

Research Article

Reliability Optimization Analysis of Enterprise Financial Management System Using the Markov Model

Weidan Chen 

School of Economics and Management, Chongqing Youth Vocational & Technical College, Chongqing 400055, China

Correspondence should be addressed to Weidan Chen; 201601561326@stu.yznu.edu.cn

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Financial management, as the central link in the enterprise management chain, has emerged as a critical component in achieving the company's strategic objectives. Businesses are transitioning from a closed to an open and scalable development model to an intensive development model, which is reflected in financial management and necessitates a growth-oriented transformation. Unreliability abounds in today's globalized environment, from financial management-oriented accounting to efficiency accounting. In addition to general supply and demand unreliability, the high degree of complexity and increased channel unreliability make companies resist the great challenge of financial management systems' ability to face uncertain events, corporate supply chains become increasingly vulnerable, and unreliability has become a common and indispensable phenomenon in many economic and management decision problems. Due to their high data requirements and dynamic adaptability, Markov models are used as the primary forecasting tool. They do not require a large amount of historical data, but rather a detailed analysis of the recent past. This thesis examines and resolves the issues with the current financial management system through a detailed examination of the enterprise financial management system's reliability optimization, as well as identifying and supplying the appropriate financial system management tools for the company's business activities. New business concepts and their advantages to management are introduced. The experimental results show that adding precision constraints to the floating-point calculation problem transforms it into an integer calculation problem, improving reliability by 0.389, demonstrating that the Markov model improves the efficiency of financial resource allocation. At the decision-making level, it provides a management platform and operational tools. As a result, research on this topic will assist businesses in developing a comprehensive business process that meets their needs and adapts to future development needs at a low cost, as well as assisting businesses in communicating with employees, external collaboration, and collaborative business between customers and partners.

1. Introduction

A financial management system [1] is a professional management system that organizes financial activities and manages the enterprise's financial relations. The existing financial management system is becoming increasingly difficult to meet the unit development's needs [2]. As a result, reforms to the unit, particularly financial management, are required in order to adapt the unit to the market economy environment and achieve long-term development under the national policy and the market economy environment [3]. [4] It has a direct impact on investors' and other stakeholders' rights and interests, and it is linked to the rational and efficient allocation of total resources [5]. The role of financial

management is self-evident in today's increasingly important modern financial management, and a good or bad financial management system has an impact on the overall quality of corporate management [6]. As a result, using reliability optimization methods tailored to your industry's characteristics should be an effective way to build a financial management system that meets your requirements.

A well-developed financial management system aids companies in achieving their business goals of maximizing value and profit while also assisting group companies in optimizing their capital structure [7]. It enhances the group's risk resistance and improves the allocation of production factors [8]. Many companies have begun to build and optimize their financial management systems and improve

their management level by fully implementing the Markov model [9] in order to adapt to the changing times. Some information may reflect a company's financial difficulties, that is, the risk outcome is predictable [10]. The ability to accurately predict the time horizon of future financial crises aids in the protection of investors' money and interests, as well as the timely avoidance of financial crises [11]. With the introduction of Markov models, particularly several applied Markov models widely used in accounting, such as valuation, cost allocation, planning, and control, the model's potential applications have been widely extended to fields such as physics, biology, and social sciences such as engineering sciences [12].

As the financial management system's characteristics become more prevalent in applications, the financial management system's reliability requirements are becoming increasingly important [13]. The input of gift certificates, transaction confirmation, and remittance through the integrated business system are the payment operations of the financial management system [14]. The financial management system's reliability assurance is based primarily on the system's reliability level, which determines the system's reliability index and whether the system meets users' reliability requirements [15]. Implementing integrated accounting, comprehensive budget management, centralized fund management, incentive and assessment systems for financial personnel, integrated bidding management, strengthening material procurement management, implementing integrated tax planning, and strengthening auditing are all examples of specific measures to improve financial management. The following are the paper's unique features:

- (1) The application for analysis is introduced. The entire process has a certain understanding. The analysis of ideas closer to reality is summarized, with a certain degree of operability through their own actual work practice.
- (2) To address the lack of progress prediction and deficiencies in information system project management, the Markov model was integrated into the system optimization progress prediction, serialization project process state, and prediction of the actual analysis of the information system project progress Markov model in engineering application.
- (3) Summarize the system stability issue, make suggestions for future continuous optimization, and discuss the possibility of enterprise-wide continuous optimization.

