

# Research on the Application of Big Data Technology in the Investigation of Economic

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**Abstract:** With the advent of the era of big data, economic crimes have presented many new characteristics and manifestations. Faced with massive capital data information, traditional judicial accounting inspection methods have been difficult to adapt. With the development of information science such as big data technology, artificial intelligence and blockchain technology, in the practice of judicial accounting, it is necessary to change and upgrade the thinking and way of big data, and realize the organic combination of the traditional mode of inspection means and the big data mode, so as to adapt to the work requirements of preventing and combating economic crimes under the new situation. In order to adapt to the development of The Times and meet the needs of work, judicial accounting inspection must use big data technology, and it is urgent to carry out judicial accounting big data application research. Only by excavating the most comprehensive evidentiary information to the greatest extent and in the shortest time can we take the initiative to effectively combat economic crimes, protect the legitimate economic interests of the masses, and promote the healthy and stable development of the economy. Based on this, this paper analyzes the impact of big data on economic crime investigation based on the characteristics of economic crime under the background of big data, and studies the operation mode, operation mechanism and application path of big data analysis and application in economic crime investigation again, so as to further promote the application of big data in economic crime investigation. This paper analyzes and studies the relevant problems of economic crime investigation under big data, aiming to provide guidance and help for practical work.

**Key words:** Big data; Economic crime; Economic crime investigation; Machine made

## 1. Introduction

China has entered the era of digital economy, the mode of economic activities, production and operation, management system, etc. have undergone digital changes, accounting computerization is widely popularized, economic crime as a special economic behavior is also changing, the crime process appears network, digital trend. In the process of economic crime investigation, more and more people are involved, the amount of funds involved is getting larger and larger, and the majority of national and cross-provincial cases, each case link generates a large amount of data, which brings new challenges to the investigation of economic crime cases.

## 2. Overview of Big Data and Economic Crime Investigation

### 2.1 Overview of Big Data

At present, there are roughly three aspects in the understanding of big data in the academic circle. First, it is proposed that "big" refers to the aggregation of a large number of data from the characteristics of "big"; The second is the synthesis and synthesis of the concept of "big data", "big data" refers to "big data", which includes both "data", "technology", "talent" and "system" and other aspects of the content. Thirdly, based on the value of big data, Schonberg, the "father of big data" as a typical example, proposed that the essence of big data is its internal rules.

"Big data" has gradually entered the public eye, and has caused a great impact on human daily life, known as the "data revolution" after the industrial revolution and technological revolution. Guo Shengkun pointed out at the Fourth Plenary session of the Central

Committee: "We should strengthen the construction of information technology, build big data of economic investigation, and innovate the way of big research and judgment; Build a large application model to promote the transformation and improvement of criminal investigation work. On this basis, it is proposed that under the new normal, it is a new development direction to combat various types of economic crimes and realize the digitalization of economic investigation work. "Police big Data" is a practical method that combines big data technology with police work in order to respond to the requirements of police work. In recent years, although in public security work, the application of big data has begun to emerge, such as I2 crime analysis software, economic investigation application cloud platform, JASS UnionPay judicial assistance system and so on. However, in theory, what is big data for public security, we can analyze it from the perspective of practical application. The so-called "public security big data" refers to a series of technologies such as data storage, data processing, and data analysis used by investigation departments in order to identify criminal facts, collect criminal information, and predict criminal behaviors.

## 2.2 Investigation of Economic Crimes

Economic crime investigation is "the special investigation work and relevant mandatory measures carried out by investigation organs in accordance with law in order to find out the facts of economic crimes, collect evidence, discover and seize criminal suspects in criminal proceedings". The investigation of economic crimes discussed in this paper mainly refers to the investigation of economic crime cases under its jurisdiction by the economic investigation department of the public security organ. According to the latest Provisions of the Ministry of Public Security on the Division of Jurisdiction of Criminal Cases in 2020, the economic investigation department of the public security organ is currently under the jurisdiction of 77 kinds of cases.

## 2.3 Data mining theory

Data analysis and mining is the core component of the whole big data analysis process, the focus is on data analysis, and the internal potential value is generated from the

data analysis and mining process. This stage is to use machine learning, statistical analysis and other methods to find useful knowledge or patterns from the database.

In addition, since data analysis mining is also a process, only by closely associating data analysis mining algorithms and practical experience with the company's business logic and needs, and constantly polishing in the actual implementation process, can better results be achieved.

