

Retraction

Retracted: The Management System Framework of Small- and Medium-Sized Enterprises Based on Strategic Flexible Management

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Manipulated or compromised peer review

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] L. Zhao, J. Wang, and Z. Li, "The Management System Framework of Small- and Medium-Sized Enterprises Based on Strategic Flexible Management," *Journal of Electrical and Computer Engineering*, vol. 2022, Article ID 7503566, 12 pages, 2022.

Research Article

The Management System Framework of Small- and Medium-Sized Enterprises Based on Strategic Flexible Management

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The framework to learn how to manage SMEs is as simple as management. The first is to identify the internal control problems and causes of SMEs, and the reasons for the internal management problems of SMEs. Then, we analyzed the management system management and development of the business model industry-standard model. Based on the construction of industrial sub-systems, a simple subsystem conversion system is developed, and a simple exchange strategy matrix for equipment measurement and decision-making is constructed. Finally, taking CW as an example, the company's case modeled and demonstrated the feasibility of the retrofit process, supporting the importance of the study. The experimental results show that asset specificity, organizational structure stability, cultural organization memory, and entrepreneur cognitive inertia are the main factors that promote the formation of strategic rigidity. Once the strategic rigidity is formed, it will have a negative effect on the enterprise, resulting in a lack of adaptability, lack of innovation power, and a decline in business performance, indicating the necessity and urgency of building an enterprise strategic flexibility system.

1. Introduction

Since the reform and opening, China's economy has rapidly developed. In the last 20 years of the 21st century, SMEs have also entered a new stage of prosperity and development. The number and a total number of small- and medium-sized private enterprises in China have become larger and larger, and private enterprises have begun to play an important role in China's industrial development. In research studies, more and more scientists are gradually turning their research to SMEs [1]. Especially in recent years, China's economic growth has entered a normal state, and changes in the external environment have made it difficult to control the "global factory" model that relies on low energy costs. The problem of insufficient work in small- and medium-sized private enterprises and the problem of diligence of graduates appear at the same time, which shows the depth of the problem. Changing the type of policy and turning to the type of management that can promote its own development is the development of enterprise management. Therefore, studying the management of small- and medium-sized enterprises

(SMEs) is crucial to the stability and culture of the Chinese economy [2].

Although the operation scale of small- and medium-sized private enterprises is relatively small, the internal organizational structure of enterprises is consistent with that of large enterprises (Figure 1); enterprise management is not only the decision-making and enterprise operation of the leadership but also involves technological innovation, product marketing, service upgrading, strategic planning, resource allocation, and other aspects, which also determines that enterprise management activities have the characteristics of complex structure, changeable content, and many uncertain factors. Although the rapid growth of small- and medium-sized private enterprises can solve some problems in the development of enterprises, the problems of lagging enterprise management behind the rapid growth must be solved by changing the traditional management concept, especially the concept of human resources. The development history of small- and medium-sized private enterprises in China is relatively short, and the growth of enterprises is greatly affected by the macroeconomic and

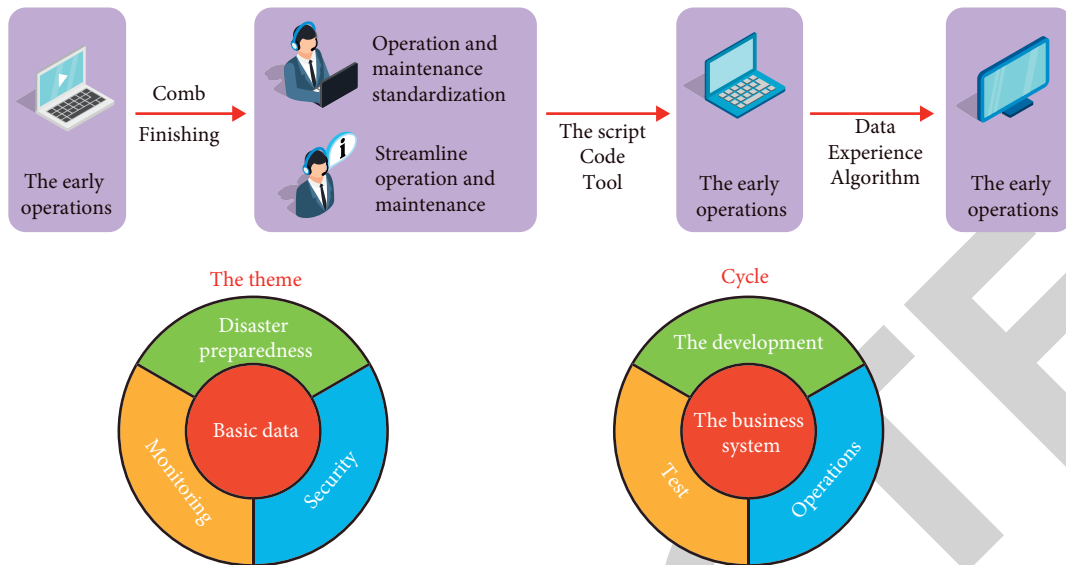


FIGURE 1: Management system of small- and medium-sized enterprises.

industrial environment. Enterprises are required to have greater tolerance to environmental changes, that is, they have better enterprise flexibility. The importance of further expanding enterprise flexible management is gradually increasing [3].

The remarkable ability is looked for the small- and medium-sized enterprises to improve their risk resistance level under the “dynamic environment.” At present, the change in consumer demand is accelerating, and the external environment is becoming more and more unpredictable. The competition among enterprises has long gone beyond the scope of technology and products, but also the competition of rapid response ability and response speed. This study attempts to introduce strategic flexibility into the research on the relationship between empowerment and management innovation, hoping to reveal the impact mechanism of strategic flexibility on the interaction between them, so as to find certainty for small- and medium-sized enterprises in an uncertain environment, and then find an ability to resist risks [4].

