators are

$$w_j = \frac{g_j}{\sum_{j=1}^{m} g_j}$$

(1≤j≤m) 0

Calculation of the enterprise i comprehensive performance scores:

$$s_i = \sum_{i=1}^{m} w_j p_{ij}$$

(i=1,2…..n,j=1,2,…,m) 0

Empirical Research

Research framework

As alluded earlier, the objectives of this study are, to examine the relationship between the development of SME in Shanghai and business costs. In order to realize this objective, a research frame has been developed as illustrated in Figure 1. The framework is a simple liner model consisting of four categories. At the same time, the direct relationship the capital market and the external environment for the establishment and development of SMEs in Shanghai is the dominant force. To test this hypothesis, we first constructed a model so that the model of development from the perspective of the development of SMEs starting a business cost management can be from people, objects, markets, government four areas to measure [13-17].

In policy-oriented, technological innovation, factor costs, market indicators of four sub-systems 10. three indicators are "the proportion of social credit system (X1), the administrative fee income accounted for the proportion of local general budget revenue (X2), total tax revenue/GDP (X3)", technological innovation subsystem three indicators are "million patents granted (X4), the number of people with professional technology (X5) personnel, workforce training number (X6)", factor cost subsystem two indicators are" average wage (X7), fixed asset investment financial proportion of loans (X8)", market operation subsystem two indicators are" expenditure/GDP (X9), the per capita investment in fixed assets (X10) as shown in the Table 1.

System	No.	Meaning
Policy oriented	X1	Improve the ability of social security
	X2	Government resource costs
	X3	Government resource allocation capabilities
Technology Innovation	X4	knowledge resources
	X5	Human Resources
	X6	Human Resources
Factor cost	X7	Human Resources
	X8	Financial cost of capital resources
Market operation	X9	Degree of development of the market
	X10	Potential market growth rate

Table 1: Shanghai SME Business Cost Index in 2012.

Sample and data

According to the above evaluation structure, we make a comprehensive valuation system on business costs of Shanghai more scientific and operable. The scope of the study has limited within the scope of SMEs in Shanghai. We find a certain special object to research in Shanghai. According to the first batch of development funds intended for SMEs 36 projects supported research enterprise, which are supported 36 Shanghai SMEs in China in 2013, a total funding of 15.46 million RMB. The categories of funds are divided into two. The first one funds category is listed foster SME restructuring project. There are 27 companies, such us, Shanghai Leibo Electric shares a limited company, Shanghai Xiao Nan Guo source of sea food and beverage management companies. Another category of project mainly is broadening the financing channels for SMEs. There should be no less than 9 companies [18,19].

Among of 36 enterprises, we randomly selected 16 SMEs as the research object. There are Shanghai CITIC Health Pharmaceutical Co., Ltd., Shanghai Airlines Pentium construction Engineering Co., Ltd.,

Shanghai disainuo Pharmaceutical Co., Ltd., Shanghai Shen Si enterprise Development Co., Ltd., Shanghai Blue-ray Technology Co., Ltd, Shanghai Manhattan Aluminum Co. Ltd., Dr Quan Optoelectronics Technology Co., Ltd., Ke Boda technology Co., Ltd., Shanghai Laimei Thailand CNC machine Co., Ltd, Shanghai Gillion new software Co., Ltd. Among of them, we randomly selected five research enterprises as a sample. The survey data has a dedicated team to analyze the data evaluation. We selective data from the Shanghai-based SMEs in 2012 annual reports and data statistical year book data in Appendix 1.

Computing eigenvalues, the contribution rate, the cumulative contribution rate to determine the main ingredient

We analyzed 16 of Shanghai SME Business Cost data in 2012, using SPSS statistical software automatically. The paper used the SPSS21.0 software to complete the operation. KMO sample measured value reached 0.681 modest by Bartlett test of sphericity is 32.218, $\chi 2$ statistical significance probability value is 0.000, indicating that the data are relevant, more suitable for factor analysis. An export result in Table 2, the establishment of a factor loading matrix is shown in Table 2.