2. Related Work

2.1. Reliability Optimization of Enterprise Financial Management System. As Chinese companies continue to grow, internationalization, globalization, and information technology have made them expand even faster. As the business operating system used by the company's sales staff is not allowed to be accessed by nonbusiness owners, a perfect financial system allows remote management from the head office to branches, subsidiaries, and sales staff, which can be

easily grasped and controlled. As a result, problems gradually emerged with the huge system and systems, especially with the financial management.

Perchuk proposed methods and key measures to improve the security and reliability of the financial system in light of the actual situation of the financial management system in China [16]. Mansyur et al. [17] argued that the enterprise financial management system contains three parts: manufacturing, distribution, and finance, while the financial part consists of modules, each of which has different contents depending on the computer processing procedures and results, and has implemented general ledger accounting, accounts receivable accounting, accounts payable, fixed assets, capital, and financial risk management submodules [17]. In management accounting, Nabijonov enabled cost objects and cost flows [18]. Liu [19] presented this study on the complexity of business management in an enterprise IT environment that supports the creation of IT efficiency and the maintenance of IT flexibility [19]. Kondratenko et al. [20] presented measures related to risk management in financial management systems in terms of risk planning, risk control, and risk monitoring, and in the risk monitoring phase, the report describes different monitoring methods for different levels of risk factors [20].

The manufacturing industry is under unprecedented pressure to reduce operating costs, deliver products on time, optimize the use of available assets, and comply with regulations. Therefore, the future growth and financial management of the company depends to a large extent on having a reliable optimization of the enterprise financial management system.

2.2. Markov Model. The financial process is aimed at financial management, and the joint financial goals fit well with the development goals of the enterprise and are suitable for the development stage of the enterprise. The extended application of computer software has also made its role in weaponry systems increasingly complex, and reliability issues have become a focus of attention. This has promoted the research and application of financial management systems.

Tkachenko [21] introduced the application of Copula functions in credit risk metrics, and since then, extensive research on the relevance of credit risk metrics began, and Markov's application in credit rating became increasingly popular [21]. Since Tkachenko [21] applied the Copula function to credit risk measures, the relevance of credit risk measures has been extensively systematically wrong; independence assumptions do not meet the test but can be used to assess the financial system Markov model [22]. Sugiyanto and Hidayah [23] used the multivariate speech to predict the evolution of credit risk correlation ratings [23]. They used the objective function of minimizing squared error to estimate the unknown parameters of the model based on historical rating data. Mza et al. [24] divide the construction of the transfer matrix in a multivariate Markov model into two parts: the actual transfer matrix calculated from the number of transfers in the sequence and the matrix based on the prior distribution, followed by the credit rating

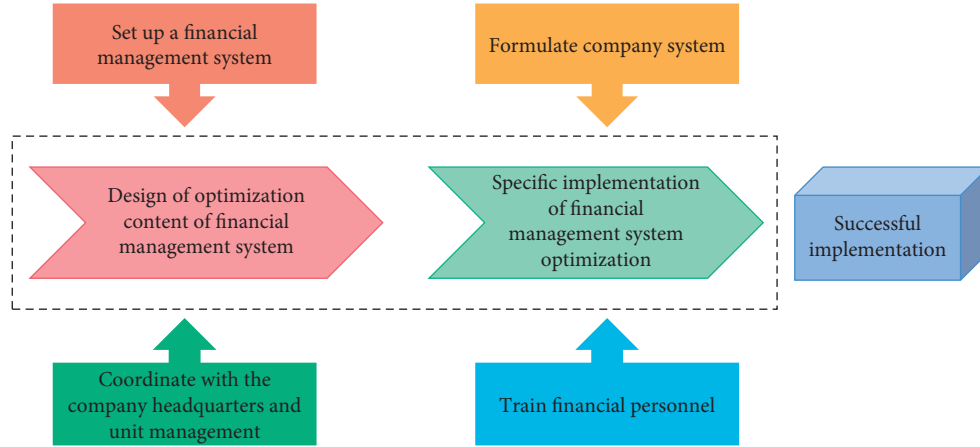


FIGURE 1: The company's financial management system construction guarantee diagram.

prediction model about the linear empirical distribution [24]. A comprehensive study of the testing process and test cases for Markov models was utilized by Bosire and Maina [25]. With the development of object-oriented technologies, the UML language has become the de facto standard language for unified modeling [25].

Therefore, this paper introduces the Markov model system enterprise financial management system reliability optimization progress prediction model to address the limitations of existing information system progress management techniques, as well as information system project progress dynamics and progress tracking, and discusses the reliability prediction model of financial management system based on module and module importance, in order to achieve the purpose of correctly assessing system reliability.

