WILEY | Hindawi

Retraction

Retracted: Economic Globalization and Corporate Accounting Risks: An Analysis of Enterprise Risk Management Based on Big Data

Security and Communication Networks

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope

(2) Discrepancies in the description of the research reported

(3) Discrepancies between the availability of data and the research described

(4) Inappropriate citations

(5) Incoherent, meaningless and/or irrelevant content included in the article

(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] Y. Zhang, "Economic Globalization and Corporate Accounting Risks: An Analysis of Enterprise Risk Management Based on Big data," *Security and Communication Networks*, vol. 2022, Article ID 8673357, 11 pages, 2022.

WILEY | Hindawi

Review Article

Economic Globalization and Corporate Accounting Risks: An Analysis of Enterprise Risk Management Based on Big Data

Yantai Zhang [ID]

School of Economics and Trade, Henan Polytechnic Institute, Nanyang, Henan 473000, China

Correspondence should be addressed to Yantai Zhang; 1992003@hnpi.edu.cn

Economic globalization has become an unavoidable result of the rapid development of global economy. However, while economic globalization brings speed development and convenience to businesses, it also brings risks and challenges. With the advancement of network technology, Big Data has become increasingly intertwined with people's lives. Big Data is gradually being applied to the method of people's lives, in business, medical care, science and technology, production, and life. The production of Big Data for enterprises provides a large amount of data and information analysis library and for the management of enterprises provides a lot of convenience. Business management has also changed with the addition of big data. It is the top priority of enterprise development and survival to cope with the current economic and information globalization era which brings hidden dangers and risks. Based on the background of economic globalization and Big Data, this study analyzes the importance of enterprise risk management in the context of Big Data. This study mainly adopts the literature method and survey method to summarize what problems exist in enterprise risk management, highlights the causes of the problems in enterprise risk management, and gives corresponding solutions according to the existing problems. This paper aims at the study of enterprise risk management in the big environment, hoping to have certain suggestions and guidance for the relevant enterprises.

1. Introduction

As the term "economic globalization" suggests, the world's economies have started to interact and integrate, but this process is abstract and complex in nature. Economic globalization is a byproduct of the prompt productivity growth and is ultimately caused by it [1, 2]. As economic globalization continues to advance, a greater number of its byproducts are visible in our daily lives and increasingly permeate our production processes. Economic globalization has greatly facilitated people's lives, from importing and exporting national energy to the smallest necessities in supermarkets. However, there are also risks; for instance, due to economic globalization, developing countries may become richer while underdeveloped regions may become even poorer. The challenges and risks are growing daily. In short, the impact of economic globalization is huge; from economic to political and military, for the whole country, seizing the opportunity can be swift development, or the

opportunity will face the result of "superiority and elimination" over. Therefore, for better development, enterprises must seize the opportunity, meet the risks and challenges, find their own problems, and avoid problems [3].

Along with the development of network technology, Big Data is gradually applied to various fields of people's life because of its advantages of having a large amount of data storage and very fast processing speed. Enterprises started to incorporate Big Data into their own management model as a result of the emergence of the Big Data era. However, at the same time, as these hidden dangers emerged, the convenience of them also emerged. And ever more dishonest individuals started to take advantage of Big Data's vulnerability by using it and the network to steal the proprietary information of the company [4].

For the enterprise, along with the prompt development of the economy and the speedy depth of economic globalization, the relevant economic policies also follow the continuous adjustment and update; because of its greater

uncertainty, the risk of enterprise management is increasing day by day, so enterprises need to keep pace with the times, change the traditional thinking and management mode, and adapt to the requirements of the times; in order not to be innovative and reformed out, the only way to make the enterprise in a favorable position is to improve its own management system [5]. With the change of social environment, the generation and widespread use of Big Data, enterprises should adopt reasonable means and measures to use these convenient and scientific tools and then find useful resources from Big Data analysis to facilitate their own development and bring them profits while avoiding the related risk factors [6].

In conclusion, economic globalization and the gradual deepening and development of Big Data bring not only convenience and development but also risks and challenges to enterprises. In this situation, it is very necessary to study and explore the risk management models and methods of enterprises. The study of enterprise risk management based on Big Data provides a rational analysis and a reliable way for enterprises to enhance their own risk management capabilities, so it is of great research significance and practical importance [7].

2. Research Background

Many experts and scholars have discussed the main topics in this study, and the research in this area has produced a wealth of findings. In particular, the analysis of the general environment and the problems of enterprise risk management is particularly thorough. Experts and scholars have also expressed their own opinions regarding the improvement measures, based on the research of experts and scholars in this area [8].

In the analysis of the background of Big Data, the following views mainly exist. Along with the development of network technology, Big Data is gradually applied to various fields of people's production and life because of its advantages of having a large amount of data storage and extremely fast processing speed. Generally speaking, the arrival of Big Data Era has both advantages and disadvantages. The advantage is that Big Data technology provides a sharing platform for enterprise for information resources, reduces the expenditure of enterprise management informationization, greatly facilitates the management of enterprises, and makes the management faster. The disadvantage is that the security of management information system is not effectively guaranteed, and the existing data protection capability of enterprises cannot compete with hacking technology, and there is the risk of information leakage, etc. [9].

In this context of the problems of enterprise risk management, experts and scholars are of the opinion that, in the general environment, there is a greater difficulty in enterprise risk management, there are a large number of risks in business, financing, investment, information management, and enterprises in the context of Big Data, and there is no system and early warning measures in enterprise risk management, no correct understanding, and no attention to risk management; in addition to the lack of

corresponding, there is a lack of technical management personnel and the relevant technical personnel lack risk control awareness to prevent risks because they do not pay attention to the risk management of the enterprise and the drawbacks of Big Data, which seriously affect the risk management of the enterprise, etc.

