Construction and Optimization of Comprehensive Risk Management System of Enterprises

-- Based on the Analysis of Complex and Changing Market Environment

Ziwei Wen

Columbia University, New York, 10027, USA

Abstract. In the complex and changing market environment, the construction and optimization of enterprise comprehensive risk management system is crucial. This study clarifies the connotation and objectives of enterprise comprehensive risk management, analyzes the main risks faced by the enterprise and the reasons for them, and constructs a comprehensive risk management system including risk management organization structure, process and information system. In terms of risk prevention and control in key areas, specific measures are proposed for strategic, financial and market risks. Meanwhile, through risk management technology innovation, culture construction and capacity enhancement, the efficiency and accuracy of risk management have been improved, and the risk awareness and professional quality of all staff have been enhanced. In conclusion, the comprehensive risk management system of an enterprise is a systematic project, which requires the joint efforts of all departments to adapt to the market environment and provide guarantee for the sound development of the enterprise.

Keywords: Comprehensive enterprise risk management; complex and changing market environment; risk prevention and control; technological innovation; cultural construction.

1. Introduction

In today's complex and volatile market environment, enterprises are faced with many risk challenges. Whether it is market fluctuations, policy adjustments, or technological innovation, competition intensification and other factors, may bring unforeseen impacts to enterprises. Therefore, it has become imperative to construct and optimize the enterprise comprehensive risk management system. The purpose of this study is to explore the optimization path of enterprise comprehensive risk management system, in order to help enterprises better cope with the complex and volatile market environment, enhance their risk resistance and competitiveness, ensure the sustainable development of enterprises in the fierce market competition, and provide strong theoretical support and practical guidance for the stable operation and long-term development of enterprises.

2. Theoretical Foundations

2.1. Connotation of comprehensive enterprise risk management

Risk is the impact of future uncertainty on the business objectives of the enterprise, with objectivity and subjectivity, by the risk factors, risk events (accidents), loss of the three basic elements of the enterprise faces a variety of types of risk, mainly strategic risk, financial risk, market risk and so on. Strategic risk, such as the lack of a clear development strategy, development strategy radical or frequent changes, such as the enterprise blind expansion into new areas may lead to a decline in core competitiveness. Financial risk is reflected in the financial activities and financial reporting, such as improper financing decisions may lead to high liabilities affecting profitability and solvency. Market risk involves changes in product prices and supply and demand, changes in the supply and price of raw materials, credit risk of customers and suppliers, such as exchange rate fluctuations affect the profits of import and export enterprises[1]. The objectives of comprehensive enterprise risk management are to achieve business objectives, enhance competitiveness and soundness, and meet regulatory requirements. Pre-loss objectives include economic, compliance, reduction of potential loss, and social responsibility objectives; post-loss objectives are survival, continuous operation,

development, social responsibility, and stable profitability objectives. Through comprehensive risk management, enterprises can better identify, assess and respond to risks in the complex market environment and control them within an acceptable range, such as establishing risk early warning mechanisms to avoid risks from evolving into losses to achieve economic objectives, while complying with laws and regulations to meet regulatory requirements, and fulfilling social responsibility to enhance social image and credibility.

2.2. Risk management strategies and tools

2.2.1. Analysis of Strategy Tools

Risk-taking: It means that enterprises adopt an attitude of acceptance towards risks and bear the losses caused by risks on their own. Characterized by the enterprise does not take active measures to avoid or transfer the risk when it occurs, but relies on its own resources and ability to cope with the loss. The function is that for some low-frequency and low-impact risks, the enterprise can reduce the management cost through risk taking. For example, for some small amount of loss risks in daily operation, enterprises may choose risk assumption instead of spending a lot of time and resources on risk management.

Risk avoidance: refers to the avoidance of risk by a company by avoiding the source of risk and thus avoiding the risk. Characterized as the most negative risk response strategy, but in some cases can completely eliminate the risk[2]. The role is for some high-risk, uncontrollable risks, the enterprise can choose risk avoidance to protect their own interests. For example, if a company finds that a certain market has extremely high political risk, it may decide to withdraw from that market in order to avoid the risk.

