

# Enterprise Strategic Adjustment based on Path Dependence Theory

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**Abstract:** In order to solve the great strategic risk in traditional enterprise strategic adjustment, this paper puts forward the enterprise strategic adjustment based on path dependence theory. Based on the introduction of path dependence theory, the enterprise strategy is analyzed and three parts are adjusted: market penetration strategy, diversification strategy and contraction strategy, so that the proposed enterprise strategic adjustment based on path dependence theory is realized. The experimental data show that the strategic adjustment based on path dependence theory can effectively avoid known risks.

**Keywords:** Path dependence theory; Enterprise strategy; Strategic adjustment

## 1. Introduction

Path dependence refers to the inertia of technological evolution or institutional change in human society similar to that in physics, that is, once entering a certain path (whether “good” or “bad”), it may depend on this path. Once people make a choice, which is like embarking on a road of no return, the power of inertia will make that choice self-reinforcing and make it uneasy for you to get out of it. The first person to make “path dependence” theory widely known is Douglas North, who won the Nobel Prize in Economics in 1993 owing to his successful explanation about the evolution of economic system with the theory of “path dependence” [1]. Nowadays, path dependence theory has been widely used in different fields. Enterprise strategy is a general term for all kinds of strategies of enterprises, including competitive strategy, marketing strategy, development strategy, brand strategy, financing strategy, technology development strategy, talent development strategy, and resource development strategy, etc. Enterprise strategy emerges endlessly, for example, informatization is a brand new strategy. Enterprise strategic adjustment is vital to the development of enterprises. Correct enterprise strategic adjustment can bring good benefits to enterprises. Therefore, this paper puts forward the enterprise strategic adjustment based on path dependence theory.

## 2. Enterprise Strategic Adjustment based on Path Dependence Theory

### 2.1. Introduction of path dependence theory

Path dependence means that once people choose a system, the existence of such factors as Economies of scale, Learning Effect, Coordination Effect, Adaptive Effect and vested interest constraints will lead to the continuous self-reinforcement of the system along the established

direction. Once people make a choice, which is like embarking on a road of no return, the power of inertia will make that choice self-reinforcing and make it uneasy for you to get out of it. Douglas North believes that “path dependence” is similar to inertia in physics. Once a thing enters a certain path, it may depend on it. This is because, like the physical world, economic life has a mechanism of increasing returns and self-strengthening [2]. This kind of mechanism enables people to choose a certain path, and they will be constantly self-reinforcing in the future development. After “path dependence” theory has been summarized, it has been widely used in all aspects of choice and habits. To some extent, all people’s choices will be terribly affected by path dependence. The choices people made in the past determine their possible choices now. All people’s theories about habits can be explained by “path dependence”. In the process of theoretical formation, North extends Arthur’s argument about self-reinforcement in the process of technological evolution to institutional change, thus the path dependence theory of institutional change is established.

North pointed out that there are two forces determining the path of institutional change, one is increasing returns, the other is incomplete markets determined by significant transaction costs. Without increasing returns and incomplete markets, institutions are not important. With increasing returns and increasing market incompleteness, institutions become very important, and self-reinforcing mechanisms still play a role, however, in some respects, showing different characteristics:

Designing a system requires a lot of initial setup costs, and as the system advances, unit costs and additional costs will decrease [3].

Learning effect. Organizations that adapt to the system will seize the profit opportunities provided by the institutional framework.

Coordination effect. Organizations produced by adaptation sign a treaty with other organizations, as well as mutually beneficial organizations further investment in the system, which achieve coordination effect. More importantly, the emergence of a formal rule will lead to the emergence of other formal rules and a series of informal rules to supplement this formal rule.

Adaptive effect. The prevalence of contract based on a specific system will reduce the uncertainty of the system's persistence. In short, the interconnected network of institutional matrices will generate a large number of incremental returns that keep the track of a particular institution, thus determining the track of long-term economic operation. It can be described by formula (1) [4].

$$A = \lim_{0 \rightarrow \infty} C \prod_{i=1}^n V_i \quad (1)$$

In the formula, C represents the initial setting cost, n represents the Learning Effect, and  $V_i$  represents the Coordination Effect.

When loading path dependence theory, three aspects should be paid attention to. First, the role of formal rules in economic development is continuous and cumulative. A country's political and legal system restricts economic freedom and individual behavior characteristics, and then affects economic benefits. Second, the role of informal rules in economic development is more lasting and precipitated in the historical process. Compared with the formal system, the informal system has strong non-ease, whose changes are also continuous, slow, gradual and endogenous. In history, although the political and legal systems of many countries are not very different, the path of economic development is quite different. The main reason is that different informal systems and traditional cultures play a role [5]. Third, the special interest groups related to the system have the impetus to keep the institutional change going. Because this interest group coexists with the existing system, in the leading position in the race of various interests, it will strengthen the existing system, thus promoting the institutional change to maintain its original inertia and continue in the original direction. Thus the loading of path dependence theory can be realized.