Component	Total	% of variance	Cumulative %
1	3.829	38.291	38.291
2	2.569	25.694	63.984
3	1.577	15.765	79.75
4	0.888	6.883	88.633
5	0.611	6.115	94.747
6	0.342	3.421	98.169
7	0.079	0.787	98.956
8	0.073	0.725	99.682
9	0.030	0.297	99.979
10	0.002	0.021	100

Table 2: Factor characteristic values, the contribution rate, the cumulative contribution rate.

As can be seen from Table 2, the cumulative contribution rate of the first three principal components of nearly 80%, we can take m=3, that is to take three main components of indicators to replace the original 10 financial indicators, these three main components of the indicators included the account information of the original 79.75% as shown in the Table 3.

	Component 1	Component 2	Component 3
X1	0.942	-0.033	-0.142
X2	0.942	-0.125	-0.161
X3	0.203	0.425	-0.592
X4	0.042	0.761	-0.072
X5	0	0.848	0.175
X6	-0.018	0.962	-0.127
X7	-0.954	0.068	-0.117
X8	0.96	-0.047	0.022
X9	0.032	0.053	0.879
X10	0.421	0.372	0.584

Table 3: Factor loading matrix.

Load capacity factor zi is the correlation coefficient R(zi, xi) of the original principal component index of xi, the amount of factor loadings reveals the degree of correlation between the main components with the business cost ratio, the use of which may well explain the main ingredient economic significance. In determining the choice of m after principal components, the key step is to make the economic interpretation of the main components, that is, to give new meaning to all the main ingredients. Principal component is a linear combination of the original cost of doing business indicators, the coefficients in the linear combination of the variables are of different sizes, there are both positive and negative. In general, the absolute value of the ratio of cost of doing business in the linear combination coefficients indicate the property of their main ingredients to make a greater contribution to the cost of doing business if the rate coefficient quite a few when we should believe that this is the main ingredient integrated several business cost ratio in nature. Interpretations of the factors of economic indicators are shown in Table 4.

Principal component index	greater load capacity	Interpretation of indicators of economic factors
Z1	X1X2X3X9X10	The impact of the external environment. Policies and market-oriented operation. Operational capacity
Z2	X4X5X6	The impact and role of technological innovation. Innovation capacity
Z3	X7X8	Factor cost. Necessary cost savings capacity

Table 4: Interpretation of indicators of economic factors of indicators factors.

In the process of factor analysis, we are showing the intrinsic relationship between the three main factors and all of them between 14 indicators. These four main factors influenced their indicators to organize, get under the table, as shown in Table 5.

Principal component index	Variance contribution rate	the principal component factor loadings greater load capacity indexes
Z1	34.656	X1、X2、X3、X9、X10
Z2	27.807	X4、X5、X6
Z3	10.685	X7、X8

Table 5: Main factor loading matrixes.

The first factor contribution rate is significantly larger. Most of the larger load indicators and related to status of the region's economies

and markets development, which includes the three indicators are "the proportion of social credit system (X1), the administrative fee income accounted for the proportion of local general budget revenue (X2), local total tax revenue/GDP (X3)", market operation subsystem two indicators are" expenditure /GDP (X9), the per capita investment in fixed assets (X10) called government factors and market factors.

The second factor contribution rate is 27.807. Technological innovation subsystem has three indicators, they are "people of patents granted (X4), the number of people with professional technology (X5) personnel, workforce training persons (X6)". They can be known as a potential factor or technological factors.

The third elements factor cost subsystem has two indicators. They are "average wage (X7), fixed asset investment in the proportion of loans finance (X8)", the most basic elements of business costs, also known as elements factor.

Relational Model between Zi and the initial index Xi, create a primary component of the index value table

The first step, the factor loading matrix rotation, get rotated factor loadings table, as shown in Table 6.