Regarding the specific measures and methods to solve the problem, there are several views as follows: enterprises need to change their traditional concepts, build their own risk management system, train specialized technical personnel, and form their own risk management department to supervise and prevent, and enterprises must take tough measures to deal with the problem of data insecurity caused by Big Data, such as the core staff involved in the company's data information ; the core staff involved in the company's data and information must sign a confidentiality agreement to strictly prevent employees from leaking information, strengthen their own information management system enterprises should learn from advanced management experience, improve the enterprise's management system, adopt an appropriate management model, and find out the system's shortcomings and risk events in order to ensure that the security of the data must be ensured properly [10].

To summarize, experts' research on enterprise risk management based on Big Data has been very thorough and has yielded rich research results, but it is clear that these studies still have a single research method and no reliable data to support the theoretical point of view and only rely on literature research, which is not combined with the practical, and the analysis is not thorough.

3. Materials and Methods

3.1. Main Structure of the Study. Firstly, this study analyzes the whole existing environment and background in detail and explains the necessity of researching the topic of enterprise risk management based on Big Data, then immediately summarizes the main results and contents of previous scholars and experts' research on enterprise risk management in the context of the big time, and finally combines its own understanding and research investigation to summarize the main problems of enterprise risk management and, at the same time, summarizes these. The study concludes with the following five sections. This study is written in five main sections [11].

> Section 1 mainly analyzes the importance of enterprise risk management research in the context of quick economic development and extensive application of Big Data, which is particularly important and occupies an important position in the survival and development of enterprises [12].

> In Section 2, because there are a surging number of domestic studies on risk management based on Big Data, many experts and scholars have different focuses to analyze and talk about this viewpoint, and all of them have different research results that are worthy of deeper investigation. Therefore, this section mainly elaborates and summarizes the unified expert scholars' discussion
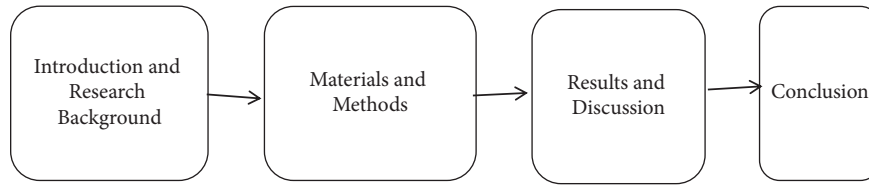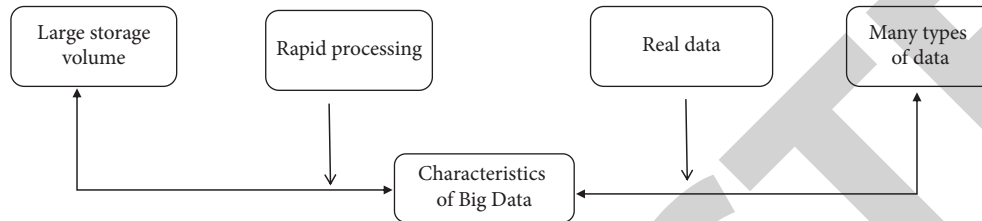
FIGURE 1: Flowchart of the research content.

FIGURE 2: Characteristics of Big Data.

and research on this issue and lays the theoretical foundation for the following writing.

In Section 3, the main materials and research methods are used; the main concepts of this study is explained for understanding, and the main methods of the research are described and summarized [13].

In Section 4, the main problems in enterprise risk management are described, and the main problems that arise in enterprise risk management in the context of Big Data are summarized using the main research methods and their own summary overviews, as well as their own insights. According to the main problems that arise in risk management, corresponding solutions are given one by one and recommendations are given.

Section 5 summarizes the main content of this study and sublimates the theme of the study.

The main contents are shown in Figure 1.

3.2. Main Concepts

3.2.1. The Basic Theory of Big Data

(1) Big Data. Not only can a large amount of data be stored and a large number of data storage network system be formed, but also the data can be analyzed and processed extremely fast [14]. The term "Big Data" refers to the analysis and processing of numerous types of data with the prudent use of media such as computers and networks. It is a fast and convenient way to process information and is gradually applied to all aspects of life, bringing great convenience to people's lives, updating people's traditional views on data management, providing a more innovative and convenient way to store and process complicated data, and greatly improving people's work efficiency [15].

(2) Characteristics of Big Data. Big Data has four main characteristics, namely, large storage volume, instant information processing, real and effective data results, and many types of data [16]. Big Data can go through its own

powerful information processing system to store a large amount of information, and because of its powerful system operation and processing function, it processes information and data very quickly. Unlike manual work, Big Data is difficult to falsify and make mistakes on data, thus ensuring the authenticity and correctness of data processing. There are four main features as shown in Figure 2.

(3) The Development of Big Data. The generation and development of Big Data cannot be separated from the popularity of network and computer technology. From the beginning to the present, the technology of Big Data has become increasingly mature, mainly divided into four different aspects as follows.

(1) The development of data sources of Big Data: due to the development of network technology, the data sources of Big Data have become numerous, from a single database to retrieval from multiple databases.

(2) The updating of processing speed and storage mode of Big Data: from simple indexed catalogs to the current subcategories, the search of Big Data has become faster, easier, and more accurate [17]. The search library is constantly updated to optimize the processing speed of Big Data, expand the data sources, and increase the storage capacity.

(3) The transformation of Big Data in the calculation method: from simple data calculation to the possibility of data analysis, graphical combination, and mixed calculation, a great progress has been made in the calculation method.

