

Design and Research of Enterprise Management System Based on Online Service Risk Management

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Abstract. Risk management information system must be able to effectively identify, analyze and transmit relevant risk information, so that enterprise management can make relevant decisions and effectively manage risks. An effective risk management information system should also promote the effective communication of risk information within the enterprise. In the fierce market competition, enterprises are always facing the uncertainty from the external environment and the internal environment, which is the risk. To be more precise, enterprise risk refers to the influence of future uncertainty on enterprises to achieve their business objectives. For enterprises and their operators, their external environment is also full of changes and uncertainties. In order to survive and develop in the fierce market competition, enterprises must know how to control and manage various risks brought by external market environment and internal management and operation. In this paper, the systematic risks and precautions in enterprise management are analyzed and explored, and the design method of enterprise management system based on online service risk management is analyzed.

Keywords: Enterprise management, risk management, market competition.

1. Introduction

Under the background of globalization and information deepening, there are more and more uncertain factors in the social economy, and the risk faced by enterprises is also increasing, which seriously affects the realization of enterprise goals [1]. As the main body of the market, enterprises must operate in the market environment and face a variety of risks in order to ultimately achieve the goal of maximizing shareholder value or social value [2]. Good risk management requires the subject to effectively identify and report the risk exposure, so that the top management of the subject can timely and effectively understand the various risks faced, so as to quickly make response measures [3]. In the fierce market competition, enterprises are always facing the uncertainty from the external and internal environment, which is called risk [4]. More precisely, enterprise risk refers to the impact of uncertainty in the future on the enterprise's achievement of its business objectives. Effective risk management also helps employees at all levels to understand the main risk management objectives, policies and strategies as well as their respective responsibilities [5]. One of the keys to effective risk management is to establish a smooth information system and ensure the good communication of risk information among various departments and levels within the enterprise [6]. The establishment and improvement of enterprise comprehensive risk management system and the formation of long-term mechanism can fundamentally improve the efficiency and effect of risk management, which is of positive significance for enterprises to achieve risk management objectives and promote sustainable, healthy and stable development of enterprises [7].

Enterprise risk assessment information system is the use of information technology to identify and manage the risks that enterprises may encounter in the operation process. Based on the external environment information and various internal information and resources, the enterprise completes the risk assessment process, which is the realization of risk management business using information means [8]. With the development of new economy, the acceleration of globalization and the continuous popularization and deepening of informatization, the internal and external environment of enterprises has undergone earth shaking changes [9]. For enterprises and business operators, their external environment is also full of changes and uncertainties, such as the increasingly fierce market competition, the acceleration of the pace of industrial structure adjustment, the rapid pace of market

demand, the continuous emergence of new technologies and new products, and the change of public consumption habits [10]. In order to realize the sustainable development of enterprise management, we should pay attention to the prevention of systematic risk to reduce the risk coefficient of enterprise management. It can be seen that strengthening the prevention of systematic risk of enterprise management is the key [11]. With the great changes brought by globalization, new economy and informatization, enterprise risk management has entered a new stage. This paper analyzes and explores the systematic risk and prevention in enterprise management, and analyzes the design method of enterprise management system based on online service risk management.

2 The significance of enterprise comprehensive risk management system construction

Enterprise managers don't pay attention to it ideologically. In most of today's enterprise management cadres, a large number of workers don't have a sense of risk. Because of this, they will make frequent mistakes in their work, leading to the emergence of systematic risks and causing large-scale negative impacts. Comprehensive risk management helps management to strengthen risk awareness, fully consider and balance risk management objectives and enterprise risk tolerance when determining enterprise strategic objectives, and ensure that enterprise strategic objectives are scientific and reasonable. Without a good information communication mechanism, it will lead to the risk information can not be quickly transmitted to the top management and then take corresponding measures in time, thus causing losses to the enterprise [12]. Therefore, for decision makers, how to establish an effective information system to identify and report risk matters in time and quickly, so that the top management of the company can know the risk exposure situation in time and make corresponding decisions, which is of great significance to the realization of risk management objectives. In the work of enterprise management, most of them should be done in accordance with the regulations. In the management work, the focus will be placed on the materialized industries, and their responsibilities will be investigated. However, there is no standard regulation, so sometimes some mistakes will be made, resulting in systematic risks.