	Component 1	Component 2	Component 3
X1	0.251	-0.005	-0.075
X2	0.254	-0.03	-0.09
X3	0.065	0.185	-0.364
X4	-0.003	0.298	-0.032
X5	-0.025	0.324	0.125
X6	-0.021	0.377	-0.064
X7	-0.246	0.016	-0.088
X8	0.25	-0.005	0.028
X9	0.025	-0.005	0.557
X10	0.08	0.133	0.383

Table 6: Component Score Coefficient matrix.

The second step, according to the Table 5, we can build a model on principal component index between Zi and the initial indicators Xi

Z1 = 0. 251×1 + 0. 254×2 + 0. 065×3- 0.

003×43-0. 025×53- 0. 021×63-0. 246×7 + 0.

25×8 3-0. 025×9 + 0. 08×10

Z2 = 0. 005×1 3-0.03×2 + 0. 185×3 + 0. 298×4

+ 0. 324×5 +0. 377×6 + 0. 016×73-0. 005×83-

0.005×9 + 0. 133×10

Z3 = 3-0.075×13- 0.09×2 3-0.364×33-0.

032×4+ 0. 125×53-0. 064×63-0. 088×7 + 0.

028×8 + 0. 557×9 + 0. 383×10

The third step, we put the data of Appendix 1 into the above equation to calculate index value of each factor component of the sample business cost in Shanghai enterprises, as shown in Table 7.

	z1	z2	z3
Lleibo Division	2.12253	1.43071	-0.96871
Xiao Nan Guo	-1.28672	-1.15184	-2.48199
Blu-ray	-1.09255	0.48836	-0.00329
Cosmos	-0.047	-0.97931	-0.42748
Sanhang Pentium,	-0.67901	0.89246	0.72293
Ke Boda	-0.14728	-1.04478	0.41549
DESANO	-0.35257	1.37216	0.40608
CITIC Health	-0.0865	-0.1547	2.01947
Shen Si	0.01227	1.81431	-0.5135
Haley	-0.25847	-0.45084	0.36416
Mianhe	-0.63408	0.34383	0.51601
Wo Shi gardening	0,86326	-0.05815	-0.39844
Flying Branch	2.21704	-1.11835	-0.206
IShares Man	0.43537	-0.93154	0.86108
BAOXIN	-0.79889	0.40496	-0.90396
Zonhen	-0.26731	-0.85728	0.59815

Table 7: Each factor Index value on Business Cost of SME in Shanghai.

Determine the principal component index weights, the overall performance score is calculated and sorted

The first step, according to Table 5, three new indicators used in the evaluation were performed poor conversion, calculated item j indicators Dir i proportion enterprises index value.

The second step, the main component indexes calculated entropy valves and entropy weight, as shown in Table 8.

Index	z1	z2	z3	SUM
Entropy value	0.90254	0.87273	0.9464	2.72167
Entropy weight Wj	0.35015	0.45728	0.19257	1

Table 8: Main factor loading matrixes.

The third step is to build a model based on a comprehensive assessment, evaluation score is calculated and sorted. Leibo Division, a small southern, blue, Manhattan, three Air Pentium, Ke Boda, DESANO, CITIC Jian, Shen Si, Haley, cotton and, Waugh Shi gardening, Flying Branch, iShares text, treasure the letter, the congregation S constant scores were shown on Tab.8 respectively, as a sort 16, 10, 14, 6, 15, 5, 9, 4, 12, 2, 7, 8, 3, 11, 13 as shown in the Table 9.

Enterprise name	S value	ranking
Lleibo Division	0	1
Xiao Nan Guo	0.05066	16
Blu-ray	0.03118	10
Cosmos	0.06906	14
Sanhang Pentium,	0.01257	6
Ke Boda	0.06906	15
DESANO	0.01257	5
CITIC Health	0.08338	9
Shen Si	0.0598	4
Haley	0.0948	12
Mianhe	0.10796	2
Wo Shi gardening	0.06563	7
Flying Branch	0.0626	8
IShares Man	0.09984	3
BAOXIN	0.04924	11
Zonhen	0.0315	13

Table 9: Comprehensive evaluation scores of Business Cost of SME in Shanghai.