(4) The security of Big Data has been improved: early on, in the development of Big Data applications, there were many security issues and numerous malicious hackers breaking in and stealing data. Now, Big Data has encrypted and protected the data files and limited the number of accesses, which, to a certain extent, has circumvented the possibility of these risks, making Big Data a great progress in this aspect.

Table 1: List of the development direction of Big Data.

Content	Development direction
Data source	Single to complex
Processing speed and mode	Simple to precise
Calculation method	Simple to complex
Security	Increasing degree of encryption

To sum up, the development direction of Big Data is shown in Table 1.

3.2.2. The Basic Theory of Enterprise Risk Management. Classification of enterprise risks: there are two types of dynamic risks and static risks.

(1) Enterprise Dynamic Risk. Dynamic risk is with uncertainty. In the management side of the enterprise, because of the uncertainty of the human decision of the manager, the risk in management becomes part of the dynamic risk of the enterprise. The market is also unstable, so the risk is also dynamic, and the market policy is constantly changing, the risk may occur at any time [18]. In terms of production life, it is difficult to ensure that production life can be carried out normally because it is affected by a variety of unstable factors, so this part of the risk is also uncontrollable and dynamic. Overall, the dynamic risk of the enterprise is divided into three parts: the enterprise management aspect, the market aspect, and the production aspect of life.

(2) Static Risk of Enterprise. In the case of stable market and economic policies, etc., there are still some irresistible risk factors, which is the static risk, for example, force majeure natural disasters, human work negligence, work errors, and other factors caused by risk events.

(3) Enterprise Risk Management. A management mode is to predict and analyze the possible risks within the enterprise and then take reasonable risk management measures such as risk avoidance, loss control, risk transfer, and risk retention to deal with the risks in a reasonable way, so as to minimize the losses and risks of the enterprise, so that the enterprise can operate and survive well [19].

(4) Measures of Enterprise Risk Management. There are four main types, as shown in Figure 3.

(1) Risk avoidance: take measures to avoid the risks that may occur

(2) Risk loss control: effective control of losses caused by risk events that have already occurred

(3) Risk transfer: rationalize the transfer of existing risk events

(4) Risk retention: some risks must be retained, and various steps must be taken to lower the frequency of risk events and lower losses, as risks cannot be reasonably controlled by avoidance and transfer alone

(5) The Links of Risk Management. Identification, assessment, control, and documentation are the four main components of risk management, which complement each other and are indispensable. So far, the theory and system of risk assessment are relatively well developed [20]. Risk assessment can be controlled by applying the corresponding technical means to assess the size of risks, so risk assessment is one of the most basic steps of risk management. The links of risk management are shown in Figure 4.

The characteristics of risk management in the context of Big Data: there are three characteristics of comprehensiveness, early warning, and complexity.

(1) Comprehensiveness: Big Data has a powerful data repository and a wide range of data sources that can provide enterprises with rich information data such as reports, graphics, audio and video information, allowing enterprises to fully utilize it to analyze and manage risks from multiple perspectives and in a comprehensive manner.

(2) Early warning: Big Data has a very fast data processing speed, which can provide enterprises with the required data information in a timely manner, so as to avoid the risk problems caused by the untimely provision of information, reduce losses and impacts, and give enterprises the ability to anticipate risks in advance, thus avoiding the occurrence of risk events [21].

(3) Complexity: Big Data is complex and risky. Big Data requires very close screening to extract valuable data, and the complexity of its computing system is difficult to estimate. Once an error occurs in the system, it can lead to unpredictable risk problems.

The significance of risk management for enterprises is as follows:

(1) Conducting effective risk management allows enterprises to carry out better production and operation activities so that they can better understand their own risk events, so as to avoid risks, reduce the corresponding risk losses, and ensure that they can take timely remedial measures to minimize losses when risk events occur.

(2) It can improve the economic efficiency and revenue of the enterprise. Effective risk management allows the enterprise to make correct decisions suitable for market changes, avoiding the occurrence of risk events caused by poor decisions, reducing certain economic losses, thus improving the enterprise's revenue and increasing its profit, and providing security for the enterprise's operation and development.

(3) It is beneficial for the enterprise to establish a good social image.

3.2.3. Main Formula. According to the basic theory of financial management, the following formula can be used to measure the enterprise's fundamental risk [22].

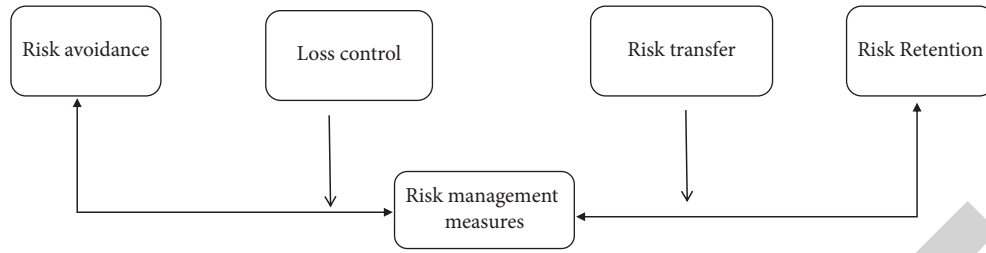Basis risk = operating leverage × financial leverage × revenue volatility × economic relevance.

Figure 3: Risk management measures.

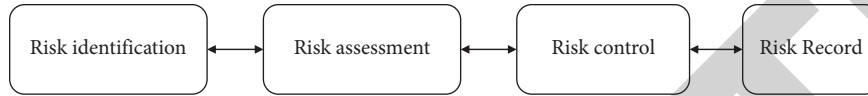Figure 4: The links of risk management.

Operating leverage = (EBIT + fixed costs)/EBIT.

EBIT = revenue − production costs − selling and administrative expenses − depreciation − R&D expenses.

