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Stakeholder Theory Based on Information Field Model

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Abstract

Stakeholder theory believes that the development of enterprises need to pay attention to the participation of stakeholders, and emphasize the influence of the differentiation ability of enterprise participants on the core competitiveness of enterprises. This theory has been fully affirmed in the practice of enterprise management, but there is not enough economic theoretical support. Stakeholder theory focuses on the social relations of all participants in the enterprise. The western economic analysis method highlights the natural attributes of human beings, and weaken the social attributes of human beings. The information field model integrates the individual rationality and sociality into the same behavior decision model. Using the information field model and the market transaction mechanism as the reference, comparative analysis of the operation mechanism of Shareholder primacy theory and stakeholder theory. The purpose of stakeholder theory and the sources of the rights needed to achieve this goal are explained. Thus, the stakeholder theory provides a feasible economic explanation.

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1 Introduction

As a new branch of business theory, stakeholder theory began in the 1960s. In 1963, the Stanford Institute clearly put forward the theoretical concept of

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stakeholder and gradually became an independent branch of the theory through the joint efforts of many scholars such as Freeman.[1] In 1984, Freeman defined stakeholder in Strategic Management: A Stakeholder Approach as "all individuals and groups that can influence the achievement of an organization's goals, or that are affected by an organization's achievement of its objectives "[2] Additionally, he put forward a relatively complete theoretical framework of stakeholders, which emphasizes that the development of enterprises needs to pay attention to the participation of stakeholders and give full consideration to the interests of all stakeholders. In the 1980s, the traditional shareholder-supremacy theory encountered unprecedented difficulties in the practice of enterprise management, which led to the rapid expansion of the influence of stakeholder theory, began to affect the choice of the corporate governance model in Britain, the United States and other countries and promoted the transformation of the ways of business management. [3]

So far, stakeholders are still a relatively broad concept. The theoretical system of stakeholder management is not perfect, and some of the core concepts are not clear enough. On the one hand, it still follows some basic assumptions in mainstream economics, thus establishing on the same theoretical basis as the theory of shareholder supremacy. On the other hand, it tries to challenge this traditional theory, resulting in many puzzles and doubts.

By reviewing the development of stakeholder theory, this paper combs its rationality and limitations, analyzes the economics foundation of stakeholder theory in depth, and makes reasonable theoretical explanation to the management practices of stakeholder by means of information field model.

2 The Rationality and Limitation of Stakeholder Theory

2.1 Innovation and Development of Stakeholder Theory

Stakeholder theory is a re-examination of the essence, purpose and operating mechanism of an enterprise from its management practices. The essence and purpose of a business is the core proposition of business theory. The continuous analysis of this issue has always been a passage in the development of economics and management science. In different periods, some scholars have given their own answers to this question according to the practice of enterprise development so as to constantly enrich and perfect the theoretical system of business economics and business management. Since Coase proposed the theory of transaction costs, the new institutional economics has gradually defined the essence of an enterprise as a series of connections between contracts, i.e., modern enterprise theory refers to enterprises as a kind of legal entity formed by the intersection of a complex set of explicit contracts and implicit contracts between different elements. [4]As the series of contracts that constitute an enterprise are incomplete contracts, the issue of residual control and residual claims arises.

Shareholder primacy theory believes that the shareholder is the owner of the enterprise, who invest their physical capital into the enterprise, assume the residual risks of the enterprises and should be the holders of residual claims and residual control. [5] The premise of this theory is that the shareholders' material capital is more scarce, more specialized and riskier than human capital. Therefore, only the residual claim can be owned by the shareholders to make the enterprise more efficient and better performing. [6]

In fact, the world's major economies have gradually entered the era of knowledge-based economy. The importance of human capital in the formation of corporate capital has gradually risen and the actual control of enterprises has gradually been decentralized. With the development of supply chain management, the cooperation among the related enterprises in the supply chain has gone beyond the simple market transaction relationship. Instead, it has established a long-term cooperation mechanism based on commitment and trust and formed a relatively stable strategic partnership. This partnership is a kind of "social capital" invested by all the participants in the supply chain, which can improve the efficiency of enterprises by coordinating the actions of all parties. At this time, the contractual relationship between enterprises can no longer be described by the simple relationship of capital employment.