3. Reliability Optimization of Financial Management System Based on the Markov Model

3.1. Methods of Adjusting the Operating Mechanism of Financial Management System. The financial operating mechanism is a method of financial action within financial authority constraints and the establishment of a financial accountability system in the enterprise system to achieve financial goals [26]. It is also an important part of the enterprise management mechanism [27], as it is the internal relationship and operation formed by the interdependence, organic combination, and automatic coordination of various financial factors. The so-called Markov model [28] is a random sequence in which future values are only related to present values and have no relation to past values. The Markov forecasting method is a modern forecasting method with a high level of scientificity, accuracy, and adaptability [29]. The financial organizational structure of the company is divided into three levels: corporate, provincial, and local, which clarifies the relationships and functions of each financial department. For the optimization of the enterprise financial management system to proceed smoothly, it must be secured from the following four aspects, as shown in Figure 1.

The first is to adjust the operation mechanism of the financial management system, improve the financial management organization, and improve the quality of financial personnel. The basic setup and system management are defined as a tandem system, and when a component fails, the system also fails. The analysis of the Markov model shows that things in the process of change must change from one state to another and go through a process of the intermediate probability of failure. The probability of failure is the probability that the time to failure is less than or equal to t . There is a relationship between it and reliability:

$$F(t) = 1 - R(t). \quad (1)$$

The probability of failure per unit time after the t moment under the condition that no failure occurs at the t moment. The failure rate is the conditional probability density of the failure probability $F(t)$, also known as the conditional failure intensity, that is,

$$\lambda(t) = \frac{f(t)}{R(t)} = \frac{(-dR(t))/dt}{R(t)}. \quad (2)$$

The representation of this intermediate change process is called the before and after the transition state of things. The financial system will gradually improve the bookkeeping function, and the submodules of the same business module will be designed as similar as possible, and the submodules of different business modules will be designed as similar as possible to enhance the user experience. It is mainly responsible for financial planning, analysis, decision-making, and supervision of the whole jurisdiction, as well as management and control of accounting information in the financial management system. The daily accounting work of the enterprise deals a lot with various borrowing and reimbursement matters, and the main content of accounting is various expenditures, which also reflect the completion and effect of various undertakings and work of the enterprise, and the flow of expenditure management is shown in Figure 2.

The second is to coordinate the financial operation and management mechanism, change the operating habits of business personnel, and facilitate the monitoring of the

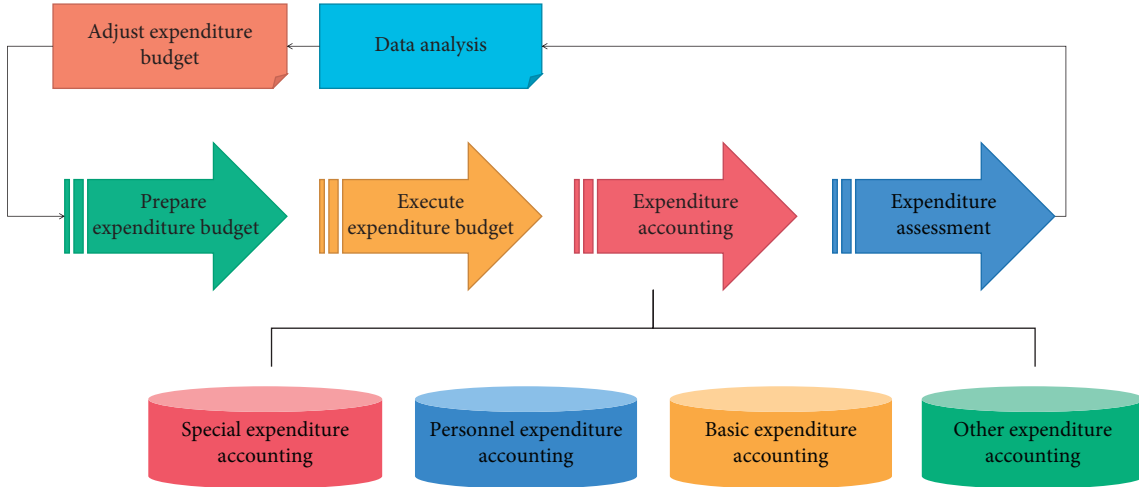


FIGURE 2: Flow chart of expenditure management work.