The key point of this formula (EBIT) is that companies with high fixed costs tend to be riskier.

Financial leverage = (EBITDA)/(EBITDA − finance costs)

This formula can be that, with fixed leverage, lower finance costs can increase EBITDA.

Revenue volatility and economic correlation: in simple terms, revenue volatility is best over a long period of time, preferably the standard deviation of primary operating income in a split year. The optimal range of basis risk is 0.1–0.3.

3.3. Main Research Methodology.

This study mainly adopts the following three methods to form the main framework and main ideas of their papers.

(1) Literature reading method: it is mainly formed by reading a lot of literature and combining it with our own understanding.

(2) Survey method: we visit a certain enterprise to see if the risk management of the enterprise in the Big Data environment has several problems summarized in the literature method

(3) Argumentative method: an enterprise is used as a case study to analyze in detail the content and response measures of enterprise risk management under Big Data

3.4. Introduction to the Research Enterprise.

Through the literature reading method, reading a large amount of relevant literature and the survey visit method, we visited a local enterprise and summarized and analyzed the following major problems of enterprise risk management in the context of Big Data [23]. A systematic introduction of the surveyed enterprise: a small- and medium-sized enterprise, located in a new first-tier city was established in 2000, with 150 employees and a registered capital of RMB 100 million. The enterprise was established in the early stage to catch up

with the fast development of the market economy, the enterprise development flourished, and the production scale of the enterprise also grew and contributed a lot to the national economy. Because of the small size of the company, the cost and operating risks are relatively small, and the management is relatively easy; because of the small size of the company and the establishment of a short period of time, the company's various departments are not correspondingly perfect and business capabilities are not mature, especially in the risk management of the number of specialized departments responsible for less; coupled with the company's main staff of one person in several positions, functional departments are not perfect. With the expansion of the company's scale and business and the change of the market environment, a series of risk problems are exposed. The following is a detailed introduction to the situation of enterprise A.

With the in-depth development of Big Data, the utilization of enterprise A about Big Data is increasing year by year. From Figure 5, we can see that the utilization of Big Data in enterprise A from 2000 to 2022 has increased from 5% to 60%, which proves that the utilization of Big Data in enterprise A is gradually increasing. With the rapid development of Big Data, the application of Big Data in enterprise A is also gradually increasing, but the utilization rate is still not high and not fully utilized [24].

From Figure 6, we can see that the number of people in the risk department of Enterprise A from 2000 to 2022 increased from 2 at the beginning to 8, increasing year by year. The number of people in risk management in Enterprise A is increasing, which proves that Enterprise A starts to pay much attention to risk management.

From Figure 7, we can see that the number of risk events in Enterprise A decreased from 10 to 5 from 2000 to 2022, which proves that, after the establishment of the risk management department in Enterprise A, the number of risk events became less, which shows that the risk management department has played a certain role in controlling the risk management events in this enterprise.

As shown in Figure 8, when the number of risk events is 10, the profit of enterprise A is 1 million yuan, and when the number of risks is 6, the profit of enterprise A is 1.2 million
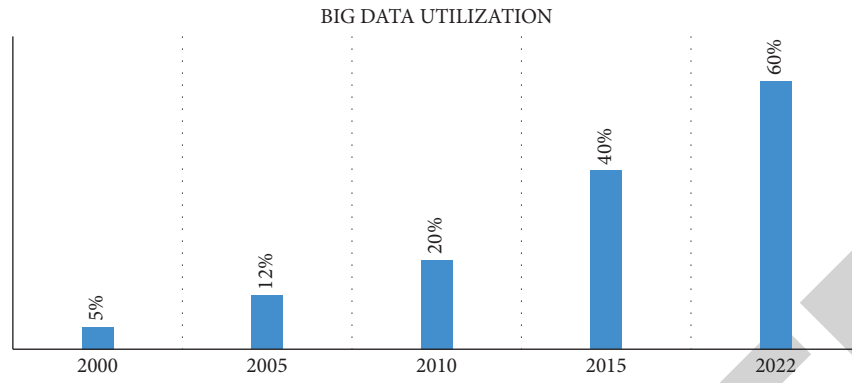
BIG DATA UTILIZATION

Figure 5: Utilization of Big Data.

Number of people in the risk management department
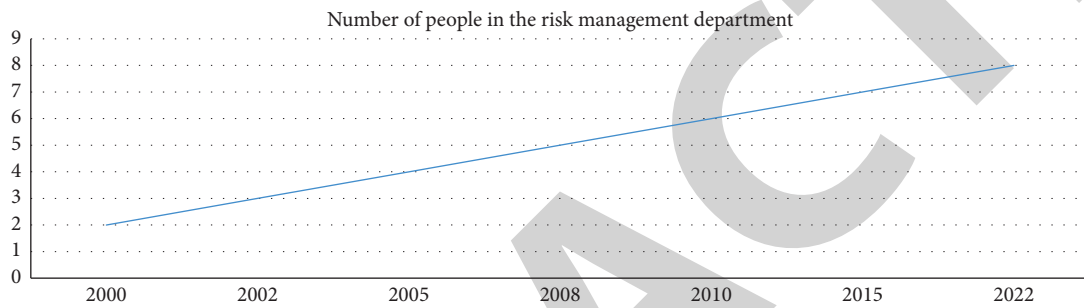
Figure 6: Risk management department headcount chart.

