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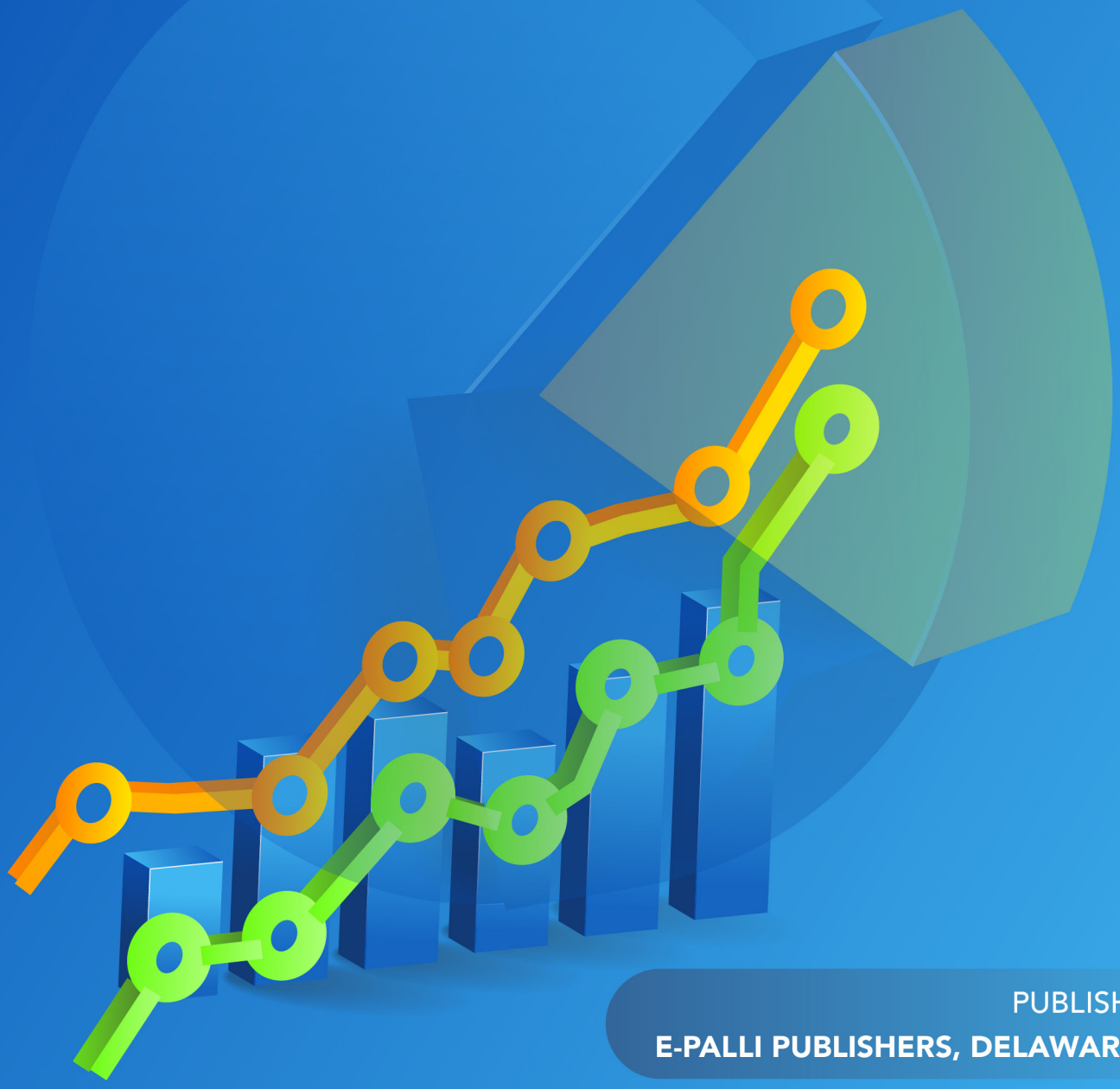

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Research on the Digital Transformation of Corporate Finance in the Digital Economy Era

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ABSTRACT

In the context of the digital economy, the digital transformation of corporate finance has become an irreversible trend. This article discusses the necessity, difficulties and innovative strategies of digital transformation of corporate finance. In view of the difficulties of digital transformation of corporate finance in the digital economy era, this article proposes innovative strategies such as strengthening guidance and thinking transformation, strengthening the construction of digital talent team, optimizing data integration application and risk control, and ensuring data governance is in place. These strategies are aimed at helping enterprises effectively respond to transformation challenges and improve financial management efficiency and competitiveness.