**2.2. Analysis of enterprise strategy**

Although there are many kinds of enterprise strategies, their basic attributes are the same, strategies for enterprises, as well as for enterprise integrity, long-term and basic issues. For example, enterprise competition strategy is a strategy for enterprise competition, as well as for enterprise competition integrity, long-term and basic issues; enterprise marketing strategy is a strategy for enterprise marketing, as well as for enterprise marketing integrity, long-term and basic issues; enterprise technology development strategy is a strategy for enterprise technology development, as well as for the holistic, long-term

and basic issues of enterprise technology development; enterprise talent strategy is a strategy for enterprise talent development, as well as for the holistic, long-term and basic issues of enterprise talent development. By analogy, they are the same. All kinds of enterprise strategies have similarities and differences, same in the basic attributes and different in the levels and angles of planning problems. In short, no matter which aspect of the strategy is, as long as involving enterprise overall, long-term and basic issues, it belongs to the scope of enterprise strategy. The definition of marketing to enterprise strategy is that in the environment of fierce competition in the market economy, enterprise makes a long-term and overall strategy or plan for the survival and development, based on the summary of historical experience, investigation of the present situation and prediction of the future, as is shown in Figure 1[6].

When a company successfully formulates and implements the strategy of value creation, it can acquire strategic competitiveness. A strategy is a series of comprehensive and coordinated agreements and actions designed to develop core competitiveness and gain competitive advantage. Choosing a strategy means the enterprise makes a choice among different competition modes. In this sense, strategic choices indicate what the company intends to do and what it does not do.

**2.3. Adjustment of enterprise strategy**

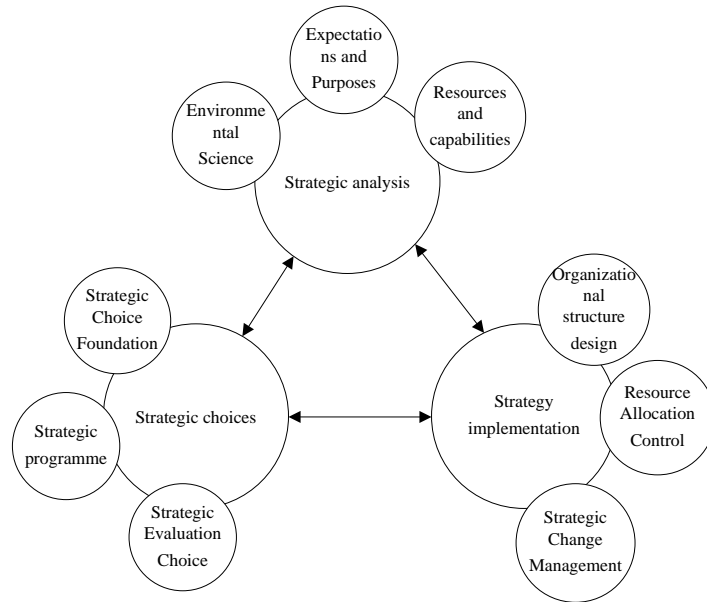
Strategic form refers to the strategic ways and strategies adopted by enterprises. Based on the path dependence theory, according to the manifestations of enterprise strategies, it can be divided into three parts: market penetration strategy, diversification strategy and contraction strategy. Market penetration strategy refers to the strategy of expanding the market step by step. The strategy can be carried out by single one or combined ones, such as expanding production scale, increasing production capacity, increasing product function, improving product use, broadening sales channels, developing new markets, reducing product costs and concentrating resource advantages. The core lies in two aspects: using existing products to open up new markets to achieve penetration and providing new products to existing markets to achieve penetration, which can be expressed by formula (2) [7].