2. Literature Review

Xiao, H, et al. pointed out that enhancing the ability of enterprises to respond to the changes in unpredictable environment often means the improvement of the overall level of enterprise strategic flexibility. Among the three kinds of internal manufacturing flexibility (scope, flexibility, and consistency) defined by Upton, flexibility refers to a state in which the manufacturing system maintains the minimum cost between product types within a specific range, and what is said is a special response ability [5]. Liu et al. believe that the internal environment of enterprises will also change, so flexible management is an endogenous demand. Enterprise managers should have a sense of responsibility, promote the safety and integrity of enterprise economic resources, and master more personnel and tax information at all stages of the enterprise, to maintain the stable

development of the enterprise [6]. Klarin et al. put forward that the diversification of enterprise competition in the new century makes enterprises no longer a simple product competition but also the participation of science and technology, culture, and management. Enterprises need to pay attention to democratization and grassroots in management to ensure that more employees participate in flexible management to achieve the management objectives of enterprises [7]. Rogoza et al. proposed that human resource flexibility refers to the ability of enterprises to flexibly use factors such as the number of employees employed, the structural differences of employees in age and specialty, employee time arrangement, and personal skill characteristics to adapt to the changes of enterprises’ own scale and structure [8]. In addition, Liu et al. cited the following five indicators to measure strategic flexibility from the perspective of competition: (1) speed (refers to the ability to quickly respond to market and customer needs and introduce new ideas and products); (2) consistency (the products produced are consistent with the expectations of customers); (3) accuracy (able to prepare and predict customer expectations and potential needs); (4) agility (able to effectively adapt to a variety of different business environments at the same time); and (5) innovation (introduce new design concepts on the basis of original elements and create new sources of value). There is no unified statement on the definition of organizational flexibility [9]. Kees et al. analyzed the problem from a broader perspective. They defined organizational flexibility from three aspects: (1) the size of choice: the initial flexible action makes the enterprise have more action choices in the subsequent period; (2) marginal cost: that is, flexible factories often need less additional cost when turning to new positioning; and (3) marginal expected profit: that is, flexible factories can often obtain more profits or suffer less losses when turning to new positioning [10]. Parackal et al. found that system analysis theory is a science that studies the general mode, structure, and operation law of the system. It mainly studies the common characteristics of various systems, describes their functions with quantitative methods, seeks and

TABLE 1: Appraisal standards for small- and medium-sized enterprises.

Order number	Trade	Main indicators	Unit	Medium-lot producer	Small business	Microenterprise
1	Agriculture, forestry, animal husbandry, and fishery	Operating receipt (R)	Thousand yuan	$500 \leq R < 20000$	$50 \leq R < 500$	$R < 50$
2	Industry	Employee (P) Operating receipt (R)	Person Thousand yuan	$300 \leq P < 1000$ $2000 \leq R < 40000$	$20 \leq P < 300$ $300 \leq R < 2000$	$P < 20$ $R < 300$
3	Construction business	General assets (A) Operating receipt (R)	Thousand yuan Thousand yuan	$5000 \leq A < 80000$ $6000 \leq R < 80000$	$300 \leq A < 5000$ $300 \leq R < 6000$	$A < 300$ $R < 300$

determines the general law of things' development, and is an emerging discipline with rigorous logical analysis [11]. Dinh et al. found that the formation of system analysis theory is gradually formed with people's understanding and transformation of the objective world and the subjective world. System analysis theory takes the research object as a system to analyze and deal with. In the process of people's social practice, people start with phenomenon analysis, recognize the essence of things, grasp the internal relations between things, study and think about problems in a comprehensive analytical thinking mode, and understand, observe, and solve problems from a systematic perspective [12]. In the research on internal control of small- and medium-sized enterprises, Andersén et al. found that based on the analysis of the characteristics and causes of financial risks of small- and medium-sized enterprises, they gave six countermeasures for small- and medium-sized enterprises to prevent financial risks. Small- and medium-sized enterprises have internal control disadvantages such as departmental segmentation, one-sided internal control thought, low quality of employees, and backward internal audit and put forward targeted improvement countermeasures [13].

3. Method

3.1. Internal Control Problems and Cause Analysis of Small- and Medium-Sized Enterprises. Small- and medium-sized enterprises are a concept relative to large enterprises. Therefore, their definition will be different in different countries and regions, different stages of economic development, different economic systems, and different industries. There are two ways to define small- and medium-sized enterprises: qualitative and quantitative. Qualitative refers to different measurements according to different industries and different enterprise management modes, while quantitative is based on quantitative indicators such as the number of employees, sales, and assets. The identification of small- and medium-sized enterprises in China adopts a combination of qualitative and quantitative methods. The specific identification standards are shown in Table 1 below.

3.1.1. Characteristics of Small- and Medium-Sized Enterprises. (1) *It Is Widely Distributed, But its Development is Uneven*, including "extensive and unbalanced" in two aspects. First, the industry is widely distributed. Except for the state monopoly industry, small- and medium-sized enterprises cover almost all industries, but most small- and

medium-sized enterprises are concentrated in labor-intensive industries such as manufacturing and wholesale and retail. Excessive dependence on labor is the main reason for their instability and poor antirisk ability; second, the region is widely distributed, and the small- and medium-sized enterprises are all over all regions of China, but the development among regions is very uneven. The small- and medium-sized enterprises in developed regions, eastern regions, and coastal regions rapidly develop, while the development of central and western regions is relatively slow [14].

(2) *The Two Powers Are Highly Centralized and the Management System Is Not Standardized.* China's small- and medium-sized enterprises generally have a high degree of concentration of ownership and management rights. The owner of the enterprise is often also the top manager of the enterprise. Therefore, small- and medium-sized enterprises do not have a scientific management system as a basis when formulating development strategies and management plans and making daily production and operation decisions, nor do they have sufficient collective research, discussion, and feasibility analysis of plans. Unscientific governance structure and management system lead to low management effect.