INTRODUCTION

With the full arrival of the digital economy era, corporate development faces severe challenges. Only by actively carrying out digital transformation can enterprises meet market demand and achieve high-quality development goals. However, judging from the previous financial digital transformation, enterprises still face some problems. The low level of financial digital technology application and the lack of compound financial talent reserves have restricted the financial digital transformation of enterprises and affected the healthy development of enterprises. Therefore, actively carrying out the financial digital transformation of enterprises is of great significance to achieving high-quality development of enterprises.

The country's "14th Five-Year Plan" development plan proposes to develop the digital economy and promote digital industrialization and industrial digital transformation with the help of high-tech technologies such as big data, the Internet, cloud computing, the Internet of Things, and artificial intelligence to build a digital China. Digital transformation is an important means to promote the organic combination of digital technology and the enterprise value chain and promote enterprise transformation and upgrading. The digital transformation of financial management is a strategic change in the organizational structure, process, and model of financial management. As a connecting point for the digital transformation of enterprises, it plays a positive role in enabling management innovation, deepening the integration of business and finance, and improving the operational efficiency of enterprises. The article analyzes the current status of the digital transformation of financial management in Chinese enterprises, points out the path of digital transformation, and proposes strategies to promote the digital transformation of financial management.

As a new economic form that is developing rapidly, the digital economy was first proposed by Don Tapscott in 1996. With the progress of the times and the innovation of information technology, the digital economy has become an important economic form to improve the level of national economic development and enhance the comprehensive competitiveness of enterprises. It has effectively improved the productivity of enterprises and promoted the rational allocation of resources (Tan & Yang, 2024). The comprehensive development of the digital economy has accelerated the pace of digital transformation of enterprises. The financial department is an important data distribution center within the enterprise, and promoting the digital transformation of financial management has become a key measure in the process of digital transformation of enterprises. How to keep up with the trend of the digital economy, seize the opportunities of digital transformation, and promote the digital transformation of financial management is an important issue that needs to be solved in today's era .

LITERATURE REVIEW

Overview of Enterprise Finance Digital Transformation

Connotation of digital transformation of enterprise finance

China's enterprise management and accounting professional talent training system has only been developed for 30 to 40 years. The success of enterprises that have grown and developed based on economic take-off relies more on policy support, industry selection, huge market gaps, etc., and is less dependent on internal management, especially financial management. As a result, many enterprises, especially private enterprises, have a low level of awareness and attention to the importance of financial

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management, and lack the motivation to promote the digital transformation of financial management. In the past five years, under the strong promotion of national policies, the speed of digital transformation of enterprises has accelerated, but the overall degree of digitalization is low. According to the survey of some leading enterprises in digital transformation, when promoting digital transformation, they first consider marketing and supply chain, and financial informatization is promoted in conjunction with the informatization construction of business departments. Due to the lack of top-level design for financial digital transformation, enterprises can only passively follow up according to the business development and changes in business information systems, and carry out patch-type information system development. The problems of complex, redundant, and mismatched financial data are prominent, which cannot meet management needs at all. In addition to the information system, they continue to rely on a large amount of manpower and material resources for manual data processing (Sun *et al.*, 2024). Overall, the digital transformation of financial management in some enterprises in China is still in the exploratory stage, and there is still a long way to go in the digital transformation of financial management, which is reflected in the following aspects.

