Application of Artificial Intelligence in Tax Risk Management

Yiran Tao
Chongqing College Of Architecture And Technology, 401331, China

Keywords: Artificial Intelligence, Tax Risk Management, Application Scenarios.

Abstract: The application of artificial intelligence technology can provide more ideas and platforms for tax risk management. In particular, the advantages of "artificial intelligence + tax risk management" in tax auditing and screening are extremely obvious showing the inherent tax risk. This article summarizes the existing problems in current tax risk management work based on previous work experience. The author discusses the application of artificial intelligence in tax risk management from five aspects: upgrading management concepts, optimizing risk management systems, innovating tax risk management methods, establishing new artificial intelligence systems, and performing risk prediction operations.

1 INTRODUCTION

The implementation of actual tax risk management can use artificial intelligence technology to provide relevant enterprises with more creative ideas. This technology can present a great advantage in investigating tax risks. Relevant managers can also incorporate various tax risk influencing factors according to the characteristics of the artificial intelligence model. Subsequently, relevant management personnel can also perform effective classification and calculations to accurately obtain tax risk content. This can not only ensure the integration of tax risk management and artificial intelligence, but also strengthen the risk management and control capabilities of this type of enterprise. This is also the essence of its changing development trend.

2 THE NECESSITY OF APPLICATION OF ARTIFICIAL INTELLIGENCE IN TAX RISK MANAGEMENT

2.1 Principles of Artificial Intelligence Technology

Before the application of artificial intelligence, technicians need to clarify the technical principles used in the technology. In general, artificial intelligence belongs to the category of AI technology, which has cutting-edge technological characteristics. Its application is mainly to combine artificial and intelligent to create different forms of computer algorithms, and use computer technology to imitate various behaviors of the human brain. At this stage, the objects of artificial intelligence technology are mainly human brain neurons. It can simulate the internal neurons of the human brain through the interconnection between the network and the neurons. More importantly, the system can also complete related tasks through network and neuron connections. Among them, there are two most common ways of intelligent creation. First, the whole process of brain thinking can be fully understood and simulated by artificial means. Second, the system can only simulate part of the brain function, and it is only a pure imitation. It can be created by artificial intelligence through related function display. In addition, artificial intelligence technology can also identify the internal data of the system and explore the various information hidden behind the data. When dealing with specific problems, humans rely on a lot of knowledge and experience, but it is difficult to achieve good handling of hidden information that is not easy to be discovered. To this end, staff can use artificial intelligence system applications to demonstrate technical advantages and technical value (Bian, 2020).

Tao, Y.
Application of Artificial Intelligence in Tax Risk Management.
DOI: 10.5220/0011179000003440
In *Proceedings of the International Conference on Big Data Economy and Digital Management (BDEDM 2022)*, pages 371-376
ISBN: 978-989-758-593-7

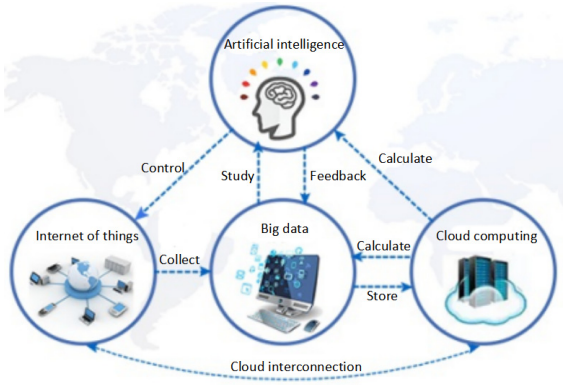

Figure 1: Schematic diagram of artificial intelligence technology principle.

2.2 Artificial Intelligence Affects Social Development

The development of actual information technology d promotes the application of artificial intelligence in many fields, and this type of technology can show strong advanced features. The main reason lies in the application of many new software tools, making it easier to build complete network applications. It can also be seen from the application of the actual artificial intelligence system that it can not only use multiple programming languages, but also complete the target recognition work. Even if it is offline, it can also train the neural network. When the actual development and training work is over, the system can also be transferred to the network platform. It can be through cloud capabilities or a PC, and more hardware and software platforms can be integrated into it. In actual development, some industries have ushered in more development opportunities through artificial intelligence applications, allowing intelligent machines to replace manual operations. This has also led to significant changes in China's overall labor structure, and the impact on traditional industries is also very obvious, and many new management models have been extended. Currently, many corporate tax risk management are in a state of transition. Through the application of artificial intelligence system, the reform work can be carried out more quickly and effectively, and the overall risk management level of the enterprise can be strengthened.