(3) *Flexible Production and Poor Risk Resistance.* A major advantage of small- and medium-sized enterprises over large enterprises is that "small ships are good to turn around." Due to the small scale of small- and medium-sized enterprises, it is relatively easy to enter and exit the market, and the business means are more flexible and diversified. They can constantly adjust the production direction or product structure according to the changes in market demand, to quickly adapt to the new market demand. However, it is precisely because the production and operation of small- and medium-sized enterprises are too changeable, which leads to many problems in capital assets and personnel quality. In the face of rapid changes in the economic situation or market demand, small- and medium-sized enterprises are often unable to cope, stretched, and prone to bankruptcy. Relevant statistics show that the average life span of China's small- and medium-sized enterprises is only 5–7 years, and the operating life of 8,000 small- and medium-sized enterprises is no more than 5 years [15].

3.2. Analysis of Internal Control Problems of Small- and Medium-Sized Enterprises

3.2.1. Constrained by the Cost-Benefit Principle, the Investment in Internal Control is Limited. The cost-benefit principle is the primary principle that any enterprise must follow if it wants to survive and develop. It is also the basic principle that any economic behavior of the enterprise must adhere to. Otherwise, the enterprise will be unable to make ends meet and sustain. This principle is particularly important for small- and medium-sized enterprises, especially private small- and medium-sized enterprises. Because private small- and medium-sized enterprises do not have a strong financial backing, each production, operation, and management expenditure must be allocated and strictly used according to the disposable funds of the enterprise, and the internal control can be completed only by investing a considerable degree of human and financial resources.

3.2.2. Unscientific Governance Structure Leads to Unclear Division of Internal Control Responsibilities. In the case of information asymmetry, an unscientific and nonstandard governance structure may threaten the business stability and security of enterprises, and internal control is also prone to problems. The high concentration of ownership and management rights and the lack of independent board of directors, board of supervisors, internal audit, and other departments will make small- and medium-sized enterprises face difficulties in dividing and clarifying internal control responsibilities and implementing internal control evaluation and assessment, which is not conducive to the improvement of enterprise production efficiency.

3.2.3. Enterprise Internal Control Culture Is Backward. Compared with large enterprises, the internal control construction of small- and medium-sized enterprises is still very backward. From the perspective of small, medium, and microenterprises from all walks of life, if there is dissatisfaction or dissatisfaction with internal control, the improvement of internal control is not conducive to environmental protection. As for leaders who play a key role in the development of SMEs, their internal governance strategies are also being reversed. They often rely on their own experience and vision in governance and decision-making so that enterprise management depends on "human rights" rather than "rule of law," "rule of law," and the scribes of internal control have a bad ethos.

3.3. Strategic Flexibility Management. The relationship between enterprise strategic flexibility and a dynamic environment means that enterprises can overcome strategic rigidity and obtain sustainable competitive advantage only by relying on a strategic flexibility system in the dynamic environment. The enterprise strategic flexibility system emphasizes adjustability and debugging. The flexibility of the system is an effective way to overcome the rigid mechanism of strategy and make the enterprise adapt to the surrounding

environment. Strategic flexibility requires a flexible enterprise mission and management thought. It is difficult to formulate a strategy suitable for enterprise development with an invariable blueprint. The research on enterprise strategic flexibility based on system theory makes the focus of strategic research from the perspective of mechanical emphasis on market, competition, and resource upgrading to mechanism innovation and more highlights the dynamic integration between enterprise strategy and environment, which will promote the growth of enterprises [16].

The earliest researchers regarded the enterprise growth process as highly structured, closed, and mechanized and rarely considered the changes and influence of the external environment. The system analysis theory holds that environmental change is important to the growth of enterprises. In order to achieve sustainable growth, enterprises must exchange energy, material, information, and other aspects with the outside world; otherwise, they will stop growing. Therefore, the strategic flexible system has the characteristics of openness, and its function is shown as equation (1):

$$S = (I, P, O). \quad (1)$$

Among them, S is the overall goal of the strategic flexible system, and $I = \{i_1, i_2, i_3, \dots, i_n\}$ is the collection of all external inputs, including energy flow, material flow, and information flow of the strategic flexible system; $P = \{p_1, p_2, p_3, \dots, p_n\}$ is the collection of internal system transformation, including various model methods, fuzzy information processing methods, organization and management technology, "soft" system methods, and so on; $o = \{o_1, o_2, o_3, \dots, o_n\}$ is the collection of all outputs, that is, the process of using various methods to deal with energy flow, logistics, and information flow and exchange with the outside world? The openness of enterprise strategic flexibility system ensures that enterprises can timely obtain materials, capabilities, and information from the outside world in the process of growth, which is the key factor to maintain orderly development.

The dissipative structure in strategic flexibility refers to the process of forming a new stable and orderly organizational structure when the strategic flexibility system crosses the critical point due to the exchange of people, energy, logistics, and information flow with the outside world under the condition of a principal equilibrium. According to the theory of entropy and dissipative structure, the calculation formula of the total entropy of a strategic flexible system can be obtained as equation (2):

$$S_{\text{The total}} = S_I + S_e. \quad (2)$$

$S_{\text{The total}}$ is the total line of the whole strategic system, which is obtained by the summation of the upper everything inside the strategic management system and the negative moisture absorbed from the outside. From the formula, it can be understood that the dissipative structure of a strategic flexible system can be formed only when $S_{\text{thetotal}} = S_I + S_e < 0$. Therefore, the sufficient conditions for the formation of dissipative structure of a strategic flexible system are shown as equation (3):

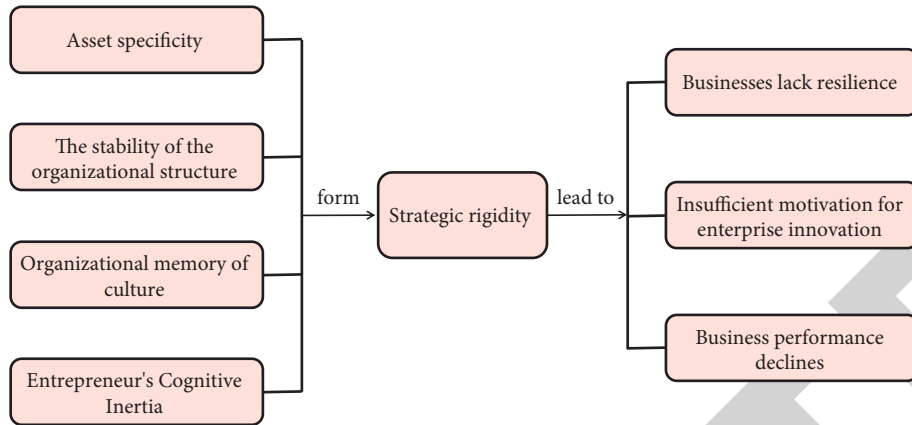


FIGURE 2: Process of negative effects of strategic rigidity on enterprises.

