The Construction of Public Security Rule of Law in the Era of Big Data

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Abstract—**Under the era of big data, the public security situation has become increasingly severe and higher requirements have been put forward to promote the construction of public security rule of law. This paper deeply analyzes the difficulties and challenges faced by building a public security rule of law in the context of big data. Combining with the rule of law concept and data governance thinking, using big data technology and governance model, as well as governing the platform and establishing recommendations and countermeasures for public participation in the long-term mechanism, it proposes to strengthen the public security rule system and create data sharing.**

Keywords—big data; public safety; public participation mechanism

I. INTRODUCTION

In June 2011, the McKinsey Global Institute first proposed the "big data era" in its research report "The Next Frontier of Big Data: Innovation, Competition and Productivity", which defines big data as "size". Data sets go beyond the capabilities of traditional database tools for acquisition, storage, management, and analysis. Big data is characterized by its volume, Variety, Velocity, and Value. It has transformed the social development trend and expanded the scope of economic and social activities to virtual space, thus affecting the development and transformation of public safety management.

At this stage, big data has become an important national development strategy, and all countries recognize the key role of big data in promoting reforms in the field of public safety management. Whether in the traditional public security fields such as natural disasters, accident disasters, public health and social security, or in the non-traditional public security fields such as using Internet technology to trigger network crisis events, governments all make full use of big data independent collection, correlation analysis, and depth. Mining and other functions, improve the scientific nature of public safety emergency management decisions, improve the ability and level of public safety governance, and make public security management intelligent, accurate, and refined.

The United States is the first to introduce big data technology into the field of public safety management. Since the "September 11" incident, the special investigation committee concluded that coordination between security departments is not one of the important reasons for the incident. Since then, the United States has built a big data platform to share intelligence resources in different departments in a timely manner, and through data mining and analysis technology, fully search for the correlation between data and information, thereby improving the response speed of government departments to respond to public security crisis, and improve The government's risk prevention capabilities and emergency management levels. In addition, based on big data technology, US companies have scientifically predicted the epidemic disease transmission mode in the field of public health and safety. For example, during the outbreak of influenza A H1N1 in 2009, Google's data traces and real cases were left behind by search engines. Information, using information gathering and intelligence analysis technology, predicts large-scale influenza infection two weeks ahead of the government's public health department, and depicts "flu trends", reflecting the accurate prediction and efficient evaluation of big data technology for public security crisis events. Therefore, the US federal government issued the "Big Data Research and Development Initiative" on March 29, 2012, and officially launched the "Big Data Development Plan" at the national strategic level. The Japanese government introduced big data into earthquake disaster management, and analyzed the huge amount of location information generated by mobile phones and car navigation systems to provide accurate and timely rescue services for the victims. Rio de Janeiro, Brazil, through effective analysis of conventional weather forecast raw data, effective warning and prevention of natural disasters such as mudslides, landslides and floods caused by the rainy season. Singapore provides the government's use of big data science decision-making cases, through the ITS system to integrate information resources of traffic police, road administration, public transportation, rental and other departments, to achieve data collection, information release, decision-making implementation integration, so as to accurately predict the time of traffic congestion, Location and serious conditions, in order to quickly release traffic information, properly handle traffic accidents, and control traffic accidents from the source.

With the continuous advancement of China's big data strategy deployment, social and economic development,

political life and cultural environment are fully covered by big data technologies and concepts, which promotes data development and innovation in the field of public security. At the second meeting of the 12th National People's Congress in 2014, the concept of "Big Data" entered the government work report for the first time. The 2015 State Council executive meeting adopted the "Action Outline on Promoting Big Data Development", marking the official launch of China's big data strategic mission. In the same year, the Fifth Plenary Session of the 18th CPC Central Committee proposed the implementation of the "Internet plus" action plan, and further emphasized the "implementation of the national big data strategy." The "Network Security Law of the People's Republic of China" implemented in 2017 clarified the rules for the management of big data security from the legal level, established the rule of law in the application of data in the field of public security, and improved the relevant legal system for the protection of big data. In addition, some local governments have introduced local regulations and policy documents in conjunction with the local public security environment and the development of big data technologies, and have made overall regulations on data collection, integration, analysis, and supervision of the use of big data technologies.

