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Research on AI Finance Application from the Perspective of Digital Economy: Significant Utility and Normative Challenges

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Abstract

Since human society entered the information age, the rapid development and wide application of digital technology have derived digital economy. Digital economy promotes the digital transformation of enterprises. People use digital technology to promote the transformation of business model, organizational structure, corporate culture and so on. Among the numerous changes in enterprise digital transformation, the transformation of modern finance cannot be ignored. By promoting financial intelligent transformation, enterprises not only enjoy the dividends of numerous AI financial applications, but also generate social conflicts and risks. This paper combines the trend of "digitalization" with the impact of AI finance application and risk entry point, aiming to study the mechanism of AI finance's impact on enterprises, solve the application conflict of AI finance, effectively prevent risks, and realize the safe, stable and high-quality development of enterprises.

Keywords

AI Finance; Artificial Intelligence; Digitization.

1. Introduction

Since human society entered the information age, the rapid development and wide application of digital technology has led to the digital economy. The digital economy promotes the digital transformation of enterprises. People use digital technologies (such as big data, cloud computing, artificial intelligence, etc.) to promote the transformation of business models, organizational structures, and corporate cultures. Among the many changes in the digital transformation of enterprises, the transformation of modern finance cannot be ignored. By promoting the intelligent transformation of finance, enterprises not only enjoy the dividends of many AI financial applications, but also generate social conflicts and risks. This article combines the trend of the "digital" era with the impact and risk entry point of AI financial applications, endowing it with practical and dialectical research value.

This article expects to build a valuable AI financial risk assessment mechanism from the aspects of AI financial impact, conflicts, and risks on the basis of summarizing and summarizing the existing AI financial application research, so as to help improve and develop digital intelligence. The utility and standardization of AI finance in the perspective of the times will enhance our understanding of the operation process, characteristics and utility of AI finance, and provide a certain academic reference value for the current application of AI finance. At the same time, it is expected that on the basis of summarizing and summarizing the existing AI financial application impact theory and AI ethical normative impact mechanism theory, from the perspective of the relationship between AI self-identification and self-adaptive decision-making and risk assessment mechanism, reveal the AI financial The economic effect of the application on the enterprise, and test the interpretation ability of the "risk identification concept" and "moral concept" in the AI financial decision-making theory to the AI financial application, so as to help improve and develop the mechanism of the AI financial application and risk assessment, Increase our understanding of the AI decision-making process and its characteristics, and provide certain ideas for companies to better understand and apply AI finance.This article aims to analyze the impact of AI finance on corporate finance from more aspects, and list the positive and negative impacts that AI finance may have on enterprises in more detail. Provide more comprehensive, detailed and accurate information for enterprises to improve the scientific nature of enterprise decision-making, and promote enterprises to make the most correct and most effective decisions. As the market environment continues to change today, the ability to capture information and ensure information quality is becoming more and more important. On the one hand, it can prompt companies to seize more development opportunities, and on the other hand, it also increases the possibility of companies avoiding risks.

2. Organization of the Text

2.1. Overview of AI Financial Theory

The American Institute of Certified Public Accountants AICPA (1987) proposed the application of artificial intelligence to corporate financial management. Vasarhelyi (1989) pointed out in his monograph that artificial intelligence can be applied to the construction of an expert system (Expert System) and then applied to the work of accounting and auditing. Kong Qinglin (2007) believes that accounting functions will change with various factors such as social economy, the most important of which is caused by the development of information technology. Wang Jiacan and Su Yang (2017) believe that artificial intelligence has also spawned a new accounting model, which is mainly reflected in the acquisition of accounting information, accounting model and accounting reporting model. Artificial intelligence and big data technology can better realize financial business. Integration, breaking the problem of information islands. Accounting has also begun to enter the era of intelligence after experiencing the period of full manual bookkeeping, computerized accounting, and the use of professional information systems CRM, ERP, etc. In 2016, Deloitte Touche Tohmatsu, one of the four largest accounting firms in the world, announced that it would join forces with Ki-ra System to introduce artificial intelligence into accounting, taxation, and auditing.

