Intelligent Realization of Big Data in Procuratorate

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Abstract. With the gradual transformation of information society to intelligent society, it is imperative for procuratorial organs to use big data services for procuratorial work. Big data reveals the rules and links behind the data by processing valuable data. Big data investigation is different from the traditional process of reconstructing crime by consequence tracing. It is an effective clue to mine the relationship between various clues by analyzing and processing data. On this basis, an effective model is constructed to predict the direction of investigation. Investigation means have changed from ex post investigation to ex ante investigation, from passive investigation to active investigation, from single thread investigation mode to multi-thread cooperation investigation, which will surely lead the development direction of investigation in the future.

Introduction

Big data refers to the ability to process as decision-making and pre-judgment process optimization. It is a huge, high growth rate, diversified information asset.

In September 26, 2018, the wisdom of procuratorial work is shown in the results of the national procuratorial organs procuratorial Intelligence Conference. This is includes the application of new technologies such as Shanghai’s criminal intelligent assistant system and Chongqing’s Huinong poverty alleviation fund project data sharing system. The analysis and processing ability of large data is helpful to the whole network and all-round situation perception. Using the advantages of big data, we can draw “crime clue map” to provide evidence review guidance and assistance for preventing and investigating job-related crimes.

The Difference between Big Data and Traditional Investigation Model

The traditional mode of investigation is basically to reconstruct the criminal process by consequence traceability. It only pays attention to a series of routine investigative measures, such as the investigation after the event, the inquiry of witnesses and suspects, and the investigation of crime scenes. The big data investigation mode can discover criminal signs early warning and investigation by analyzing and processing a large number of daily data of high-risk groups. After the incident, these big data can help to establish clue maps for case clues, draw Suspects’ relationship maps, find out possible criminal information, and speed up the detection of cases.

Compared with the traditional duty crime investigation, the big data investigation has the following characteristics:

Firstly, big data investigation focuses on mining the relationship between clues and digitizing them. Traditional investigation is based on people, collecting witnesses, evidence and clues and producing paper documents such as transcripts. In addition to collecting clues and evidence, big data investigation also digitalizes case materials, reorganizes discrete data with the help of data processing system, and finds out effective data to generate relational spectra.

Secondly, big data investigation breaks the space-time restriction and achieves resource sharing. All kinds of data in the investigation can not only achieve timely interconnection and intercommunication, but also collect data at different locations and times to obtain preliminary results through the processing of large data platform to improve the efficiency of investigation.
Finally, big data technology can not only effectively deal with massive data, but also early warning and rapid intervention of some criminal acts by means of intelligent information processing and analysis, so as to achieve rapid response and accurate attack.

The Foundation of the Application of Big Data in Procuratorates

Nowadays, with the increasing number of cases in the procuratorate, it can be divided into three modules: intelligent case handling, intelligent service and intelligent management.

Intelligent case handling: On October 31, 2013, the Supreme Procuratorate held a meeting to comprehensively promote the case business system in the national procuratorates. This system focuses on linking the business of all procuratorates, realizing resource sharing and document standardization, process standardization and scientific management. Through this system, a large number of case data have been generated in various links of case handling and approval circulation, which provides the original data support for large data wisdom case handling.

Intelligent service: The remote interrogation system is a multi-function information system built to cooperate with the business department to interrogate suspects remotely. It integrates high definition audio and video surveillance system, remote command system, remote video system and other technologies as a whole. This system will improve the efficiency of handling and closing cases, save the time of handling cases, and provide more dimensions of case data.

Intelligent management: Archives management system is a way to make full use of information technology to manage archives management. It improves the management efficiency of case management departments, and realizes resource sharing between business departments and archives management departments by means of network technology. In addition, it also facilitates the smooth development of archives work such as case filing, archives inquiry and file binding, and provides data support for the application of large data in the procuratorate.

With the use of various auxiliary case handling systems, such as case business system, remote interrogation system, file management system, automated office system, a large number of case data will be generated. These unstructured data are complex and diverse, and the speed and timeliness of data generation are getting stronger and stronger. Therefore, it is imperative for the procuratorate to intellectualize the big data.

Application Foundation of Big Data in Procuratorial Organs

General Secretary Xi Jinping stressed that we should use big data to improve the level of modernization of national governance. The Supreme Procuratorate issued the “Opinions of the Supreme People's Procuratorate on Deepening the Construction of Intelligent Procuratorial Service”. It can be found that promoting the application of big data and artificial intelligence technology in procuratorial work has become the focus of procuratorial work.

