

Research on Audit Management Innovation in AI Context

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Abstract: In the context of AI, audit management innovation research mainly focuses on how to use artificial intelligence technology to improve all aspects of audit management. This includes applying machine learning and data analytics techniques to enhance audit procedures and methods, improve audit efficiency and accuracy, and identify potential risks and issues. In addition, it will explore how intelligent tools can be used to improve audit reporting and communication, as well as enhance the audit team's ability to cooperate and collaborate. In addition, AI technology can also help audit institutions make better use of big data and real-time information to strengthen the monitoring and early warning of corporate financial conditions, thus promoting the innovative development of audit management.

Keywords: Audit management; Artificial intelligence; Audit innovation

1. Overview of the development of AI technology

Artificial intelligence (AI) is an important branch of computer science, its core goal is to simulate human intelligent behavior, so that computers can reach human level in thinking, learning and decision-making. In recent years, with the rapid development of advanced technologies such as big data and cloud computing, remarkable breakthroughs have been made in the field of artificial intelligence. Key technologies such as deep learning, machine learning, and natural language processing have been continuously iterated and upgraded, bringing profound impacts and revolutionary changes to all walks of life in China. ^[1]

2. The development of AI technology and its impact on the audit industry

2.1 Analysis on the application of artificial intelligence in the field of audit

With the continuous development of science and technology, Artificial Intelligence (AI) is gradually becoming an important assistant in various industries. In the field of audit, the application of artificial intelligence is also increasingly extensive, which has brought great changes and improvements to audit work. This article will explore the application of artificial intelligence in the field of audit, including data analysis, automated auditing and risk assessment natural language processing and text analysis. ^[2]

2.1.1 Data analysis

Use machine learning and data mining to quickly and accurately analyze large amounts of complex data, find unusual patterns and correlations, and predict future trends and risks.

2.1.2 Automated audit

The traditional audit process usually requires a lot of time and human resources, and is easily affected by human factors. ^[3]Artificial intelligence technology can realize the automation of the audit process, realize the automation of the audit process, improve efficiency and accuracy, automatically collect, sort out and analyze financial data and transaction records, and generate audit reports and recommendations.

2.1.3 Risk assessment

AI technology can help auditors more accurately assess a company's risk profile. Through big data analysis and machine learning algorithms, artificial intelligence can conduct comprehensive monitoring and analysis of an enterprise's financial status, operations and market environment, and timely discover potential risk factors. At the same time, risk assessment models and early warning mechanisms can be established according to historical data and industry characteristics to predict and prevent the occurrence of risks in advance.

2.1.4 Natural language processing and text analysis

This technology can help auditors understand and analyze textual information more quickly. Through natural language processing technology, audit tools can automatically identify key information and risk tips in financial reports, providing auditors with accurate analysis and recommendations.

2.2 The impact of AI technology on audit management

The introduction of AI technology has enabled audit management to break through the shackles of traditional models and achieve more efficient and accurate audits. Through the use of big data, machine learning and other technical means, AI can improve audit efficiency, reduce the audit process of auditors, and also have a certain impact on the skills and roles of auditors, providing strong support for the steady development of enterprises.

With the continuous development of science and technology, artificial intelligence technology is more and more widely used in various fields. In the field of audit management, artificial intelligence also plays an important role. It can improve audit efficiency and accuracy through big data analysis, and bring many advantages to enterprises.

In traditional audit work, auditors need to spend a lot of time and energy to collect and organize relevant data. However, by utilizing artificial intelligence techniques, especially natural language processing and machine learning algorithms, the required data can be obtained more quickly. AI technology can help auditors perform data analysis more efficiently. By using machine learning algorithms and data mining techniques, AI systems can extract key information from massive amounts of data and perform pattern recognition and anomaly detection. AI technology can help auditors more accurately identify potential risks through analysis of historical data and simulated forecasts. In addition, AI technology can also help auditors gain a more comprehensive understanding of the risk characteristics of relevant industries and companies by constructing and analyzing knowledge maps in different fields.

Artificial intelligence technology uses natural language processing and machine learning algorithms to get the data you need faster. Artificial intelligence technology uses machine learning algorithms and data mining techniques to efficiently extract critical information for pattern recognition and anomaly detection.^[4]

Through modeling, we can establish a scientific model and use data analysis technology to assess and predict the risks of customers, help auditors identify potential risks in advance, formulate corresponding coping strategies, and reduce audit risks. A detailed report is automatically generated according to the audit results, and the data and analysis results are displayed in a visual way, which makes the audit report more intuitive and understandable, and improves the readability and persuasiveness of the report.

3. The innovation direction of audit management

3.1 Data-driven audit

The use of AI technology to analyze and mine data to achieve comprehensive monitoring and risk assessment of business activities. Through data-driven audit, auditors can find potential risks and problems more accurately, and improve the pertinency and effectiveness of the audit.

3.2 Intelligent audit assistance system

The intelligent audit auxiliary system based on AI technology is developed to reduce the work burden of auditors and improve audit efficiency through automated and intelligent means. Intelligent audit auxiliary system can automatically complete the data collection, data cleaning, data analysis and other work, to provide auditors with more comprehensive and accurate information support.

3.3 Real-time audit monitoring

With the help of AI technology, real-time monitoring of business activities of enterprises can be achieved to ensure the effectiveness of internal control of enterprises.^[5] Real-time audit monitoring can help enterprises find and correct problems in time, prevent potential risks, and improve the operational efficiency and risk management ability of enterprises.



Figure 1. Ways to realize audit management innovation

4. Conclusions

AI technology has a profound impact on the audit industry, bringing benefits such as improving efficiency, expanding scope and reducing risk, as well as challenges and opportunities. The audit industry needs to improve the skills and quality of personnel and strengthen techno-

logical research and development innovation for sustainable development. In the future, we expect in-depth integration of AI and audit, while focusing on ethical and legal issues. In the new era, in order to play the role of audit in national governance, it is necessary to deeply explore the innovation of audit management to meet the needs of development.

With the development of big data, artificial intelligence, blockchain and other technologies, audit work is more dependent on information means.^[6] Big data can filter valuable information from massive amounts of data to help accurately identify and assess risks. The characteristics of blockchain technology help to improve the reliability and security of audit data. In the future, audit work will expand from financial audit to performance audit, risk audit and other fields to achieve full coverage, pay attention to the effect of policy implementation and resource use efficiency, promote the transformation and upgrading of functions, and provide support for national governance. It will further promote the development of collaborative audit mode and realize the optimization and integration of audit resources.

Audit results are an important basis for national governance. In the future, the innovation of audit management will strengthen the application of audit results, promote the transformation of audit results into policy adjustment and system improvement, and improve the efficiency of national governance. Ai is facing challenges, although it is a trend, it faces problems such as data privacy protection and technical reliability, and needs to strengthen research and regulation.

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