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Research on Enterprise Tax Risk Control and Planning Strategy Based on Big Data Technology

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Abstract: Under the digitalized economic environment, the extensive application of big data technology has promoted a change in enterprise tax management modes. Tax risk control and planning, as an important part of enterprise financial management, are closely related to the compliant operation and sustainable development of enterprises. This paper analyzes the application of big data technology in enterprise tax risk identification, assessment, and response. It also discusses strategies for integrating tax-related information, strengthening information security management, constructing a professional talent system, and building an intelligent tax planning system. These strategies aim to optimize the enterprise tax structure, reduce tax risk, and provide strong support for the lawful and compliant operation of the enterprise and its sustainable development.

Keywords: big data technology; tax risk management; tax planning; intelligent management

1. Introduction

In the modern economic environment, the complexity and uncertainty of tax management are increasing, and the tax risks faced by enterprises are becoming more diversified. The traditional tax management mode is difficult to adapt to the rapidly changing market environment due to its reliance on manual operation and limited data integration capability. The rise of big data technology provides a brand new solution for tax management, enabling enterprises to optimize the tax management process and improve the precision and standardization of tax planning through intelligent analysis and data mining [1]. Currently, big data has been widely used in many fields, such as finance, healthcare, and government governance, and it also shows great potential in tax management.

2. Overview of Big Data Technologies

There are two main views on the definition of big data in academia. One viewpoint holds that big data breaks through the traditional data category, emphasizing its innovation in data scale, processing methods, and application value. The other view focuses on the role of big data in knowledge acquisition and value creation, such as the discovery of new patterns, generation of new insights, and support for various fields through data analysis [2].

With computer information technology at its core, big data technology has been widely used in many industries and has become a key force in promoting social development. Its value is not only reflected in the collection of massive data, but also in the screening, processing, analyzing, and applying of data, reflecting powerful data processing capabilities. From a technical point of view, big data technology is inseparable from cloud

computing. The distributed processing capability of cloud computing is crucial to the storage, analysis, and management of big data, providing basic support for efficient data processing and deep mining.

Currently, big data technology holds broad development prospects and continues to promote the digital transformation of various industries. In the field of tax management, risk control and planning methods based on big data can effectively improve the accuracy of corporate decision-making, optimize the tax structure, and provide intelligent support for tax governance.

3. The Significance of Enterprise Tax Risk Control and Planning Based on Big Data

3.1. Ensure That Enterprises Operate in a Legally Compliant Manner

Tax planning, as an important part of tax management, can reduce the tax burden of enterprises and improve market competitiveness, while ensuring that tax payment behavior is in accordance with the law [3]. Tax risk control and tax planning are consistent in their objectives, and both require enterprises to optimize their tax structure on the basis of fulfilling their tax obligations in accordance with the law in order to reduce potential tax risks. The application of big data technology enables enterprises to accurately identify various types of tax risks and trace their causes through data mining and intelligent analysis, in order to reduce the impact of tax uncertainty on the legitimate and compliant operation of enterprises.

In terms of tax policy analysis, big data technology provides deeper support, enabling enterprises to efficiently integrate and interpret various types of policy information. It helps carry out tax planning within the compliance framework and avoid compliance risks arising from irregular tax treatment. Additionally, by monitoring and analyzing tax data in real time, it can effectively identify and avoid possible risks and hidden dangers in the tax planning process, improve the standardization and reasonableness of tax management, and lay the foundation for the long-term sound operation of enterprises.

3.2. Promoting the Future Sustainable Development of Enterprises

The effectiveness of tax management has a profound impact on the long-term development of enterprises. In the complex and changing market environment, optimizing tax risk control and planning can help reduce tax costs, improve corporate profitability, and enhance financial soundness. Using big data analytics, enterprises can explore potential tax risks and formulate targeted tax risk control strategies by combining the results of data processing and intelligent analysis, thus reducing the negative impact of tax issues on their operations.

Data-driven tax planning also improves the financial flexibility of enterprises, enabling them to quickly adjust their tax strategies in response to policy changes and improve their adaptability to changes in the external environment. Through the establishment of accurate data analysis models, enterprises can more scientifically assess future tax trends, optimize financial planning, and ensure the stability of capital operations, thus providing strong support for long-term sustainable development.

3.3. Enhance the Level of Enterprise Financial Management

Tax management is an important part of enterprise financial management, involving tax declaration, financial accounting, tax compliance review and other links, and its management level directly affects the operational efficiency and financial transparency of enterprises. Under the traditional tax management mode, enterprise tax work mostly relies on manual processing, and in the face of complex tax environment, management efficiency is often difficult to improve, and at the same time, it is also easy to cause tax risks due to human factors. The application of big data technology can help optimize the tax management process, improve tax compliance and reduce the potential risks caused by human errors.