Therefore, the stakeholder theory holds that a company is essentially a kind of business entity influenced by many kinds of markets instead of a shareholder-led enterprise organization system. If we consider those creditors, managers and employees, who contribute a lot of special resources to the company, we can't regard the shareholders as the sole owner of the company. [7] Or, to be more specific, enterprises should be stakeholders. All stakeholders, including shareholders, have injected some specific investment into the survival and development of the enterprises. At the same time, they have shared certain risks in the operation of the enterprises or have paid the price for enterprise activities. Hence, they should have the ownership of the enterprise. [8]

To sum up, compared to the shareholder primacy theory, the innovation of stakeholder theory is mainly reflected in the following aspects. First, it focuses on the impact of enterprise participants' differentiation ability on the core competitiveness of enterprises, which is very different from the traditional way of homogeneous participant analysis in economics. Second, it defines the business goals as the task which stakeholders work together to create value through joint cooperation. This is a long-term goal, and its realization depends on the stable cooperation of various stakeholders. Third, it defines the enterprise as a "social existence", which attempts to balance the interests of all stakeholders by focusing on all the contradictions in the firm's contractual portfolio.

2.2 Realistic Rationality of Stakeholder Theory

Shareholder supremacy theory focus only on the main contradictions in the corporate contract combination of scarce resources and shareholders' interests, ignoring the interests of other stakeholders. This is a unilateral governance model that has a clear corporate goal, an optimized solution, and easy management in management practices. However, this model has only short-term rationality. In the long run, this model will lead to extreme profit-making behavior for short-term economic indicators, and then result into a series of social problems such as corporate ethics, environmental issues and consumer issues. These problems have caused serious harm to both society and enterprises themselves. This drawback, with the scale of the enterprises expands and the social influence of enterprises grows stronger and stronger, has become more and more obvious.

For example, in the mid-1990s, the deteriorating relations between Royal Dutch /Shell Group of Companies and key stakeholders such as environmental groups, consumers, the public and communities, led to the company's severe reputation and operational crisis. This forced Royal Dutch /Shell Group of Companies to conduct a comprehensive and profound reflection about its traditional management model and management methods. In 1997, Royal Dutch /Shell Group of Companies put forward a management mode based on stakeholder management, and made a comprehensive adjustment and revision of the original business principle. [9] Stakeholder theory has also been strongly advocated by governments. For example, in the 1980s, many states in the United States amended their corporate law in the interests of stakeholders, and allowed managers to be responsible for those stakeholders. [10]

At present, in addition to economic responsibility, enterprises also have to assume corresponding social responsibilities. This has become the consensus of enterprises, governments and the public. The stakeholder theory provides a theoretical support for enterprises to shoulder their social responsibilities. After World War II, the rapidly emerging economies of Germany, Japan, Southeast Asia and other countries and regions are closely related to the common adoption of corporate governance models. In this governance model, the dedicated asset investment of employees and other stakeholders has been positively recognized, which also reflects the rationality of the stakeholder theory from another aspect.

2.3 The limitations of stakeholder theory

As the meaning of stakeholders is too broad, there are many differences between the current classification of stakeholders and the relationship between various stakeholders and property rights. In addition, the main question facing stakeholder theory are as follows:

A. Business goal definition is not clear.

Stakeholder theory holds the view that the goal of an enterprise is to effectively create wealth for stakeholders and society [11] or to serve as a tool to coordinate the interests of its stakeholders. [12] Whatever the definition is, the corporate goals given by the stakeholder theory are an overly broad goal that weakens the distinction between businesses and other social organizations.

B. The relevant principles lack feasible theoretical basis

Balancing the interests of stakeholders is an important principle of stakeholder theory and an important amendment to maximize the interests of shareholders. Considering the strong position of the enterprise in the socio-economic system,

some mechanisms are needed to encourage the enterprises to restrain their own market forces and safeguard the rights and interests of various vulnerable stakeholders. However, there is no theoretical explanation for such mechanisms.
In addition, stakeholder theory does not pay enough attention to the moral and cultural factors among the various stakeholders in the enterprise. In the practice of enterprise management, cultural factors can hinder the cooperation as well as promote the development of cooperation. Cultural factors play an important irreplaceable role in the multi-agent cooperation and the balance of interests that are obviously different from each other. Therefore, it is necessary to conduct an in-depth analysis of the shortcomings of the stakeholder theory and to seek ways of theoretical innovation.