3 PROBLEMS IN CURRENT TAX RISK MANAGEMENT

3.1 Traditional Tax Risk Management Concepts

In the previous implementation of the account management system, the measures adopted for tax management operations were "person-to-person". With the continuous reform of the commercial system, more taxpayers have appeared, which has also increased the work pressure of tax administrators. First of all, the traditional account management model is likely to affect the effectiveness of tax risk management. For taxpayers' hierarchical and classified risk management, many managers continue to use traditional inertial thinking. This traditional method cannot clearly distinguish tax source management matters from professional risk management matters. Many managers continue to use methods such as making phone calls and going to the venue, ignoring the mining of tax-related data and failing to accurately locate and monitor various risk suspects. Second, tax risk management cannot run through the entire process of tax management. Generally speaking, tax risk management belongs to the content of system engineering, which runs through the work of tax collection and management. It mainly includes pre-warning, prevention and control during the event, and post-event evaluation. It also includes some specific job responsibility systems and information systems. However, it can be seen from specific practice that risk management can easily be used as a collection and management tool or as a substitute for tax assessment, and cannot achieve a good risk control effect (Yu 2020).

3.2 Tax Risk Management and Analysis Methods Are Not Scientific

First of all, it is difficult to accurately grasp tax risk points in the process of manual analysis. It can be seen from the actual tax risk analysis work practice that the risk doubts mainly come from the following aspects. Firstly, the personal work and life experience of the analyst. Second, the results of policy analysis. Due to the limited sources of risk doubts, subjective judgment does not have an effective scientific basis, and ultimately cannot show the integrated effect of tax-related data. Secondly, the mathematical model is simple and the guiding role is limited. Currently, the most commonly used tax risk analysis method is the

index method. The system can establish a single index or a comprehensive index through the relationship between the indicators, and carry out corresponding risk scans. However, affected by artificial thinking and the limitations of data operation, the index method can often only construct function rules for a single risk feature. This is also where the comprehensive index lies, and the description logic of the risk characteristics involved is not complicated. Meanwhile, the selection of indicator thresholds mainly relies on simple classification and aggregation. It can only be applied to the data table layer, relying too much on the subjective judgment of the modeler. It can also be seen from this that it is very difficult to establish comprehensive risk identification indicators using traditional indicator methods. Finally, tax risk management classification and classification standards cannot be unified. In actual work development, relevant risk analysts will generally rank according to risk attribute information and the resulting consequences, and then the risk task coordinator will adjust its level. In the judgment of specific inherent attributes, it is often based on previous work experience, which is likely to cause risk issues. In this way, there is no clear standardization and standardized sorting method, and its subjectivity is strong.

3.3 Missing Closed Loop of Tax Risk Management

First of all, in the implementation of actual risk management work, it mainly relies on post-event prevention and control. It is precisely because tax risk management places too much emphasis on prevention and control after the event, it is unable to identify relevant risk content in a timely manner, let alone monitor the whole process, which affects the security of tax management. Secondly, the effect of risk response feedback is not obvious enough. At this stage, there is often no risk response link in tax risk management. For those risks that have been identified, it is impossible to make a comprehensive summary and generalization. In the actual commonly used index method, the feedback of the response results to the index is often limited to narrowing or widening the screening criteria, and it is impossible to achieve model iteration. As a result, the effect of this method on risk feedback is not obvious. Generally speaking, the above-mentioned problems are mainly due to the relatively short research time on tax management risks in China, the lack of complete regulations and procedures, and the insufficient risk prevention and control system in China. In addition, the tax authorities have not paid more attention to informatization support. Although various tax authorities have accumulated a lot of tax-related data, the quality of the data is poor and its dispersion characteristics are extremely obvious. In addition, various information systems are also "independently" in use, and it is difficult to clarify those complex risks (Wang, 2020, Zhu, 2020).

4 ARTIFICIAL INTELLIGENCE BRINGS OPPORTUNITIES FOR TAX RISK MANAGEMENT INNOVATION

4.1 Promote the Transformation of Traditional Tax Risk Management Concepts

The prerequisite for artificial intelligence to play a role is the application of big data. Only by ensuring the full application of related algorithms can the full training of big data be realized and the applicable similar data can be summarized. As a result, people can apply artificial intelligence to the field of tax risk management in depth, and use existing empirical analysis as the leading factor to change the traditional tax risk management concept. People can establish a big data tax risk management concept with data as the core and correlation analysis as the leading factor. In this way, “everything can be quantified” can be achieved under the influence of big data, and then with the help of artificial intelligence, the perspective of tax risk management can be broadened. Regardless of the application of traditional data methods to record various information, or the application of unstructured data such as behavior trajectories, artificial intelligence can summarize the connections and laws between the data. As long as there is enough data and abundant data connection points, the tax risk management process and links will be more perfect. In the actual artificial intelligence algorithm scanning, the relevant staff should also use data as the basis to comprehensively describe and evaluate the risk distribution, so that classification and classification management can be truly achieved.