Through data analysis, enterprises can identify possible anomalies in advance in the tax declaration process and take timely measures to reduce tax compliance risks. In addition, big data technology supports the monitoring of the whole process of tax management, enabling enterprise management to grasp the tax situation in real time, providing a scientific basis for business decision-making and improving the transparency and accuracy of financial management. With the help of big data, enterprises can also build an intelligent tax management system, realize the automated processing of tax information, improve the intelligent level of tax management, and promote the development of the financial management system in the direction of greater efficiency and accuracy.

4. Key Points of Enterprise Tax Risk Control under Big Data Technology

4.1. Tax Risk Identification

In the process of tax risk management and control, the application of big data technology can effectively improve the ability to identify tax risks. Dynamic monitoring of tax risks can be realized by reasonably collecting external market data and integrating and analyzing various types of data within the enterprise [4]. On the basis of large-scale data processing, the analysis results can be compared with financial reports, tax regulations and industry guidelines to detect tax liability anomalies in a timely manner and identify potential tax compliance issues.

Abnormal trading behavior in transaction patterns is also an important part of tax risk identification. With the help of big data technology, transaction patterns can be accurately analyzed, abnormal transaction activities can be detected, and potential tax risks can be identified. The combination of real-time monitoring and in-depth analysis makes early detection of tax risks possible, thus reducing the adverse impact of compliance issues on business operations and improving the overall level of tax compliance.

4.2. Tax Risk Assessment

The effective assessment of tax risks relies on accurate data analysis and scientific forecasting methods. Utilizing big data technology, it is possible to quantify the degree of impact of different tax risk factors and to analyze in-depth the key factors that may trigger risks by combining information such as financial statements, industry data, and transaction records. Through data mining and intelligent analysis, the potential scope of impact of tax risks can be more accurately predicted.

In the risk assessment process, the introduction of machine learning methods has further enhanced the risk prediction capability. The risk assessment model based on big data can realize automatic identification of abnormal situations and, combined with quantitative evaluation methods, set assessment standards based on the weights of risk factors to determine the degree of impact of different types of tax risks. The establishment of the risk grading mechanism enables enterprises to formulate corresponding response strategies for different levels of tax risks to ensure the precision and scientific accuracy of tax management.

Industry benchmarking analysis is also an important part of tax risk assessment. By comparing an enterprise's own tax status with industry benchmark data through big data technology, tax burden deviation can be quickly discovered and the reasons leading to the deviation can be analyzed in depth. At the same time, the use of big data simulation technology can simulate the impact of different tax risk factors on the enterprise's financial situation and predict potential losses, so as to clarify the key direction of tax management and optimize tax risk control strategies.

4.3. Tax Risk Response

An effective tax risk response mechanism relies on a sound early warning system and intelligent control means. With the help of real-time monitoring, data analysis, risk assess-

ment, and other technical means, an automated tax risk early warning system can be established. When tax-related data are abnormal, the system can quickly issue an early warning signal, prompting the relevant management departments to take the necessary control measures to reduce the uncertainty caused by tax risks.

The tax risk management model based on big data combines machine learning algorithms and the ability to analyze historical data to make risk assessment more accurate. On this basis, by quantitatively analyzing tax risks and reasonably categorizing them, it enables enterprises to adopt appropriate control strategies for different categories of tax risks, ensuring tax compliance while reducing possible financial losses.

The construction of knowledge base is also an important part of tax risk response. Combined with big data technology, it integrates tax policies, laws and regulations as well as relevant cases to form a systematic knowledge system for tax risk identification and assessment, which provides support for corporate tax decision-making. Focusing on the demand for tax risk management and control, the company utilizes intelligent data analysis to improve the automation and sophistication of tax management and build a more complete tax risk prevention system.

5. Enterprise Tax Risk Management and Planning Strategies Based on Big Data Technology

5.1. Integration of Enterprise Tax-Related Information

Under the environment of big data technology, the key to enterprise tax management and planning work lies in the digitalization of tax information. The digital transformation of tax administration information requires the transformation of complex tax data into quantifiable and analyzable structured information in order to improve the efficiency of data utilization. However, in the process of tax planning, although many enterprises can obtain tax-related data from different channels, they often fail to fully recognize the importance of digitization, resulting in low information utilization and making it difficult to provide scientific and reliable bases for tax risk management and planning.

The collection, storage, and processing of tax-related data should follow unified standards and should be standardized, regardless of whether the data come from internal enterprises or third-party tax-related institutions [5]. If the traditional manual processing mode is still used, it is not only inefficient, but also difficult to guarantee the accuracy and reliability of data analysis. Therefore, the implementation of tax planning should rely on big data technology, realize the centralized integration of tax-related information, and carry out scientific categorization and automatic correlation of data with the help of intelligent analysis system.