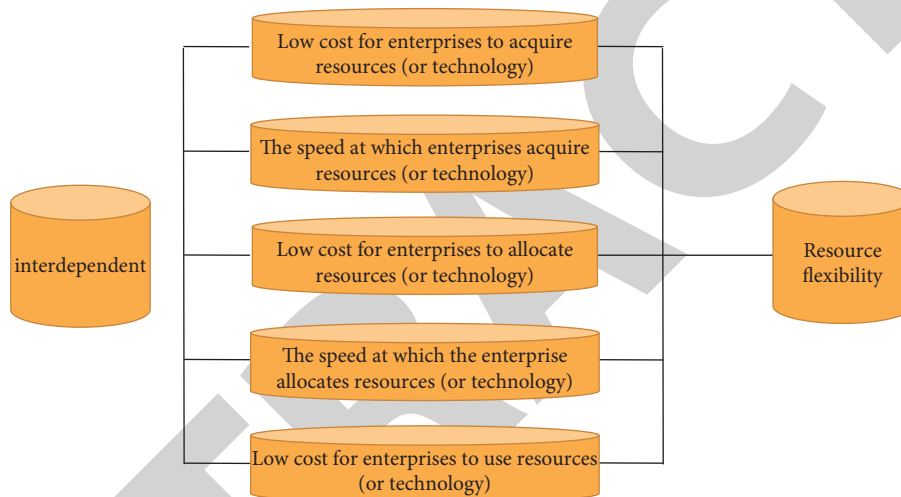


FIGURE 3: Formation of resource flexibility elements.

$$|S_f| - |S_e| < 0. \tag{3}$$

3.4. Construction of Enterprise Strategic Flexibility System Model. Locking the enterprise in a rigid state leads to the slow response of the enterprise to the internal and external environment. The cognitive inertia of entrepreneurs hinders the enterprise’s creative thinking and the digestion and absorption of new information. The old cognitive model is strengthened through strategy, value system, power allocation, and organizational expectations. It is difficult for the organization to give early warning and rapid response to environmental changes. The formation and strengthening of strategic rigidity have had a huge negative effect on its enterprises, resulting in the lack of adaptability, lack of innovation power, and a decline in business performance, as shown in Figure 2.

The flexible element subsystem is composed of several flexible elements, as shown in Figure 3. The flexible element is the basic condition to overcome the strategic rigidity, and the basic unit constituting the flexible element is the flexible scheme. The interaction and

interaction between flexible schemes form the flexible elements of the enterprise, and the interaction of flexible schemes forms a resultant force, resulting in the reaction to the strategic rigidity factors [17].

The flexible solutions to overcome the stability of the organizational structure include the following: the organizational structure of the enterprise is less hierarchical, the enterprise can quickly form a cross-departmental project team, the enterprise has a daily communication department with the participation of ordinary employees, the information between the enterprise organizations can be shared, and the enterprise organizes employees. Regular training should be obtained. The organizational structure has fewer levels, indicating that the enterprise organization has the characteristics of flattening, which increases the speed of information transmission and the flexibility of organizational change. The information can be shared between the daily communication department and the organization with the participation of ordinary employees, which means that the employees and between the employees and the management can communicate in a timely and effective manner, which ensures the consistency of corporate decision-

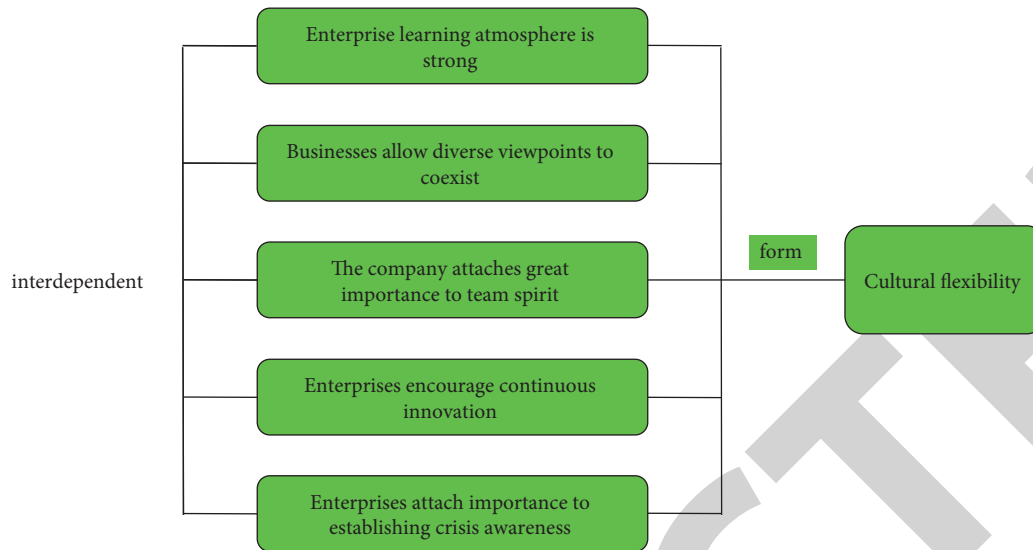


FIGURE 4: Formation of cultural flexibility elements.

making, production, sales, research and development, and other processes. The employees of the enterprise organization are often trained, which means that the employees of the enterprise are constantly updated in terms of knowledge and technology, and are in line with enterprise development and strategic changes. Enterprises can create adaptive organizations through the integration of organizational flexibility programs and build their organizational flexibility [18]. Organizational flexibility ensures that the enterprise can quickly change the organizational structure and system with the change in the environment, thereby eliminating the stability of the organizational structure. The moderate dispersion of power, organizational learning, and organizational innovation promote the adjustment and reform of enterprise strategy.