A comprehensive risk management system helps to coordinate and integrate the risk management work of the company at different levels and with different needs, such as finance, production safety, information technology, policies and laws, through systematic risk management tools, so as to improve the effectiveness and efficiency of risk management work. When carrying out enterprise management, systematic risks often occur, among which social risks are one of them. The so-called social risk means that when carrying out enterprise management, law enforcers are affected by external environmental factors and their own conditions, which will greatly improve the risk coefficient of enterprise management. In the process of development, enterprises should not only survive in the competition of the same industry, but also gain advantages in price and quality, and there will be mutual suppression among enterprises. When one of them adopts a series of competitive means, it may lead to the other failing to cope, resulting in economic damage, affecting the local economic system and generating systematic risks in enterprise management.

Risk management information system is also conducive to timely transmitting the objectives, strategies and countermeasures of risk management determined by the organization's board of directors and top management to managers and employees at all levels, enhancing employees' awareness of opportunities and risks faced by enterprises and enhancing risk awareness, thus effectively achieving the organization's risk management objectives. Comprehensive risk management system can prompt management to identify various scenarios in the future, identify major risks by evaluating the possibility of major events and their impact effects, and propose response plans to prevent or manage the impact of these events, so as to respond to complex and changeable business environment and reduce unstable performance. When carrying out enterprise management work, we must follow the normative implementation process and carry out enterprise management work according to legal norms, which can reduce the risk of enterprise management and achieve the ideal enterprise management effect. Whether it is strengthening the internal risk management or reducing the financing cost, it will contribute to the improvement of enterprise value. Therefore, in order to ensure the realization of enterprise goals, it is necessary to strengthen risk

management, and risk management information system is an important part of effective risk management.

2. Framework and construction of enterprise comprehensive risk management system

2.1 Improve the establishment of risk management organization

Enterprises should determine risk appetite and risk tolerance according to economic environment, industry development and their own scale, define risk tolerance limits, formulate risk warning lines and corresponding countermeasures, and continuously improve risk management strategies according to the implementation results. The setting of organization must be helpful to the transmission of risk information. Therefore, a risk management institution independent of the business department should be set up to take charge of risk internal control, including risk management information system. According to the actual development of enterprise management department, we should build a more perfect risk prevention mechanism, invite professionals to evaluate possible risk problems, and then list systematic risks. Social risk refers to the social risk in enterprise management caused by some unexpected situations or environments when the staff are enforcing the law. For example, in the management, some enterprises without licenses are found, but the staff can not be recognized by the enterprises when they perform their work normally, which leads to some negative impacts on the social level and has a great impact on the personal life, so this is the social risk.

In order to control the systemic risk of enterprise management, we must have a matching risk prevention mechanism, and evaluate the systemic risk according to the past experience, so as to achieve a better risk prevention effect. Figure 1 shows the deep learning hierarchy of enterprise risk early warning system.

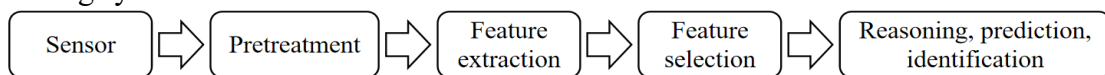


Figure 1 Hierarchical structure of deep learning

It is necessary to select indicators, train and test for financial risk early warning of cases. The specific design ideas are shown in Figure 2.