3 Stakeholder Behavior Model Analysis

3.1 Rational Economic Man Behavior Model

As a new branch of enterprise theory, the theory of stakeholder still adopts the model of rational economic man. In western enterprise theory, the rational economic man has evolved into a contractor. The main change is to correct the rational behavior of the economic man to limited rationality, but to reinforce the self-interest behavior, and opportunism becomes the basic behavioral characteristic of the contractor. The main purpose of business theory is to seek a reasonable system design for the opportunistic behavior of people to achieve the established goal of the enterprise. In shareholder supremacy theory, this method of analysis can draw the necessary conclusions. But, of course, the rationality of the conclusion is conditional.
Stakeholder theory amends the shareholder supremacy theory from the perspective of the enterprise's basic relationship and transforms the the main contradictions of the enterprise from the relationship between people and things into the relationship between people. Some researchers use game theory to analyze the interest relations of certain enterprise members and draw the relevant conclusions. [13] Nevertheless, considering the complexity of enterprise stakeholders, there are bound to be multiple game relationships among stakeholders. It is very difficult to construct a game model of interests that includes all stakeholders, and the equilibrium solution of interest is more difficult to obtain. From this we can see that the business objective of coordinating the interests of stakeholders is very complicated. If all stakeholders took opportunistic actions, the goal of the enterprise could have never been achieved.
In fact, people in reality all have certain social characteristics. Moral conscience, including conscience, sense of obligation and care for human welfare, are all possessed by normal human beings. Additionally, these needs of moral and emotional needs and interests are two relatively independent and mutually influential aspects, and there is no simple substitution. Hence, it is difficult to provide a reasonable economic explanation for stakeholder theory by considering

all the stakeholders in the enterprise as the opportunist's method of analysis.

3.2 Information Expansion Model of Amartya Sen

Based on the business objectives of stakeholder theory, the behavior analysis of various stakeholders in the enterprise essentially considers the enterprise as a collective action and seeks to coordinate how to coordinate the stakeholders with different preferences, thus forming a unified action. [14] Thus, Arrow's impossibility theorem is also adapted to the business behavior analysis in the theory of stakeholder. Arrow pointed out that if the minority's choice of majority approach is itself regarded as a value judgment, then we have to say that the value judgment is self-contradictory under the particular circumstances mentioned. [15]

Amartya Sen’s evaluation of Arrow's impossibility theorem is that, "Arrow provides a general way of examining social decisions based on individual conditions. His theorem shows that what is possible and what is impossible, and the key depends on what information is used in making social decisions. Indeed, by expanding the information base, it is possible to obtain coherent and consistent decision-making criteria for social and economic evaluation.” [16]254 In addressing the impossibility of Arrow in the collective choice by expanding the information base, Sen leads the source of the expansion of information more largely to ethical and moral information. And clearly states that "social values play an important (and always important) role in ensuring the success of many forms of social organization." [16]261

Sen emphasizes that human beings make individual decisions in specific social ethics and environment, and collective decisions of enterprises are conducted in the same environment. It is not necessary or impossible to ignore human social attributes in these decisions. It is these social attributes features or social value information help people make relevant decisions relatively easily without having to determine the action strategy through complex game calculations. Sen's theory is undoubtedly correct, but it can not be described by a simple mathematical model, thus limiting the application of Sen's information expansion model in the theory of stakeholder.

3.3 Behavior model in management practice

Stakeholder management practices show that the actual management decisions are not limited to the economic behavior models above. The reason is that, in more cases, we adopt the behavior of differentiation rather than homogenization in management practice. We take Drucker, the modern management guru as an example, "Efficiency and human nature are the essence of Drucker's management philosophy.” Drucker believes that people are the core of management, the rationale behind the theory is that managers of society, organizations and each Care of the members of the organization.” [17] Although behavioral models that emphasize human difference are in line with the requirements of management practices, they lead to behavioral models that are too complex for mathematical modeling and analysis.

