

The research on the evaluation model of enterprise performance based on Stakeholder Theory

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ABSTRACT: According to the legality, power and urgency of corporation stakeholders, this paper proposed the way to determine the degrees of the rights and claim of enterprise stakeholders and confirmed who are main enterprise stakeholders, and put forward the index system of enterprise performance evaluation to satisfy all stakeholders. Then the AHP method is used to determine the weight of each index in the index system and the dimensionless method for every index is also applied in the index system. At last it put forward the calculation method of performance index of main and minor enterprise stakeholders, and the comprehensive index of enterprise performance evaluation.

Keywords: stakeholders; evaluation of enterprise performance; index system; comprehensive index; AHP

1 THE DETERMINATION OF ENTERPRISE STAKEHOLDERS

The evaluation of enterprise performance based on Stakeholders Theory makes the enterprises pay more attention to the benefit of stakeholders, so it could improve the enterprise performance and make more value for stakeholders. The Stakeholders Theory believes that the enterprise is a carrier which could realize stakeholders' advocacy of the rights, and not just pursue the maximize profit for stockholders' benefits, thus the enterprise should undertake more social responsibilities.

The evaluation of enterprise performance based on Stakeholder Theory is used to measure and evaluate the degree of achievement and efficiency that the enterprises meet the all stakeholders. To conduct enterprise performance evaluation, it first needs to confirm who are the enterprise stakeholders and analyses the degree of correlation of the stakeholders' benefit, and then determine the main stakeholders.

Who are the enterprise stakeholders? Freeman, the founding father of Stakeholder Theory, believed that the stakeholders are the people who could influence

the realization of the organization's goal, or who are influenced by the process of realization of the organization's goal. The stakeholders have a stake or have a claim in the enterprise. The stakeholders are those people who will benefit or be injured from company activities, and their power is treated with respect or violation because of the company activities. Stakeholders are the people who have contract with the enterprise. From freeman's description, it can be seen that stakeholders are the individuals, organizations and society that have all sorts of stakes with the enterprise. Mitchell proposed the definition of stakeholders which suggests that the individuals and groups attributed with one of the three characteristics including the legality, power and urgency are the enterprise stakeholders. Certainly, the correlation degree of the interests between the interest body and the enterprise varies in different times and different social environment; it will show or vanish. Now, the common stakeholders in China are the shareholders, creditors, employees, clients, suppliers, the government, social organizations, communities, social departments, media, and competitors etc.

Which kind of stakeholders has the most influence on enterprise? Mitchell, Eger and Wood in 1997 established a frame to ensure the stakeholders' identity,

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Table 1. The interests and degrees of the correlation between the enterprises and the stakeholders

No.	Stakeholders	Interests		Degrees of correlation		
		Resources from the stakeholders	Rights advocacy of the stakeholders	Legality	Power	Urgency
1	Shareholder	Share	Maintenance and appreciation of capital value; net profit	high	Big	High
2	Creditor	Bond	Principal and interest	high	Big	High
3	Suppliers	Commodity and service	Payment and service charge	high	Big	Low
4	Employee	Labor	Salary and training	high	Small	Low
5	Government	Policy	Tax	high	Small	Low
6	Consumer	Payment and service charge	Commodity, service and quality	Low	Small	Low
7	Community	Ecological resources and Humanity resources	Environmental protection and employment	Low	Small	Low
8	Competitor	Encouragement	Legitimate competition	Low	Small	Low
9	Media	Propaganda	A good image	Low	Small	Low

and it refers to that the degrees of stakeholders' advocacy of rights can be measured by the legality, power and urgency, and the method is to use integrative measure. The meaning of legality is that whether one group is gifted with legal, moral or specific claim from the enterprise. It can be judged from the mainstream opinion, and the viewpoint that is recognized by most people in society is legal in legal sense, and that is accepted by mainstream opinion is reasonable; the viewpoint that has not reached definite agreements is basically reasonable; the viewpoint that is opposed by the mainstream is unreasonable and that is unanimously opposed by the society is illegal in legal sense. The meaning of power is whether one group reaches the position to decision-making level, and has the ability and corresponding method that could affect enterprise decision. It can be measured by the influencing cost, which it is the cost that A should pay when A enforce B to do something that B does not want to do, or when B refuses following A's will. The higher influencing cost is, the smaller power A has; and the lower influencing cost is, the greater power A has. The meaning of urgency is whether the demands of one group can obtain the attention from the management layer. It can be measured by delayed treatment loss, and the delayed treatment loss of the advocacy of rights refers to that the loss of one right of the stakeholders suffers from being delay treated by the enterprise. The more delayed treatment loss is, the higher urgency the stakeholder suffers; the less delayed treatment loss is, the lower urgency the stakeholder would suffer.