Risk transfer: This refers to the transfer of risk to another person or entity by contractual or non-contractual means. Common methods include purchasing insurance, entering into outsourcing contracts, hedging and so on. Characterized by the transfer of risk to a party that is more able or willing to bear the risk. The effect is to reduce the firm's own risk exposure. For example, an enterprise purchases property insurance for its critical equipment, transferring the risk of damage to the equipment to the insurance company.

Risk transformation: refers to the conversion of one type of risk faced by an enterprise into another through, for example, strategic adjustments. Characterized by the fact that it does not directly reduce the overall level of risk, but can change the nature or form of the risk. The effect is to enable the enterprise to better cope with the risk.

Risk Hedging: Reducing the overall risk level by taking specific measures to offset the risks faced by the enterprise. Characterized by the need to use a variety of means for risk hedging, the operation is relatively complex. The effect is to effectively reduce the enterprise's risk exposure. For example, enterprises in foreign exchange transactions, you can simultaneously carry out long and short operations to hedge the risk of exchange rate fluctuations.

Risk compensation: This refers to the appropriate measures taken by the enterprise to compensate for the losses that may be caused by risks. Common forms include financial compensation, manpower compensation, material compensation and so on. Characterized by preparations before the occurrence of risks to mitigate the losses caused by risks. The role is to provide a certain level of protection for the enterprise. For example, an enterprise sets aside a risk reserve for possible risk losses; or provides additional training and development opportunities for employees in key positions to compensate for the risks that may be brought about by employee turnover.

Risk control: This refers to the reduction of the likelihood of the occurrence of risks and the extent of their impact by the enterprise through the adoption of a series of measures. It is characterized by its proactive and preventive nature. The role is to effectively manage risks and guarantee the stable operation of the enterprise. For example, the enterprise establishes a perfect internal control system, strengthens the monitoring and management of risk, and reduces the probability of risk occurrence.

2.2.2. Exploration of Applicable Scenarios

Different types of risks require the selection of appropriate strategic tools. For strategic risks, such as overly aggressive development strategies or frequent changes, enterprises can consider risk avoidance, fully assess the risks when formulating strategies and avoid entering high-risk areas. For financial risks, such as improper scheduling of funds, risk control can be used to establish a sound financial management system and strengthen the monitoring of funds. For market risks, such as the risk of exchange rate fluctuations, risk hedging can be applied and hedging can be carried out through financial instruments. For some low-frequency and low-impact operational risks, enterprises can choose risk taking[3]. If the risks faced by the enterprise are large and difficult to bear by itself, it can consider risk transfer, such as purchasing insurance and other ways. For some situations where the nature of the risk can be changed by adjusting the business strategy, risk conversion can be used. Risk compensation, on the other hand, can be used as a complementary measure in a variety of risk scenarios to provide enterprises with a certain degree of protection.

Figure 1. Risk management strategies and tools

3. Enterprise Risk Analysis in A Complex and Changing Market Environment

3.1. Main risks faced by the enterprise

Market risk mainly stems from changes in the market environment, such as policy, economy, technology and other factors. Changes in policy may affect the direction and strategy of business operations, changes in the economic environment affect revenue and profit, and technological advances may bring about asset impairment losses. 2020 One of the main risks for our enterprises is the risk of market competition. Due to the impact of epidemics and other influences, the instability of supply and demand in the global market has intensified, and market demand for commerce, shipping and other markets has declined, with fierce competition. Credit risk is manifested by customers' defaults and delinquent payments, etc., such as customers' mismanagement and bankruptcy will lead to uncollectible payments. Credit risk is characterized by objectivity, contagiousness, controllability, cyclicality, etc. Potential manifests itself in the form of high indebtedness and low efficiency, and the potential risk increases. The long-term, destructive and arduous control of credit risk has brought challenges to enterprises, which can avoid credit risk by strengthening the awareness of creditworthiness, improving the creditworthiness management system, establishing an internal credit management organization, adopting advanced management technology and methods, and improving the personality and credibility of operators.

