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Research on Big Data Audit Practice based on Medical Insurance Fund Audit

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Abstract

The rapid development of information technology makes the national audit data base and audit method change accordingly. In recent years, China's medical insurance reform and development is remarkable. The framework of the medical insurance system covering urban and rural residents has been basically formed, and the management service system has been completely informationized and digitized. Medical security audit in the new era must adapt to the changes in the new era and step into the practice of big data audit. Based on the audit practice in the field of medical security, this paper analyzes the current situation of the big data environment faced by the current medical security fund audit, discusses the existing problems of medical insurance audit based on big data, and puts forward suggestions to promote the deepening development of big data audit.

Keywords

Big Data Technology; Medical Insurance; Audit.

1. Introduction

The development of science and technology has led to the explosive growth of industry data, and the traditional audit environment has undergone great changes. The audit work in the new era has been inseparable from big data technology. In 2015, the Central Government Office and The State Council Office issued the Implementation Opinions on the Implementation of Full Audit Coverage, which proposed to carry out big data audit work in a new mode and comprehensively improve the efficiency, quality and capacity of audit work. With the promotion and application of domestic information technology in the field of medical and health care, many new information software has been applied to the project cost management. It is necessary to release the energy of big data, efficiently carry out audit work, improve the accuracy and scientificity in the discovery of problems, and ensure the development of national economy. This paper takes the medical insurance fund audit as an example to discuss the application of big data audit.

2. Differences between Medical Insurance Audit based on Big Data Technology and Traditional Medical Insurance Audit

The development of science and technology has promoted the perfection of audit theory and working mode. In the early stage of audit, paper tools such as account sheets were used. After the popularization of computers, IT technology was applied to audit work. Now, we use big data technology to carry out audit work, and the application of information technology has become very common in audit practice.

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2.1. Audit Procedures have been Streamlined

You don't need confirmation. In the PAST, IN order TO determine THE authenticity of THE auditEE, the AUDITOR relied on a third party's written or electronic response to confirm. Now, auditors only need to analyze raw health care data with the help of big data.

2.2. You Need to Obtain a Wider Range of Data

There is a huge amount of data in the medical insurance business system, and there are more and more types of business. To collect, analyze and compare the data and information, it takes a lot of time for the auditor to complete the task alone. Therefore, in the medical insurance data audit, mainly adopts the sampling audit method. Its logical thinking mode is derived from the individual to the general. However, sampling itself still has many limitations. A large number of data are not examined, which may directly lead to major fraud not detected by audit. The application of big data not only promotes the development of audit work in technology, but also realizes the full coverage of audit. In audit work, business data can be collected across industries and departments, and associated data resources can be quickly collected and managed to provide support for tracking and analysis.

2.3. Change of Management Mode

Traditionally, due to insufficient data resources and limited technical capabilities, auditors had to audit each subject individually when conducting government health care audits. Now the management mode of government audit institutions may change greatly, so it is possible to adopt new organizational methods different from the previous audit, such as joint audit and flat audit. As a result, the auditor's way of thinking is upended.

2.4. Data Security Risks

Because big data medical insurance audit relies more on electronic data, government departments, enterprises and institutions store a large amount of government data in computers, and there are less and less data for paper archiving. In the process of auditing, the collection of associated electronic data will involve the confidentiality and security of data information. Because of this, some units are often reluctant to provide data, especially when it comes to obtaining data held by the police.

Whether collecting, transmitting or storing data, data information may be leaked. First, there is leakage behavior within the organization. The basic medical insurance data covers the information of the insured, and contacts may be downloaded illegally. The second is mainly from the network attack leakage risk. If there is a loophole in management, there is a high risk of data leakage due to hacker attacks. As a result, it becomes more difficult for data owners to manage data security.

3. The Impact of Big Data Technology on Medical Insurance Fund Audit

3.1. It Helps to Improve the Efficiency and Quality of Medical Insurance Audit

The traditional auditor has very limited data, so it is important to quantify the auditee's business as accurately as possible. Now, with data related to health insurance in the cloud, the application of big data technology addresses the lack of government audit tools. Compared with the past, with the help of big data technology, auditors can fully use the complete data to obtain the full audit picture and improve work efficiency. It can help auditors process and analyze huge amounts of data. This changes the way auditors used to rely on sample audits and speeds up data processing.

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3.2. The Audit of Medical Insurance is More Standardized

Data informatization and standardization constitute the premise of applying big data technology. The government can issue compulsory orders to subordinate units, so that the data informatization and standardized management of medical insurance funds can also be well implemented. In order to collect more effective data, the government will unify the data statistics format, reimbursement process and other aspects to form a more unified audit standard, which greatly promotes the standardization of medical insurance audit. At the same time, greater standardization of work has also reduced the incidence of corruption among those who handle it.