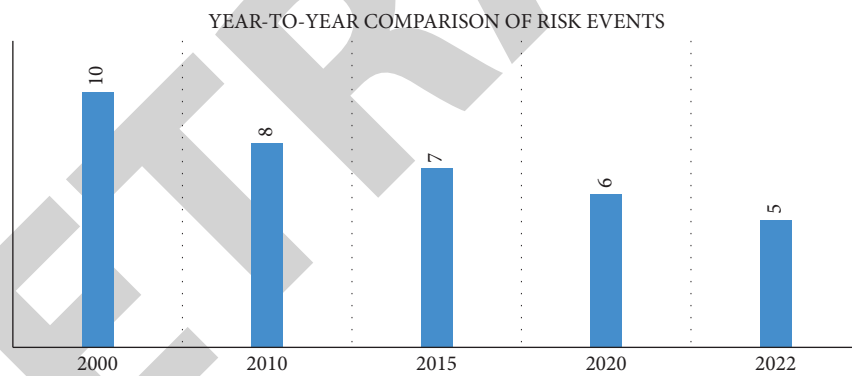YEAR-TO-YEAR COMPARISON OF RISK EVENTS

Figure 7: Change in the number of risk events.
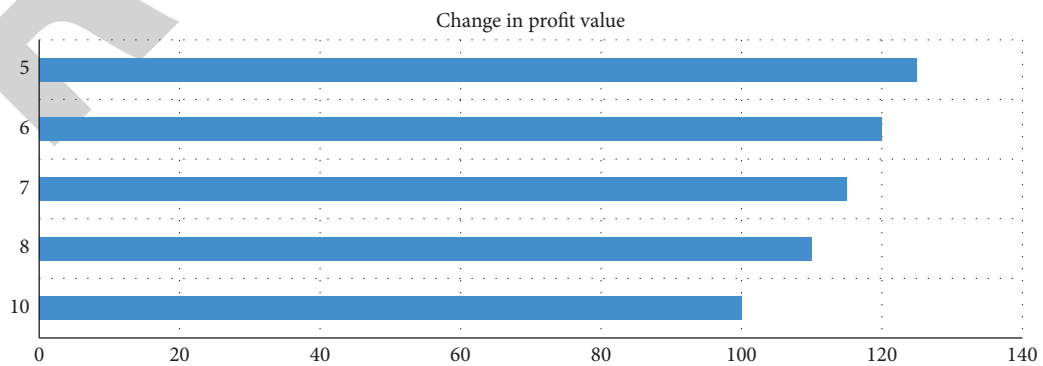
Change in profit value
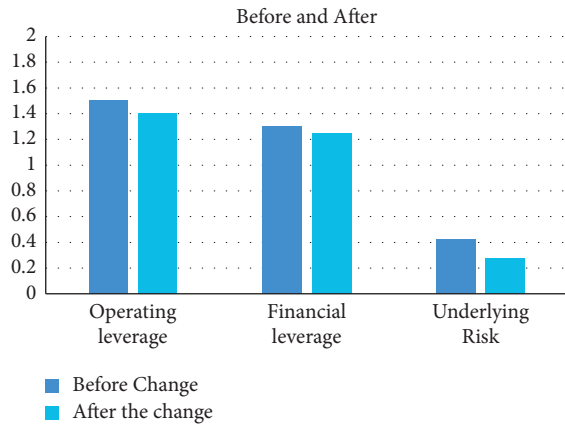

Figure 8: Profit with risk.

Figure 9: Comparison of risk factors.

yuan, so the profit of the enterprise each year and increases with the number of risk events, proving that the fewer risk events occur, the greater the profit of the enterprise, so we pay attention to risk management [25].

4. Results and Discussion

Under the premise of using Big Data, according to basis risk = operating leverage × financial leverage × revenue volatility × economic correlation), the comparative analysis of risk coefficients before and after the enterprise can be calculated as follows: operating leverage changed from 1.5 to 1.4, financial leverage changed from 1.3 to 1.25, and basis risk changed from 0.42 to 0.28 (Figure 9).

The following is a detailed description and analysis of the problems and causes of risk management in the context of Big Data in conjunction with the enterprise and related literature.

4.1. Problems and Causes of Enterprise Risk Management

4.1.1. Imperfect Risk Management System and Identification System. In the era of Big Data, although the enterprise has gradually used Big Data internally and adopted electronic information equipment to adapt to the development of the times, the enterprise still has the situation that the application of Big Data is not perfect and not in place, the management efficiency of the enterprise is low, the convenience of Big Data is not used to transfer information, and there is a lag in information resources, in addition to the lack of rationalization of internal resources and data. In addition, the lack of rationalization of internal resource data and the lack of smooth communication between relevant departments of the enterprise, which will lead to the speed of data processing, cannot keep up with the actual needs of the project when there are many projects; coupled with the company's various departments, we cannot achieve effective and cooperation and communication is not in place, intensifying the risk of chaos, increasing the possibility of risk problems in the company, and making the company's risk management more difficult. The company has no corresponding early warning measures for risk events, and once a

risk event occurs, there is no timely communication and exchange, and the company lacks corresponding capabilities to predict and identify risks [26]. The company seems to have established a relevant risk management system and identification system, but it does not achieve the comprehensiveness of risk identification and lacks comprehensive application and analysis of risk events so that the company has great management loopholes in management, especially risk management [27]. In short, the imperfect risk management system and risk identification system within the enterprise and the loopholes in the enterprise risk management model are the main problems of enterprise risk management nowadays [28].