The organizational memory flexibility solutions to overcome culture include the following (Figure 4): the enterprise has a strong learning atmosphere, the enterprise allows the coexistence of diversified views, the enterprise attaches great importance to team spirit, the enterprise attaches great importance to continuous innovation, and the enterprise attaches great importance to establishing a sense of crisis. The enterprise has a strong learning atmosphere. The enterprise attaches great importance to team spirit and gradually changes from single-loop learning to double-loop learning. Enterprises allow the coexistence of diversified views to ensure that the organization can absorb the advanced culture and transform backward corporate culture. Diversified culture has the characteristics of nonlinearity, openness, and self-organization. Team spirit is the embodiment of members' common values and ideals and beliefs, which reflects the strong centripetal force and cohesion of the enterprise and ensures the efficient operation of the enterprise.

3.4.1. Formation Process of Flexible Mechanism Subsystem. As shown in Figure 5, the openness of the strategic flexibility system requires the enterprise to always grasp the changes in

the surrounding environment. The success and effect of strategic adjustment mainly depend on the enterprise's understanding and grasping of the external dynamic environment. The evolution of a strategic flexibility system requires the elements of strategic flexibility to maintain relevant links, and promote and interact with each other. Coevolution with the external environment has reached the dynamic and coherent operation of the whole strategic flexible system. The openness, evolution, and adaptability of the strategic flexible system require that the whole system should not only have static flexible elements but also have dynamic flexible mechanisms. Flexible elements are the basis for the construction of the strategic flexible system, which is formed by the integration of several flexible schemes. However, the flexible element subsystem is only a necessary condition for the strategic flexible system to overcome the strategic rigidity. Enterprises need the flexible mechanism subsystem to integrate the flexible elements. The flexible mechanism subsystem affects the openness, evolution, and adaptability of the strategic flexible system [19].

In order to realize the openness, evolution, and adaptability of the strategic flexible system, enterprises should first emphasize the scanning and analysis of a dynamic environment, as shown in Figure 6. Environmental scanning is not only the beginning of the interaction between enterprises and the external environment, but also the first module of the operation of the whole flexible mechanism. Environmental scanning refers to that enterprises collect and query information such as environmental trends, problems, events, or signals, which will help senior managers identify and understand strategic threats and opportunities. The environmental scanning mechanism module forms a strategic response to environmental changes and provides the basis for the operation process of the flexible mechanism. With the continuous change of the environment around the enterprise, there are opportunities for the change. Environmental scanning finds information containing opportunities. Risks are hidden in the changing environment, and

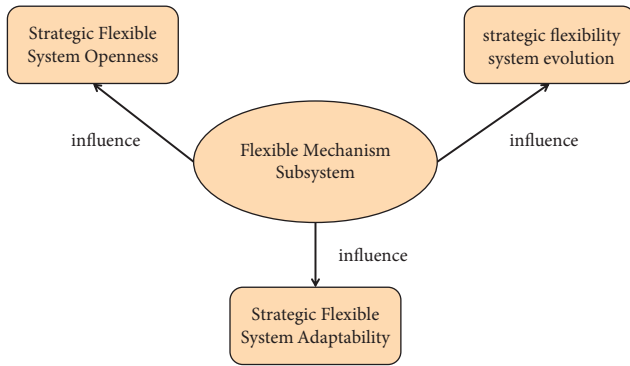


FIGURE 5: Influence of flexible mechanism subsystem on the strategic flexible system.

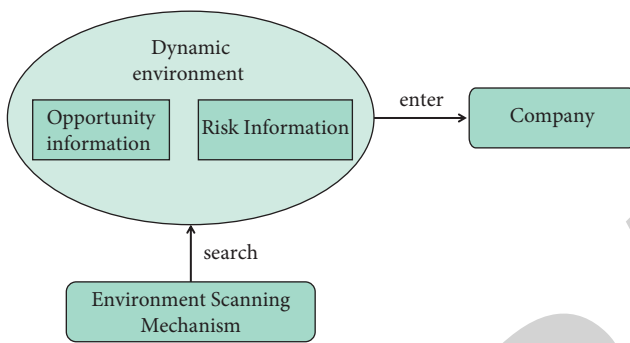


FIGURE 6: Functional diagram of environmental scanning mechanism.

environmental scanning will filter risk information. The environmental scanning process searches for a large amount of information and inputs this information into the enterprise [20].

Environmental scanning obtains a large amount of data information, which requires a huge data analysis engine to process the information and mine the information of strategic significance to the enterprise. Information analysis (Figure 7) refers to the process of using data analysis and mining technology to process the information collected by environmental scanning, to obtain the process of strategic significance for enterprise strategic adjustment or change. Environmental information containing opportunities and risks enters the enterprise, and the information analysis mechanism classifies them and transforms them into valuable and understandable forms. The information analysis mechanism analyzes the changes in national policies, social and economic changes, the adjustment of competitors' strategies, the fluctuation of production factor prices, major technological innovations, etc., excavates the information beneficial to enterprises from this information, and turns the crisis into opportunities.

