



Digital Rule of Law: Reflections on the New Paradigm and Deep Transformation of Hong Kong's Modern Rule of Law System

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Abstract. With the rapid development of information technology, the digital wave is reshaping all levels of the global society at an unprecedented speed, and the legal field is no exception. As an international financial center and a model of the rule of law, Hong Kong's rule of law system has demonstrated its unique innovation and adaptability in responding to the challenges of the digital age. This paper aims to explore the connotation, characteristics, challenges and practical path of "digital rule of law" as a new form of modern rule of law in Hong Kong, analyze its profound changes in the legal system, judicial trials and other aspects, and look forward to its Enlightenment on the construction of rule of law in Hong Kong and even the world. This paper will discuss from the four dimensions of theoretical framework construction, current situation analysis, challenge response and future prospects, and strive to contribute academic wisdom to the theory and practice of the rule of law in the digital era.

Keywords: digital rule of law; Legal system; Paradigm; Transformation

1 Introduction

Due to historical reasons, Hong Kong has inherited the common law system of the United Kingdom since 1842. The common law is centered around case law, emphasizing adherence to precedents. Judges refer to past precedents when making decisions, which gives the legal system a high degree of flexibility and adaptability. After Hong Kong's return to the motherland, although the political system has undergone changes, the original legal system has been preserved and continues to develop under the framework of "one country, two systems".

With the advancement of technology and the global digitization era, Hong Kong's legal system has drawn on advanced international experience and continuously improved in protecting personal information, maintaining network security, and promoting cross-border data flow. Currently, the digital economy in Guangdong, Hong Kong, and Macao is flourishing, leading the construction of a digital China. The Greater Bay Area has become a "leading demonstration zone" for exploring cross-border data flow in China. On December 13, 2023, the State Internet Information

Office and the Hong Kong Innovation, Technology and Industry Bureau issued the Guidelines for the Implementation of the Standard Contract for Cross border Flow of Personal Information in the Guangdong Hong Kong Macao Greater Bay Area (Mainland, Hong Kong), aiming to promote the safe and orderly cross-border flow of data in the Greater Bay Area. However, the rule of law structure of "one country, two systems, and three legal domains" to some extent restricts the value release of massive data in the convenient flow of the Greater Bay Area. Law is a crucial tool for governing a country, and good laws are a prerequisite for good governance. Guangdong, Hong Kong, and Macao need to take the rule of law as the greatest common denominator for high-quality development in the Greater Bay Area, providing normative basis and institutional guarantees for cross-border data flow. Hong Kong, with its unique tradition of rule of law and international perspective, actively explores new paths for digital rule of law and has become an important window for observing the modernization process of global rule of law.

1. Theoretical Framework of Digital Rule of Law: Conceptual Definition and Feature Analysis

(1) Definition of Concept

Digital rule of law is an innovative development of traditional forms of rule of law, representing a new mode of operation for the rule of law. Digital rule of law refers to the comprehensive upgrading and reconstruction of the traditional rule of law system with the support of modern information technology, especially digital technology, forming a new form of rule of law driven by data and integrating technological innovation and rule of law concepts. [1] It is a new form of rule of law supported by digital technology, and a comprehensive embodiment of intelligent rule of law, precise rule of law, and efficient rule of law. It uses modern information technologies such as big data and cloud computing to achieve systematic construction, collaborative promotion, and corresponding institutional mechanism restructuring and process reengineering of the entire process of rule of law construction, aiming to improve the quality and efficiency of rule of law work. It not only involves the digital transformation of the legal system, but also includes multiple aspects such as the intelligence of judicial trials, the precision of administrative law enforcement, and the convenience of legal services. From rule of law institutions to rule of law infrastructure, from legal norms to legal technology, from legal professions to legal clients, the constituent elements of digital rule of law have new standards and characteristics. [2]

(2) Feature analysis

Data driven: The core of digital rule of law lies in the collection, analysis, and application of data, which enables the rapid flow and efficient utilization of information through big data technology, providing more scientific and accurate basis for legal decision-making.

Technological integration: Advanced technologies such as artificial intelligence and blockchain are deeply integrated with legal practice to enhance the intelligence level of legal services and promote transparency and fairness in legal procedures.

Multiple Governance: the joint participation of multiple subjects such as government, enterprises, social organizations and individual citizens were emphasis of digital

rule of law, which realized the optimal allocation and coordination of rule of law resources through the digital platform.

Dynamic adaptation: in the face of the rapid development of digital technology, the digital rule of law needs to maintain a high degree of flexibility and adaptability, and constantly adjust and improve the legal system and practical mechanism.