4.1.2. Managers Have Misconceptions about Risk Management and Do not Pay Attention to Risk Management. In today's world, the risks that businesses face are enormous, elusive, and unpredictable. For example, due to the widespread use of Big Data technology, the enterprise's financial management system and information management system may be compromised, resulting in data corruption, and these damages include not only the loss of enterprise data, but also, in severe cases, the risk of the theft of certain enterprise business secrets. The management of the enterprise may have a fluke mentality, but the security of Big Data is still very worthy of deep thought and examination; however, there is still a large part of the management only see the positive side of the convenience brought by Big Data, ignoring this part of the risk factors, and did not form the relevant response plan and preventive measures. Therefore, failure to detect problems such as information leakage in a timely manner can put a company at a disadvantage. It is a conventional concept in which enterprise risk is evaluated by the beta value, but this is only a purely idealized mathematical model, which is difficult to predict and measure the actual situation within the enterprise, so the conventional concept and data model are no longer suitable for the real needs, and it is necessary to keep pace with the times and to update the enterprise's own risk management model and concept. In corporate management, company leaders and executives focus more on cost management and performance management, putting cost at the forefront of the company's development, thus neglecting the management of risk [29]. Business leaders neglect risk management, put cost first, and thus fail to develop risk management measures at the strategic level. Undoubtedly, the survival and development of enterprises cannot be separated from the control and management of costs, but the management of risks is also particularly important; especially, in the context of the development of Big Data, it can be said that the policies and market information of the whole industry will change a lot; if you cannot obtain or adapt in advance, we will put the enterprise itself in a great risk, so the enterprise risk management should be based on Big Data. Therefore, the enterprise risk management should be re-adjusted and repositioned based on the Big Data and based on the whole environment to make corresponding adjustments and updates to adapt to the requirements of the whole

environment, to achieve the healthy survival and development of the enterprise. To sum up, the problem is that the managers cannot accurately understand the importance of enterprise risk management and focus on cost control, plus the addition of Big Data provides great convenience to enterprises, and the managers of enterprises ignore the risk factors of Big Data itself [30].

4.1.3. Lack of Professional Competence of Technical Personnel. The widespread use of Big Data is a huge challenge not only for enterprises themselves but also for professional and technical personnel because of the complex processing and storage requirements of Big Data, thus making Big Data security greatly reduced, which requires professional and technical personnel responsible for this area, with a keen insight and good professionalism and good supervision of equipment data. All personnel involved in the handling of confidential company data are required to maintain strict confidentiality. However, the relevant technical personnel in the enterprise lack risk prediction and identification ability, personal quality is not high, and the security of Big Data there is a fluke mentality, thus ignoring the corresponding risk, so that the enterprise in this aspect of risk management is at a disadvantage. The application of Big Data has brought great convenience to enterprise management; because of the fast processing speed and convenience, people began to rely too much on and trust the data processing results given by it, but the accuracy of Big Data is still worthy of deep investigation, the data sources of Big Data are more, and the data from different regions may be in a data processing database, so the accuracy of data processing is also open to question. The relevant technical personnel cannot just rely on the processing results of Big Data and trust the calculation data provided by Big Data, lacking rational research and thinking, so the relevant technical personnel must strictly require themselves and improve their ability to judge right and wrong in order to avoid certain risk losses. To conclude, technical managers do not have good specialization ability, good insight into risks, and professional ethics to cope with the addition of Big Data, which leads to frequent loopholes in enterprise risk management and certain problems in enterprise risk management that cannot be solved in time and is one of the main problems of enterprise risk management in the context of Big Data.

In summary, the above three problems are summarized in the literature and in practice and rationalized in terms of the system of risk management, the importance of personnel, and relevant technical personnel, but the causes of the problems are also worthy of deeper investigation, so the author summarizes the following reasons. (1) The enterprise is a small and medium-sized enterprise, with weak market competitiveness, short establishment, and limited capital, so it does not have a large amount of capital and money to invest in risk management. (2) The enterprise is small and the risks are greater than those of large state-owned enterprises, the staff reserve is not enough, one person may have several jobs, the functional departments are not perfect, the staff is lacking, and there are no extra human and

material resources to invest in risk management. (3) In addition, the leadership team of the enterprise is not forward-looking enough and the attractiveness of the enterprise to specialized talents is not high enough, so there is a considerable lack of professional talents, as well as the leadership team is old; it is difficult to accept the addition of some new science and technology, so in the context of Big Data, risk management has quite a few problems.

4.2. Enterprise Risk Management Measures. Based on the above summarized problems of enterprise risk management in the general environment, there are several corresponding measures to solve them as follows.

4.2.1. Enterprises Need to Improve the Risk Management System and Early Warning Mechanism. In the context of the in-depth development of Big Data, enterprises should improve their risk management capabilities according to the development requirements of society and the times, which requires enterprises themselves to pay attention to the development of risk management work and the establishment of a set of risk management system in line with their own development. An organic whole needs to be formed from the top to the leadership of the company, down to the ordinary employees. The company should establish a risk management system that is adapted to the development of the company, implement it with responsibility, and integrate the risk management system into the normal management of the company. The company also needs to establish a set of risk warning and control system to grasp the possible risks and rationalize the analysis, so as to avoid risks and reduce the probability of risk events. The company should have a full and correct understanding of the risk management process and be able to take reasonable measures to minimize the losses caused by the occurrence of risks when they occur.

4.2.2. Transform the Concept and Pay Attention to Risk Management. With the frequent occurrence of risk problems, a mushrooming number of companies have started to pay attention to risk management from the initial pursuit of cost and profit maximization, but how to make the internal risk management work effectively and quickly is a big test for both companies and managers. The arrival of Big Data has brought a great deal of convenience to enterprises, but there are also some risk factors; how to use these facilities to avoid these risks is also an important issue for the survival and development of enterprises. Although the generation of Big Data will bring certain risks to the management of enterprises, the advantages of using Big Data within the enterprise can also provide very effective ways to deal with the occurrence of these risks; enterprises can use Big Data to understand their own operations and development more clearly, pay attention to the changes in market information in a timely manner, update the development direction and development concept, and find more favorable market information; the enterprise's senior managers can also implement better management through this powerful tool of Big Data; employees can also use this tool reasonably to

TABLE 2: Correspondence between problems and solution measures of enterprise risk management based on Big Data.