Therefore, on the one hand, the development of big data technology has expanded the risk communication channels and scope of public security incidents, increased the speed of dangerous reactions, and promoted public security events to be characterized by chain, intensive and unpredictable characteristics. On the other hand, big data technology provides new governance concepts and technical support for innovative public safety management mechanisms with its massive data storage, rapid data processing, in-depth data mining and accurate data analysis, which has led to the full implementation of public safety management models. Thinking about the change of orientation, promoting the modernization of government governance capacity in the field of public safety management, and improving the level of rule of law construction, the public security emergency management has opened a new era of "speaking with data, making decisions with data, managing with data, and innovating with data" under the rule of law.

II. THE NECESSITY OF PROMOTING THE CONSTRUCTION OF LAW

As China enters the social transition period, deep social contradictions become increasingly prominent, the security situation becomes increasingly severe, and various security risks are constantly emerging, making the public security situation appear complex and unpredictable. The traditional public security management model "data barriers" The disadvantages such as fragmentation, poor information, slow response, single subject and lack of synergy have become increasingly prominent, and it has been unable to meet the actual needs of public security in the new era. In addition, the rapid development of information technology such as cloud computing, Internet of Things, and artificial intelligence in the era of big data has also increased the complexity and instability of the public security environment.

The emergence of new types of crimes and the amount of data threatening public safety are complex and relevant. The emergence of derivative risks has increased the difficulty of identifying the evolutionary rules of public safety risks, highlighting the suddenness, synchronicity, diversity, ambiguity and unpredictability of public safety issues in the era of big data, making public security to the traditional The development of both safety and non-traditional security poses even more serious challenges to public safety governance.

Therefore, strengthening the rule of law in public security in the era of big data is based on the concept of the rule of law, based on the legal system, and using big data technology as the core means of governance to promote the standardization, technicalization, scientificization, normalization and rule of law of the public security governance system. In view of the above problems, actively discussing and studying big data as a new information technology and thinking concept, transforming the public security management model, improving the level of public security governance, and ultimately promoting the construction of public security rule of law is of great significance.

First, in line with the country's strategic goal of actively promoting the development of big data and building a strong data country in the context of adhering to the rule of law, and responding to the Party Central Committee reforming state institutions and establishing emergency management to improve national emergency management capabilities and levels, and improve the public security system and departmental decision-making. Second, the promotion of big data public security rule of law protection is under the supervision of the public security legal system, innovative government public safety governance concept, from traditional experience governance to data governance model, and through the promotion of government data open and data sharing and sharing, All members of the society participate in the public security diversified governance mechanism, thereby improving the government's credibility, promoting the establishment of the rule of law government and serving the government. Third, big data provides technical support for government governance, through comprehensive coverage, deep mining and precision of public safety information. The analysis transformed the government's public security decision-making model, improved the scientific, objective and accuracy of public safety decision-making, and improved the public security emergency response capability and risk prediction level, thus realizing the modernization and rule of law construction of the national governance system and governance capacity.

III. CHALLENGES AND DILEMMAS

It must be recognized that the current legalization of public security in China still faces prominent problems.