To sum up, digital rule of law is a new form of modern rule of law civilization and an important direction for the construction of rule of law in China. Constructing the theoretical framework of digital rule of law, defining the concept and analyzing the characteristics are of great significance for promoting the high-quality development of rule of law. In the future, we should continue to strengthen the theoretical research and practical exploration of digital rule of law, and contribute to the construction of an efficient, collaborative and intelligent rule of law system.

2. Practice and exploration of digital rule of law in Hong Kong

(1) Digital transformation of legal system

With the wide application of big data, cloud computing and other technologies, countries have strengthened data protection and privacy security legislation to ensure the safety and legal use of personal information. In recent years, the Hong Kong SAR government attaches great importance to the development of the digital economy and has issued a series of policies and measures to promote data circulation and ensure data security. For example, on December 8th, 2023, the Hong Kong SAR government issued the policy Declaration on promoting data circulation and ensuring data security in Hong Kong, proposing 18 specific action plans. In April, 2024, the Department of justice of the Hong Kong SAR government issued the action plan for the construction of the rule of law in the Greater Bay area of Guangdong, Hong Kong and Macao, proposing to take "three links, two links and one bay area" as the basic policy, strengthen cooperation with the industry and other stakeholders, and effectively implement the policies and measures set out in the action plan. [3] Actively promote the interconnection of hardware and software for the rule of law construction in the bay area through mechanism docking, rule convergence and talent connection, so as to realize the strong cooperation between cities and the cooperation between different legal systems. The Hong Kong SAR government actively promotes the electronization, standardization and intellectualization of legal texts, and improves the convenience and efficiency of legal services by establishing an electronic legal resource database and developing an intelligent legal query system. At the same time, for emerging fields such as digital economy, network security and data protection, relevant laws and regulations should be revised and improved in time to provide a strong guarantee for the healthy development of the digital economy.

(2) Intelligent innovation of judicial trial

Hong Kong's judiciary is actively exploring the intelligent path of judicial trial, introducing scientific and technological means such as electronic court, online litigation, and intelligent auxiliary trial system to simplify litigation procedures, shorten trial cycle, and improve trial quality and efficiency. Especially in the field of criminal justice, the scientific and standardized sentencing standards can be achieved through data analysis and algorithm assistance. For example, the school of law and the school of

computer science of the University of Hong Kong have conducted relevant research and Exploration on digital sentencing. As shown in the following figure 1-3:



Fig. 1. Webpage of HKLII for free access to legal information in Hong Kong

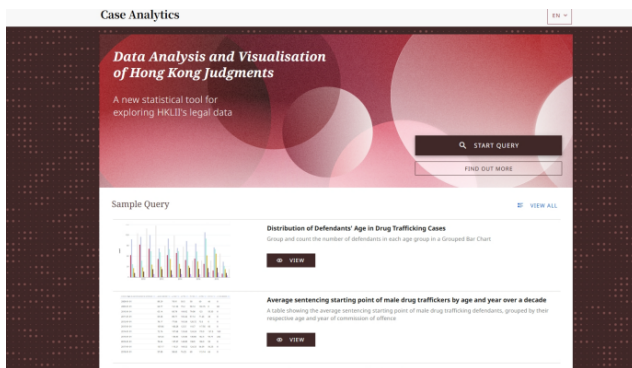


Fig. 2. Webpage for data analysis and visualisation of Hong Kong judgment

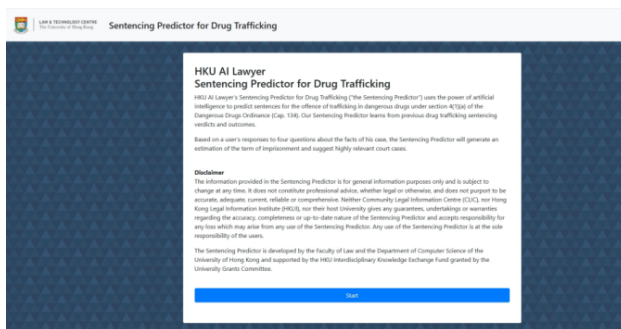


Fig. 3. Webpage of HKU AI lawyer: Sentencing predictor for drug trafficking

(3) Precise implementation of administrative law enforcement

Hong Kong government departments use big data analysis technology to conduct accurate portrait and risk assessment of regulatory objects, so as to realize the refinement and personalization of law enforcement. At the same time, promote cross departmental data sharing and collaborative law enforcement, and improve law enforcement efficiency and regulatory effectiveness. In key areas such as taxation, food safety and environmental protection, the application of digital technology is particularly significant. In the development of digital economy, anti money laundering compliance has become an important link. The Hong Kong SAR government and regulatory agencies strengthened anti money laundering work through the following measures: strengthening regulatory cooperation: strengthening cooperation with mainland and international regulatory agencies to jointly combat cross-border money laundering crimes. Use new technologies such as blockchain to improve transaction transparency and reduce money laundering risks.