Problems	Solution measures
The enterprise risk management system and identification system are not perfect	Improve risk management system and early warning mechanism
Managers have a wrong understanding of risk management and do not pay attention to risk management	Transform the concept and pay attention to risk management
Lack of professional competence of technical personnel	Cultivate specialized talents

make the communication of various departments faster and more convenient, reducing the occurrence of news communication is not in place and not convenient; good communication and exchange between various departments can be carried out to improve efficiency. The concept can lead and change the action so that enterprises want to improve their risk management ability and need to start from improving the concept of risk management. Managers must convert the traditional ideology, pay attention to risk management, and learn to use the convenience of Big Data, in order to avoid the related risk problems to a certain extent.

4.2.3. Cultivating Specialized Talents. To better carry out risk management work, enterprises must pay attention to the cultivation of talents, which is the soul of the survival and development of enterprises. Having specialized talents enables not only better implementation of risk management policies but also efficient handling of the corresponding problems of risk management, which can enable enterprises to achieve better results in risk management. Enterprises need to provide specialized training for the professional and technical staff of risk control. Professional and technical staff must continually improve their professional skills and ethics, as well as their overall quality. It is also very important for workers in other departments to regularly attend lecture sessions on Big Data and network technology. Enterprises need to improve the participation of all employees in risk management, increase the amount of everyone's knowledge reserve, and make the concept of risk management deeply rooted in people's hearts. In addition, each department should work closely together, divide the work well, and implement the process of risk management implement the responsibility system to make sure that risk control is not a task of one person and one department, but it is a work that needs to be done together by everyone so that not only the efficiency of employees but also the overall risk control level of the enterprise can be improved.

5. Conclusion

In this study, through the analysis of the background of Big Data, combined with relevant research and studies, we have a certain understanding and knowledge of enterprise risk management in the Big Data environment and made theoretical analysis, mainly the following.

Background: enterprises face both opportunities and challenges as Big Data becomes more prevalent. The opportunities are that the use of Big Data can make enterprise management more convenient and work faster, and the challenge lies in whether enterprises can adapt to the changes brought by Big Data and whether they can cope with a series of risk problems that may be caused by Big Data.

The problems of enterprise risk management: the enterprise's risk management system and identification system have imperfect problems, the managers have misconceptions about risk management and do not pay attention to risk management, the enterprise lacks specialized technical personnel, and the technical personnel lack the corresponding ability and comprehensive quality.

Causes of the problem: the short establishment and limited capital of the company, among other reasons, result in not having a large amount of capital to invest in risk management; it is difficult to accept some new science and technology to join; these are the main reasons for the problems of enterprise risk management.

The solution to the problem: in response to these problems, enterprises need to improve the risk management system and early warning mechanism; relevant managers should transform their traditional concepts and pay attention to risk management; at the same time, enterprises should also train professional talents to manage and control risks. The problems and solutions of enterprise risk management based on Big Data are shown in Table 2.

To sum up, along with the in-depth development of Big Data, Big Data and network technology have gradually started to be applied to the daily production and life of enterprises, and information and resources have diversified. Because of the addition of Big Data, the management and production life of enterprises become more efficient and convenient; as the Big Data is also a double-edged sword to bring convenience, it also bring risks that cannot be ignored, which requires enterprises to pay attention to the management of risk.

Despite the fact that many businesses have their own risk management systems and risk management departments, there are still many issues with risk management in the context of Big Data. However, there are some shortcomings in this study, as the number of enterprises visited in this study is not enough and it is not representative of all enterprises, so it is a bit too one-sided. In addition, the literature read in this study has more references to the research conclusions of domestic experts and less references to foreign research results, so it has some limitations and one-sidedness.

Data Availability

The labeled dataset used to support the findings of this study can be obtained from the author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

Acknowledgments

References

[1] X. C. Tan, L. S. Kong, B. H. Gu, A. Zeng, and M. M. Niu, "Research on the carbon neutrality governance under a polycentric approach," *Advances in Climate Change Research*, vol. 13, no. 2, p. 10, 2022.

[2] Z. Wu, T. Lv, and Y. Guo, "An improved particle swarm optimization algorithm based on DFC&HRS," in *Proceedings of the SPIOT 2020: the 2020 international conference on machine learning and big data analytics for IoT security and privacy*, pp. 31–38, Switzerland, November 2020.

[3] W. Cai, M. Bai, and H. Davey, "Implementing environmental protection tax in China: an alternative framework," *Pacific Accounting Review*, vol. 34, no. 3, pp. 479–513, 2022.

[4] K. He, L. Yu, and Y. Chen, "Research on authority management and risk control of state-owned enterprises based on accounting matters," *Scientific Journal of Economics and Management Research*, vol. 4, no. 4, 2022.

[5] F. Harlow Alyssa, A. C. Stokes, R. Brooks Daniel, E. J. Benjamin, J. L. Barrington-Trimis, and C. S. Ross, "Cigarette Use and Combustible Cigarette Smoking Initiation among Youth: Accounting for Time-Varying Exposure and Time-dependent Confounding," *Epidemiology*, vol. 33, 2022.

[6] N. A. Makhutov and D. O. Reznikov, "Prior and posterior assessments of failure scenario probabilities and environmental risks at hazardous industrial facilities," *IOP Conference Series: Earth and Environmental Science*, vol. 988, no. 3, p. 6, 2022.

[7] R. Z. Anna and M. Lesław, "Accounting and market risk measures of polish energy companies," *Energies*, vol. 15, no. 6, 2022.

[8] H. Zhang, C. Zhang, and F. Hou, "Analysis of 8611 cases of adverse reaction reports of breviscapine for injection," *Medicinal Plant Research*, vol. 13, no. 1, pp. 44–51, 2022.