4 "Information Economic Man" Assumption and Behavior Model

The hypothesis and behavioral model of information economic man put forward by the author in the previous study are in line with the information expansion principle of Amartya Sen. It can describe the characteristics of the perpetrator's ability to differentiate and have a relatively simple mathematical form so that the stakeholders Theory gives a reasonable explanation of economics

4.1 Basic Assumption of Information Economy Man[18]

It follows two basic principles in socio-economic activities:

A. The Principle of Behavior that Harmonizes Individual Rationality and Sociality.

The freedom of bi-directional choice between economic agents and economic organizations allows them to choose either cooperation or non-cooperation. Uncooperative is the same as exiting the organization. Once an economic actor decides to join an organization, it indicates that it will take a cooperative attitude in the organization and will voluntarily comply with the organization's norms.

B. Information Vector Comparison Decision-making Principles.

Using Information (Capital) Vector to Express Individual Rational and Social Characteristics of Information Economic Personnel. The process of information economic man behavior decision-making is to collect all kinds of cooperation information of the social environment in which it is located and compare it with the code of conduct (threshold) information to select the action strategy to participate in or withdraw from the cooperation.

4.2 Information Field Model of "Information Economic Man" Decision Making[18]

A. Information Field Force and Its Nature

Suppose the capital vector of the economic person is respectively $\vec{q}_1, \vec{q}_2$, the vector size represents the capital amount of the economic person, and the vector direction represents the economic person's value orientation. Every economic actor will set up an information field with itself as the center. The information field force between the two economic agents is:

$$\vec{F}_{12} = k\frac{q_1 \cdot q_2}{r_{12}^2} \cdot \cos\alpha \cdot \vec{e}_{r12} \tag{1}$$

k is the information field constant, r_{12} is the information distance, α is the included angle of the capital vector space, $0° \le \alpha \le 180°$, $\vec{e}_{r12}$ is the unit vector in the direction of the field force and acts on the connection of two economic persons. The nature of the information field force depends on α, when $\cos\alpha$ is positive, $\vec{e}_{r12}$ pointing to each other, the information field force is attractive; when $\cos\alpha$ is negative, $\vec{e}_{r12}$ facing away from each other, the information field force is repulsive force. Figure 1 is a schematic diagram of the spatial relationship of economic man capital vector.

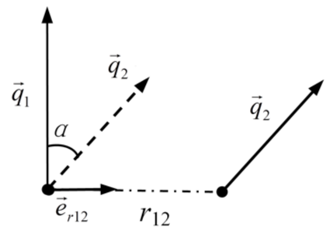

Fig.1 The spatial relationship of economic man capital vector

B. Cooperation Conditions and Cooperation Income

Only when the information power of the economic world is positive and the information field force (cooperation force) is greater than the respective cooperation threshold, will cooperation be produced. Therefore, the conditions for the cooperation of information brokers are:

$$F_{12} - F_{i \cdot set} \geq 0, \ i = 1, 2, \tag{2}$$

$F_{i \cdot set}$ refers to economic cooperation threshold. The difference between the cooperation force and the cooperation threshold also expresses the excess returns that the economic man can obtain in the cooperation. Obviously, when the cooperation threshold is constant, the greater the cooperation force, the greater the benefits the economic man will obtain in the cooperation, and the more the cooperation will be stable.

5 Stakeholder Behavior Analysis Based on Information Field Model

Market and enterprises are two interrelated and distinct economic organizations. Now we will use the market model as a reference to compare and analyze the cooperation mechanism and distribution principle of different business models with the information field model, and then evaluate the stakeholder theory. In order to facilitate the comparative analysis, the subscripts A, B and C, in turn, represent the information field force and capital vector in different situations such as market transactions, equity-based theoretical business model and stakeholder theoretical business model.