(4) Convenient upgrading of legal services

The legal service industry in Hong Kong has actively embraced the digital transformation, developed various legal service platforms and applications, and provided one-stop services such as online legal consultation, contract review, and electronic signature, reducing the threshold of legal services and broadening the scope of services. At the same time, through big data analysis of customer needs and behavior patterns, promote the personalized and customized development of legal services. The introduction of the guidelines for standard contracts in the Greater Bay area has greatly facilitated the cross-border transmission of data in the Greater Bay area of Guangdong, Hong Kong and Macao. The action plan for the construction of the rule of law in the Greater Bay area of Guangdong, Hong Kong and Macao proposes to take "three links, two links and one bay area" as the basic policy, promote the Hong Kong judiciary and the Supreme People's court to jointly establish a high-level docking platform in the Greater Bay area, and promote the establishment of an information platform for the legal and dispute resolution services in the Greater Bay area of Guangdong, Hong Kong and Macao; Promote the formulation of non litigation dispute resolution rules in Dawan district.

3. Challenges and Countermeasures

(1) Challenge analysis

In the context of the rapid development of the digital economy, Hong Kong's digital rule of law faces many challenges:

The contradiction between the lag of legislation and the rapid iteration of technology. Legislation often lags behind the speed of technological development, making it difficult for existing laws to effectively regulate in the face of new problems. The application of blockchain, artificial intelligence, big data and other technologies in the digital economy continues to deepen. The rapid iteration of these technologies has brought great challenges to the formulation and implementation of laws. The law needs to constantly adapt to the development of new technologies to ensure that it can protect innovation and maintain market order.

Second, data legal system differences. Cross border data flow: under the background of the interconnection between Guangdong, Hong Kong, Macao and the Greater Bay

area, cross-border data flow and supervision have become urgent problems to be solved. Objectively speaking, Guangdong Hong Kong Macao Greater Bay region still lacks accurate and effective data flow and data governance mechanisms, and the existing rules system for cross-border data flow cannot effectively support the development pattern of cross-border data flow. [4] First of all, Guangdong, Hong Kong and Macao lack common upper data legal norms to adjust. The mainland's data legal system is composed of the personal information protection law, the data security law, and the network security law. Hong Kong continues to improve its legislation in the field of personal information. Based on the personal data (Privacy) Ordinance and the cross border data transfer Ordinance, the widely applicable personal data protection law is the main data information law in Macao. [5] Secondly, the application of data law in Guangdong, Hong Kong and Macao is regional, and its effect only extends to this jurisdiction. The natural attribute of cross-border and universal data eliminates the tangible and intangible barriers in Dawan District, but the regional binding force of the legal effect of the three places cannot fit the special law of data digestion time and space.

Third, data security and privacy protection: with the surge of data, how to ensure data security and prevent data leakage has become the primary challenge. At the same time, how to reasonably use data for legal decision-making and judicial trial under the premise of protecting personal privacy is also a big problem. As for the differences in data dispute resolution, Hong Kong adopts an administrative led dispute resolution model, and the personal data (Privacy) Commissioner plays an important role in handling disputes over the flow of personal data. The technological change and "financial decentralization" brought about by the digital economy have increased the risk of money laundering crime, and put forward higher requirements for supervision.

Fourth, technical ethics and legal conflict: algorithm discrimination, technology abuse and other issues have become increasingly prominent. How to balance the relationship between technological progress and legal ethics and avoid the erosion of technology on traditional legal principles has become an urgent problem to be solved.

(2) Coping strategies

First, strengthen the construction of legal system: improve the legal system of data security and privacy protection, and clarify the legal rules of data ownership, circulation and use; At the same time, formulate algorithm supervision and ethical norms to ensure that technological development does not deviate from the track of the rule of law. Learn from the legislation of the United States and other countries, such as the communication regulation act and the Digital Millennium Copyright Act, and the European Union's general data protection regulation (gdpr), which regulates Internet content, strengthens network security and personal information protection, and establishes strict rules for cross-border data transmission. At the same time, the EU has also introduced the digital services act and the digital market act to regulate the competitive behavior in the digital market. At present, Guangdong, Hong Kong and Macao lack common upper data legal norms to adjust in the Greater Bay area. Hong Kong and the mainland have different definitions of personal information classification. After the introduction of the Dawan District standard contract guidelines, the optimization of the types and quantity of cross-border personal information can help Hong Kong institu-

tions reduce time to understand the mainland's definition of data, and reduce the actual operation contradictions caused by the different definitions between the two places.