[9] T. Isabelle, L. Guénette, and Z. Arsène, "Depression and the risk of hospitalization in type 2 diabetes patients: a nested case-control study accounting for non-persistence to anti-diabetic treatment," *Diabetes & Metabolism*, vol. 48, no. 4, 2022.

[10] S. Brèteau-Amores, M. Fortin, P. Andrés-Domenech, and N. Bréda, "Is Diversification a Suitable Option to Reduce Drought-Induced Risk of Forest Dieback? an Economic Approach Focused on Carbon Accounting," *Environmental Modeling & Assessment*, vol. 27, 2022.

[11] I. Safdar, M. Neel, and B. Odusami, "Accounting information and left-tail risk," *Review of Quantitative Finance and Accounting*, vol. 58, 2022.

[12] Y. Wu, "Artificial intelligence is the technical guarantee of network security. SPIOT 2020," in *Proceedings of the The 2020 International Conference on Machine Learning and Big Data Analytics for IoT Security and Privacy*, pp. 69–74, Springer Nature Switzerland AG, Switzerland, November 2020.

[13] J. K. McCloskey, J. L. Ellis, C. S. Uratsu et al., "Accounting for social risk does not eliminate race/ethnic disparities in COVID-19 infection among insured adults: a cohort study," *Journal of General Internal Medicine*, vol. 37, no. 5, pp. 1183–1190, 2022.

[14] Y. Evan, C. Stern Mariana, and at al, "Family History and Risk of Bladder Cancer: An Analysis Accounting for First- and Second-Degree Relatives," *Cancer prevention research*, vol. 15, 2022.

[15] R. Z. Anna, "Market and accounting measures of risk: the case of the frankfurt stock exchange," *Risks*, vol. 10, no. 1, 2022.

[16] T. T. Y. Alabdullah, "Management accounting insight via a new perspective on risk management-companies' profitability relationship," *International Journal of Intelligent Enterprise*, vol. 9, no. 2, p. 244, 2022.

[17] S. Buck, J. Sandqvist, E. N. Strid, H. J. Knibbe, P. Enthoven, and C. Wahlin, "Risk assessment of physical exposure among healthcare workers when performing patient handling-T," *Safety and Health at Work*, vol. 13, p. S215, 2022.

[18] S. N. K. Cdr, L. S. Ganesh, and C. Rajendran, "Management accounting tools for failure prevention and risk management in the context of Indian innovative start-ups: a contingency theory approach," *Journal of Indian Business Research*, vol. 14, no. 1, 2021.

[19] K. Smit, A. Zucker Robert, and K. Emmanuel, "Exposure to Parental Alcohol Use Is Associated with Adolescent Drinking Even when Accounting for Alcohol Exposure of Best Friend and Peers," *Alcohol and alcoholism*, vol. 57, 2021.

[20] K. M. Fewster, J. R. Guo, J. D. Zehr, J. M. Barrett, A. C. Laing, and J. P. Callaghan, "Strain response in the facet joint capsule during physiological joint rotation and translation following a simulated impact exposure: an in vitro porcine model," *Journal of Biomechanical Engineering*, vol. 144, no. 5, Article ID 051010, 2022.

[21] W. Wang, "Establishment of long-term mechanism for preventing poverty return through education in rural revitalization in southern Shaanxi," *Asian Agricultural Research*, vol. 14, no. 1, p. 6, 2022.

[22] L. Liu, "Retraction Note: o," *Arabian Journal of Geosciences*, vol. 14, no. 24, p. 2772, 2021.

[23] M. Jankowska Marta, J. A. Yang, N. Luo, C. Poon, and T. Benmarhnia, "Accounting for space, time, and behavior using GPS derived dynamic measures of environmental exposure," *Health & Place*, 2021.

[24] V. Stülpnagel Rul, P. Chayenne, and L. Sven, "Crash Risk and Subjective Risk Perception during Urban Cycling: Accounting for Cycling Volume," *Accident; analysis and prevention*, vol. 164, 2021.

[25] R. Ball, G. Sadka, and A. Tseng, "Correction to: using accounting earnings and aggregate economic indicators to estimate firm-level systematic risk," *Review of Accounting Studies*, vol. 27, 2021.

[26] Z. Jabi, R. Jorquera Ignacio, C. Trexler Joel, S. Orzechowski, L. Garner, and P. Frederick, "Accounting for Food Availability Reveals Contaminant-Induced Breeding Impairment, Food-Modulated Contaminant Effects, and Endpoint-Specificity of Exposure Indicators in Free Ranging Avian populations," *Science of the Total Environment*, vol. 791, 2021.

[27] C. Li, "The application of artificial intelligence and machine learning in financial stability," in *Proceedings of the SPIOT 2020: The 2020 International Conference on Machine Learning and Big Data Analytics for IoT Security and Privacy*, pp. 214–219, Springer Nature Switzerland AG, Switzerland, 2020.

[28] E. J. Oh, R. B. Parikh, C. Chivers, and J. Chen, "Two-stage approaches to accounting for patient heterogeneity in

machine learning risk prediction models in oncology," *JCO Clinical Cancer Informatics*, vol. 5, pp. 1015–1023, 2021.

[29] Q. Wang, X. Li, and Q. Liu, "Empirical research of accounting conservatism, corporate governance and stock price collapse risk based on panel data model," *Connection Science*, vol. 33, no. 4, pp. 995–1010, 2021.

[30] F. Dimaio, O. Scapinello, E. Zio et al., "Accounting for Safety Barriers Degradation in the Risk Assessment of Oil and Gas Systems by Multistate Bayesian Networks," *Reliability Engineering and System Safety*, vol. 216, 2021.