First of all, digital transformation is to achieve the transition of financial work from traditional manual processing to system digital processing, so that financial basic work no longer relies on manual work, but through digital automatic accounting, thus avoiding the risk of errors caused by manual operation. Digital transformation means that enterprises need to establish an information-based financial data platform. Relying on information technology, financial data can be accurately recorded, tracked and analyzed in digital form, improving the efficiency of accounting and auditing, reducing labor costs and improving work efficiency.

Secondly, digital transformation includes digital optimization of financial processes. Traditional financial processes are often cumbersome and time-consuming, which easily leads to waste of resources and low efficiency. By introducing digital technology, enterprises can finely decompose and optimize financial processes, reduce labor costs and improve operational efficiency.

Finally, digital transformation also involves intelligent support for financial decision-making. Traditional financial statements and data analysis can only provide static information, lacking real-time and forward-looking information, while digital transformation can improve data acquisition efficiency and accuracy through modern digital technology, providing managers with more convenient decision-making references, as shown in Figure 1.

Figure 1: Key drivers for accelerating the development of the digital economy

The significance of digital transformation of enterprise finance

First, promote the construction of financial management system and realize the transformation of financial functions. Digital transformation can achieve a comprehensive transformation of financial functions by introducing advanced financial management tools and technologies, turning it from a passive data processor into an active business supporter and decision-maker.

Secondly, improve the efficiency of financial operations and support corporate management decisions. Traditional financial management is limited by manpower and time, and is prone to information lags and decision delays. Digital transformation can achieve efficient and intelligent financial operations through automated data processing and analysis, and provide more accurate support for corporate management decisions. It also improves the quality of financial data and enhances financial management capabilities (Yi *et al.,* 2024). Traditional financial management often has problems such as data duplication, errors, and lags, which can easily affect the accuracy and effectiveness of decision-making.

Digital transformation can improve the consistency and accuracy of financial data and enhance the ability and effectiveness of financial management by establishing a unified financial data platform and standardized data management processes.

Finally, judging from the current practice of digital financial transformation in many enterprises, there are generally unclear strategic goals for digital transformation, imperfect financial digital management models, and incomplete financial organizational structures, which cannot meet the requirements of digital financial transformation in the digital economy era. Moreover, in the specific transformation process, the infrastructure and equipment are imperfect, the degree of interaction between business and financial data is not deep, and the operational development of the enterprise cannot be fed back in time, affecting the effectiveness of the digital transformation of the enterprise. At the same time, some enterprises have built many types of system platforms with low correlation, and the interconnection between systems is not smooth, which is not conducive to data aggregation and unified management, affecting data utilization. In addition, the financial management concepts of some enterprises have not been updated in a timely manner, and they still use previous management methods and models, which cannot fully tap the value of financial data, which to a certain extent hinders the innovation and development of enterprises in the new era.

MATERIALS AND METHODS

Problems faced by digital transformation of corporate finance

Through literature research and comparative argumentation, we sorted out relevant literature, used literature analogy to classify and summarize the issues of digital transformation of corporate finance in the digital economy era , and sorted out relevant issues. The relevant issues are as follows.

The application level of financial digital technology is low

At present, most enterprises are in the initial stage of financial digital transformation, and the application of digital technology is relatively limited, which makes it difficult to effectively play the advantages of digital technology in financial work (Alisher, 2024). First, the functions of financial software introduced by some enterprises are relatively simple, and some financial software integrated with digital technology only have basic functions such as financial statement preparation and accounting, lacking in-depth application of artificial intelligence and big data technology. Some financial software is not efficient in processing unstructured massive financial data, and it is difficult to deeply mine the valuable information in the data, resulting in the inability of enterprises to obtain more data support for financial analysis and forecasting. Secondly, the digitalization system of financial data of some enterprises lacks collaborative functions. The financial system and the business system are independent of each other, and most of the enterprise operation data is difficult to share and interact, which further forms an "information island", resulting in the disconnection between enterprise financial data and business development. Financial managers find it difficult to effectively grasp the business development dynamics of the enterprise and cannot provide reliable support for various business decisions (Javaid *et al.,* 2024). For example, in an enterprise, if the financial system and the production system lack effective connection, the data of the entire production process cannot be shared with the financial system in a timely and effective manner, which will lead to delays in financial accounting and cost control, seriously affecting the actual efficiency of the enterprise.

