Design and Research on the Financial Approval Risk Control System

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Abstract: In the process of deepening the comprehensive risk management of financial companies, the construction of financial approval risk control is a complex and long-term system project that requires the establishment of the risk control concept and overall improvement of the risk prevention awareness in all employees. Guided by the financial approval risk control, the system construction mechanism of the company is improved to raise the operation and management level, enhance the self-improvement capacity, and provide a strong guarantee for achieving business objectives.

Keywords: Risk Control, Financial Approval Risk Control, Management

1. Introduction
Risk prevention is an problem that coerces the attention of every financial company for survival and development[1]. As one of the central functional departments of risk management, the risk or internal audit department promotes the financial company to implement comprehensive risk management, strengthen internal control, and continuously improve the effectiveness and implementation of the company's internal control system by carrying out a series of related work. In practice, there are three common ways to control risks: Firstly, guided by control [2-3], carry out comparative inspection on business according to the system and process, and evaluate the effectiveness of implementation. Secondly, guided by risks, identify the company's risks according to the results of risk questionnaire feedback, analyze the possible risk points, design the control links and modify the operation process; the third is to take strategy as the guide and pay attention to the company in the goal-achieving process [4]. There are contradictions in the implementation of measures to prevent risks, for example, financial companies generally face the dual purposes of service and profit[5-6]. The three methods are different from each other and cover the risks concerned at all levels. To achieve
comprehensive risk management and implement the preventive measures from strategic risk to operational risk, financial companies should improve their financial approval risk control as soon as possible, and deeply integrate it into the company's mainstream financial approval risk control, and actively promote it.

2. Significance of establishing the financial approval risk control

(1) “Risk control, financial approval and risk control” is the basis of improving management level

Financial approval risk control is considered as the core of the risk management system, and also the essential performance of the “Soft strength” of financial companies, reflecting their risk management level. It is the only way to build an effective risk management system with risk control financial approval and risk control cultivation as the guide. Financial companies need to establish correct risk awareness for all staff through various ways, run through the risk management concept throughout the whole operation and management process, take flexible and diverse training, publicity and implementation activities, turn the high-level and abstract risk management theory into realistic and vivid cases, and internalize it into all staff's conscious and compliant behavior habits, to transform the risk management mechanism into an enterprise. Financial approval risk control plays an effective role.

(2) “Financial approval risk control” is the guarantee to achieve the development goal

As a non-bank financial institution, the purpose of a financial company is to “rely on the group and serve the group”. The development goal is to serve the enterprise well and make profits for the group. The inherent high risk nature of financial industry makes financial company pay more attention to its own risk management level while achieving the dual goals. To form a scientific management theory and management model, the premise is to have a pleasant risk control atmosphere, and an excellent financial approval risk control system can continue to promote the improvement of enterprise management, to form a virtuous cycle. As the general code of conduct of the company, financial approval risk control significantly promotes effective and efficient communication between employees and management personnel at all levels. Especially for financial companies, the risk control of their business management activities is relatively complex. Through the use of financial approval risk control to strengthen the ability of risk prevention and enhance the core competitiveness, to ensure the operation goal is feasible and the cost is under control.

3. Manifestation forms of financial approval risk control

3.1. Risk control of crisis financial approval on the spiritual level

The risk control of financial examination and approval is first embodied in the spiritual level and has distinct levels: first, the instinctive crisis awareness, that is, “risk is everywhere all the time”; second, the forward-looking risk concept, through active learning, integration, and improvement, to achieve risk prevention and control in advance; finally, at a higher level, open vision, reconstruct thinking, identify and assess risks from a professional perspective, and then Develop risk strategy for risk control and monitoring.

3.2. System-level compliance financial approval risk control
The external manifestation of risk control financial approval is mainly shown in the system construction, including the following aspects: first, the vertical and horizontal integration of risk points. Secondly, the risk points are integrated in the company’s daily management, through process design and system control, to achieve the integration of business operation and risk management; finally, the use of information technology means to strengthen communication and coordination. System management is the most basic and stable risk management. Through the establishment of an integrated operation management mode in the core business system, the valid identification and organic integration of internal and external risks can be implemented. The risk management and operation process are deeply integrated, and all kinds of information can be transmitted smoothly and efficiently. Hence, an all-round risk management system that involves all staff and whole process based on systematization, institutionalization, and concretion will be established.