4.2 Drive the Optimization of the Traditional Tax Risk Management System

First, realize the overall optimization of the tax

information system. With the application of modern information technologies such as big data and artificial intelligence in tax management, people have put forward very high requirements on the amount of specific tax-related data. Generally speaking, after reaching the PB level, it can be called big data. In consequence, if you want to truly collect tax-related data, artificial intelligence applications are very important. Besides, artificial intelligence also puts forward some requirements for data sharing. It uses specific data sources and cross-checking operations to ensure that artificial intelligence can find hidden value from the content of fuzzy data. This is also the basic process of data deep mining. In general, with the continuous application of artificial intelligence, the construction of tax information systems will be based on big data architecture. In this way, it can transition from the traditional form to the new form, and it can also achieve compatibility with various application scenarios. In addition to the above content, the application of artificial intelligence in tax risk management can also ensure that the data of each link is fully mined. In the meantime, it can also clarify the core collection and management links, strengthen the efficiency of collection and management, and build a complete full-process closed-loop structure system (Chen, 2019).

5 APPLICATION CONTENT OF ARTIFICIAL INTELLIGENCE IN TAX RISK MANAGEMENT

5.1 Upgrade Management Concept

At this stage, due to the relatively backward management concepts, some companies have many problems in tax risk management and control. The application of artificial intelligence technology can solve this type of dilemma, and it can truly achieve a comprehensive upgrade of management concepts. First of all, with the help of artificial intelligence, big data can be regarded as the focus of management, and the quantitative attributes of big data are used as the basis to ensure that the tax risk management process and indicators are more clear. In addition, the staff can also use the network system to record personnel information, invoice information, etc., and reflect the specific behavior trajectory through images and videos. Simultaneously, the application of artificial intelligence technology can reflect the laws in internal information and data, and then provide a basis for the effective division of subsequent functions. Secondly, the application of artificial intelligence can also ensure that the thinking mode of managers is changed. The application of traditional artificial thinking mode will consume a lot of manpower and material resources. But in the era of big data, managers can use audio, video and other forms to transfer actual information to the system platform. Managers can clarify the tax risk points based on scientific data analysis. This kind of thinking mode appears to be more rational and the management efficiency brought by it is also very high. Finally, the application of actual big data technology can make tax risk forecasts more reasonable. It can also reduce the transfer of multiple data to the platform, clarify the law of risk occurrence, and strengthen the controllability of tax risks, thereby avoiding more economic losses for enterprises.

5.2 Optimize the Risk Management System

In the implementation of actual tax risk management, if artificial intelligence, cloud computing and other technologies are applied, it will also place high requirements on the technical capabilities of relevant staff. For example, relevant staff can collect and integrate data before applying big data. This can provide corresponding support for artificial intelligence system applications. In order to better realize data sharing, people need to put forward more requirements on artificial intelligence, and do a good job of data inspection operations in different channels. Only in this way can the role and value of data be truly presented. More importantly, managers must also make appropriate improvements to the risk management process, and maintain the precise attributes of artificial intelligence based on actual conditions. This can make the data more reliable and accurate. To achieve the above goals, relevant staff should ensure that the management process is transparent. For example, after tax data enters the system platform, centralized precipitation and conversion operations should be implemented. After that, people need to apply and analyze again to ensure the maximum value of the data. The application of actual artificial intelligence in tax risk management can apply the management method to the entire management process to ensure that the risk is effectively controlled (Xiang, 2019).

5.3 Innovative Tax Risk Management Methods

First of all, technicians need to comprehensively expand the risk analysis methods. After the artificial

intelligence completes the entire tax risk identification task, the technical staff will also develop a scientific analysis system based on the taxpayer's behavior pattern. This ensures that both structured and unstructured data are covered. For the enhancement of the risk supervision process, it is also necessary to focus on machines and staff to perform auxiliary operations. More importantly, the staff should also appropriately increase the frequency of use of artificial intelligence technologies such as random forests and decision trees based on actual conditions. At the same time, the staff can also establish a complete risk model, including all tax risk characteristics and risk levels. Otherwise, in the actual tax risk response, the artificial intelligence system can improve the correlation characteristics of the risk results and characteristics. Compared with the traditional causal connection, this model needs further improvement. Specific to a certain job, the relevant technical personnel can establish a corresponding risk model to achieve a comprehensive correction of the data, and achieve a comprehensive exploration of the risk data. What'smore, the application of this model puts forward high requirements on technical personnel. Enterprises should use various training methods to strengthen the personal capabilities of management and staff. Secondly, people have to update the tax risk model in a timely manner. This is mainly due to the high requirements of artificial intelligence on the accuracy of the internal data of the system. After the actual risk assessment operation is over, the management personnel must also clarify the specific improvement of the current situation of management and control to achieve the improvement and revision of the main model, and then perform in-depth risk analysis.