3.2. Causes of risk

Enterprises face risks for both internal and external reasons. Among the internal reasons, the lack of risk awareness of financial personnel and insufficient response to market price fluctuations are prone to financial risks, such as tight capital chains. Internal management chaos will also increase the

risk of shareholder divestment, high gearing ratio, the flow of funds and other issues may put the enterprise into business risks, some enterprises average gearing ratio of up to 80% or so and most of the bank loans, the potential risk is large. In terms of management loopholes, the internal management system is not perfect, for example, the financial management system cannot cover all departments and links, which is easy to cause financial loopholes, and the lack of a strict management system for fund dispatching and investment decision-making leads to inefficiency and increased risks. Unreasonable capital structure and unreasonable investment decisions are also financial risks, large-scale debt increases the interest burden and affects the solvency, and wrong investment decisions can lead to a large loss of funds. External reasons, market changes bring risks, the market variables, such as sudden market changes, competition, etc. can lead to a sharp decline in market share, product or service prices and supply and demand changes, material supply and price changes, etc. may bring market risks. Policy adjustments also have an impact, national policy changes on the industry and products have a great impact, such as trade protectionist policies may limit the export market, enterprises need to adjust their business strategies to adapt to policy changes.

4. The Construction of Enterprise Comprehensive Risk Management System

4.1. Risk management organizational structure

4.1.1. Clarity of responsibilities

(1) Board of Directors

The board of directors is responsible for determining the overall objectives of enterprise risk management and considering risk assessment opinions for major events and decisions. For example, when an enterprise faces major investment decisions or strategic adjustments, the board of directors needs to conduct a comprehensive assessment of the risks that may be brought about by these decisions to ensure that the overall risks of the enterprise are within tolerable limits. According to statistics, about 70% of the boards of directors of enterprises have incorporated risk management into their important agenda and regularly consider the risk status and risk management strategies of the enterprise.

(2) Risk Management Committee

The Risk Management Committee is the key organizational unit responsible for developing enterprise risk management policies and strategies. Its responsibilities include overseeing and reviewing the implementation of risk management efforts and ensuring that risk management activities are aligned with the enterprise strategy[4]. For example, the committee may organize risk assessment meetings on a regular basis to conduct in-depth analyses of the various types of risks faced by the enterprise and formulate corresponding risk response strategies.

(3) Risk Management Department

The risk management department is responsible for specific risk management work, including risk identification, assessment and governance. For example, by collecting market information and analyzing financial data, potential risks are identified in a timely manner and a corresponding risk management plan is formulated. At the same time, the risk management department is also required to assist the risk management committee in internal coordination and communication, and to organize and coordinate risk management among various departments.

(4) Business units

Each business unit is responsible for specifically formulating its own business-related risk management system and related countermeasures, control processes, monitoring indicators, etc. and organizing and implementing them, and cooperating with and supporting the work of risk management functions or positions. For example, the sales department needs to pay attention to the market risk, understand the changes in customer demand and competitor dynamics in a timely manner, and formulate corresponding marketing strategies to reduce the market risk; the financial department

needs to pay attention to the financial risk, strengthen fund management, optimize the capital structure, and reduce the financial risk.

4.1.2. Collaboration

The effective operation of an enterprise's comprehensive risk management system cannot be separated from the synergy between departments. Departments should break down departmental barriers, realize the sharing and optimal allocation of resources, and jointly respond to risk challenges.

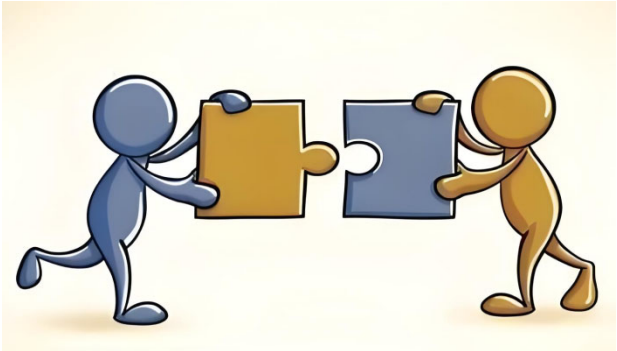

Figure 2. Collaboration

(1) Establishment of communication mechanisms

An effective communication mechanism has been established to ensure the uploading and downloading of risk management information and to promote inter-departmental synergy. For example, risk management communication meetings are held on a regular basis, in which each department reports on the risk situation and progress of risk management work in its own department and jointly discusses risk response strategies.

