

Analysis on the optimization path of financial risk management from the perspective of big data

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Abstract: *Under the background of the new era, science and technology have been continuously innovated and developed, and gradually applied in various fields of society, which has a great impact on all walks of life. Among them, based on the rapid rise of big data technology in the computer network environment, with its characteristics of flexibility and high accuracy, it has brought more high-quality experience to the majority of financial customers and become the most important online tool in the field of modern financial risk management. However, while big data technology brings convenience to the financial industry, it also has certain risks, which must arouse our great attention and careful analysis. This paper summarizes the characteristics of financial risk management from the perspective of big data, and proposes specific optimization paths to enhance the level of financial risk management.*

Keywords: *Big data; Financial risk management; Basic features; Optimal path*

1. Introduction

With the rapid development and popularization of Internet technology, big data technology has entered a stage of rapid development. Big data technology can collect, summarize, integrate and analyze specified information, so as to provide users with more accurate and comprehensive data and provide a basis for their decisions. However, the wide application of big data technology also has certain security risks. Only by constantly strengthening financial risk management methods and rationally using big data technology can we provide the foundation and guarantee for the healthy and stable development of the financial industry.

2. Overview of traditional financial risk management system

2.1. The characteristics of traditional financial risk management system

Traditional financial services are mainly completed by state-owned banks and private credit institutions. Financial enterprises build service outlets to continuously enhance their reserve absorption capacity, and then obtain interest margins through mortgage loans. The traditional financial risk management system makes use of this profit model to reduce terminal outlets and advertising investment. In the specific practice process, because some enterprises are mostly private enterprises, the financial capital chain is very fragile because of insufficient funds. Traditional financial risk management system can not judge the shortcomings of internal control mechanism and management, which also leads to the inability to effectively avoid risks and hidden dangers.^[1]

2.2. The disadvantages of traditional financial risk management system

Traditional financial management system is mainly based on internal control and compliance as the basic guidance, coupled with strict monitoring, and the construction of risk prevention "three lines". In such an environment, if the core personnel abuse their power or improper management, it is easy to lead to financial risk management is not in place, financial institutions will also suffer serious losses. The traditional financial system mainly combines quantitative and qualitative analysis, and carries out risk assessment on this basis. However, it is highly dependent on monitoring rules and indicators, so it cannot use advanced measurement methods. Under the background of the age of the Internet, the category of financial risk management are also constantly expanding, the risk type also more abundant, such as illegal fund raising, private equity split, traditional financial risk management system can't completely cover each link, and did not use big data and technical means, such as the Internet, to the requirement of data

management is not comprehensive enough.

3. Characteristics of financial risk management from the perspective of big data

In the process of traditional financial risk management, it mainly includes legal risk, credit risk and strategic risk, etc., which is combined with the business development and comprehensively measures the hidden risks of financial institutions. On the whole, the core of risk management in the financial field lies in traditional business, and covers credit risk, asset and liability management and other related content. Most of the risk management is the whole process of procedural evaluation according to the corresponding regulations and requirements. Based on the continuous development and application of big data technology, the financial industry shows the adjustment of mixed operation mode, which will further expand the boundaries of financial services and gradually deepen the concept of financial services. Big data platforms can connect with a large number of customers to create a full range of financial services, but they also need to take into account the impact of multiple data. In addition, the update speed of financial products is constantly accelerating, which requires continuous optimization of the service model. Although it is more convenient for consumers, there are also more uncertain factors and risks are also increased. With the rapid development of Internet finance, the customer group has become more and more large, and there are certain difficulties and risks involved in the qualification audit, credit evaluation and other links, which will also lead to the inaccurate estimation of funds. At present, most of the popular financial products have dynamic term structures, which continuously promote the development of financing channels towards the capitalized market. With more and more obvious risks and cyclical characteristics, difficulties will increase in the process of dynamic risk management. Therefore, it is more necessary to continuously innovate risk control and management technologies.^[2] To sum up, the types of Internet financial risks in the perspective of big data are mainly shown in Figure 1 below.