5.1 Market Trading Patterns

In the market transactions, all the participants are a temporary cooperative relationship, and no party has tried to establish a new common value orientation for cooperation. Information field model describes this is the most basic relationship. Through the equivalent transformation of the formula (1), the information field force of the two economic people under the market mechanism is respectively:

$$\vec{F}_{12A} = k\frac{q_1 \cdot q_2}{r_{12}^2} \cdot \cos\alpha \cdot \vec{e}_{r12} = k\frac{q_1 \cos\alpha \cdot q_2}{r_{12}^2} \cdot \vec{e}_{r12} = k\frac{q_{1A} \cdot q_2}{r_{12}^2} \cdot \vec{e}_{r12} \qquad (3)$$

$$\vec{F}_{21A} = k\frac{q_1 \cdot q_2}{r_{12}^2} \cdot \cos\alpha \cdot \vec{e}_{r21} = k\frac{q_1 \cdot q_2 \cos\alpha}{r_{12}^2} \cdot \vec{e}_{r21} = k\frac{q_1 \cdot q_{2A}}{r_{12}^2} \cdot \vec{e}_{r21} \qquad (4)$$

In the above two formulas, two new capital vectors $\vec{q}_{1A}, \vec{q}_{2A}$ are equivalently constructed, which are used to describe the result of the economic people projecting the capital vector to each other's value orientation. As shown in Figure 2, the sizes of the new capital are respectively as follows:
$q_{1A} = q_1 \cos\alpha$ and $q_{2A} = q_2 \cos\alpha$

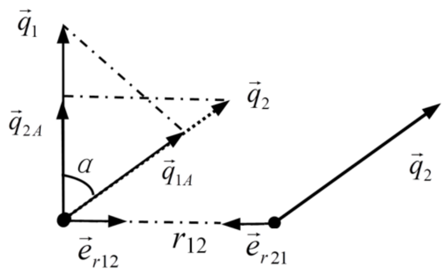

Figure 2. Schematic diagram of the location of capital vector space in the market transaction mode

Equations (3) and (4) show that the real cooperative force among the economic people can only occur between the same value of capital. Once the direction of the capital vector is inconsistent, the size of the capital needs to be corrected. In the market trading model, each participant makes its own decisions and forms the same cooperative force. But this time the cooperation is not necessarily the greatest, to this end, the definition of the maximum possible information field force is:

$$\vec{F}_{12M} = k\frac{q_1 \cdot q_2}{r_{12}^2} \cdot \vec{e}_{r12} \qquad (5)$$

Then, the cooperative power of the two economic persons under the market mechanism can also be expressed as:

$$\vec{F}_{12A} = k\frac{q_1 \cdot q_2}{r_{12}^2} \cdot \cos\alpha \cdot \vec{e}_{r12} = \vec{F}_{12M} \cdot \cos\alpha \qquad (6)$$

If the proportion of excess returns is determined by the ratio between the two revised capitals, then:

$$q_{1A}/q_{2A} = q_1\cos\alpha/q_2\cos\alpha = q_1/q_2 \qquad (7)$$

Formula (7) satisfies the "fair distribution" requirement under the market mechanism and can be used as a benchmark for comparison with business models.

5.2 the Business Model of Shareholder Primacy Theory

As a kind of relatively stable economic organization, an enterprise generally has a specific corporate culture and corresponding economic strength. These basic characteristics can be regarded as a capital vector of an enterprise. The direction of the enterprise capital vector is the value orientation of the enterprise. It is the common code of conduct of the enterprise members. Each member of the enterprise cooperates under the guidance of this standard. This is one of the reasons why the enterprise efficiency is higher than the market efficiency. The construction of enterprise capital vector includes two interrelated contents: value orientation choice and capital amount integration. When the firm determines the value orientation, all the members of the enterprise will take the initiative to coordinate the value orientation and convert their respective capital vectors to this common value orientation. The converted capital vectors all have the same direction and the sum of their amplitudes Is the amount of integrated capital business. Thus, to determine the value orientation of the enterprise will ultimately determine the corporate capital vector. Enterprises can adopt different principles to determine their value orientation, which will constitute a different business model.