First, the public security management legal system is not perfect, and the governance process lacks legal protection. The "Emergency Response Law of the People's Republic of China" passed in August 2007 marked the formal

promulgation of China's public security incident management law, and began to establish a systematic public emergency response through a series of related laws and regulations. Management laws and regulations, such as the "Fire Law", "Flood Prevention Law", "Safe Production Law", "Shock and Disaster Reduction Law", "National Emergency Response Plan for Public Security Incidents", "National Natural Disaster Relief Emergency Plan", etc. The National Security Law of the People's Republic of China adopted afterwards established a centralized, authoritative and efficient national security management leadership system, and laid down the basic principles, tasks, and national security work systems in the form of laws. The responsibility of state organs, individual citizens and organizations is to safeguard national security. However, in view of the current complex and ever-changing public security environment, on the one hand, the current public security management legal system in China is not perfect and perfect, and the norms of sudden public safety incidents are scattered in a single field with special normative documents. There is a lack of coordination and linkage mechanism between the main body of the laws and regulations. Most of them are limited to the regulations and industry norms of their own professions and interests. They do not form a complete set of scientific systems and clear public security emergency management laws and regulations. On the other hand, in practice, in response to certain major public security issues and legal relationships, government management departments are accustomed to adopting the form of emergency plans instead of the implementation of laws and regulations, which makes the relevant major government decisions and administrative actions lack specific and clear legal basis. In addition, the existing public safety management laws and regulations mainly aim at the prevention and control of traditional four types of public safety emergencies, namely natural disasters, accident disasters, public health events and social security incidents, which are rapidly developed by Internet technology. New public security issues such as new cyber fraud crimes, data platform violations of personal privacy and forgotten rights cases have not been fully incorporated into legal norms, and there are still a large number of legislative gaps.

Second, there is a lack of a unified and long-term mechanism for public safety governance, and the level of governance capacity is insufficient. Since the SARS incident in 2003, China has gradually formed a "one case, three systems" public safety emergency management system with emergency plan, emergency system and emergency legal system as the main contents. This kind of emergency management system mainly adopts the "predictive-response" model, which mainly relies on traditional methods such as empirical decision-making and expert consultation, and is suitable for dealing with sudden public safety events with small scale, low complexity and slow evolution of event situation. However, it is difficult to adapt to the sudden, synchronic, large-scale and complex ambiguity of the public security environment in the era of big data. On the one hand, in the process of dealing with public security emergencies, there are problems such as division and treatment of relevant management departments, insufficient coordination and

cooperation, unclear information sharing, and unclear responsibility of the subjects. Commander is lack of professional high-level coordination command leadership mechanism. On the other hand, the traditional public security risk governance model lacks long-term governance and system governance awareness, accurately predicts the risk level and lacks the ability to prevent crisis in advance, and relies on the sports-specific special governance model and empirical management approach, ignoring the standardization and rule of law public. The construction of a long-term mechanism for safety governance makes it difficult to achieve effective public safety and long-term stability.

Third, the coordination mechanism for the participation of all members of society in public safety governance has not yet been established, and the awareness of public security law needs to be improved. The public security management process will inevitably involve different demands of the interest groups of all parties in the society. If not handled properly, it will easily lead to social conflicts and group incidents, resulting in the emergence of secondary derivative crises, thus increasing the difficulty and cost of public safety management. At this stage, the public security awareness of Chinese nationals still needs to be strengthened. It is necessary not only to improve the basic crisis emergency quality and safe handling of knowledge, but also to cultivate its subjective consciousness to actively participate in the process of social public safety management, and actively mobilize social forces and market resources. Organize and mobilize various social entities to use information technology and Internet tools to participate in the construction of public security systems, so that every member of society becomes a part of public security governance.

IV. MEASURES TO PROMOTE THE CONSTRUCTION OF LAW

In the era of big data, we will promote the construction of public security rule of law, and incorporate public safety management into the rule of law. We should establish a comprehensive public security legal system, form a public security rule of law concept and data governance concept in the whole society, and promote the standardization of public safety management, effectively prevent and control various public emergencies in the era of big data in a scientific and systematic way, and achieve the goal of safeguarding national security, social stability and civil rights. This is not only the fundamental measure and ultimate guarantee for public security, but also the realistic demand for the grim situation of public security during the period of social transformation in our country.