operating process. Assessing and optimizing the reliability of the financial management system require analyzing and identifying influencing factors such as events, scenarios, and outcomes that affect reliability. The payment system line name line number is updated in real time by accessing the core. When the system works from moment T_1 to moment T_2 , if a n failure occurs, then

$$MTBF = \frac{(T_1 - T_2)}{(n + 1)} \quad (3)$$

The smooth distribution is a special property of multivariate Markov models that helps construct constraints, narrow the feasible domain, and solve for unknown variables [30]. It is the situation in which objective things can appear or exist, and things can be classified into different states according to the purpose of classification, and the same thing cannot exist as two things because the states of the same thing must also be independent of each other. A state is called ergodic if it is a normal return state and acyclic. Let the random process $\{X_n, n \in T\}$, whose parameter set T is a discrete set of time, that is, $T = \{0, 1, 2, \dots\}$, and whose state space consisting of the entire set of possible values of the corresponding X_n is the discrete set of states $I = \{i_1, i_2, i_3, \dots\}$. If for any integer $n \in T$ and any $i_0, i_1, i_2, \dots, i_{n+1} \in T$, the conditional probabilities satisfy

$$\begin{aligned} P\{X_{n+1} = i_{n+1} | X_0 = i_0, X_1 = i_1, \dots, X_n = i_n\} \\ = P\{X_{n+1} = i_{n+1} | X_n = i_n\}. \end{aligned} \quad (4)$$

At the moment m departs from any state i to another moment $m + n$ and necessarily transfers to 1, 2, ... to one of the states, so

$$\sum_{j=1}^{\infty} P_{i,j}(m, m+n) = 1, \quad i = 1, 2, \dots \quad (5)$$

Finally, fine-tune the fund's operation and management mechanisms, set up a sound fund management system, and smooth out the fund's management. Improve the financial and accounting processing ability by realizing the process,

standardizing, and perfecting financial and accounting processing. Accounting work at this level and lower levels is primarily the responsibility of provincial and municipal agencies, as is timely review and classification of original documents, active coordination, cooperation, and implementation of financial management and accounting information. And divide the state of the forecast object emergence by actively implementing transmission and feedback from upper and lower agencies. The current situation is divided into forecasts and considerations of decision-makers' needs. Each unit of product that enters the company's manufacturing system is likely to leave in one of several forms. The system Markov model describes each unit product that comes out in the same form but does not have to go through the prescribed procedures of the production phase.

3.2. Specific Measures for Reliability Optimization. Modern society is a rapidly developing society of informatization, networking, and digitization. For capital-intensive, financially risky, and difficult to manage industries, it is also important to know whether the effective use of information technology management tools can effectively improve the quality of management. The purpose of adjusting the financial operation mechanism should also focus on the company's financial policy, establish a financial feedback mechanism and early warning mechanism, and implement the dynamic adjustment of the operation mechanism in the standardized operation of the enterprise. From a probabilistic point of view, computational bias is still unavoidable when converting nondeterministic problems into deterministic ones for estimation and analysis. The degree of variance in the distribution can be calculated using variance estimation as follows:

$$\begin{aligned} \sigma^2 &= \left(\frac{b-a}{6}\right)^2, \\ \sigma &= \sqrt{\left(\frac{b-a}{6}\right)^2} = \frac{b-a}{6}, \end{aligned} \quad (6)$$

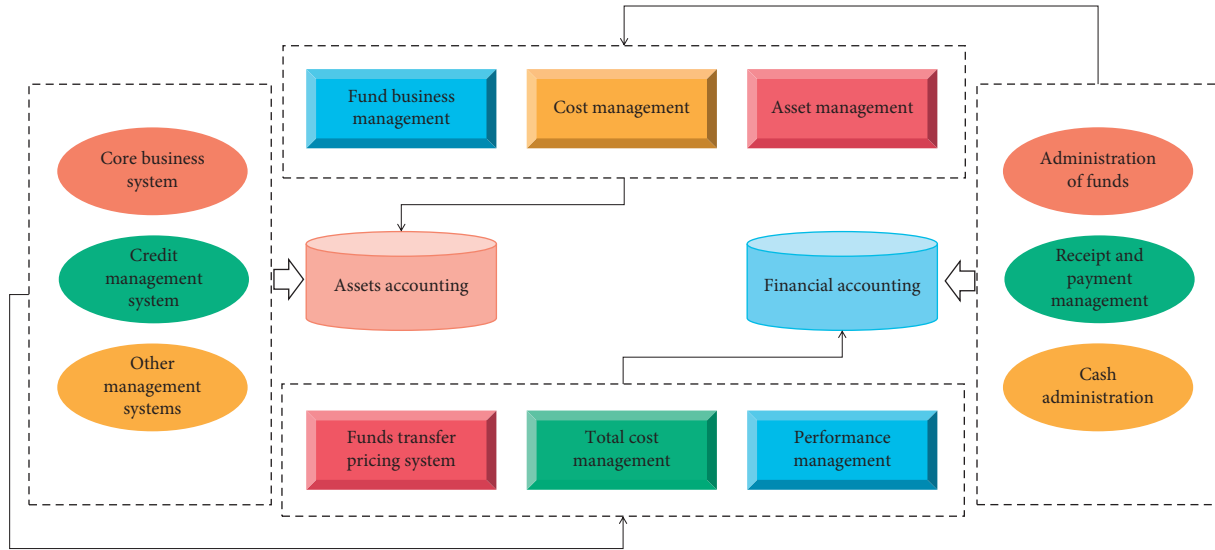


FIGURE 3: Overall framework of the financial system.

where a, b — duration of two kinds of work.