In addition, enterprises need to strengthen communication with the tax department, formulate tax planning plans in line with the norms based on policy requirements, and optimize the tax burden on the basis of legal compliance. At the same time, they should actively expand cooperation with banks, business administration organizations and other tax-related third parties to promote tax information sharing and break down information barriers, so as to ensure effective support for tax planning.

5.2. Strengthening Tax-Related Information Security Management

The security of tax-related information is related to the stability of tax management and the sustainability of enterprise compliance operations, and its protection mechanism needs to be promoted from multiple dimensions such as system, technology, and personnel management. In the tax management system, the improvement of policies and regulations is the basic guarantee to ensure information security. Regulators need to continuously optimize the tax law system, promote the standardization and systematic development of tax information management to enhance compliance in the collection, storage and use of tax-related data, and strengthen the regulatory system to reduce the risk of data leakage and abuse.

The enterprise tax information security management system also needs to be continuously optimized. In the process of tax planning, a solid information technology foundation is crucial for data security. Enterprises need to increase investment in information security technology, build a perfect network security protection system, reasonably configure data encryption, access control and intrusion detection and other technical means, and at the same time, strengthen the routine maintenance of software and hardware facilities to ensure that the information system has a strong risk-resistant capability. The establishment of data security management mechanism should cover the whole life cycle of information to reduce potential information leakage and enhance the stability and reliability of tax-related data management.

In addition to technical protection means, the cultivation of security awareness is also an important part of the tax-related information protection system. By organizing regular training and security drills, enterprise employees can effectively improve their knowledge of data security risks, so that they can strictly abide by data management norms in their daily operations and avoid security loopholes caused by human negligence. By building a data security management culture with full participation of all employees, the information security threats brought by external attacks and internal mismanagement can be effectively reduced, and the overall security of enterprise tax data management can be further improved.

5.3. Construct Specialized Tax Planning Talent System

The application of big data technology not only relies on the collection and storage of data, but also needs to release the value of data through in-depth analysis and mining. In tax planning practice, the specialization level of talents directly determines the depth and accuracy of the application of big data technology. Therefore, tax managers need to have big data thinking and master data analysis methods in order to give full play to the technical advantages and promote the tax management mode to upgrade in the direction of intelligence.

Currently, the tax planning teams of some enterprises still have certain shortcomings in data processing, modeling, analysis, and intelligent application, which limits the efficient application of big data in tax management. To address this gap, a systematic training mechanism should be set up to enhance practitioners' ability to apply big data tools and equip them with key skills such as data integration, risk prediction, and compliance analysis. At the same time, advanced technologies such as machine learning and artificial intelligence can be introduced to optimize the decision-making system of tax planning and promote the transformation of enterprises from traditional experience-oriented to data-driven models.

While training professionals, it is also necessary to build a data-driven management system to strengthen the scientific nature of tax risk management. By establishing a data analysis platform, integrating industry dynamics, policies and regulations, and enterprise financial data, we can realize precise tax management and improve the efficiency and rationality of tax decision-making. A data-centered management culture is formed within the enterprise to make tax planning more intelligent and refined, and to provide robust support for the long-term tax planning of the enterprise.

5.4. Build an Intelligent Tax Planning Big Data System

The construction of tax planning big data system covers multiple modules such as data collection, intelligent analysis, risk early warning, compliance review, and tax database management, etc., and the systems need to realize efficient synergy in order to enhance the accuracy of data processing and the scientific accuracy of management. In the process of system construction, it is necessary to comprehensively integrate the tax-related data of various departments within the enterprise, and develop an optimized big data system architecture by combining the business characteristics and industry standards to

ensure that different modules can be efficiently connected to achieve a seamless flow of data.

Through a perfect data sharing mechanism, the real-time accuracy of tax planning can be effectively enhanced, so that managers can fully grasp the tax risk situation of enterprises and optimize tax compliance management strategies. On the basis of strengthening the internal data linkage of enterprises, it is also necessary to strengthen the collaborative integration of the big data system with tax supervisory agencies and relevant tax-related third parties, relying on the intelligent information exchange platform, breaking the data barriers, realizing the digital upgrading of tax management, and enhancing the standardization and sustainability of enterprise tax planning.

6. Conclusion

In summary, big data technology has important application value in enterprise tax risk control and planning. By integrating tax-related information, strengthening information security management, constructing professional talent system and building intelligent tax planning system, enterprises can accurately identify tax risks, optimize tax planning strategies, and improve tax compliance and management efficiency. The application of big data technology not only provides enterprises with scientific tax management methods, but also lays a solid foundation for their sustainable development. With the continuous progress of technology, big data will play a more important role in enterprise tax management, and promote the development of tax management in the direction of intelligence and refinement

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