First of all, we must establish the concept of big data public safety governance and build a big data public safety rule of law theory. Big data is not only an information technology but also a mode of thinking. At this stage, big data research in the field of public security mostly stays at the level of technology application practice. The research on big data public safety management theory lags behind, and most of them stay at the level of policy documents, and have

not yet established a new theoretical system of data governance rule of law. As a practical aspect, the theory can play a leading and guiding role for practical activities at the actual level. Therefore, it is necessary to change the traditional concept of public safety governance, establish the awareness of big data governance, transform the previous causal relationship thinking into related relationship thinking, and transform the previous problem-oriented concept into a result-oriented concept. The data samples under big data technology have large capacity and diverse types, and can quickly obtain a large number of data samples in a short time, and are infinitely close to the overall data samples.

In addition, it is necessary to change the current research direction based on policy documents, deepen the research level of big data in the field of public safety management, and try to construct the theory of big data public safety rule of law. The construction of public security rule of law with big data technology as a means of governance is not only an innovation from the governance mode and governance model, but also an innovation in the concept of governing the country according to law. The core of public security rule-based construction in the era of big data is still adhering to the principles of the rule of law, fairness, and equality. After summarizing the characteristics and problems presented by big data technology in practice, it combines the social risks faced by public security in the era of big data. Diversification trend, increase research on public safety laws and regulations system, build a big data public safety rule of law theory, provide academic and theoretical basis for public security management rule of law, and lead the society's public security rule of law awareness.

The second is to establish a comprehensive system, unified and coordinated long-term mechanism for big data public security rule of law. The long-term mechanism for the rule of law of big data public safety is accurate prediction in advance, active prevention, and rapid response in the matter, scientific decision-making, summarization and analysis and evaluation mechanism after the event. The traditional public security governance model adopts a sports-style special governance approach. On the one hand, it hinders the stable and standardized public security rule-of-law construction, overemphasizes the will of the leaders of specific public security incidents, and leads to the emergency management laws and regulations flowing in form; On the one hand, the governance model is single, which leads to the fragmentation and coordination of the public security management departments. The lack of legal basis for governance means that public security governance relies on empirical decision-making and command, and does not regard laws and regulations as norms and guidelines for conducting public security rule-of-law management.

From the legislative level, it is necessary to strengthen the construction of public safety laws and regulations, integrate the public safety management laws and regulations currently dispersed in various specialized fields, supplement the relevant norms and guidelines for the development of big data technology in the field of public security rule of law management, and establish A well-established system of laws and regulations covering important public safety events.

For example, the Data Security Law can be formulated to incorporate the application of big data technology in various fields and links of public safety governance into legal norms, to clarify the nature and attribution of data power, and to regulate the formation, analysis, processing and supervision of data use. Relevant legal relationships provide a basic legal basis for big data technology to face various aspects in the process of public security rule of law construction. In addition, the main contents of public safety governance laws and regulations in the past focused on emergency response, and pre-existing prevention and post-evaluation and assistance are insufficient. Therefore, the key points of public security legislation should be changed in combination with the relevance and results-oriented characteristics of the big data governance model. Strengthen the legal norms of prior prediction and post-mortem analysis and clarify specific and feasible operational measures.

From the implementation level, based on big data technology to improve the ability of public security rule of law governance, innovation public security rule of law governance. Big data technology can promote the precision, scientific and intelligentization of public security rule of law, and realize the government's scientific decision-making and democratic decision-making. This is an inevitable requirement for establishing a rule of law government and a country ruled by law. First, reform the public security emergency management coordination mechanism, change the state of public security management, and improve the public security emergency management coordination ability and decision-making level from the macro leadership level. Improve data processing, deep extraction, and accurate analysis of technical levels to achieve efficient processing and effective extraction of structured and unstructured data information, comprehensively grasp public safety risk information, comprehensively judge the development of unexpected events, thereby enhancing public safety The predictive ability of governance provides technical support for the government's scientific decision-making, and promotes the transformation of the traditional risk management model to the modern risk governance model, that is, the transition from traditional static data processing technology to real-time acquisition of dynamic big data collection technology, from traditional finiteness and generality. The transformation of management to the refinement of big data and personalized services reflects the requirements of establishing a rule of law government and a service-oriented government under the concept of governing the country according to law. Secondly, integrate and optimize the functions of the public security emergency management department, and coordinate the work of data planning, implementation, application and opening up.