Insufficient reserves of compound financial talents

In the process of financial digital transformation, the ability of corporate financial personnel also plays an important role. Financial personnel should not only have rich financial professional knowledge, but also have strong information technology application and data analysis capabilities. However, from the perspective of some current enterprises, they are still facing problems such as a shortage of compound financial talents. In the past, financial education was more inclined to learning accounting theory and financial knowledge, and less teaching of data analysis and information technology content, resulting in many financial personnel who have graduated for a long time lacking digital financial skills. In the financial work of enterprises, some financial personnel have been engaged in basic accounting work for a long time and rarely come into contact with new technologies and tools, which makes it difficult for financial personnel to transform from traditional finance to digital finance. In addition, some enterprises lack the introduction and training of compound talents (Xia *et al.,* 2024). Compound financial talents are scarce in the market, and it is difficult for enterprises to introduce professional talents that meet the needs of digital transformation. At the same time, there is a lack of a complete talent training system within the enterprise, and insufficient investment in the cultivation of existing financial talents, which makes it difficult for financial personnel's digital capabilities to meet the actual transformation needs, further exacerbating the problem of a shortage of compound financial talents in enterprises.

Imperfect financial data governance system

Financial data is an important foundation for enterprises to achieve digital transformation, and it is related to the success of the digital transformation of corporate finance. However, from the perspective of current corporate financial data governance, there are still some problems. First, the financial data standards of some companies are not unified, and there is a lack of standardization of

financial data formats within the company, which leads to inconsistencies in data collection and transmission. The data calibers of the financial departments and sales departments of some companies are inconsistent, which makes it difficult for financial data to truly reflect the actual operating status of the company, and the accuracy of financial analysis and decision-making is also affected. Secondly, the data of some companies are not standardized when recording people, resulting in uneven data quality, missing and errors in corporate financial data, etc. Low-quality financial data is not only difficult to provide good decision-making support for the company, but may even mislead corporate personnel to make wrong decisions. Finally, some companies do not pay enough attention to data privacy protection. As financial data gradually shifts to digital storage, the risk of financial data leakage continues to increase. Due to the lack of a sound data security protection mechanism, some companies do not strictly manage data access rights. If data leakage occurs problems such as leakage are bound to cause serious economic losses to the enterprise.

RESULTS AND DISCUSSION

Discussion on the path of digital transformation of corporate finance in the digital economy era

The digital transformation of financial management uses modern information technology to extend financial management concepts and methods to the business level, and through business empowerment, it promotes business departments to carry out value creation activities. 3.1 "Three-in-one" financial management model The digital transformation of financial management is a strategic change in the organizational structure, process and model of financial management. By building a new financial organizational structure led by strategic finance, with business finance as the main body and shared finance as the basis, we can focus on the key points of financial management and give full play to the role of the financial digital platform. First, shared finance is the basis for carrying out financial management work. By building a shared financial center, enterprises focus on standardized financial accounting, and uniformly handle all accounting business according to the systems and standards formulated by strategic finance and business finance, while providing data support for strategic finance and business finance for management decision-making. Second, shared financial functions mainly include standardized businesses such as expense reimbursement, procurement and payment accounting, order and collection accounting, general ledger and report accounting (Raihan, 2024). Strategic finance is mainly responsible for group decision support, resource allocation, policy formulation, etc. Its functions mainly include budget management, financial report analysis, performance appraisal, operation analysis, etc. Business finance is mainly responsible for extending financial management activities to the business and operational levels, providing professional analysis for business decisions, and promoting the integration of business and finance. Its functions mainly include budget preparation and control, cost and expense control, internal control risk management, etc. Third, business finance personnel and the financial management work they are responsible for are extended to the business level through digital information systems, and the production and operation data at the business level are transmitted to the strategic finance level through digital information systems, opening up the data channel between the front-line business level and the corporate management level. The management level adjusts the corporate strategy, model, and business management model based on business data, and business finance assists the business level in implementing them.