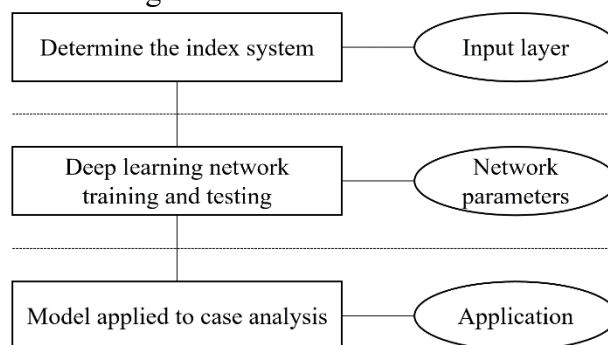


Figure 2 Model design ideas

Through the establishment of risk management process, we can ensure the timely and effective identification and quantitative evaluation of enterprise risks, formulate appropriate risk response plans for major risks based on reasonable risk management strategies, and ensure the continuous optimization of risk response plans through tracking and supervision. Enterprise internal audit department should strengthen the audit of enterprise risk management and its information system, find out the problems existing in risk management information system in time, ensure the smoothness of risk management information system, and prevent relevant departments and managers from concealing risk information. In enterprise management, the operation of personnel is extremely important. If some problems are not handled correctly, resulting in economic losses, it will not only waste human and financial resources, but also produce systematic risks in enterprise management, resulting in a wide range of negative impacts. In enterprise management, it is inevitable that some

staff members will suffer the temptation of interests, abuse power for personal gains and treat their work in a negative attitude, which will have a lot of negative impacts on the positive image of today's enterprise management, and lead to lower credibility among the people. Therefore, it is necessary to give enterprise managers a correct concept of work, establish a sense of responsibility and maintain a positive image of enterprise management.

2.2 Strengthen internal information communication

Starting from the enterprise's values and overall objectives, formulate relevant policies and systems to make employees understand the company's attitude towards risk, the objectives and principles of risk management, etc., which makes employees face risks not with panic, but with management and control attitude. Enterprises should embed risk response strategies and internal control activities into their daily business activities according to their own development stages, business conditions and risks, and make dynamic adjustments according to the changes of risks and business activities. In addition, the enterprise should establish a self-examination and self-test mechanism, and the risk management department should independently or organize the business department to test the effectiveness of internal control. In the enterprise management, it is inevitable that there will be abuse of power for personal gain and slack work. Therefore, it is necessary to set up a special review system and insist on regular and random sampling of enterprise management [13]. In view of the weak links of enterprise management, this paper puts forward preventive measures and the most effective treatment scheme, and focuses on the treatment of special situations in enterprise management. In the enterprise management department, a special risk monitoring team should be set up to systematically monitor the possible risks of the enterprise, so as to improve the effect of risk management and control, and have the ability to identify new risks. In risk monitoring, risk audit, technical indicators and deviation analysis should be applied to systematic risk control, so as to promote the efficient development of enterprise management.

A rational manager always seeks for a management combination x that minimizes the risk under the condition of a given expected return level R_0 , that is, solves equation (1) or makes the expected return reach under the condition of a given risk level V_0 Maximum, that is, to solve the equation (2):

$$\begin{cases} \min & x^T \Sigma x \\ \text{s.t.} & r^T x \geq R_0 \\ & \sum_{i=1}^n x_i = 1, \quad x \geq 0 \end{cases} \quad (1)$$

$$\begin{cases} \max & r^T x \\ \text{s.t.} & x^T \Sigma x \leq V_0 \\ & \sum_{i=1}^n x_i = 1, \quad x \geq 0 \end{cases} \quad (2)$$

Among them, $x = (x_1, x_2, \dots, x_n)^T$, $r = (r_1, r_2, \dots, r_n)^T$, $i = 1, 2, \dots, n$. r_i represents the ratio coefficient of the i -th enterprise management to the total management; $r^T x$ represents the rate of return of the corporate management portfolio; $x^T \Sigma x$ represents the risk of the corporate management portfolio; $\Sigma = (\sigma_{ij})_{n \times n}$ represents the rate of return covariance matrix.