$$R = \frac{A(\partial^2 x T_k dx)}{D} \quad (2)$$

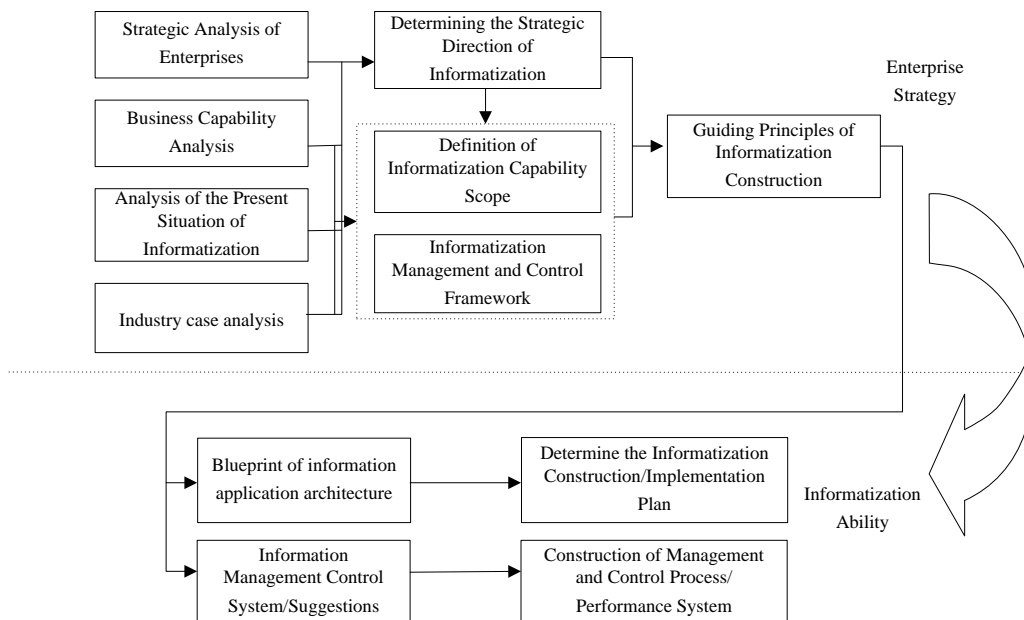
In the formula, x represents enterprise production scale,  $T_k$  represents enterprise production capacity, D represents enterprise production function and R represents the adjustment coefficient of market penetration strategy. Diversification strategy refers to an enterprise's expansion strategy that operates two or more industries at the same time, also called "multi-industry management". It mainly includes three forms: concentric diversification,

horizontal diversification and comprehensive diversification. Concentric diversification is a diversified operation realized by utilizing existing technology and superior resources, new customers add new businesses facing new markets; horizontal diversification is a diversified operation realized by adopting new technologies to increase new businesses for existing markets and customers; comprehensive diversification is a diversification management realized by directly utilizing new technologies to enter new markets, as is shown in Figure 2 [8].

Shrinkage strategy is a strategic form of conservative management attitude, mainly suitable for crisis enterprises with weak market, inflation, products entering recession, management out of control, operating loss, insufficient funds, lack of resources and vague development direction. It can be divided into three strategic forms: transfer strategy, withdrawal strategy and liquidation strategy.



**Figure 1. Enterprise strategy analysis**



**Figure 2. Adjustment of enterprise strategy**

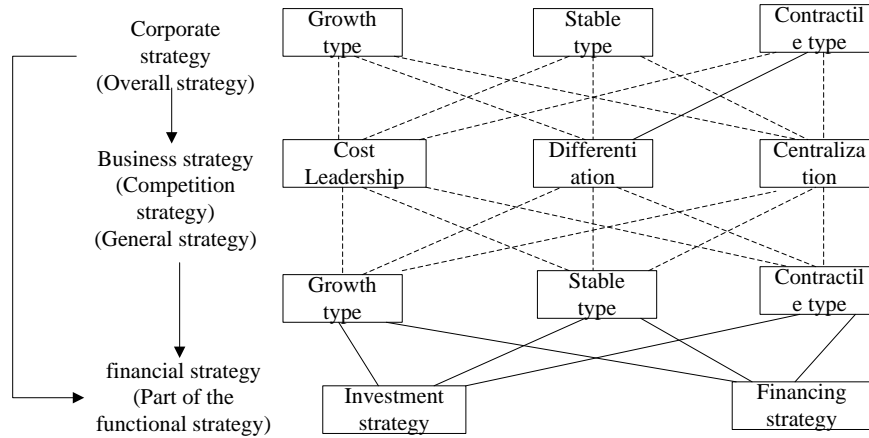


Figure 3. Enterprise strategic hierarchy and its classification system

Transfer strategy is to transfer market areas (mainly from big markets to small markets) or industries (from high-tech to low-tech) by changing business plans and adjusting business deployments [9]; withdrawal strategy is to reduce expenditure, reduce production, withdraw or abandon some regions or market channel; liquidation strategy is to sell or transfer part or all of the enterprise assets to repay debts or stop business activities. The advantage of shrinkage strategy is to integrate effective resources, optimize the industrial structure and preserve the vitality to reduce enterprise loss, continue the life of enterprises, and strengthen the internal restructuring by centralizing the advantages of resources in order to achieve new development. Its disadvantage is that it is easy to waste part of enterprise effective resource, affect the reputation of enterprises, lead to low morale, cause brain drain and threaten enterprise survival. The key points to be grasped in this strategy are to adjust business thinking, carry out systematic management, streamline organizational structure, optimize industrial structure, activate overstocked funds and reduce unnecessary expenditure, as well as to adjust the strategic hierarchical structure and its classification system of enterprises [10].