Comprehensive Budget Management

As an important tool for decomposing and implementing corporate strategic goals, comprehensive budget management is a core part of financial management. It is mainly divided into three steps: budget preparation, budget execution, and budget assessment. Most of the other aspects of financial management can be directly or indirectly included in the framework of the comprehensive budget management system.

The first is budget preparation. Budget preparation is the beginning and foundation of comprehensive budget management. It is usually formulated by the responsible departments of various businesses. It needs to be decomposed into various departments in combination with the company's strategic planning goals, and combined with the current situation of each department, historical operating conditions and corporate financial conditions, etc. (Rachmad, 2025). After digital transformation, the budget management module configured by the enterprise based on the business information system can use big data technology, artificial intelligence technology, etc. to identify, mine, extract and summarize data from the business information system. Each business responsible department only needs to complete the business operations within the scope of responsibility, and the business data and data required for budget preparation are automatically extracted through a well-configured information system. In this process, business finance is responsible for operational guidance, data analysis and review. In this way, on the one hand, work efficiency can be improved, and on the other hand, operational or subjective errors that may be caused by human participation can be avoided, thereby improving work quality.

The second is budget execution. Budget execution is an important step in budget implementation. Budget implementation should be promoted according to the established rhythm, and supervision and control of budget execution should be maintained. Deviations in the execution process should be corrected in a timely manner to ensure the smooth realization of budget targets. After digital transformation, while the responsible departments of various businesses complete their work within the

scope of their duties, the business execution data will be transmitted to the information system. Through the background calculation of the system, the execution effect and deviation can be intuitively presented in the form of charts. The responsible departments and budget management personnel can promptly discover problems in budget execution, correct deviations in a timely manner, reduce possible losses, and ensure the smooth completion of the budget. In addition, through data modeling, business behaviors can be simulated by pre-entering simulated business data. Through the simulation results, the impact of the simulated action on corporate performance and budget targets can be evaluated, and business behaviors can be adjusted. Enterprises rely on information technology and data modeling to achieve management pre-positioning and drive business with data.

The third is budget assessment. Budget assessment is the assessment and evaluation of the budget execution results of the responsible departments by the enterprise. It is an effective incentive and constraint measure implemented on the responsible departments through the budget management system. It runs through the entire budget execution process and after the budget execution is completed. It is a dynamic assessment and a comprehensive assessment. The purpose of budget assessment is to better achieve corporate strategies and budget goals. After digital transformation, the information system can extract business data in a timely manner, so that it can meet both the assessment of business processes and the consideration of business results: it can conduct a single assessment of a certain indicator, or a comprehensive assessment of multiple indicators, which enhances the flexibility and timeliness of budget assessment. In addition, the budget execution data is directly read and displayed by the information system, which reduces the risk of the relevant responsible departments modifying and embellishing the data and improves the seriousness of budget assessment.

Implement rolling budget management

The current market competition is fierce. If enterprises want to win the initiative in the fierce market competition, they must pay attention to the external market and industry environment at any time, respond to environmental changes in a timely manner, and adjust their business management strategies. The comprehensive budget of an enterprise is usually prepared on an annual basis at the beginning of the year, and has a certain rigidity and cannot be adjusted at any time. It is usually used as a basis for resource allocation and annual performance appraisal of various departments within the enterprise. Since the comprehensive budget cannot reflect changes in the market environment in a timely manner, it has limited guiding significance for the management to conduct monthly management scheduling. Therefore, it is necessary to implement monthly rolling budget management to make up for the shortcomings of the comprehensive budget. In actual work, enterprises can conduct rolling budget management in cycles of 3 months, 6 months, 9 months or even 12 months. The overall preparation ideas and methods of the monthly rolling budget are basically consistent with the preparation logic of the comprehensive budget. The difference is that the monthly rolling budget requires a strong timeliness, and each business unit should complete the budget preparation work of its department in a timely manner according to the time node (Dong *et al.,* 2024). In addition, the rolling budget is usually only used as a basis for business development and business management, and is not used for performance appraisal. For digital transformation, enterprises need to embed the data models, data flow relationships, data calculation logic, etc. required for rolling budget management into the business information system when planning and configuring the information systems of each business unit, and reserve corresponding data interfaces for business units to facilitate data input. After digital transformation, the information system generates rolling budget data reports on demand based on the budget data input by each business unit at the end of each month and in accordance with the preset data model, which serves as the basis for management decisions and business adjustments of the enterprise management. At the same time, the information system can capture the actual data of the current month's business, compare and analyze it with the budget data generated last month, and present the relevant differences to business personnel and managers to analyze business execution deviations.