Jeffrey Pfeffer and Salank presented the Resource Dependence Theory in 1978. As an open system, the enterprise must obtain all kinds of resources from the external, and after internal conversion in the enterprise, the products, services and other things are transported to external environment^[1]. So the interest body that provides all kinds of resources for the enterprise is business stakeholder. In order to ensure the resources from the stakeholders for the investment, the enterprise must satisfy the interests and the rights advocacy of the stakeholders. Companies obtain capital from

shareholders, so the shareholders are the stakeholders of the companies, and the companies should satisfy their rights advocacy like increasing the value of capital. Companies obtain labor resources from the employees, so the employees are the stakeholders of the companies, and the companies should meet their rights advocacy like the salary and welfare. The analysis of the interests and degrees of the correlation between the enterprises and their stakeholders are shown in Table 1, and it ensures that the enterprises have nine kinds of stakeholders including the shareholders, creditors, suppliers, employees, government, consumers, communities, competitors and the media. The stakeholders with higher legality are the shareholders, creditors, suppliers, employees and the government; the stakeholders with bigger power are the shareholder, creditor and the supplier; the stakeholders with higher urgency are the shareholder and the creditor. The five main stakeholders should be the shareholders, creditors, suppliers, employees and the government and the interests of the five main stakeholders are always presented in the right side of the balance sheet, while the interests of the minor stakeholders (consumers, communities, competitors and the media) are rarely or even not presented in the accounting statements of the enterprises.

2 EVALUATION SYSTEM OF ENTERPRISE PERFORMANCE BASED ON ENTERPRISE STAKEHOLDERS

The evaluation of enterprise performance based on the enterprise stakeholders is to examine the degrees of the rights and interests being satisfied. To analyze the rights advocacy of the nine kinds of stakeholders based on the principle of the correlation, reliability and operability in the index selection, the indexes selected are shown in Table 2. For the five primary stakeholders (shareholders, creditors, suppliers, employees and the government), the performance evaluation index is set as the quantitative index. For the minor stakeholders (consumers, communities, competi-

Table 2. Evaluation system of Enterprise performance based on enterprise stakeholders and the weight

Corporate stakeholders		Rights advocacy	Measuring index	Formula	Weight
Major stakeholders A ₁	Shareholder B ₁	Maintenance and appreciation of capital value C ₁	Maintenance and appreciation rate of capital value D ₁	Owner's equity at the end of the year / owner's equity in the beginning of the year	0.2137
		Net profit C ₂	Return on equity D ₂	Net profit / average net assets	0.0801
	Creditor B ₂	Principal C ₃	Return on total assets D ₃	EBIT/ total average assets	0.0267
		Interest C ₄	Asset-liability ratio D ₄	Total liabilities/ total assets	0.1623
	Suppliers B ₃	Payment and service charge C ₅	Number of times interest earned D ₅	EBIT/interest expenses	0.0801
			Accounts receivable turnover D ₆	Operating income/average balance of accounts receivable	0.0889
	Employee B ₄	Salary C ₆	Total asset turnover D ₇	Operating income/ total average assets	0.0297
			Paid rate of salary D ₈	Actual paid salary/ salary should be paid	0.0681
	Government B ₅	Training C ₇	Ratio of training costs D ₉	Training costs/ revenues	0.0227
		Tax C ₈	Paid rate of tax D ₁₀	The actual paid taxes / tax should be paid	0.0599
Minor stakeholders A ₂	Consumer B ₆	Commodity and service C ₉	Fair price index D ₁₁	By survey	0.0244
		Quality C ₁₀	Quality index D ₁₂	By survey	0.0488
	Community B ₇	environmental protection C ₁₁	Environmental standard index D ₁₃	By survey	0.0392
		Employment C ₁₂	Employment index D ₁₄	By survey	0.0131
	Competitor B ₈	Legitimate competition C ₁₃	Legitimate competition index D ₁₅	By survey	0.0206
	Media B ₉	A good image C ₁₄	Social image index D ₁₆	By survey	0.0206

tors and the media), the performance evaluation index is set as the qualitative index.

The AHP method is applied to determine the weights of the indexes W_i ($i=1, 2, 3, \dots, 16$) in the evaluation system of enterprise performance, and the calculation is as follows:

(1) Determine the discriminant matrix. For the evaluation system of enterprise performance in Table 2, it needs experts to determine the discriminant matrix of each layer by applying 1-9 scale.

(2) Single sorting of the layers and consistency verification. Based on the structure of above discriminant matrix, calculate the approximate value of the maximum characteristic root and the single sorting weight vector of each discriminant matrix with the sum and product method and the power method. And calculate the consistency index and random consistency ratio, and conduct the consistency verification, in which the consistency verification of two-stage matrix is not needed.