The simplest type of Markov model forecasting application is used to predict the most likely state of system changes in the next period. Each unit must keep accurate and timely records of economic events that occur. This will ensure the regularity and accuracy of the basic accounting operations of the company and will significantly speed up the reporting of the company's accounting operations and financial statements. In general, the following general steps can be followed to optimize the most likely state scenarios for each stage of system change. The overall framework for reliability optimization is shown in Figure 3.

The first is to unify the accounting system and interface with the relevant accounting system for accounting differences caused by differences in the personalities of companies and institutions and differences in industries. It is usually a transformation in which an activity receives some type of input, usually under the control of certain rules; utilizes some resource; and converts it into output through a transformation. Since a Markov process is a stochastic process, it is described in terms of probabilities, specifically the probability of a system transitioning from one state to another, which can visually describe the stochastic test sequence described by the Markov model. Predicting the “future” state is independent of the “past” state, as long as the “present” known state is used and is understood as posteriority-free. Cosine similarity means that the larger the cosine value is, the closer the angle is too small, that is, the more similar the two variables are. Then we have

$$S_l = \sum_{t=1, t \neq l}^L \cos(r_l, r_t), \quad l = 1, 2, \dots, L. \quad (7)$$

The ratio of the importance of indicators x_{lj-1} and x_{lj} is obtained by considering the weights of experts:

$$r_j^* = \sum_{l=1}^L a_l \times r_{lj}. \quad (8)$$

Secondly, the company unified the institutional setup and set up the fund settlement center, investment management center, and asset management center in the company headquarters. The main responsibilities of the fund settlement center are to carry out accounting operations, dispatch management of idle funds, and company fund-raising management. Starting from the framework of the multivariate Markov model, if the transfer state P is represented by the transfer probability matrix, then P is the transfer probability matrix, and it is assumed that the financial position of the company at the time of i, t and its financial position at the time of $t + 1$ satisfy the following recursive relationship:

$$x_{t+1}^{(i)} = \sum_{j=1}^N \lambda_{i,j} P^{(i,j)} x_t^{(j)}, \quad i = 1, 2, \dots, N, \quad (9)$$

where $x_{t+1}^{(i)}$ — probability vector of financial status.

The weights of all experts are updated according to the loss value of experts' predictions in that round, and the weights of experts with high prediction accuracy are increased and the weights of experts with wrong predictions are decreased. In order to make the model more reflective of the opinions of experts with accurate predictions, for experts l , the expert weights for round r are adjusted as follows:

$$W_{r,l} = \frac{w_{r-1,l} e^{-\eta z_r^l}}{\sum_{j=1}^L w_{r-1,j} e^{-\eta z_r^j}}. \quad (10)$$

The theory of the Markov models is mainly used to predict the estimation of the state transfer probability matrix and to predict the possible trend of the next state transfer. In fact, even the same activity can produce different results due to the different relationships between them, and the logical

relationships between activities are the key determinants of the process. The future state of a module is only related to its current state, not to its past state. In other words, it can be seen that there is no posteriority. Therefore, the logical relationships can be considered as a two-state Markov model.

The accounting process and reporting time must be integrated into the final step. Departments at all levels of the company were set up to use the network version of UFIDA financial accounting software, which was installed on a common server in the company's headquarters capital clearing center. For effective consolidation, the consolidated accounting report format was aligned with SASAC and national authority reports. The division of labor leads to the production process, but it is constrained by technical constraints. Different technical conditions result in different divisions of labor, resulting in different processes, and technological advances result in changes in the processes, affecting how they are carried out. In a Markov process, the transfer process is represented by the meaning. The objective function and the inequality constraint work together to achieve the shortest distance between the normal distribution's probability distributions before and after the state transfer. After the state transition, the normal distribution becomes stationary.