The shareholder supremacy theory emphasizes the importance of capital power in economic cooperation and follows the principle of supremacy of efficiency. The determination of the vector direction of enterprise capital will follow the principle of maximizing capital. Obviously, we should vector the capital vector of each economic man as a vector of corporate capital. At this moment, we should construct the vector of enterprise capital which has the largest magnitude and the direction of it as the value orientation of the enterprise. All economic agents within the firm convert their respective capital vectors to this common value orientation, thus forming their respective new capital vectors. From the outside of the enterprise, the sum of these new capital vectors is the equivalent capital vector of the enterprise. From the inside of the enterprise, these new capital vectors of each member of the enterprise also determine the cooperation mechanism and profit distribution mechanism within the enterprise. Figure 3 shows a schematic of a enterprise, which is formed by two member $\vec{q}_1$ and $\vec{q}_2$, and coordinates capital vector in accordance with the principle of maximize capital.

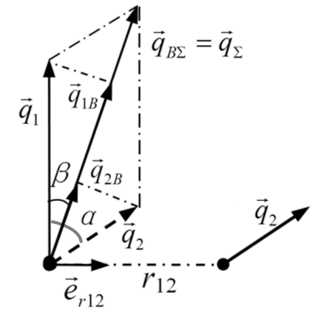

Figure 3: Capital Capital Maximized Enterprise Capital Vector Relationship

In Fig. 3, $\vec{q}_\Sigma = \vec{q}_1 + \vec{q}_2$ is the enterprise capital vector, $\vec{q}_{1B}$ and $\vec{q}_{2B}$ are the new capital vectors formed by $\vec{q}_1$ and $\vec{q}_2$ projected on $\vec{q}_\Sigma$ respectively, and the amplitudes are: $q_{1B} = q_1 \cdot \cos\beta$ and $q_{2B} = q_2 \cdot \cos(\alpha - \beta)$. In this formula, α is the angle between $\vec{q}_1$ and $\vec{q}_2$, and β is the angle between $\vec{q}_1$ and $\vec{q}_\Sigma$. Externally, the sum of $\vec{q}_{1B}$ and $\vec{q}_{2B}$ constitutes the capital vector of the firm, i.e., $\vec{q}_{B\Sigma} = \vec{q}_{1B} + \vec{q}_{2B} = \vec{q}_\Sigma$, which is also the largest amount of capital an organization can build. Internally, $\vec{q}_{1B}$ and $\vec{q}_{2B}$ express the ability of the members of the firm to cooperate in the direction $\vec{q}_\Sigma$, i.e., the new cooperation force is:

$$\vec{F}_{12B} = k\frac{q_{1B} \cdot q_{2B}}{r_{12}^2}\vec{e}_{r12} = k\frac{q_1\cos\beta \cdot q_2\cos(\alpha-\beta)}{r_{12}^2}\vec{e}_{r12} = \vec{F}_{12M} \cdot [\cos\beta \cdot \cos(\alpha-\beta)] \quad (8)$$

Subtracting formula (8) from formula (6) and simplifying, we can put forward that:

$$\vec{F}_{12B} - \vec{F}_{12A} = \vec{F}_{12M} \cdot [\cos\beta \cdot \cos(\alpha-\beta)] - \vec{F}_{12M} \cdot \cos\alpha = \vec{F}_{12M} \cdot [\sin\beta \cdot \sin(\alpha-\beta)] \quad (9)$$

From Formula (9) we can see that, when $0° < \alpha < 180°$, $\vec{F}_{12B} > \vec{F}_{12A}$. Therefore, compared with the market trading model, after enterprises coordinate the value orientation of each partner with capital power, the cooperative force increases and the scope of cooperation expands. As long as the value orientation of both sides is not in an absolute conflict confrontation state of $\alpha = 180°$, there is possibility of cooperation. However, under the market trading mechanism, both parties can only cooperate within the range of $0° \leq \alpha < 90°$ in terms of value orientation. Hence, the cooperation efficiency of shareholder under the theoretical model of enterprise organizations is significantly higher than the market trading mechanism.