From the perspective of organizational security, we attach importance to cultivating big data legal talents, enabling data values to be realized through high-level data analysts and legal talents. First of all, it is necessary to promote the leadership of the government departments at all levels of the tree to rule the concept of governance and data governance awareness, and strengthen the study and application of public safety management laws and

regulations and big data technology. Conducting training on big data management capabilities for public safety management departments, improving management personnel's data collection, analysis and processing skills, and incorporating them into the annual assessment process; secondly, urging government departments at all levels to promote emergency response to public safety incidents in strict accordance with laws and regulations. Measures and supervising relief work afterwards, improving the level of legalization of public security governance; finally, publicizing the public security legal system and big data thinking concepts and applied technologies in the whole society, cultivating public rule of law concepts and data concepts, especially the key publicity and education of colleges and universities Platform to train a sufficient reserve of legal talents for big data technology applications.

In the construction of public security rule of law in the era of big data, the government should promote the pluralistic co-governance of the subject with an open attitude, and regard the subjects such as citizens and social organizations as the "co-decision makers" of the public security rule of law management, and build between the government and the public. Multi-level and multi-disciplinary cooperation encourages citizens and social organizations to actively participate in public security governance. By broadening public participation channels and increasing public participation, an effective social public participation mechanism is established in the process of public security rule-of-law construction.

Therefore, through the rapid release and dissemination of online media and social platform data information, the public's participation in public security governance channels will be broadened, so that citizens can participate in the public security rule-of-law management process in real time, and promptly provide opinions and opinions on emerging issues. Huge information data and multiple channels of communication have also strengthened the effective communication between the government and citizens. The in-depth analysis of social behavior data generated by the rapid development of social networks has made the government show a social trend in public safety management mechanisms.

The government should encourage non-government organizations to actively participate in the process of public security rule of law management, form a new pattern of "public-private collaboration and cooperation" and "third-party governance", and jointly promote the process of public security rule of law, data, and social governance. By organizing social organizations, enterprises and institutions, and other non-governmental organizations to participate in public security emergency management, data and information such as social public opinion and citizen appeals can be collected to provide reference and suggestions for government decision-making, and can be restored after public security incidents. During the period, we actively participated in the emergency rescue work and provided professional, personalized and refined services.

Strengthen the cooperation between the government and the Internet industry and information technology enterprises, and use the related technologies of big data collection, analysis and processing owned by enterprises to establish cooperation, authorization or entrustment between the government and enterprises to help the government improve the efficiency and accuracy of decision-making, to improve the modernization level of government governance capabilities and build a cooperative government under the rule of law.

Finally, we must encourage colleges and universities to train professionals with legal knowledge and big data skills, and strengthen the research positioning of universities as third-party independent institutions. Through vigorously cultivating interdisciplinary high-level professionals with legal knowledge and big data skills, and encouraging cooperation between universities and big data information enterprises, improve the research and innovation capabilities of universities, effectively transform scientific research results and technologies into economic results, and promote In-depth research in the field of big data. In addition, colleges and universities can be used as independent third-party organizations to conduct independent, objective and accurate analysis and evaluation of relevant decisions and measures of the government in the field of public security rule of law construction, prompting the government to discover and correct related problems and errors.

V. CONCLUSION

In the critical period of reform and the period of social transformation, the public security situation has become complicated and difficult to predict, and the traditional public security management model has been unable to meet the actual needs of society. Therefore, it is necessary to grasp the period of big data strategic development opportunities, base the rule of law, establish a data governance concept, transform public security emergency models, make full use of big data technologies and means, strengthen the construction of public safety management laws and regulations, and promote the opening of government data. Create a unified data sharing and governance platform, and encourage citizens to participate in the process of public security governance, thus promoting the pluralistic governance of the main body.

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