Dynamic matching (Figure 8) refers to the effective allocation of resource flexibility, organizational flexibility, cultural flexibility, and leadership flexibility according to the information of strategic significance, to ensure the smooth operation of the enterprise strategic flexibility system. The flexible and effective allocation of resources includes the

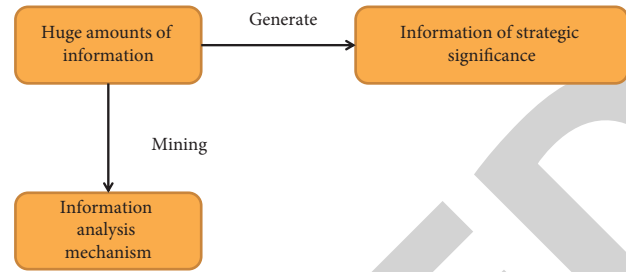


FIGURE 7: Functional diagram of information analysis mechanism.

matching between material resources, the matching arrangement between plants, production lines and machinery and equipment, and the matching arrangement between fixed inputs and raw materials. The matching of human resources and material resources refers to the following points: firstly, determine the quantity of production materials required for human labor; secondly, formulate the matching rules of enterprise human resources; thirdly, horizontal division of labor and cooperation centered on tasks; finally, the vertical management relationship and collaboration centered on the division of responsibilities among enterprise members. The allocation of organizational flexibility includes the matching of organizational structure and organizational system with enterprise strategy, improving the flexibility of organizational structure, cultivating humanized management mode, and improving the contribution rate of organizational flexibility to the strategic flexibility system [21].

The purpose of constructing strategic control mechanism applied to a strategic flexibility system is to enable enterprises to analyze and control the relevant factors in the environmental scanning mechanism, information analysis mechanism, and dynamic matching mechanism, to control the whole strategic flexibility system and make the implementation of enterprise strategic flexibility meet the requirements of objectives. Its essence is to achieve close integration with the external environment and strategic process through the control of enterprise resource capability. The strategic control mechanism uses strategic communication and analysis to avoid out of control of the strategy, correct the changes in the external environment without adjustment or excessive adjustment of the strategy, make the enterprise strategy better adapt to the surrounding environment, and deal with the strategic risks and opportunities encountered by the enterprise in time, as shown in Figure 9.

3.4.2. Construction of Measurement and Judgment Matrix of Flexible Elements of Strategic Flexibility System. Each judgment matrix represents the comparison of the relative importance of all factors in this layer against a factor in the previous layer. Factor b_{ij} of the judgment matrix uses Santy's 1–9 scale method, as shown in Table 2.

Any judgment matrix should meet $b_{ij} = 1, b_{ij} = 1/b_{ji} (i, j = 1, 2, \dots, n)$. The index value in the judgment matrix can be obtained after comprehensive weighing according to the survey data, statistical data, and expert opinions as shown in equations (4)–(6):

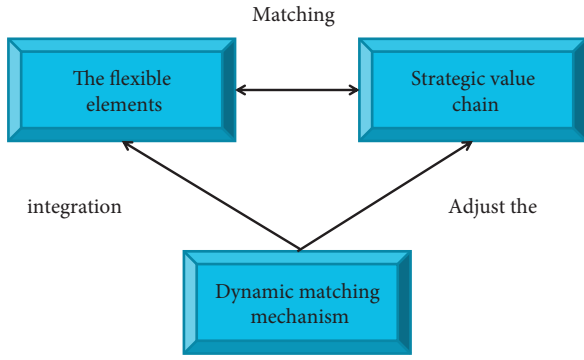


FIGURE 8: Functional diagram of dynamic matching mechanism.

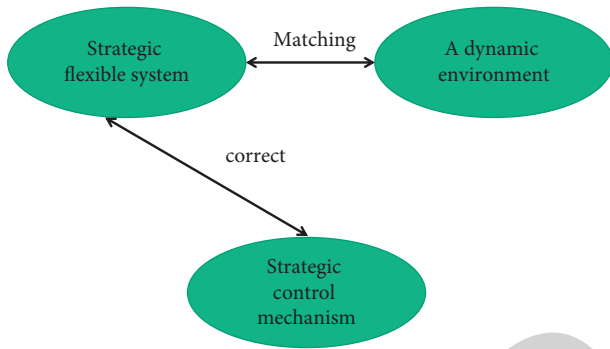


FIGURE 9: Functional diagram of strategic control mechanism.

TABLE 2: Scaling method for judgment matrix element b_{ij} .

Scale	Meaning
1	Indicates that the two factors are of equal importance
3	Shows that one is more important than a comparison of two
5	Explains that one is more important than two
7	Explains that one is more important than the other
9	Explains that one is more important than the other
2, 4, 6, 8	The average of the above two orders is adjacent

$$A = b_{11}b_{12}, \dots, b_{1n}, \quad (4)$$

$$A = b_{21}b_{22}, \dots, b_{2n}, \quad (5)$$

$$A = b_{n1}b_{n2} \dots b_{nn}. \quad (6)$$

Hierarchical single ranking is to calculate the ranking of the relative importance of the factors at the same level to the related factors of the factors at the previous level according to the judgment matrix. It can be reduced to the problem of calculating the feature and eigenvector of the judgment matrix, that is, for the judgment matrix B , by calculating the formula $BW = \lambda_{\max}W$ of the feature and eigenvector, the maximum eigenvalue λ_{\max} is calculated corresponding to the judgment matrix and its corresponding eigenvector, and the normalized eigenvector is recorded (so that the sum of the elements in the vector is equal to 1) as b_1, b_2, \dots, b_n and $W =$

$[w_1, w_2, \dots, w_n]$ as the ranking weight of the element b_1, b_2, \dots, b_n of this level for its subordinate elements.

Since λ continuously depends on b_{ij} , the more λ_{\max} is greater than n , the more serious the inconsistency of A . The feature vector corresponding to the maximum eigenvalue is used as the weight vector of the influence degree of the compared factor on a certain factor in the upper layer. The greater the degree of inconsistency, the greater the judgment error. Therefore, the inconsistency of A can be measured by the value of $\lambda - n$.

In order to test the consistency of the judgment matrix, the consistency index (7) is defined as follows:

$$CI = \frac{\lambda_{\max} - n}{n - 1}. \quad (7)$$

$CI = 0$, and there is complete consistency. CI is close to 0 and has satisfactory consistency. The larger the CI , the more serious the inconsistency.