$$G = \frac{R \cdot F}{S} + Z(\partial^2 gdx) \quad (3)$$

In the formula, F represents market weakness coefficient, S represents market inflation coefficient, Z represents product entering recession period, and G represents operating loss. The enterprise strategic hierarchy and its classification system are shown in Figure 3.

Based on the long-term development, the enterprise strategy establishes the long-term goal, needing to set up the stage goal and the management strategy to achieve each stage goal around the long-term goal, in order to form a linked strategic target system. There are risks in any decision-making, and strategic decision-making is no exception. In-depth market research, accurate forecast of industry development trend, objective set-up prospects,

appropriate allocation of human, financial and material resources at all strategic stages, and scientific selection of strategic forms lead to the formulated strategies guiding a healthy and rapid development of enterprises. On the contrary, if the market is judged subjectively by individuals, the goal is too ideal or the development trend of the industry is not predicted properly, the strategy formulated will lead to mismanagement and even bring the risk of bankruptcy to the enterprise. Enterprise strategic adjustment based on path dependence theory should be realized.

### 3. Case Analysis

In order to ensure the validity of enterprise strategic adjustment based on path dependence theory proposed in this paper, the case analysis is carried out. In the process of case analysis, the traditional enterprise strategic adjustment model is adopted as the experimental comparison object. The simulation experiment is carried out to verify that the validity of the proposed enterprise strategic adjustment based on path dependence theory avoiding the known risks.

#### 3.1. Experimental preparation and process

In order to ensure the scientificity of this experiment, first of all, the experimental parameters are determined. Because this experiment uses data comparison experiment, in order to be closer to the real experimental environment, the experiment is carried out with known experimental parameters.

In the process of the experiment, firstly, according to the set experimental parameters, the data experimental environment is constructed. This experiment chooses two kinds of enterprise strategic adjustment to compare and analyze the known events with risks, and finds out the ability to avoid risks under different experimental variables and different strategic adjustment. Therefore, the

following ten groups of risks are constructed, as is shown in Table 1.

**Table 1. Experimental known risk simulation parameters**

Group	Risk parameter	Group	Risk parameter
1	98.24	6	92.64
2	96.59	7	90.74
3	94.21	8	90.51
4	94.12	9	88.41
5	92.85	10	78.26

During the experiment, different types of enterprises are set according to the known parameters, and the enterprise

strategic adjustment based on path dependence theory and traditional strategic adjustment methods are used to adjust. The experimental results are compared with the known experimental results, and the risk avoidance ability is determined and recorded in the table.

**3.2. Result analysis**

According to the experimental preparation and process, the comparative table of the ability to avoid known risks for different strategies of enterprises is drawn and shown in Table 2.

**Table 2. Comparison of avoiding known risk capabilities of different enterprise strategic adjustment methods**

Group	Proposed enterprise strategic adjustment	Traditional enterprise strategic adjustment	Group	Proposed enterprise strategic adjustment	Traditional enterprise strategic adjustment
1	91.23	90.13	6	93.15	89.54
2	92.15	81.31	7	91.24	62.14
3	96.59	81.26	8	93.38	58.45
4	93.12	73.21	9	98.95	69.35
5	92.63	70.51	10	95.14	63.51

According to the experimental result table, it can be concluded that different enterprises can effectively avoid known risks by adjusting their enterprise strategy based on the path dependence theory. After calculation, the traditional enterprise strategic adjustment avoids known risk ability is 73.94%, and the proposed enterprise strategic adjustment based on path dependence theory avoids known risk ability is 93.76%. The proposed enterprise strategic adjustment method based on path dependence theory is 19.82% higher than the traditional enterprise strategic adjustment in avoiding risk ability, suitable for the strategic adjustment of different enterprises.

**4. Conclusions**

This paper puts forward the enterprise strategic adjustment based on the path dependence theory. Based on the introduction of the path dependence theory, the enterprise strategy is analyzed, so that the enterprise strategy adjustment based on the path dependence theory is realized. In order to ensure the validity of the research, the experiment is carried out, whose results show that the proposed enterprise strategic adjustment based on the path dependence theory is of high validity. It is hoped that this research can improve the theoretical basis for enterprise strategic adjustment.

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