4. Application Analysis of the Markov Model in Reliability Optimization of Financial Management System

4.1. Optimization Analysis of System Reliability Based on the Markov Model. Companies should follow the principle of combining wealth management with budget management, asset management with financial management, and physical management with value management. In the case of financial management systems, for example, if the disturbance is not significant, the system itself can be self-adjusting using its resilience, without the need for external maintenance, which is time-consuming and causes unnecessary work. In the later stages of the system, security and reliability factors such as information confidentiality, access controllability, system redundancy, and data integrity must be continuously improved. The number of new arrivals per unit time is determined by the rollout scheme, and the theoretical results are in full agreement with the rollout results, and the service rate is increased, and this result illustrates the correctness of the proposed optimization method, as shown in Figure 4.

First, the initial probability is calculated. In practical situations, the initial probability obtained by analyzing historical data information is called the initial probability. When the n moment changes to $k + 1$, the state variable changes from one value to another; the system achieves a transfer of states; and the magnitude of the probability of the system transferring from a certain state to various states is described by the transfer probability. When considering multiple Markov models, each moment in each sequence has the same degree of influence on the determination of the relationship. That is, the transfer matrix and the transfer relations of the whole process are not

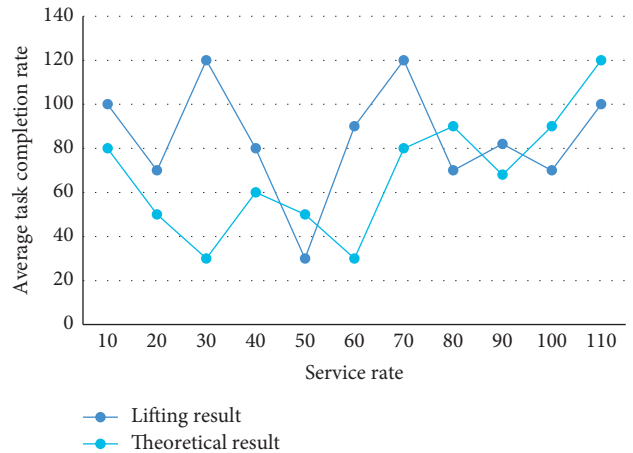


FIGURE 4: Comparison between lifting results and theoretical results.

considered due to the distance. The company headquarters is responsible for determining the overall strategic goals and annual production and operation plans of the group companies, approving the key investment and financing budgets of each subunit, reviewing the balances, and determining key indicators. It summarizes, guides, and supervises the development of the company and finally consolidates the overall budget data, budget management tasks, and subunits. Three comparison groups, group 1, group 2, and group 3, are designed using low-, medium-, and high-intensity optimization mechanisms, respectively, and the comparison results are shown in Figure 5.

Next, the state transfer probabilities are calculated by first computing the states and then still using an approximate representation of the frequency for the probabilities. In any row vector, a row vector is a random vector if each element of the vector is nonnegative and sums to 1. As soon as a probability vector is introduced, the variables of the Markov model have directions. According to the Markov property, the variation of the vector is random, so it must be represented by probabilities, so the variables of Markov have to be represented by probability vectors. In order to improve the management level, processes need to be established effectively, which can be divided into several aspects such as contract signing process, overhead inventory process, fixed asset purchasing process, and fixed asset procurement process. The comparison of the results of optimization with unused and progress prediction using the Markov model is shown in Table 1.

Optimization using the Markov model with added accuracy constraint converts the floating-point computation problem into an integer computation problem with 0.389 reliability improvement, which shows that Markov model improves the efficiency of financial resource allocation and provides a means of decision management platform operation for hierarchical decision-making and decision-making.

Finally, using the transition probabilities, we make predictions. Although the prediction of the next moment state is only related to the current moment state, determining the relationship between these two moment states requires

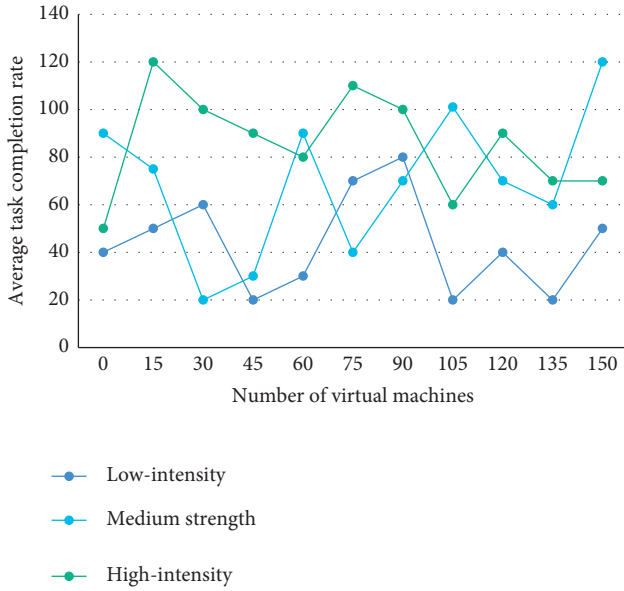


FIGURE 5: Comparison of different optimization mechanisms.