(2) Cross-sectoral teamwork

Establish a cross-departmental risk management team, composed of professionals from various departments, to participate in the formulation and implementation of risk management decisions and assist the risk management department in risk assessment and governance. For example, in the face of major project risks, a project risk management team composed of personnel from finance, technology, marketing and other departments is formed to jointly assess project risks and formulate risk response plans.

(3) Information sharing platforms

A risk management information-sharing platform has been established to realize real-time sharing and updating of risk data and facilitate the timely acquisition of required risk information by various departments. For example, through informatization means, the enterprise's risk database is interfaced with the business systems of various departments to realize the automatic collection and sharing of risk information.

The enterprise risk management process includes risk identification and risk assessment. Risk identification can use questionnaires, financial statement analysis and other methods to collect risk information extensively, and implement the collection responsibility to each functional department and business unit, using a variety of methods to find about 80% of the potential risks, laying the foundation for subsequent management. Risk assessment is based on identification, and qualitative and quantitative methods are used to grasp the causes, likelihood, and degree of loss of risk events. Risks can be categorized and ranked with the help of visual tools such as risk matrices and heat maps, and priority risks can be identified for treatment. At the same time, the use of big data and artificial intelligence technology can improve the efficiency and accuracy of risk management, increasing the accuracy of risk assessment by about 30%, and providing strong support for the enterprise to formulate risk response strategies. In conclusion, improving the risk management process is crucial to the overall risk management of the enterprise, which helps the enterprise to better cope with the complex and volatile market environment, and enhance the risk resistance and competitiveness.

4.2. Risk Management Information System

The establishment of a risk management information system in an enterprise is crucial to a comprehensive risk management system. Its basic task is to ensure that risk information is accurate and timely by collecting a wide range of internal and external initial information, including historical and forecast data, covering strategic, financial, market, operational, legal compliance and other risk aspects, and assigning the responsibility of collection to each department. The collected data needs to be cleaned and pre-processed to ensure quality. Through the use of data analysis tools such as risk matrices, heat maps, and big data and artificial intelligence technologies, risk data can be identified and evaluated to categorize and rank risk events, show risk distribution trends, and improve efficiency and accuracy. For example, one technology company used this to improve the accuracy of its risk forecasts by about 40%. The system should also have a risk reporting function to provide management and relevant departments with the current status of risk, assessment results and countermeasures in order to make the right decisions[5]. In short, perfecting the risk management information system is of great significance to the construction and optimization of the enterprise's comprehensive risk management system.

5. Risk Prevention and Control Measures in Key Areas

5.1. Strategic risk prevention and control

Enterprises should establish a scientific strategy formulation and evaluation mechanism. When formulating strategies, enterprises should fully consider the internal and external environments, conduct comprehensive market research and risk assessment, such as analyzing industry trends, competitors and policy changes to determine the direction of development, and about 60% of the enterprises will carry out risk assessment in strategy formulation. Strategy evaluation can be done by methods such as SWOT and PEST analysis, and an early warning mechanism can also be established. Diversification can improve the ability of enterprises to withstand market changes, such as expanding new business areas and conducting cross-border trade, etc. However, it is necessary to consider resources and capabilities, avoid blind expansion and strengthen synergistic effects. In addition, the construction of enterprise culture is also important to establish risk awareness, incorporate risk management concepts, strengthen staff training and education, and establish incentive mechanisms.