3.3. Risk control at the behavioral level financial approval risk control

Finally, the risk control of financial approval is shown in individual behavior, and the control focuses on two aspects of “attack and defense”. “Attack” is to take the initiative, guard ahead, and create value by controlling risks. “Prevention” is to prepare for a rainy day, develop various emergency plans and conduct regular drills. Risk prevention awareness and risk identification ability are the professional qualities that employees must possess. In the actual business management activities of financial companies, due to the different scale, qualification, and industry environment of the company, the situation varies greatly. Wealth.

\[ D = \{x_1, x_2, \ldots, x_n\}, \quad x_i \in \mathbb{R}^d, i = 1, \ldots, n. \]

Assuming that \( l \) samples are labeled as \( \mathcal{E} = (x_1, x_2, \ldots, x_l) \), and the corresponding label \( \eta = \{y_1, y_2, \ldots, y_l\} \).

The significance of each feature dimension is different in classification. To a certain extent, financial approval data can overcome the shortcoming that financial approval data treat each feature dimension equally. Its definition is as follows:

The financial approval data between samples \( x_i \) and \( x_j \) is defined as follows

\[ d_A(x_i, x_j) = \sqrt{(x_i - x_j)^T A(x_i - x_j)}, \quad (1) \]

Where \( x_i \in \mathbb{R}^d, A \in \mathbb{R}^{d \times d} \) indicates a symmetric positive semidefinite matrix.

Based on the properties of the positive semidefinite matrix, \( A \) decomposable into \( A = L^T L \), the above equation can be expressed as follows:

\[ d_A(x_i, x_j) = \sqrt{(x_i - x_j)^T A(x_i - x_j)} = \sqrt{(x_i - x_j)^T L^T L (x_i - x_j)} \]
\[ L = \sqrt{\left(Lx_i - Lx_j\right)^2} \left(Lx_i - Lx_j\right). \]  

(2)

It is equivalent to the matrix as a mapping, mapping the data of the original space to the new space, and converting the financial approval data of the original area to the financial approval data of the new area.

**4. Design of financial approval risk control framework**

“Risk control in financial approval risk control” (Hereinafter abbreviated as financial approval risk control) comes from the specific requirements of comprehensive risk management and belongs to the scope of enterprise financial approval risk control. In risk management activities, risk control financial examination and approval condenses and transmits the influence of the enterprise. It can identify and make the employees consciously abide by specific risk value and risk management behavior standards and has an active guiding role. This kind of financial approval risk control combines the company's new development requirements and risk factors. It is an excellent platform for the rationalization of the internal relations of enterprises and the realization of sustainable development. It is also the basis for the cultivation of the sense of mission, responsibility, and cohesion of employees.

The system architecture design mainly introduces the macro architecture of the system. In macro, the system meets the ilvle architecture development mode. The architecture design of the whole system is shown in Figure 1 as follows.

![Financial approval risk control system](image)

**Figure 1.** Design of system architecture

In this paper, the function of the system is designed. The entire system can be divided into five main modules. Figure 2 shows the implementation page of the system. In the login page, the user needs to enter the account and password and click the login button to enter the system. Upon access, the system will filter the user's authority. Users can click the forget password and registration link on this page to complete the system registry.
5. Conclusions
The “immune” function of financial approval risk control requires that financial companies should take active measures as follows: Firstly, clarify the risk management objectives, responsibilities, and contents of the company's “Three meetings and one level” as well as its subordinate professional committees, consolidate them in the company's policies and strengthen the accountability mechanism. Secondly, design the risk quantification standards, identify and evaluate the company-level risks on a regular basis. Thirdly, upgrade the core business system, embed key control points into the system, and enhance the review and monitoring of essential links. Fourthly, move the risk control defense line forward before and during the event, predict the risks based on the company's strategy, and ensure that the system is rigorously followed before any business is carried out, to guarantee the safe operation of the company effectively.

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