TABLE 1: Comparison of optimization results using the Markov model.

Running times (n)	56			
Running time (ms)	15			
Average/10,000 yuan	32			
Optimized value/10,000 yuan	Reliability variation value (0.1, 0.3, 0.5)	Expense (4.87)	Adaptive value (807.556)	Reliability (0.665)
Maximum difference/10,000 yuan	Reliability variation value (0.2, 0.3, 0.4)	Expense (5.66)	Adaptive value (556.881)	Reliability (0.276)

referring to the entire sequence chain, and from this perspective, it cannot be assumed that the prediction of the next moment is only related to the current moment. We should also strengthen the publicity and guidance work, as well as provide the necessary business training and skills teaching, to ensure that the system can be implemented effectively and standardized. And each sequence is viewed from the same perspective, that is, no consideration is given to whether there is a real situation in which one or more sequences may have an impact that requires different treatment, wasting some useful data. After examining traditional information system optimization methods, the information system optimization process is mathematically modeled and described, and the information system process model's process states are serialized and connected.

4.2. Prediction and Analysis of Markov Model Optimization Progress. An optimized schedule forecast is a scientific plan for the use of funds. Cost management is the fundamental

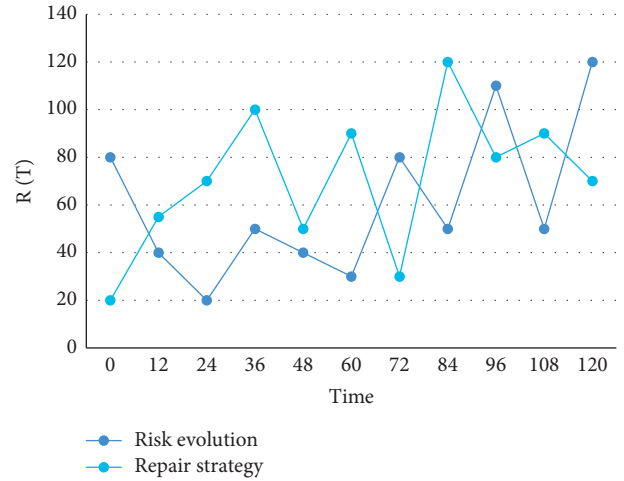


FIGURE 6: Relationship between gradual risk evolution and remediation strategy.

guarantee for the effective implementation of the plan, and it is also the basis and important reference for the development of the budget management system. Therefore, it is very important to strengthen the budget management of optimized progress forecasts. By adjusting the operation mechanism of the financial management system and changing the deficiencies and defects in the operation mechanism, a financial management policy system in line with the development of the company is formulated. This makes it possible to predict the long-term steady state of the system using Markov ergodicity, which is very meaningful for analyzing the overall reliability of the system. Based on the definition of periodic repair, the relationship between the progressive evolution of risk and periodic repair strategy can be derived as shown in Figure 6.

The system slowly fails before the repair, and if the repair optimization is intervened at this time, it can be restored to a certain state, that is, it will make the perturbation weaker or smaller.

First, in the random selection of incentives based on the current state, we add constraints on the prior state and use the probability of visiting the prior state, the transfer probability between the prior state and the current state, and the transfer probability between the successor state and the current state. The subsequent work is to compute the combination of probability intervals. In general, it is necessary to predict the state of the module at a future point in time and the long-term operational state based on the current subsystem of the module. The initial reliability and cost of the subsystem are shown in Table 2.

Therefore, experts who reflect the overall opinion of the group of experts are given greater weight so that the experience, ability, and familiarity of the field of experts are taken into account, overcoming the drawbacks of the method of direct weighted average. The original data for cost accounting were taken from the logistics department, and the original system logistics and finance were separate systems with poor integration, which could not guarantee

TABLE 2: Initial reliability and cost of subsystem.

Subsystem	Initial reliability	Cost (in ten thousands)
Systems management	0.75	3
Infrastructure	0.86	6
Cashing management	0.69	4
Financial statements	0.84	7

the accuracy and timeliness of the original data collection. Therefore, we first predicted the importance of each module in the system at the financial management system and then developed a system test plan with a corresponding focus based on the prediction results. In this way, a quantitative measure of the importance of modules in the system is obtained, which provides a basis for analyzing the importance of modules in the system and their impact on system reliability. The simple calculation of the model would make the model too complex to solve. Based on this assumption, we obtain the impact curves on the reliability of the financial management system before and after the preventive fix, as shown in Figure 7.