3.3. Promote Full Coverage of Medical Insurance Audit

With the support of big data technology, the audit of medical insurance fund can be completed efficiently without consuming a lot of costs, creating a good environment for the full coverage of medical insurance audit. The extensive data collection scope and high-precision data collection channels of big data, as well as the perfect data mining mechanism, provide guarantee for the integrity and effectiveness of information. All the financial activities of administrative agencies need to be audited, that is to say, audit data realize the logical full coverage.

3.4. Rely More on External Data

In order to obtain reliable audit results, the relevant data of the related parties of the audited unit should be collected. Whether these relevant parties are willing to provide relevant data is directly related to the quality of the audit, thus affecting the results of the audit. In addition, from the perspective of the amount of data information obtained, the dependence on the past causal logic in the process of auditing medical insurance is significantly reduced due to the help of big data technology. And the use of big data has a premise, is to obtain massive data. Therefore, it is necessary to expand the database capacity as much as possible, which is not only related to the application of big data audit, but also related to the quality of audit results.

4. Research on Key Issues of Medical Insurance Audit based on Big Data

4.1. Data Collection and Database Information Sharing Problems

4.1.1. Data are Scattered and Standards are Different

Big data audit has high requirements on data. The audit of medical insurance involves many different departments, different information systems and different databases. The hospital information system is much more complex than the social security system. Therefore, the formed data types are diverse, the structure is complex, and it is difficult to share. For big data analysts, different data standards make it impossible for them to perform big data analysis, which leads to the need to recover, clean, and transform data to ensure that the data format meets the standards when executing audit projects. This not only requires a lot of manpower and material resources, but also leads to a large number of events in audit preparation, which cannot be fully guaranteed in terms of data accuracy, reliability and integrity.

4.1.2. Data Sharing is Difficult to Achieve

Big data audit requires complete data. In recent years, the government has made a lot of efforts to realize the sharing of data resources, but overall, the data sharing mechanism still needs to be improved. For the sake of data confidentiality and security, some departments are selective in providing data. Once the data is not complete, it will lead to the lack of objective impartiality of the audit results. In addition, each department has its own information system, because the interface is not unified, also brings difficulty to data sharing.

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4.2. Training of Complex Informatization Talents

On the one hand, big data technology puts forward technical requirements for auditors. On the other hand, in the current uniformly organized medical insurance audit project, most of the auditors involved lack medical professional knowledge and clinical experience, and most of the personnel involved in insurance fraud are front-line professionals who are skilled in the entire process of medical insurance reimbursement, so the audit work cannot be efficiently completed. Some problems in the management and use of medical insurance funds have not been identified.

4.3. Top-level Design of Big Data of Medical Insurance Audit

At present, more and more industries begin to apply big data technology, but the relevant laws are not perfect. Although the relevant units have formulated the Framework Opinions on Some Major Issues Concerning the Improvement of the Audit System, such documents are only instructive and not binding. This kind of situation has blurred the boundary of auditor's power to use technology, which causes many new problems in audit work.

5. The Countermeasures

5.1. Explore a New Audit Organization Mode and Optimize the Allocation of Audit Resources

Technological progress has subverted the traditional audit work, and the audit organization mode, personnel allocation and management, plan follow-up and supervision have all been changed. In order to efficiently carry out the audit work and optimize the allocation of resources, the Audit Office adopts the practice of "two overall planning" in the audit project and the organization mode. In order to meet audit data requirements, the Office and local audit authorities need to strengthen collaboration. In the early stage of the audit project, a comprehensive data analysis team should be established. All the team members are big data audit experts. Their work is to use big data technology to provide data support for determining the key areas, regions and matters of the audit, and provide clues or doubts of major cases for the audit team. In this way, the audit team in the process of "decentralized verification" can have a targeted work. After the audit team makes the verification feedback, the data analysis team can also correct the omissions in time, and the data analysis model constructed can be reused and used for promotion, so as to effectively play the functions of decentralized verification and overall analysis and achieve the effect of mutual promotion. In practice, we should explore the following two modes of audit organization: one is project audit. This mode has the characteristics of time period, which needs to be fully taken into account in the personnel arrangement, so as to ensure that data analysts can get the basis of audit matters at the first time, quickly form analysis ideas, and achieve rapid expansion. The second is organizational style. This mode is characterized by a large time span. Therefore, in off-site audit, it is necessary to break the boundary between offices and set up a fixed data analysis team, as well as an on-site audit team and a policy research team. In the whole work, it is also necessary to organize personnel to communicate regularly and improve the data analysis ideas.