In addition, according to the information field model, if the cooperation threshold is constant, the larger the cooperation force is, the greater the excess return will be. Therefore, the return under the enterprise cooperation mode is greater than that under the market trading mode. Similarly, with the ratio of the revised capital vector to determine the proportion of excess returns, there are:

$$q_{1B}/q_{2B} = q_1\cos\beta/q_2\cos(\alpha-\beta) = \frac{\cos\beta}{\cos(\alpha-\beta)}\cdot q_1/q_2 \tag{10}$$

Obliviously, only when $\cos\beta = \cos(\alpha-\beta)$, profit distribution can meet the principle of fair distribution of market mechanism. As shown in Fig.3, when $q_1 > q_2$, there is $\cos\beta > \cos(\alpha-\beta)$, i.e., the proportion of the profits of the powerful capitalists will increase. This is because the value orientations of the enterprises depend more on the value orientation of the members of the strong capital in the enterprise model of shareholder supremacy theory. Therefore, in the distribution of benefits, their rights are accordingly enlarging.

As we can see, shareholder supremacy theory relies on the coordination of the power of capital, shows the largest amount of corporate capital externally, and form a common internal value orientation. Both of its cooperation force and cooperation income have been enhanced but it does not guarantee the rationality of income distribution. When the capitalist forces of stakeholders differ greatly, the participants with weak capital can become vassals of strong capital and the rights in cooperation are compressed, resulting in the problem of unfair distribution. That is, the efficiency is obtained at the expense of the distributional justice, so the method of coordination based on the power of the capital is not a perfect coordination solution.

5.3 the Business Model of Stakeholder Theory

Stakeholder theory is based on the principle of fairness. In the information field model, this principle is expressed as the value orientation of an enterprise is equal to the compromise value orientation of all stakeholders. For enterprises composed of two members $\vec{q}_1$ and $\vec{q}_2$, the value orientation of the firm should adopt the compromise of the value orientation of the two economic persons, irrespective of whether the capital amounts of the two economic persons are different or not. If the included angle of their capital vectors $\vec{q}_1$ and $\vec{q}_2$ is *α*, and the firm capital vector is $\vec{q}_{C\Sigma}$, then the angle between the $\vec{q}_{C\Sigma}$ and $\vec{q}_1$ or $\vec{q}_2$ is *α* /2. As shown in Fig 4:

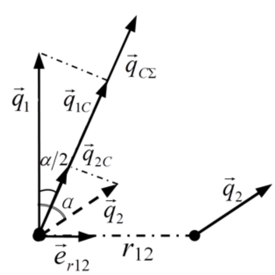

Figure 4: Equity Principles of Corporate Capital Vector

In Figure 4, $\vec{q}_{1C}$ and $\vec{q}_{2C}$ are the new capital vectors projected by $\vec{q}_1$ and $\vec{q}_2$ on $\vec{q}_{C\Sigma}$ respectively, and the amplitudes are $q_{1C} = q_1 \cdot \cos(\alpha/2)$ and $q_{2C} = q_2 \cdot \cos(\alpha/2)$, respectively. Externally, the sum of $\vec{q}_{1C}$ and $\vec{q}_{2C}$ constitutes the capital vector of the enterprise, i.e., $\vec{q}_{C\Sigma} = \vec{q}_{1C} + \vec{q}_{2C}$, Internally, $\vec{q}_{1C}$ and $\vec{q}_{2C}$ express the ability of the enterprise member $\vec{q}_{C\Sigma}$ to cooperate in the direction. That is, the new cooperation force is as follows:

$$\vec{F}_{12C} = k\frac{q_{1C} \cdot q_{2C}}{r_{12}^2}\vec{e}_{r12} = k\frac{q_1\cos(\alpha/2) \cdot q_2\cos(\alpha/2)}{r_{12}^2}\vec{e}_{r12} = \vec{F}_{12M} \cdot [\cos(\alpha/2)]^2 \tag{11}$$

Subtracting formula (11) from formula (8) and simplifying it, we can put forward that:

$$\vec{F}_{12C} - \vec{F}_{12B} = \vec{F}_{12M} \cdot [\cos(\alpha/2)]^2 - \vec{F}_{12M} \cdot [\cos\beta \cdot \cos(\alpha - \beta)] = \vec{F}_{12M} \cdot \frac{1}{2}[1 - \cos(2\beta - \alpha)] \tag{12}$$

As we can see in Formula (12), when $0° < \alpha < 180°$, $\vec{F}_{12C} \geq \vec{F}_{12B}$, and in the case of $\beta = \alpha / 2$, the equal sign holds. This shows that when there are differences in the amount of capital of economic man, the effect of fair coordination is better than the effect of capital coordination, and the greater the difference of capital amount, the more obvious is the advantage of fair coordination. When $\beta = \alpha / 2$, it means that the capital amounts of the two economic persons are equal, and the capital coordination at this time is naturally fair and equitable.