Evaluation and Analysis

We put forward comprehensive evaluation mode, on which Business Cost of SME in shanghai. A comprehensive and sensitivity analysis procedure enhances this analysis by showing what happens when the weights are changed within given limits. Its basic principle is to solve the existing studies cannot be anti-empowerment based on a sample of listed electronics companies ranking in the overall performance score (Table 9). Basically in line with the actual situation, we can be divided into six levels. The area defined by S is greater than 0 08 points or more, which is among the top five Division Leibo, cotton and, iShares Wan, Shen Si, DESANO;.. S is greater than 0.06 has three, that is, sanhang Pentium, WoShi gardening, flying Branch; S is greater than 0.05 have two, namely CITIC Health, Blu-ray; S is greater than 0.04 has two, that Haley, Baoxin;. S is greater than 0.03, there are two, namely Zonhen and Cosmos. S less than 0.03 are two that Ke Boda and Xiao Nan Guo. Leibo has the highest evaluation score value, far higher than other companies. This is to say, it has operational capability, innovation capability, the ability to save a good level, indicating the current state of development is good. For the last row in the Xiao Nan Guo, the index is not ideal, control of business costs is not ideal, influenced by the government and the market is relatively large, innovation ability, the ability to save a minimum. Development of BAOXIN affected markets, the government, and the largest scientific and technological innovation. Its position and its size give an indication on the difficulty of the decision problem.

Main ingredients - entropy analysis is mainly by screening, with relatively few financial indicators to comprehensively reflect the additional financial information. Finally, the method overcome the cost of doing business index subjective weight limitations, improving to some extent and improves the quality of Business Cost comprehensive evaluation of SME in Shanghai. So we can say performance evaluation method is better, should be widely applied. Since the calculation of the entropy index is used in a proportion of sample enterprises sum of the same index, so there is no impact dimension, no standardized treatment, but because there is negative data, the data needs to be non-negative processing, further, in order to avoid meaningless when seeking entropy numbers, the data required for translation. In practical applications, combined with the actual situation can be corrected to adjust for the evaluation index system, the evaluation results more in line with reality.

Conclusions

In this paper, we show that prior research overestimates the concepts and components of business costs. In our investigation of Business costs for development of SMEs, we make three contributions to the corporate business cost structure.

First, this study uses factor-entropy approach has examined and analysis a comprehensive evaluation index system of the Shanghai and cost of doing business for SMEs. Second, as a representative covering SMEs fifteen categories, we selective the first batch of Shanghai development funds intended to support 36 small and medium enterprises in 2013. Experts have evaluated 36 projects. Survey and testing results of 16 enterprise sample indicate support for the hypothesis Third, this article is based on factor-entropy method to apply cost of doing business for SME in Shanghai were evaluated. We find that proposals to help developing of SMEs and manage business costs. On the whole we show the rapid rise of significant commercial facilities and land, labor costs in Shanghai, and transaction costs due to the government implemented a number of practical policies, making operational efficiency, market-oriented, and the degree of information, infrastructure and R & D capabilities and other aspects have improved significantly, to a certain extent, reduce the cost of doing business. decision-makers preference information on the cost of using the system in Shanghai SME business performance evaluation in terms of economy, technology, policy and market environment to provide decision support. At the same time, the degree of market development of the tertiary industry and high-tech manufacturing, intellectual property rights and other aspects of R & D capabilities increase in business costs, can be used as a threshold for enterprises to enter, so some low value-added businesses transferred outward, thereby promoting rational industrial structure adjustment and upgrading.

The main contribution of this paper is to further study the business cost provides a theoretical basis, and initially test the underlying assumptions, but there are still some drawbacks.

Several limitations are acknowledged here. From a methodological point of view, this study is limited by the data that relies entirely on Statistical Yearbook. For example, the cost of doing business relationship model has yet to be constructed in this paper to expand rich. In addition, since this article all use the almanac data, to ensure that the authority of the comparability of data sources, but also makes a number of factors that cannot be measured by statistics were not included in the assessment system, thus affecting the comprehensive evaluation system, pending further study. Further research in this area is likely to yield new and useful insights.

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