For enterprises, we should pay attention to the adaptability of the risk management software system, and make necessary improvements to the general software according to the characteristics of their

own operations and risks, or require the software suppliers to carry out personalized design. In particular, the enterprise risk management information system should be closely integrated with the daily operation of the enterprise, covering all business activities, so as to effectively identify and report the risk exposure of the enterprise. In practice, the risk management activities are generally held by the top management of enterprises, so as to reduce the resistance of risk management activities and keep the consistency between risk management activities and strategies. There are various organizational forms of risk management departments, but matrix organization is a common form, which better realizes the combination of professional management and department practice. Enterprises should build an enterprise-wide information platform for risk management and internal control, which connects all levels, departments and business units and runs through the whole risk management process. Effectively promote the implementation of internal control system through information systems, strengthen supervision and inspection, reduce internal control costs, improve internal control management efficiency, and further improve enterprise risk management and internal control management level by means of information technology.

3. Conclusions

An effective risk management information system is the key to achieve enterprise risk management objectives. Risk management information system should not only identify, analyze and report potential risks in time, but also promote internal and external communication about risks. The operation of enterprise management is influenced by policy factors, enterprise development, legal factors, etc., which can easily bring risks to enterprise management departments. All enterprises have to face uncertainty. For enterprise managers, the challenge is to determine the acceptable risk level of enterprises while pursuing the value growth of enterprise stakeholders. Facing the turbulent and changeable fierce market competition environment, to do a good job in enterprise risk management, we should not only combine the latest risk management theory, but also set out from the actual situation of the enterprise and clarify the enterprise risk management objectives. In the new period, in order to effectively prevent the risk of enterprise management, it is necessary to enhance the risk awareness of relevant personnel, set up a more professional enterprise management team, enhance the awareness of law enforcement of managers, and do a good job of risk monitoring. The quality of staff in enterprise management should be strictly controlled, and the fairness of supervision and the efficiency of work should be unified in enterprise management to avoid systematic risks in enterprise management.

References

- [1] Wu Hui, Liu Fang. Construction of Group Enterprise Risk Management Information System[J]. Finance and Accounting, 2015, 502(22):43-44.
- [2] Bin He, Qi Su. Power Enterprise ERP System Authority Risk Management[J]. Information and Computer, 2016, 359(13):45-46.
- [3] Ji Bing, Luo Mengran, Chen Xiaoyan, et al. Research on Financing Risk Management of Small and Micro Enterprises Based on P2P Online Loan Platforms[J]. Northern Economics and Trade, 2017, 04(389): 112-113.
- [4] Xie Feng. Corporate tax risk management system design under the tax management process[J]. Public Investment Guide, 2018, 305(09):63-64.
- [5] Liu Quanpu. The construction of a modern enterprise risk management system based on financial engineering[J]. Science & Technology Economic Guide, 2019, 685(23):240-240.
- [6] Tong Lijie. Establishment of R Group Enterprise Risk Management System[J]. Chinese and Foreign Entrepreneurs, 2019, 640(14):141-141.

- [7] Jiang Yan. Research on the risk control of the development of management information systems for construction enterprises[J]. China Management Information Technology, 2018, 021(019):45-46.
- [8] Wang Huili. ERP system helps strengthen enterprise internal control management application research [J]. China Foreign Investment, 2020, 453(06): 58-59.
- [9] Zhou Aihua. Enterprise risk management organization system and information system analysis [J]. Enterprise Herald, 2016, 307(03): 42-42.
- [10] Chai Hong. Research on "Decentralized" Enterprise Intelligent Management System Based on Blockchain[J]. Journal of Wuhan University of Technology (Information and Management Engineering Edition), 2019, 41(01):61-66.
- [11] Lun Yan. Management problems and countermeasures of financial risk early warning system for forestry enterprises[J]. Accounting Study, 2018, 01(175):70-70.
- [12] Lu Yu. A brief analysis of risk management status and management system construction of foreign trade enterprises[J]. Times Finance, 2019, 730(12):38-39.
- [13] Wu Jianpeng, Huang Youjun. The early warning system and empirical test of enterprise financial derivatives risk management based on big data[J]. Special Economic Zone, 2019(7):131-136.