Next, the roulette wheel algorithm is used to generate random numbers to select the excitation. During this period, the failure modulus has been removed, and the probability of transition to a normal state is 2, and the probability of uncorrectable is 0. Two edge transition probabilities are calculated, that is, the edge transition probability is constrained to the precursor state and the ordinary edge transfer probability. The similarity between the variables is also calculated. If the similarity value is lower, it means that the information between the variables is less similar, indicating that the information between the variables is more different. Cosine similarity uses the cosine value to compare the difference in information between two variables. The common side transfer probability is a single-step transfer probability that does not consider second-order transfers. The analysis of the difference between standard costs and actual costs provides management with a more accurate basis for operational adjustments and helps strengthen cost control. According to the difference between prevention and average maintenance time, the empirical reliability curve can be drawn, and the average prevention and maintenance time are 10 days and 20 days, respectively, and the results of empirical reliability with time comparison are shown in Figure 8.

Finally, the adequacy determination criterion is applied to see if use case generation should be stopped. To complete an operation, the system typically requires the execution of several modules. This allows the system to be divided into functionally independent modules, with control transfer assumed to follow a Markov process. The probability is reliable when a module is called and transferred sequentially to the next module. In comparison to the actual project situation, the process state changes from delay to delay, indicating that the Markov model prediction model works well in the project system.

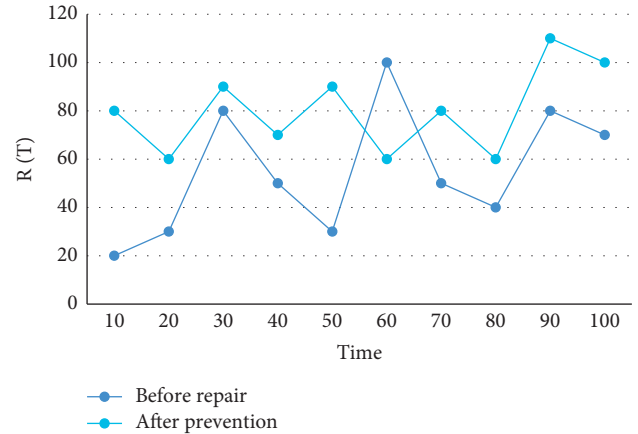


FIGURE 7: Influence of preventive repair on reliability.

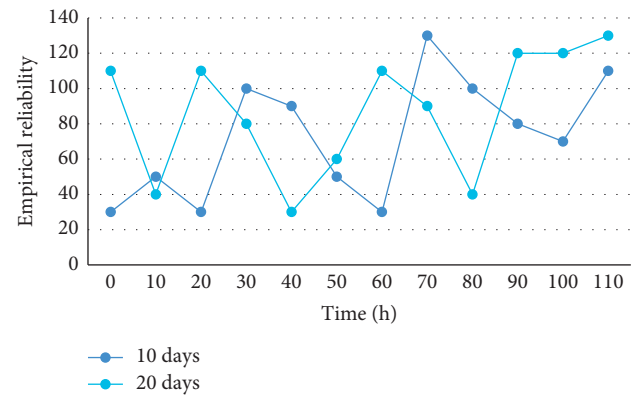


FIGURE 8: Curve of empirical reliability with time.

5. Conclusions

The choice of financial management model and the construction of a financial management system become increasingly important as state-owned units continue to promote the rapid development of the enterprise economy. The financial management system is integrated with various modules as the heart of enterprise information management, and system integration is crucial. The financial management system of business and financial integration will develop in a deeper and broader direction, following the general trend of social and economic development. The Markov model can be used to analyze system reliability because it is used to describe stochastic processes with discrete states and continuous time variation. Financial management and other economic disciplines are gradually increasing their interdependence, interpenetration, mutual influence, and mutual constraints as a branch of management. In this paper, we propose to use the Markov model pair method to conduct reliability prediction experiments, predict the system's reliability target, analyze the influence of each module on reliability, and analyze the influence of each module in the system on overall reliability. This topic's research is applied

to the study of financial management business processes so that the enterprise financial management system's financial management and other economic management disciplines organically combine to enrich the Markov model of financial management in an information technology environment. It also realizes an organic combination of the Markov model and financial management, improves the efficiency of financial resource allocation, provides a management platform and operational means for decision-making, and encourages the continuous improvement and development of management business.

Data Availability

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

Conflicts of Interest

The author declares that there are no conflicts of interest.

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