Financial operations based on data center

The biggest pain point in the digital transformation of financial management is that each module within the enterprise configures its own data platform information system based on its own business needs, and there is an obvious "data fragmentation" problem between different information systems. Breaking down data silos by building a data middle platform has become the key to transformation, and it has also become a core measure to build a data asset system and release the value of data assets. The data middle platform can integrate the existing scattered multi-system data of different business modules, purify and process it into data assets, and then reuse the data in a shared form to quickly build an agile data service system, empower business development and innovation, and improve enterprise operational efficiency.

Innovative strategies for digital transformation of corporate finance in the digital economy era

Improve data integration and application and strengthen risk management

In the era of digital economy, enterprises are facing unprecedented data challenges and opportunities. As an important asset of enterprises, data integration and application and risk control are particularly important. In order to achieve the digital transformation of enterprise

finance, data must be effectively integrated and applied, supplemented by strict risk control measures. First, strengthen the integration and application of data. The integration and application of data is the core link of enterprise digital transformation. Enterprises need to build a sound data governance system to ensure the accuracy, integrity and consistency of data. Through technical means such as data warehouses and data lakes, centralized storage and unified management of various types of data can be achieved. In addition, big data analysis and mining technologies should be used to deeply explore the value of data and provide strong support for the company's financial decision-making, market forecasting, etc. Second, enterprises need to pay attention to data quality issues. Low-quality data may lead to deviations in analysis results and even lead to wrong decisions. Therefore, enterprises should establish a sound data quality management system, regularly clean, verify and optimize data to ensure the authenticity and reliability of data. Third, strengthen data information security risk prevention and control. In the process of digital transformation, enterprises should establish a high level of data security awareness and formulate and implement strict data security policies. By adopting advanced encryption technology, access control means, etc., ensure the security of data during transmission, storage and use. First, at the organizational structure level, enterprises should set up special data management departments or positions to be responsible for data integration, application and risk management. By clarifying the division of responsibilities, we can ensure the effective promotion of various tasks. Secondly, at the institutional level, enterprises should formulate a sound data management system and process to standardize the collection, storage, use and processing of data. Through institutional constraints and guidance, we can reduce the risk of data abuse and leakage. Finally, at the technical level, enterprises should continuously introduce and update data security protection technologies to enhance data security protection capabilities.

Building an intelligent financial technology application system

In order to achieve the digital transformation of corporate finance and adapt to the needs of high-quality development of enterprises in the digital economy era, enterprises should actively integrate big data and intelligent technology with financial work and build a complete intelligent financial technology application system. For the selection of intelligent financial technology, it is necessary to give priority to software with high scalability and integration. By adopting financial analysis software with machine learning technology, the automatic processing of unstructured financial data of enterprises can be realized, and valuable information from financial data terminals can be deeply mined to provide accurate decision-making support for enterprise operations. In addition, enterprises should also actively solve the problem of "information islands", promote the integration of talents under digital transformation, accelerate the deep integration of business systems and financial systems, and feed back procurement data and sales data to the financial system in real time by establishing a unified data center. Enterprises should also actively formulate scientific technology plans, combine the actual development needs of enterprises, carry out phased technology introduction, give priority to the transformation of basic financial automation processes, and then gradually carry out intelligent technology introduction to ensure the sustainability and progressiveness of digital technology applications.