Second, promote the integration of technological innovation and the rule of law, and strengthen cross-border supervision of data. Encourage technological innovation and application promotion in the field of legal science and technology, strengthen exchanges and cooperation between scientific and technological talents and legal talents, and promote the deep integration of technology and the rule of law. Narrow the digital divide: improve the digital literacy and legal awareness of vulnerable groups through policy support, education and training, and ensure the fairness and inclusiveness of the digital rule of law.

4. Future outlook: the sustainable development path of digital rule of law in Hong Kong

(1) Building a smart court system

Hong Kong's legal system is known for its impartiality, transparency and efficiency. Its spirit of rule of law is deeply rooted in the hearts of the people, providing a solid guarantee for the prosperity and stability of Hong Kong, and is also a model of the rule of law civilization in the international community. In the future, Hong Kong should further deepen the construction of smart courts, not only limited to the initial application of existing online litigation and e-court, but also to realize the whole process intelligence from case filing, trial, execution to file management. By using artificial intelligence and big data technology, we will improve the automation level of case diversion, evidence review, and automatic generation of judgment documents. At the same time, we will strengthen the analysis and prediction of judicial data to provide a scientific basis for the formulation of laws and policies. In addition, we should also pay attention to user experience, ensure the convenience and humanization of technology application, and make the smart court truly become an important platform to improve judicial efficiency and ensure judicial justice.

(2) Promote the digital transformation and inclusive of legal services

With the popularization of digital technology, Hong Kong should be committed to transforming legal services from the traditional offline mode to a new mode combining online and offline. By building a digital platform for public legal services and integrating various legal service resources such as lawyers, notaries and legal aid, we will provide one-stop, all-weather legal services for citizens. At the same time, we should use big data and artificial intelligence technology to accurately analyze the legal needs of citizens, provide personalized legal advice and solutions, especially pay attention to the legal needs of vulnerable groups such as small and medium-sized enterprises and low-income groups, and realize the universality and equalization of legal services. For example, the "one state international online mediation center" in Hong Kong is a non-profit online dispute resolution and technology legal institution. It was established in 2018 by people from the legal and technological circles, as well as the Asian Institute of international law, the Hong Kong Bar Association and the law society of Hong Kong to coordinate with the national "belt and road initiative" and the development of cross-border trade. The mission includes promoting new online dispute resolution and legal technology services to consolidate Hong Kong's position as an international legal

hub, and assisting businesses to enhance efficiency in line with the country's Digital China policy.

(3) Cultivating interdisciplinary talents of digital rule of law

The development of digital rule of law is inseparable from the support of high-quality legal and scientific and technological talents. Hong Kong should strengthen the training of interdisciplinary talents of digital rule of law, and cultivate interdisciplinary talents who understand both law and technology by setting up special education projects, carrying out interdisciplinary research, and establishing internship and training bases. At the same time, we should also strengthen cooperation and exchanges with internationally renowned law schools, science and technology enterprises, and attract more outstanding talents to devote themselves to the cause of digital rule of law.

(4) Pay attention to the ethical and social impact of digital rule of law

While promoting the development of digital rule of law, Hong Kong should also pay close attention to its ethical and social impact. We should establish and improve the ethical review mechanism of digital rule of law to ensure that the application of technology conforms to social ethics and moral standards; We should strengthen the social publicity and education of digital rule of law, and improve the digital literacy and legal awareness of the public; We should establish and improve the supervision system of digital rule of law to prevent the risks of technology abuse and data leakage; We should also pay attention to the social impact assessment of digital rule of law, timely adjust and improve relevant policies and measures, and ensure the sustainable development of digital rule of law and social harmony and stability.

2 Conclusion

Digital rule of law is a new form of modern rule of law civilization and a new paradigm and deep transformation direction of Hong Kong's modern rule of law system. Facing the challenges and opportunities of the digital era, Hong Kong should actively embrace the wave of technological innovation and legal reform, and constantly promote the digital transformation of the legal system, the intelligent innovation of judicial trials, the precise implementation of administrative law enforcement and the convenient upgrading of legal services. At the same time, we should also pay attention to the challenges of data security and privacy protection, technical ethics and legal conflict, digital divide and fairness and justice, and take corresponding countermeasures to solve them. Looking ahead, Hong Kong should continue to strengthen cooperation and exchanges with the international community, cultivate interdisciplinary talents in the digital rule of law, and pay attention to the ethical and social impact of the digital rule of law, so as to promote the sustainable and healthy development of the digital rule of law and contribute more wisdom and strength to the construction of the rule of law in Hong Kong and even the world.

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