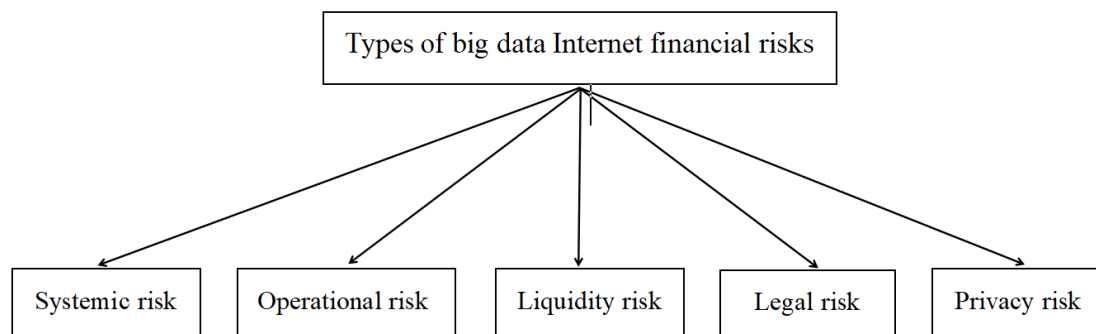


Figure 1: The type chart of big data Internet financial risks.

4. The optimal path of financial risk management in the context of big data

Based on the current development of era background, the optimization path of financial risk management can enhance technology strength, improve the level of technology, build risk supervision system, enhance the data security, attaches great importance to the professional personnel training, construction of professional team and create information sharing mechanism, deal with market risk and other aspects detailed exploration and practice.

4.1. To strengthen technical mastery and improve technical level

Under the background of the continuous innovation of the current Internet technology, it is crucial to master the core technology of data processing. Strengthening the ability of data information collection, retrieval and analysis can lay the foundation for the development of enterprises. In order to improve the comprehensive level of financial risk management, relevant departments must actively learn and refer to advanced technical means, timely grasp the latest technological level, so as to ensure the stability and security of the Internet financial payment environment. First of all, the construction of a perfect Internet financial payment platform is the most important basic project, which can ensure the security and transparency of capital flow, and also provide basic guarantee for the management of capital flow. At the

same time, it is also necessary to register and sort out customer information and data truthfully and comprehensively in strict accordance with relevant regulations and requirements, and scientifically set and distinguish relevant business of banking institutions according to the characteristics of Internet finance. In addition, Internet companies play a very important role in the payment system in the management and operation activities. Internet companies need to scientifically design the transaction process in the payment system and maintain a long-term and stable cooperative relationship with banking institutions. When using the payment system, the banking institution shall fully master the payment information according to the relevant instructions of the system and ensure the full implementation of the settlement work. Secondly, when using the Internet financial payment platform, relevant departments also need to carry out real-time monitoring of the operation links of Internet enterprises, so as to reduce financial risks and hidden dangers.^[3] Thirdly, it is necessary to do a good job in database resource maintenance, constantly improve the security of the database, and establish a cooperative relationship with other financial institutions, improve the ability of joint prevention, and constantly enhance the ability of data processing. Facing the fierce market competition environment, only by mastering the value of information resources, can we have the right to speak in the market and better cope with risks.