5.2. Financial risk prevention and control

Improving management systems and strengthening monitoring and early warning mechanisms. In terms of system construction, internal financial control is improved, responsibilities and authorities are clarified, incompatible positions are separated, and a strict approval process is established. Strengthening financial budget management, formulating scientific budgets and strictly implementing them can reduce financial risks by about 30%. Standardize the financial accounting system, ensure accurate data recording and accounting, and establish a file management system. In terms of risk early warning, identify key risk indicators, such as the asset-liability ratio, set early warning thresholds, apply data analysis techniques, and establish emergency response mechanisms, such as adjusting the funding structure, to effectively prevent and control financial risks.

5.3. Market risk prevention and control

Emphasis on market research and analysis, using a variety of methods of research, such as questionnaires, interviews and data analysis, etc., to improve the accuracy of decision-making by about 40%. Establish a professional research team or cooperate with organizations to build a market information database. Adjust marketing strategies based on research results, personalize marketing for different customer groups, strengthen brand building, optimize product or service combinations, expand sales channels, strengthen channel management and training, establish a customer relationship management system, reduce customer turnover and improve market competitiveness.

6. Optimization Methods for Comprehensive Risk Management Systems

6.1. Technological innovations in risk management

Under the complex market environment, enterprises need to pay attention to the dynamics of risk management technology and actively introduce advanced technological tools. For example, big data analysis can improve the accuracy of risk identification by about 50%, artificial intelligence can realize automatic risk identification, assessment and early warning, cloud computing provides data storage and processing capabilities, and blockchain ensures that the data is real and trustworthy. After the introduction of new technologies, enterprises should assess the application effect, comparing the risk identification accuracy and other aspects, and analyze the reasons for improvement if the effect is unsatisfactory, such as adjusting the parameters and optimizing the model. It should also establish a feedback mechanism to encourage employees to give their opinions, and can also cooperate with professional organizations to assess and optimize. Paying attention to the dynamics of the technology and evaluating the effect can better respond to the market environment and improve the efficiency and accuracy of risk management.

6.2. Building a culture of risk management

Strengthening risk awareness among all staff is crucial. To raise the awareness of all employees through training and publicity, enterprises can regularly carry out risk awareness education activities, such as organizing internal training and inviting experts to give lectures, etc. Monthly risk management training can improve employees' risk identification and response ability. Utilizing internal publicity channels to create an atmosphere and carry out activities can increase the degree of employees' attention to risk by about 40%. In order to put culture into practice, it is necessary to integrate it into the construction of corporate culture, establish a pre-service training system, integrate it with the salary and personnel system, motivate employees to participate in risk management, strengthen the education of the legal quality of employees, and formulate ethical and integrity guidelines.

6.3. Risk management capacity enhancement

Risk management capabilities are upgraded through training and exchanges. Professional training can enhance the professional level of risk management personnel, formulate a systematic training plan covering theories, cases and application of advanced technology, invite experts to give lectures, organize participation in courses, establish an internal training mechanism, and encourage participation in professional qualification examinations. Experience exchange can promote the overall capacity, organize internal staff to share experience and problems, participate in industry seminars to communicate with external enterprises, and use information technology to establish an exchange platform to achieve information sharing and interaction.

7. Conclusions and Outlook

This study discusses in depth the construction and optimization of enterprise comprehensive risk management system, clarifies its connotation and objectives, analyzes enterprise risks and reasons under the complex market environment, constructs a management system including organizational structure, process and information system, prevents and controls risks in key areas, and optimizes the system through technological innovation, cultural construction and capacity enhancement. This is a systematic project that requires the joint efforts of all departments to improve the level of risk management. Future research directions include digital risk management, such as deepening the application of emerging technologies to improve the accuracy and timeliness of risk identification; cross-field risk management cooperation, strengthening cooperation in finance, law and other fields to cope with complex risks; integration of risk management and sustainable development, researching strategies to cope with environmental and other risks to promote sustainable development; and

internationalized risk management, researching the regulations and policies of different countries to improve the ability of responding to the risks of the international market. Internationalization risk management Future research should take into account actual needs and market changes, and provide theoretical and practical guidance for comprehensive enterprise risk management.

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