2.2. The Impact and Mechanism of AI Finance on Corporate Finance

As technological changes inject new momentum into economic development, the application of AI finance plays an important role in the construction of corporate financial systems. AI finance has two impacts on the corporate financial system. One is that AI finance can simplify the organizational structure and make it thinner; the other is that AI finance can effectively restrain the company's financial restatement behavior and strengthen internal control and supervision. Promote the improvement of corporate governance efficiency. Numerous literatures show that AI finance has made important contributions to improving the overall quality of financial management activities in enterprise development. Therefore, when the company's financial management activities are gradually informatized, AI finance can accurately optimize the company's past data analysis system and business operation model, assist financial managers to provide more time-sensitive data for decision-makers, and promote the improvement of corporate benefits .

2.3. Analysis of Influencing Factors of Enterprises Choosing AI Finance

2.3.1. Positive Factor

The first is effectiveness. AI can obtain a large amount of financial data information, improve the efficiency of financial operations, and improve the overall quality of corporate financial accounting information. The second is predictability. The purpose of an enterprise is to make profits, and risks often accompany benefits. Entrepreneurs still need to spend energy on solving the problem of how to avoid risks when considering the future development and strategic planning of the enterprise, while the relationship between AI and finance The combination can better and faster help enterprises to self-detect risks, and report and correct errors in time when problems are detected, providing guarantee for real-time operations and long-term planning of enterprises. The third is substitutability. Under the high-efficiency and high-quality AI financial operation, some human resources can be replaced, so that enterprises can make appropriate adjustments to the company's personnel structure and lay off employees reasonably, thereby reducing the labor cost of the enterprise. The fourth is limitation. While AI provides convenience for enterprises that choose AI finance, it also plays a restrictive role in the enterprise. Under the premise of ensuring the safety of company secrets, once the enterprise has illegal violations, such as financial fraud, tax evasion and tax evasion When waiting for behavior, AI can warn the company first, and then take follow-up measures after the warning fails. Therefore, AI finance can clear up market chaos and stabilize market order. If some companies abandon AI finance for this reason, the market can appropriately increase its Regulatory efforts.

2.3.2. Negative Factor

Negative factors are destructive. The introduction of AI finance has also caused many financial ethics issues and moral challenges within the enterprise. When AI finance makes mistakes in decision-making and other situations, the responsibility for the losses and negative impacts caused by it still needs to be attributed. Discussed issues, and easily lead to the failure of the internal control of the enterprise, affecting the operation and development of the enterprise.

2.4. Social Conflicts and Risks Arising from AI Financial Applications

2.4.1. Social Conflicts Generated by AI Financial Applications

The job division of accountants is reduced, thereby reducing the total demand and employment of accountants. AI finance does not need to separate incompatible duties, and the traditional accounting internal containment system will lose its effect in AI finance, so AI finance can be arranged without avoiding the conflict of interest of job functions.The living space of staff in accounting positions will be continuously squeezed. In the era of artificial intelligence, with the in-depth popularization of AI technology, the basic accounting work involves confirmation , Measurement, recording, reporting and other procedures can be partially completed by AI finance. Since the competition between basic accounting personnel and AI finance is obviously at a disadvantage, the demand for basic accounting personnel in the financial field will be greatly reduced in the future.With the improvement of accounting work efficiency and accuracy, it will naturally lead to a reduction in the number of financial staff, increasing the risk of unemployment or job transfer, which will invisibly bring pressure on the work and life of accountants, thereby reducing the professionalism of accountants. The sense of belonging and achievement reduces the happiness index of practitioners in the entire accounting industry.The work of some accounting and auditing personnel has become no longer important, objectively reducing the important position of accounting personnel in the internal operation and management of the unit. Undoubtedly, with the emergence and extensive use of AI finance, it is bound to further simplify the financial management process, reduce financial management costs, and simplify internal audit work, which will have a huge impact on traditional financial accounting personnel, triggering structural changes in the demand for accounting and auditors, and even lead to Part of the accounting post transfer and reemployment.

2.4.2. Risks Arising from AI Financial Applications

With the emergence of AI finance, the process of human participation in accounting has been greatly reduced. On the one hand, many accounting processes are completed through preset codes, and the codes may be improperly set, giving hackers the opportunity to tamper with the codes and cause accounting results to appear. On the other hand, AI may be used to carry out new types of cyber attacks on financial systems. Hackers may remotely implant malicious codes, steal key accounting information of the company, and disclose important business secrets such as the company's development strategy and plans to competitors. opponents; in severe cases, the company's system will be paralyzed, data will be lost, and it will cause huge losses to the company.First, the protection of the right to privacy. AI finance processes accounting data through four links: intelligent perception, intelligent learning, intelligent reasoning, and intelligent processing. Behind this, it must be supported by big data that reflects the company, customers, and the entire market. This could lead to more accurate forecasting of company sales and customer service while violating customer privacy. Second, the danger of infringement of intellectual property rights. The method of AI finance using search engines to learn independently and applying it to accounting information processing may involve intellectual property infringement; the new processing methods generated by AI finance processing new accounting cases will involve the issue of intellectual property ownership.