According to formula (8):

$$RI = \frac{CI_1 + CI_2 + \dots + CI_{500}}{500}. \quad (8)$$

The consistency ratio is defined in equation (9):

$$CR = \frac{CI}{RI}. \quad (9)$$

In this study, the group decision-making in AHP is adopted, and the judgment matrix should be the geometric average of the judgment values of various experts. The scoring data of experts are processed by MATLAB to obtain the final value. The obtained values are sorted out, and a judgment matrix is constructed for calculation. The results are as follows:

- (1) Judgment matrix $A - B$ (comparison of the relative importance of each element relative to the overall goal), as shown in Table 3.
- (2) Judgment matrix $B_1 - R$ (relative importance comparison between schemes relative to resource flexibility), as shown in Table 4.

4. Experimental Analysis

CW company is a typical management software manufacturer developed from standardized financial software. It wins by selling products on a large scale. However, after the user's universal infrastructure is built, it needs to use cutting-edge technology to serve high-end customers. In the process of transforming the whole industry into a mature industry, manufacturers with rapid strategic adjustment and change gain a more favorable market position [22, 23].

Facing the increasingly competitive management software market, CW company must ensure that its strategy is flexible in order to make the enterprise adapt to the changes in the surrounding environment and defeat its main competitors. The operation of CW company's strategic flexibility system is based on the flexible elements of the strategic flexibility system, including resource flexibility, organizational flexibility, cultural flexibility, and leadership flexibility. Among them, resource

TABLE 3: Judgment matrix $A - B$.

A	B_1	B_2	B_3	B_4	W
B_1	1	7	3	2	0.3562
B_2	1/8	1	1/4	1/7	0.1256
B_3	1/5	4	2	1/6	0.0857
B_4	1/3	8	4	1	0.0457

TABLE 4: Judgment matrix $B_1 - R$.

B_1	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}	W_1
B_{11}	1	5	3	8	1/2	0.1756
B_{12}	1/4	1	1/3	7	1/6	0.0845
B_{13}	1/3	3	1	6	1/4	0.1548
B_{14}	1/7	1/5	1/6	1	1/8	0.0325
B_{15}	2	7	5	8	1	0.05412

flexibility mainly refers to the specific situation of resource acquisition, allocation, and use of CW company, organizational flexibility mainly refers to the organizational structure and internal governance of CW company, cultural flexibility refers to the cultural change and cultural development of CW company, and leadership flexibility mainly refers to the adaptation and change of the management of CW company in the development process of the company.

CW company's organizational flexibility includes organizational structure flexibility and organizational management flexibility. Enterprise organizational structure should not only meet the requirements of enterprise development objectives but also adapt to the changing environment, to enhance the responsiveness and combat effectiveness of the organization. The flexibility of organizational structure comes from the requirements within the organization, the flexibility of organizational structure, the adaptability of internal elements to changes, and the competitive situation outside the organization, technological changes, and social changes. The flexibility of organization and management comes from the flexibility of management systems, methods, and procedures of human management and interdepartmental communication within the enterprise to adapt to external changes or take advanced actions.

4.1. The Organizational Structure of CW Company is Flexible.

According to Barnard's "flexible decision-making" theory, when the external environment changes, the enterprise organizational structure should also be adjusted in time with the surrounding environment. With the change of market, the intensification of competition, the adjustment of enterprise strategy, and the change of organizational structure, CW company is also taking place in time.

4.2. Organizational Management Flexibility of CW Company.

CW company's organizational management flexibility adopts a nonmandatory way, which not only emphasizes the enterprise management system or leadership authority but also pays more attention to the reuse of informal organizations and actively gives full play to employees' personal self-management. This is a more profound and advanced

management mode, which fully reflects the personalized management mode. In CW company, the expression of management thought depends on human liberation, equal rights, and democratic management. In fact, equality and fraternity are embodied everywhere in the daily management of CW company. The internal potential, initiative, and innovation consciousness of the employees of CW company have been brought into full play. The employees are happy and spare no effort in their work [24].

As a knowledge-intensive software enterprise, CW company's employees are mostly highly knowledgeable talents with rich knowledge and professional skills. CW company attaches great importance to the construction of corporate culture in the process of enterprise development. Earth-shaking changes are taking place in the external environment, and the enterprise is growing day by day. The enterprise culture is constantly adjusted with the surrounding environment and the enterprise strategy, gradually generating the cultural flexibility of knowledge sharing, teamwork, and continuous innovation of CW company. The existence of cultural flexibility ensures that the corporate culture changes timely with the environment and strategy and promotes the continuous growth of the enterprise.

4.3. Application Effect Evaluation of CW Company's Strategic Flexibility System.

In the discontinuous equilibrium and unbalanced dynamic environment, CW company mainly adopts the strategies of structural flexibility and innovation flexibility according to the dynamic characteristics of the environment. The company has dynamically realized the matching of strategic flexible system and environment, adapted to the changes in the surrounding environment, and achieved good results. In terms of resource flexibility, enterprises strive to improve the quality of human capital and attract excellent talents to join CW; the adjustment of the capital structure of enterprises is the benign operation of capital and the promotion of enterprise performance. In terms of organizational flexibility, the company timely adjusts its organizational structure with the change in environment, sets up scientific research institutions, improves its core technical ability, and outsources its noncore business; and the company actively plays the role of informal organizations and establishes a democratic internal management system.

CW company actively changes and adapts to the industry environment through the effective implementation of a strategic flexible system. The operating revenue of the company has almost doubled from 43.2522 million yuan in 2016 to 85.492 million yuan in 2020 (as shown in Figure 10). The operating revenue has increased every year from 2004 to 2008.

The operating profit increased from 6.814 million yuan in 2016 to 17.3273 million yuan in 2020 (as shown in Figure 11). The profit has more than tripled in the past five years, the profitability of the company has been significantly enhanced, and sustained growth and antirisk ability have been improved.