Similarly, with the ratio of the revised capital vector to determine the proportion of excess returns, there are:

$$q_{1C}/q_{2C} = q_1\cos\frac{\alpha}{2} \Big/ q_2\cos\frac{\alpha}{2} = q_1/q_2 \tag{14}$$

As we can see, its profit distribution meets the principle of fair distribution of market mechanism. This is because stakeholder theory fully takes into account the expression of the rights of various stakeholders into account. Therefore, the impartiality of the distribution of benefits will be guaranteed.

In addition, because $\vec{q}_{C\Sigma} = \vec{q}_{1C} + \vec{q}_{2C} \leq \vec{q}_{\Sigma} = \vec{q}_1 + \vec{q}_2$, and the equal sign only in the members of the capital vector in the same direction or the same magnitude when the same holds. Therefore, in most cases, the enterprises that coordinate according to the principle of fairness do not reach the maximum value of the corporate capital vector and the cooperation power of the enterprises is weakened. Moreover, the greater the variance of member capital vectors, the greater their impact.

Hence, the stakeholder theory of the enterprise is based on the principle of equity capital vector coordination. Seeking the maximum cooperation force while ensuring the rights of all the stakeholders are not infringed. The internal cooperation force formed by such a coordination mode is the largest. However, the ability of foreign cooperation in enterprises is somewhat weakened, which is the price of distributing justice.

6 Conclusion

The improvement of the internal cooperation force of enterprises comes from the common coordination of the value orientation among the various members. Therefore, the source of coordination and dominance is an important issue. Based on the theory of shareholder supremacy, the coordination of the value orientation of each member of the enterprise is dominated by the capital power. Therefore, the source of the coordination power is very clear. The members or member groups with the largest capital vector will become the leaders of the enterprise value orientation. Its efforts for cooperation and coordination can be directly rewarded by obtaining more excess returns. Therefore, the power of capital is difficult to balance between fairness and efficiency. In this case, the coordination power is essentially the right derived from capital.

Based on the theory of stakeholder, the coordination of value orientation among the various members of the enterprise is dominated by the principle of fairness. At this time, the source of the coordination force becomes ambiguous. When the various members of the enterprise in the capital vector difference is large, the interests of many small stakeholders who will become a problem, simply from the internal enterprise is difficult to find enough force for fair coordination, and in the absence of a fair and coordinated power source, Then the stakeholder theory can only be a theoretical possibility. Taking into account the existence of enterprises in a particular social environment, social justice, can be used as a fair source of power for all stakeholders in an enterprise.

Hence, the implementation of stakeholder theory must rely on the power of society. It is necessary to give full play to the leading role of the social mainstream value orientation and not overly rely on the instinctive forces of capital. The establishment and maintenance of social justice value orientation, its means of implementation, including laws, institutions, but also culture, morality. Given the instinct of capital power and the firm's strong position in society, the government will play an important leading role in establishing a fair social value orientation because only the government can afford to bind the power of capital to pursue efficiency Only when the government has the ability to establish a common social value orientation in the era of diversified development of social needs can the government be promoted to promote the coordinated development of social equity and economic efficiency.

The strength of social fairness derives from the recognition of the common values of society. Both legal strength and moral strength are based on social identity. Only with a wide range of social identities can social justice work really work. Faced with the current situation of the diversified development of social values, it is necessary to establish the common value of society as the core value system. Each of the diversified branches must carefully examine whether or not the core concept of social common values is contained or vice versa Conflict and confrontation, if the idea of anti-social tendency to become the mainstream in a diversified social culture, the construction of social core value system will be difficult to achieve. From this perspective, in the construction of social common value orientation, the innovation of economic theory is particularly important.

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