3. Literature References

Pan Haoqiang et al. (2018) analyzed the pros and cons of AI's impact on my country's accounting industry from the aspects of improving accounting efficiency, reducing accounting costs, changing the structure of accountants, and weakening accounting professional ethics, and gave countermeasures for the development of accountants [1].

Yaoyoufu et al. (2023) investigated the role of artificial intelligence applications in corporate governance from the perspective of financial restatement, and found that artificial intelligence applications can significantly inhibit the company's financial restatement behavior and upgrade corporate governance.[2]Yang Yin et al. (2023) researched the current situation and trend of the transformation of accounting functions by artificial intelligence, summarized the research findings and revelations of artificial intelligence on the transformation of accounting functions, summarized the possible trend of transformation of accounting functions under the background of artificial intelligence technology, and found that AI financial Can accelerate the transformation of the accounting function.[3]Research by Moll et al. (2019) found that technologies such as data analysis can significantly improve financial visibility, play a role in timely intervention in financial management, and greatly reduce the number of tasks for financial personnel. Financial personnel need to learn data analysis technology as soon as possible. Keep up with the changes of the times in time and create new added value for the enterprise.[4]Zhang Zhuping (2022) believes that under the development of artificial intelligence, it is necessary to improve the rational cognition of technological innovation and application, pay attention to the ethical adjustment of the relationship between man and nature, continue to improve the management system related to artificial intelligence, and promote the integration of artificial intelligence technology and ecological ethics. logical fit.[5]Aditya et al. (2019) believe that the development and application of artificial intelligence technology has caused many social and ethical issues and moral challenges, and developed four machine learning algorithms to predict 30-day mortality after spinal metastases.[6]Shao Jun et al. (2021) studied whether executive compensation regulation has a contagious effect on state-owned enterprises in China's emerging markets, and found that AI has a restrictive effect on corporate financial behavior.

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4. Conclusion

This paper takes the application of AI finance as the research object, and analyzes the impact of AI finance on enterprises, the conflicts and risks that arise. The research results are summarized as follows:

AI finance can simplify the organizational structure of enterprises and make them tend to be thinner; it can also effectively restrain the financial restatement behavior of enterprises, strengthen internal control and supervision, and promote the efficiency of corporate governance. In terms of mechanism, AI finance can accurately optimize the past data analysis system and business operation mode of the enterprise, assist financial managers to provide more time-sensitive data for the decision-making level, and promote the improvement of enterprise efficiency.There are roughly five types of influencing factors affecting enterprises' adoption of AI finance, including four types of positive factors and one type of negative factors.The positive factors are effectiveness, predictability, substitutability and limitation, which can improve the efficiency of corporate financial operations and the overall quality of corporate financial accounting information, while the negative factors are destructive, which will lead to internal control of the company. failure, affecting the operation and development of enterprises.The application of AI in finance will generate numerous social conflicts, which will have a huge impact on traditional financial and accounting personnel, trigger structural changes in the demand for accounting and auditors, and even lead to the reemployment of some accounting positions.At the same time, it also brings risks that are difficult to avoid, mainly manifested as accounting information security risks and legal risks.It is necessary to establish a risk prevention mechanism for AI finance to maintain control over it, benefit from its advantages and versatility, and achieve the goal of ethical artificial intelligence. At the same time, adopt a variety of risk-response solutions to avoid AI financial applications as much as possible risks arising.

Due to the limitations of the author's theory and cognition, the research still has the following deficiencies:

To build a reasonable and effective evaluation mechanism, it is necessary to identify the effectiveness of AI decision-making and the timely judgment of risk avoidance. The author is relatively lacking in the accumulation of theoretical and empirical evidence on the construction of AI financial risk assessment mechanisms.Social risks in AI financial applications are generated based on multi-type Internet data structures and complex social relationships. The author is relatively lacking in theoretical research and experience on social responsibility risks generated by AI finance.

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