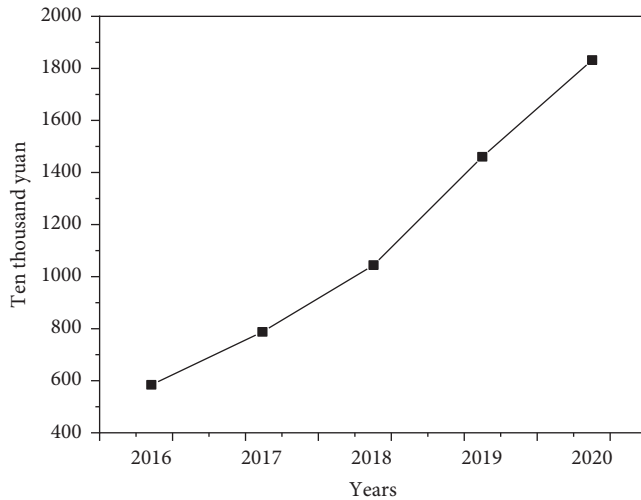


FIGURE 10: Operating revenue of CW company from 2016 to 2020.

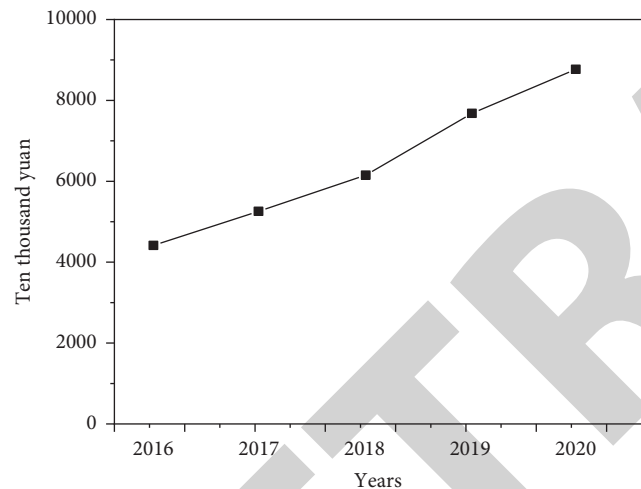


FIGURE 11: Operating profit of CW company from 2016 to 2020.

4.4. Result Analysis

4.4.1. In terms of Organizational Structure Flexibility. After the optimization of the company's organizational framework, the contact between various departments of the company is closer, and the information transmission efficiency is doubled, making the integrated operation of R & D, sales, and after-sales of the whole project smoother. After the optimization of the company's organizational structure, all technical personnel are under the unified management of the R & D department. Through virtual enterprise management, the R & D personnel maintain seamless communication and connection with the personnel of the operation department, which can quickly respond to the market demand to the R & D personnel of the company and develop market-oriented scientific and technological products. In the "horizontal and vertical" intertwined management network, employees who used to work statically in fixed jobs have become a dynamic role, which can play their professional talents across departments and roles, activate the relationship between

various departments, and promote the development of various departments [25].

4.4.2. In terms of Personnel Flexibility. After introducing the flexible management of human resources, personnel recruitment and personnel training are more flexible. The sudden resignation of personnel will not have a great impact on the operation of the company. The reserve of personnel becomes more sufficient, which can solve the problem of urgent employment and no employment. The industry university research institutions jointly built with colleges and universities should be made use of to provide a good education platform for the company to introduce highly educated and high-tech talents. Personnel training has become richer and more detailed. According to the division of different types of employees, appropriate differentiated training is implemented for employees, and external employees are gradually trained into core employees, to create a good training culture for the enterprise.

4.4.3. Performance Appraisal Flexibility. Performance appraisal is no longer directly oriented to whether the expected profit indicators of the company are achieved nor is the evaluation opinion of the leader in charge used as the only evaluation means to evaluate employees. The dimension evaluation of positive position relevance is used as the auxiliary data of performance appraisal. According to the feedback of the interviewees, although the company still focuses on profit, the existing performance appraisal management is more humanized and pays more attention to people's feelings. In terms of the technology of hard indicators, an additional score item and team innovation indicators are added, giving people a relatively loose innovation atmosphere and high acceptance. For research and development departments with long research and development, the assessment cycle is flexibly changed from one quarter to one year or one and a half years according to the actual situation. Flexible management of the company's performance assessment can reduce the pressure of the company's periodic assessment [26].

5. Conclusions

The enterprise group is a relatively independent and open complex system. With the development of information technology, economic globalization, and the rapid change in the external business environment, enterprise groups must establish a good internal and external collaborative operation mechanism of the system to enhance the strategic flexibility of enterprise groups through the coordination of resources and capabilities. Whether it is the adaptive change to the predictable environmental change or the active adjustment to the unpredictable environmental change, it must be judged by the customer in the end. This means that in the process of transforming the potential value of strategic flexibility into real value, enterprise groups must take better meeting customer needs as the basic starting point and

destination, to maintain the sustainability of the overall competitive advantage of enterprise groups.

This study theoretically discusses that the strategic flexibility system improves the business performance of enterprises by overcoming the strategic rigidity, deeply analyzes the mechanism of how the flexible elements and flexible mechanism dynamically combine to overcome the strategic rigidity, and specifically expounds on the matching strategy between the strategic flexibility system and the dynamic environment. However, this study lacks to verify the relationship between strategic flexibility and business performance from the perspective of data analysis, which will also be the direction of in-depth consideration in future research. In the process of constructing the strategic flexibility system, we consulted relevant experts in detail and patiently on the selection of flexibility elements and the setting of the flexibility mechanism module. In the process of measuring the flexible elements, this study obtains the weight of the strategic flexible elements and their specific schemes by means of expert interviews and questionnaire surveys. These are only the most basic and practical research. We think the strategic flexibility system needs greater empirical research, and the improvement of the measurement method of flexibility factors is also worthy of in-depth and comprehensive discussion.

These are just indicative of the focus of this study and those found in practice. Some more important factors may not be considered due to the limitation of observation ability and observation range. In the future, the improvement of flexible elements and flexible mechanisms will help to develop further research on strategic flexible systems.

Data Availability

The labeled datasets used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare no competing interests.

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