Build a digital financial management platform

The construction of a digital financial management platform is an important part of promoting the digital transformation of corporate finance. Enterprises should establish a unified financial data platform to integrate and centrally manage scattered financial data. The platform should have a powerful data integration function, which can integrate data from different business departments and subsidiaries into the same platform to achieve cross-departmental data sharing and collaboration. This integration can not only improve the consistency and accuracy of data, but also provide management with a more comprehensive financial view. The digital financial platform should have real-time processing capabilities and be able to collect, analyze and update financial data in real time. For example, with the help of a financial management platform, corporate managers can grasp updated financial information anytime and anywhere, helping the financial team to make decisions more quickly (Ma *et al.,* 2024). At the same time, automated data processing can also greatly reduce manual operations, further improving work efficiency while improving data accuracy. The digital platform should also support multi-dimensional data analysis, such as cost structure analysis, cash flow analysis, profitability analysis, etc. Through these analyses, enterprises can dig deep into data, identify potential business opportunities and risks, and provide support for strategic decision-making. In addition to software construction, hardware facilities must also be improved accordingly. In order to ensure that the infrastructure can support the efficient operation of the service platform, enterprises need to upgrade and renovate the infrastructure including servers, operating equipment, network bandwidth, etc. to ensure that these facilities meet the corresponding standards.

In the process of promoting the digital transformation of finance, enterprises should actively apply innovative technologies. For example, the application of blockchain technology in financial management can significantly improve data transparency and data security, especially in the links that require a high degree of trust such as contracts, payments, and audits. Blockchain can prevent data from being tampered with and ensure information security. At the same time, with the help of cloud computing, enterprises can obtain more efficient

data storage and processing capabilities. The financial department can use the cloud platform to achieve cross-departmental and cross-regional data sharing, achieve collaborative work, and further improve operational efficiency. "In addition, enterprises can also use artificial intelligence and big data technologies to analyze financial data, predict market trends and financial risks, and help enterprises make decisions more accurately. Through the application of these innovative technologies, enterprises can not only optimize financial processes, but also gain an advantage in competition and improve their market responsiveness and strategic flexibility. It can be seen that the rational use of innovative technologies can significantly promote the digital transformation of corporate financial management.

Strengthening financial information risk management and control

In the process of promoting the construction of digital financial management platform, the security management of financial information is an important part. First of all, it is key to establish information security awareness. Enterprises should conduct regular training and drills to deepen employees' understanding of information security and improve their ability to deal with security threats. Enterprises should formulate training plans to help employees understand the latest cybersecurity knowledge and master basic response measures. At the same time, regular simulation drills should be conducted to test the response capabilities of enterprises by simulating network attack scenarios, so as to help enterprises find loopholes in various links and improve the level of information management. Secondly, it is necessary to strengthen data control, improve the data management system, effectively integrate data, and achieve unified management, so as to further improve the security of data. Enterprises should regularly screen existing data and use advanced technology for encryption processing to ensure the security of data transmission, storage and use. Enterprises should strictly supervise data access, update authentication methods in a timely manner, and adopt multiple means to ensure that only authorized personnel can access sensitive data. Enterprises should keep up with the forefront of technology, obtain the latest cybersecurity technology by hiring industry experts and third-party technology companies, improve the level of financial data protection of enterprises, and further enhance the risk resistance of enterprises. Finally, companies need to conduct regular security assessments to identify and resolve potential risks and ensure the security of financial information. Through these methods, companies can safely and effectively promote the construction of digital financial management platforms.

CONCLUSION

In summary, the digital transformation of corporate finance has become an inevitable choice for enterprises to enhance their competitiveness in the digital economy era. Through clear strategic planning, deep integration of technology and business, construction of talent teams and effective risk management, enterprises can cope with many challenges in the financial management process. With the development of the digital economy, enterprises should actively promote the digital transformation of finance, seek more opportunities for their development, and achieve efficient operation and long-term development.

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