## 3. Significance of the Application of Big Data Technology in Economic Investigation Work

### 3.1 Realize All-Weather Governance

In recent years, under the overall arrangement of the Ministry of Public Security, the public security departments throughout the country have repeatedly organized a severe crackdown on economic crimes, which has effectively curbed the increasingly serious economic crimes. The number of economic crimes has dropped significantly. However, the investigation of economic crime in our country has not fundamentally eliminated its root cause, nor has it established a set of dynamic long-term investigation system. In the big data environment, the realization of "all-day", "normal", "full-time" economic crime governance has become a reality. In order to truly achieve all-weather and normal management of economic crimes, it is necessary to aggregate and explore the resources of big data to the maximum extent, integrate, clean and compare the data of the data, and finally generate early warning information or case clues, so as to prevent and combat economic crimes in a targeted manner. Through the use of big data technology, a large amount of information can be obtained in real time and dynamically retrieved. The information flow, capital flow and personnel flow are analyzed. Through the in-depth analysis of the bill flow, it is possible to warn large economic crimes before they occur, so as to prevent them and reduce their occurrence; This will turn an attack after the fact into an attack before the fact. In the context of big data, a large number of economic crimes take place in the virtual world on the Internet, utilizing high-tech technology without any form of communication with the victims. With this in

mind, we can use big data technology to actively collect data in real time, analyze and process it, and be able to find the associations hidden behind these data in a timely manner; The facts of the crime were investigated and characterized. In addition, using the advantages of big data, we can also establish a unified evidence clues management, cross-regional investigation cooperation and other mechanisms to build a pattern of large-scale investigation, so that we can be more comprehensive and effective governance of economic crimes.

### **3.2 Realize Accurate Analysis of Criminal Behavior**

In the case of economic crime, although the criminal subject's criminal behavior is carried out in a virtual world, all its actions in the real world are related to the real world. In other words, when criminals commit a series of illegal acts, they will leave some evidence in this virtual world. We have deeply combined big data technology with criminal investigation work, so that we can widely collect the information left by criminal suspects, and carry out unified analysis and processing; Excavate the hidden connection, draw the data map of the suspect, and analyze the handprints of the suspect's data to seek the breakthrough of the case; Then the essence of the crime is verified and the process of the crime is gradually sorted out.

### **3.3 Solving Cases With "Zero Confession"**

Although financial information can be used as the main evidence of economic crimes, witness statements still play a pivotal role in the investigation process. Because of the premeditation and design of economic crimes and the lag of cases, criminal suspects can collude and disprove evidence in the process of committing crimes and before the consequences of crimes appear, so it is difficult to obtain important clues and evidence through investigation and interrogation. Using big data technology, the transfer information that can be obtained from multiple platforms such as the criminal suspect's bank, Tenpay and Alipay can be analyzed to track the flow of money and penetrate the information layer by layer into the relevant accounts. The context of the case can be sorted out clearly, so that a process can be carried out to reproduce the

entire crime, and the evidence can be collected by targeting modules to further form a complete evidence chain. The third is to achieve the investigation purpose of "zero confession".

### **3.4 Enhancing Intensive Combat Capabilities**

Economic crime is a kind of infringement of the property right of the victim, which does great harm to the order of the socialist market economy. Therefore, when dealing with such cases, it is difficult to rely only on the strength of one or a certain department, and joint operations are often adopted. Through the cooperation between various police forces and departments, through the coordination and coordination between various police forces and departments, under a unified dispatch, the whole chain of criminal activities has been completed. To improve the overall combat effectiveness of the public security organs, the police resources of the public security organs need to be coordinated and optimized, and all these need a large data platform to support. Based on "big data", with the Ministry of Public Security as the center, to realize information sharing and collaborative work of public security departments across the country; In this way, the processing speed of the case can be better improved and the task can be better completed.

### **4. Conclusion**

In the big data environment, everything is observed and observed by a large number of flowing information. How to receive, understand, record and make better use of this flow is an inevitable problem in front of us. Applying big data technology, thinking and ideas to economic crime investigation and response work is also an inevitable choice for economic investigation departments to respond to the development of The Times. At present, with the rapid development of big data technology, police departments should adopt a cautious approach when using big data, not only pay attention to emerging technologies, but also adhere to the law should be calm and rational; Drive your work positively and be cool with feedback. "Modesty" and "innocence" should be regarded as the most basic judgment criteria in criminal proceedings, and the two basic judgment criteria of "basic"

and "legal" should be followed in the proceedings. Only in the big data environment can the response to economic crimes better achieve political, economic and social value goals.

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