4.2. To build a risk supervision system and enhance data security

From the perspective of big data, the huge data information will make the security problem more and more prominent. Therefore, it is necessary to build a perfect risk supervision system, so as to improve data security and promote the stable development of the financial industry. Specifically speaking, we can start from the following aspects: First, we need to improve the structure of financial supervision. At present, the supervision responsibilities of financial entities are relatively scattered, and they cannot timely discover hidden risks faced by financial innovation. Therefore, it is necessary to comprehensively integrate the supervision responsibilities of financial regulatory entities, such as the People's Bank of China as the supervision entity and other financial commission's supervision mechanism. Second, strengthen the risk prevention of financial risk management. In order to expand the coverage of financial risk management, it is not enough to rely only on data collection and analysis. With the rapid development of the securities and insurance industry, the coverage of financial data statistics also needs to be continuously expanded, so as to provide more comprehensive and accurate data information for financial risk management. To strengthen the supervision and management of data and continuously enhance risk awareness, we can use big data technology to comprehensively analyze resources, gradually grasp more real and effective data resources, and use credit mechanism to comprehensively evaluate customer credit, so as to avoid credit risks to the greatest extent. In addition, it is also necessary to do a good job in pre-loan assessment and in-loan management, so as to have more comprehensive control over customers, avoid risks, constantly improve the comprehensive integration ability of data and information, and effectively reduce management risks through data analysis. Third, we need to build a risk early warning and assessment system to enrich macro-regulation tools. With the rapid development and growth of financial credit, financial risks are gradually increasing. In order to cope with risks from different categories, differential reserve dynamic adjustment mechanism can be adopted, although it has a good role in promoting financial risk management, but it is still not enough. In order to give full play to the supervisory role of the People's Bank of China, it is necessary to build a deposit insurance system, so as to improve the comprehensive level of financial risk management.^[4]

4.3. To pay attention to the training of professional talents and build a professional team

Financial institutions talents is one of the important participants and financial risk management elites, reliability and security in promoting Internet financial affairs plays an important role and influence, so, in order to gradually improve the effect of financial risk management level and the Internet, related departments must attach great importance to the cultivation of professional talents, constantly improve their professional ability and professional quality. First of all, skills training should be strengthened so that staff can better learn and master financial knowledge and technology, and constantly improve their professional ability and quality, so as to lay a foundation for the innovation and long-term development of Internet finance. Financial institutions should increase the introduction and key training of technical personnel, improve the corresponding personnel mechanism, and strengthen the ability of personnel to analyze and organize data according to the characteristics of big data and the industry, so as to reduce the risk of enterprise operation and provide basic guarantee for the long-term development of enterprises. Secondly, it is also necessary to assess the skills of professionals and take the assessment results as the evaluation basis, so as to stimulate their work enthusiasm and promote them to be able to do their duty in the job. For example, in the process of training talents, financial enterprises can establish cooperative

relations with well-known universities and colleges and pay attention to training skilled talents, so as to continuously improve the core competitiveness of financial enterprises in the market and create greater economic and social benefits for financial enterprises.^[5]

4.4. To create information sharing mechanisms to deal with market risks

In order to ensure that enterprises stand firm in the complex and changeable financial market environment, relevant departments need to continuously strengthen the top-level design, formulate and improve the financial market system, so as to just adapt to the changing market risks. Among them, it is very necessary to create an information sharing mechanism, which can enhance the information flow among departments to the greatest extent and make the relationship between each other become closer. Government departments need to conduct a comprehensive assessment of business performance and constantly improve the level of Internet financial risk management. Through the innovation and reform of the business system, keep up with the pace of the development of The Times, through scientific and reasonable adjustment, constantly optimize the enterprise structure, gradually develop and transform towards the direction of the Internet, and realize the adjustment and reform of the industrial structure.^[6] In addition, the bank also need according to the market demand, the optimization and innovation of financial service mechanism, and introduce more new products, so as to better meet the personalized needs of customers, and constantly improve the financial management system and information sharing mechanism, maximizes the function and value of information sharing mechanism, for the Internet to lay a good foundation for the healthy and stable development of the financial industry.

5. Conclusions

Internet finance is an extremely important part of the development of national economy. The level of financial risk management is related to national stability and social development. Big data horizon, the relevant departments shall be according to market development trend, gradual optimization of Internet financial management mechanism, and constantly improve the Internet financial payment means, build the good cooperation relationship with other industries, so as to improve the overall level of the Internet financial risk management, for the stability of our social economy sustainable development to lay a good foundation.

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