5.2. Improve the Quality of Auditors and Optimize the Composition of Auditors

To improve the construction of audit informatization, we need professional personnel first. Today's auditors in addition to master professional knowledge, but also need to have information knowledge, can be competent for information system audit work. Therefore, IT IS NECESSARY TO CULTIVATE COMPOUND AUDITORS, STRENGTHEN their innovative consciousness, break the traditional THINKING PATTERN, overcome the dilemma, continue to learn, constantly master advanced technology, and apply it to practice, so as to enhance the participation of auditors. To be specific, we should do the following: First, improve the

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mechanism of talent training, introduction and exchange, build a talent pool, cultivate all kinds of talents, and meet the needs of the development of audit informatization. The imported talents should not only have the professional ability of auditing, but also have the expertise of computer auditing. In the work, we should pay attention to the exploration of talents and focus on training. The second is to organize research on computer audit theory and technology, strengthen academic cooperation with scientific research institutions, strive to transform research results, and improve the level of audit work. The methods and experiences formed in the practice of computer auditing should be summarized in time and systematized. The third is to guide the personnel in the audit practice and improve the computer level in the exercise. If the superior unit has a computer audit project, can send personnel to participate in the promotion opportunity. Develop a cross-training mechanism for computer professionals and auditors to promote the comprehensive quality of both types of personnel. The communication platform within the system can also be used to promote various auditing technologies and generate sparks of thinking collision in the communication. To promote innovation projects in the industry, talents can be organized for discussion and analysis. If innovation results are formed, they can be shared in the system. Fourth, the combination of backbone training and popular learning. Construct audit teaching and training system, improve personnel information quality, keep up with the pace of technological development. For the advanced application training organized by the Audit Office, excellent personnel can be dispatched to participate in it, and then the level of informatization can be improved on the whole through the way of leading troops. Follow-up training courses may also be organized to improve the computer skills of personnel. In the process of auditing, the application of information technology is analyzed regularly, so that the talents can give full play to their abilities.

5.3. Improve the Construction of Big Data Audit Platform and Build a Solid Foundation for Full Coverage of Audit

Audit departments need to master more basic data of government departments to achieve full coverage of the upgrade. Audit departments need to improve the construction of big data platform, timely collect the latest data, objectively analyze the current economic situation, make accurate judgment on the risk situation, build an authoritative, efficient and comprehensive audit supervision system, and play the role of economic supervision. In addition, in order to promote the in-depth development of audit work, it is necessary to build a platform to share audit results. In the audit, once problems are found, they must be vigorously rectified, and these problems, together with the investigation unit and the collected data and evidence, should be incorporated into the platform to strengthen the management. This will not only help the auditors to accumulate work experience, but also grasp the key points in the work, prevent a lot of time spent on site verification, avoid the problem of repeated audit, at the same time, the rectification situation can be tracked, the audit supervision efficiency will give full play to the problem of repeated inspection and violation.

5.4. Formulate Big Data Auditing Standards and Improve the Implementation Path

At present, China has not formed a perfect auditing standards, supporting laws and regulations need to be further improved. Because of this, the quality of work varies from department to department. Therefore, relevant laws and working mechanisms must be improved to fully release the audit efficiency of big data and provide guarantee for efficient audit work. In the construction of the legal system, audit institutions need to obtain certain authority granted by the government. With this authority, they can effectively use big data technology to obtain the data of each unit, build audit files on this basis, and carry out audit work under the support of law. Secondly, it is necessary to further improve the auditing standards. In the process of using big data technology for auditing, it is necessary to unify the working standards and standardize

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the working process, so as to further improve the data storage and management mechanism. Only when laws are sound can big data auditing be carried out in accordance with the law. In addition, data provision and working mechanism need to be standardized to guide enterprises to voluntarily report data. For businesses that lack reporting technology, the necessary support can be provided to make electronic data available in a timely manner.

6. Conclusion

With the continuous development of information technology, big data technology will promote the quality and efficiency of medical insurance audit. On the one hand, the application of big data technology in medical insurance audit requires theoretical guidance and construction in this field, and comprehensive analysis of problems encountered in practice. We will promote cross-departmental and cross-system data exchange to ensure the smooth progress of big data audit in the field of medical insurance. On the other hand, to speed up the training of compound talents, seize new opportunities and meet new challenges, only to cultivate audit talents with comprehensive quality, can promote the development of medical insurance audit and make it reach a new height.

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