(3) Total sorting and consistency verification. Based on the results of single sorting, calculate the total sorting weight vector W_i of enterprise performance A under the indexes D. And calculate the total consistency index, the total average random consistency index and the consistency ratio of the total random, and pass the total consistency verification, and then the index weights of evaluation of enterprise performance W_i ($i=1,2,3, \dots, 16$) in Table 2 can be used.

The descending order of the weights of the indexes is (the content in the bracket refers to the stakeholder who needed to be satisfied): maintenance and appreciation of capital value (shareholders), asset-liability

ratio (creditor), accounts receivable turnover ratio (suppliers), return on net assets (shareholders), interest earned ratio (creditor), paid rate of salary (employees), paid rate of tax (the government), and quality index (consumer), environmental standard index (community), total asset turnover (supplier), the total return on assets (shareholders), fair price index (consumer), ratio of training costs (employees), legitimate competition index (competitors), social image index (media), employment index (Community).

3 DIMENSIONLESS PROCESSING OF INDEXES AND CALCULATION OF COMPREHENSIVE INDEXES OF ENTERPRISE PERFORMANCE EVALUATION

The dimensions of the indexes in the evaluation system of enterprise performance are not uniform, so it's necessary to apply the dimensionless method to the observed value E of each index. After the dimensionless processing, the observed value E turns to F. According to the purpose of the evaluation of enterprise performance, the basis of the dimensionless standard can be budget (plan) standards, industry standards or historical standards. The dimensionless methods of each index are listed as follows:

(1) The dimensionless processing of maintenance and appreciation of capital value, asset-liability ratio, accounts receivable turnover, return on equity, interest earned ratio, total asset turnover, return on total assets. According to the standard value of each index in *Corporate Performance Evaluation Standard Value*

Table 3. Dimensionless of non-digital index

Index	Dimensionless			
	0	0.4	0.8	1
Quality index	Without certification	CSR report and low rating	CSR report and high rating	With ISO9000 certification
environmental standard index	Without certification	CSR report and low rating	CSR report and high rating	With ISO14000 certification
Fair price index	Without certification	CSR report and low rating	CSR report and high rating	With ISO26000 certification
Legitimate competition index	Without certification	CSR report and low rating	CSR report and high rating	With ISO26000 certification
Social image index	Without certification	CSR report and low rating	CSR report and high rating	With ISO26000 certification
Employment index	Without certification	CSR report and low rating	CSR report and high rating	With ISO26000 certification

developed by the Financial Supervision and Appraisal Bureau of State-owned Assets Supervision and Administration Commission (SASAC), calculate the standard coefficient of the observed value E of each index, that is the observed value F after the dimensionless processing and the standard coefficients generally ranges from 0 to 1. The formula is $F = \text{standard coefficient} + ((E - \text{standard value of this grade}) / (\text{standard value of higher grade} - \text{standard value of this grade})) \times 0.2$.

(2) Dimensionless processing of paid rate of salary, paid rate of tax and ratio of training costs. With regard to the paid rate of salary and paid rate of tax, use the historical excellent value of enterprise as a reference to conduct the dimensionless procedure. If the observed value E reaches or exceeds the historical excellent value G, and then F is 1; if the observed value E is smaller than historical excellent value G, and then F is E/G.

(3) Dimensionless processing of quality index, environmental standard index, fair price index, legitimate competition index, social image index and employment index. For these indexes, the dimensionless processing based on third party certification, public investigation and information disclosure of enterprises is shown in Table 3.

Based on the determined weight W of each index in the evaluation system of enterprise performance and the observed value F of each index after dimensionless processing calculated by the AHP method, the performance index of main and minor stakeholders and the comprehensive index of enterprise performance can be calculated with the formulas below:

$$\text{Index of main stakeholders} = \sum_{i=1}^{10} W_i \bullet F_i$$

$$\text{Index of minor stakeholders} = \sum_{i=11}^{16} W_i \bullet F_i$$

$$\begin{aligned} &\text{Comprehensive index of enterprise performance} \\ &\text{evaluation} = \sum_{i=1}^{16} W_i \bullet F_i \end{aligned}$$

4 CONCLUSIONS

The study of this paper was from the perspective the achievements of meeting the rights advocacy of stakeholders and the evaluation of enterprise performance, and proposed the evaluation system of enterprise performance indexes and the methods of evaluation. Due to the different attributes and the purposes of conducting evaluation of enterprise performance, the main stakeholders of the enterprises, the index system and the weights of indexes should also be differentiated accordingly. This paper only proposed the evaluation model of enterprise performance for common enterprises, and it's expected that more researches from different perspectives can be developed.

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