5.4 Build a New Artificial Intelligence System

All tax risk managers should clarify the role and value of the artificial intelligence system in their daily work, and strengthen the integrity of the ecosystem. The core of the system is big data technology, which can ensure the comprehensive collection of tax-related data and establish a corresponding correction system. This can also ensure that the management system can form a closed-loop structure, that is, data collection, processing and application, and so on. Meanwhile, the application of the actual learning algorithm of the network platform can strengthen the extensibility and expansibility of the model, and meet various risk requirements. In addition, the technical capabilities that need to be applied in the construction of artificial intelligence systems are very demanding. To this end, the relevant management departments need to establish a corresponding professional talent team. This also includes risk analysts, model builders, etc. Only by guaranteeing the improvement of technical level and management ability can the tax risk management procedures be more and more perfect (Li, 2018, Li, 2018).

5.5 Perform Risk Prediction Operations

Under normal circumstances, tax risk management mainly comes from post-mortem analysis, which can increase the probability of risk problems. In order to improve this situation, people can use artificial intelligence system design to make risk prediction more accurate. In turn, we can avoid risks beforehand and maintain the stable development of the company. For example, in the development of tax risk management of a company, relevant staff members have established a tax inspection system based on actual conditions. The specific procedure is shown in Figure 2. It can learn about specific tax evasion companies through big data applications. It can also back up and retain the results and determine the target company. It can also understand the company's own tax registration. In the event of tax evasion, the system will automatically add a corresponding score to arrive at the final result, strengthening the accuracy of the tax risk result. In addition, the company can establish a key business screening system based on the tax inspection system (Figure 3), and scientifically screen the key businesses of the target enterprises according to the weight of the tax bureau, which can provide reliable financial evidence for the tax authorities.

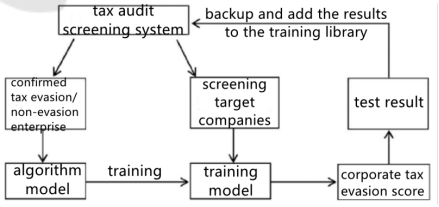

Figure 2: Tax Inspection System.

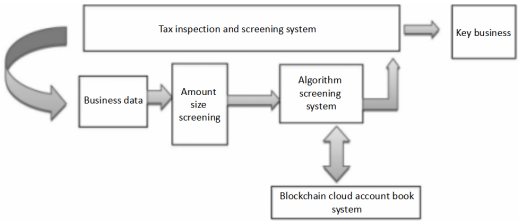

Figure 3: Target enterprise key business screening system.

6 CONCLUSION

In summary, the development of tax risk management is of positive significance for the development of enterprises. In order to strengthen the scientific nature of management concepts and methods, technicians should understand the content of artificial intelligence systems as much as possible. The system is very reasonable in management ideas and behaviors and can accurately predict specific tax risks. Through the application of big data, all aspects of the tax management system can be improved. This can improve the quality of services and at the same time make the tax risk management model develop towards an intelligent direction.

ACKNOWLEDGEMENT

Humanities and Social Science Research Project of Chongqing Education Committee.
Project No. 21SKGH390.

REFERENCES

Bian Shuaishuai. Application analysis of artificial intelligence in tax risk management [J]. Economic Management Abstracts, 2020(21): 51-52.
Chen Ning. Corporate tax planning to prevent corporate tax risks and measures[J]. Taxation, 2019, 13(35): 46+49.
Li Weiren, Li Bin. Thoughts on introducing artificial intelligence technology into tax risk analysis [J]. Taxation Research, 2018(06): 29-34.
Wang Aiqing, Zhu Kaida. Artificial intelligence technology and tax risk management innovation [J]. Friends of Accounting, 2020(07): 126-130.
Xiang Hongjin. Discussion on the feasibility of artificial intelligence technology in tax risk analysis [J]. Commercial News, 2019(07): 109-110.
Yu Yiming. Research on taxation risk management based on big data environment [J]. Modern Economic Information, 2020(11): 123-124.