Taking the fight against official crime as an example, in the past, it was generally carried out through extensive netting, special assault and Human-Sea tactics, which not only took time and effort, but also had unsatisfactory results. Nowadays, personal information, trajectory, financial circulation, social interaction and so on have been informationized. People live in informationization all the time. The information collected by a large number of people in the past can be easily obtained by means of informationization nowadays. Through data discovery, analysis and processing, we can clear the direction of investigation and improve the efficiency of investigation. Especially for the analysis of some key government projects, bank accounts and other data, it can intellectualize the investigation and early warning of abnormal and large changes in a short time, and can respond quickly and strike accurately.

Research on the Application of Big Data in Procuratorial Work

On June 12, 2017, the Supreme People's Procuratorate issued “the guide to action of big data(2017-2020)”. It is pointed out that we will rely on the frontier technologies such as big data
technology and functional voice system, make overall use of the procuratorial data resources with judicial case data as the core, establish the overall framework of procuratorial big data, create a good life of big data application and build a wise procuratorial project. It also points out the development direction and goal of intelligent procuratorial in the future, and promotes the transformation of procuratorial informatization from service management to service management and case handling.

A large amount of data generated in the process of prosecution case handling is gathered in the big data platform through the procuratorial business system, archives management system, remote interrogation system and other business systems, which creates conditions for big data investigation. In addition to these systems, the prevention of civil servant crimes can also be achieved through data sharing among public security, courts, banks and other institutions. These data are aggregates of human, material and trace elements, which are not only a single data set, but also a relational set. By integrating the data into the big data investigation platform, different data sets in different fields can be processed in different ways to produce the following applications: 1. Through the extraction of the procuratorate’s own data, we can warn the high-risk groups with bribery and acceptance records. 2. Trace information application can be realized by sharing data with public security. 3. Video surveillance data is used to deal with the micro-expressions of the suspects. 4. By analyzing the suspect’s communication data shared with telecommunication department, we can judge the criminal trajectory and related person’s information. 5. By sharing data with banks, the suspects and high-risk groups can be monitored and the flow of criminal funds can be investigated in time. 6. Through cooperation with Internet companies, we can grasp criminal evidence and detect cases by collecting information about suspects and high-risk groups such as network software, QQ, Alipay.

Big data investigation includes collection, analysis and processing, pre-judgment and sharing. Collection is mainly the preliminary collection of clue evidence. It extracts valuable information which is difficult to find in data by analyzing big data model. This is includes the analysis and prediction of crime trends, the process of the case and the characteristics of the case, and the discovery of the relationship between things, so as to point out the direction of investigation. By the sharing of large data platform, different departments and personnel can cooperate to detect cases and improve the efficiency of handling cases.

By checking the data in the big data platform of the procuratorate, such as the data of the case business system, we can compare and retrieve the biometric features such as fingerprints, footprints and DNA obtained from on-site investigation with the data generated from previous cases. From the above comparison, we can find the suspects and high-risk persons who have colluded in the case or have the record in time. We can also compare them with the database of public security and court. After analyzing and processing the effective information, combined with the judgment model formed by the previous case data learning, the big data platform can give a rough judgment.

In 2013, for example, a pregnant woman surnamed Tan tricked the victim into sending her home in County B on the grounds of ill health. After sending him home, his husband raped and killed the victim. After they were arrested by the Procuratorate, the B County Procuratorate and the A City Procuratorate recognized the material evidence on the spot through the remote interrogation system, the remote publication evidence system and the big data reduction case discovery site, and made timely decisions on arrest for intentional homicide, rape and robbery.

Intelligent analysis of suspicious goods and bank information based on big data platform can find the property involved according to the suspect, and timely freeze the stolen goods involved and fix the evidence of the property involved. When tracing the property involved, the information of the item can be tracked in time by the mobile phone number. This information includes logistics information, recipient information, location information and so on. In the past, these tasks not only need a lot of manpower and material resources, but also cannot fully grasp the information. Now with the application of big data technology, the approval process is simplified, standardized and efficient. It has the characteristics of easy traceability in handling cases, which is conducive to the standardization of law enforcement and the improvement of judicial responsibility system.
Conclusion

The procuratorates have begun to use big data for intelligent procuratorial work. In the work of procuratorates, modern information technology is used to construct a five-dimensional application system of procuratorial information, which is “sense, transmission, knowledge, use, management”. “Knowledge” refers to the use of cloud computing and big data to build procuratorial business knowledge base. “Use” refers to the construction of procuratorial assistant decision-making platform relying on case handling data and new technologies. Big data investigation platform is an assistant decision-making platform for procuratorial services based on big data and cloud computing, which embodies the five-dimensional integration of intelligent procuratorial services. Especially in the field of crimes committed by public officials, big data has a wide application potential, plays an important auxiliary role in the investigation and decision-making, and is more important in the field of crime investigation and prevention by public officials.

References


