

The Prospect of Intelligent Court Construction in the Era of Court Information 4.0

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Abstract: In 2016, the smart court was raised to the strategic level of the rule of law construction in China. By 2018, the national smart court construction has taken shape. Until 2019, the smart court construction structure in China has basically taken shape. Information technology development of courts through the application and integration of artificial intelligence technology, courts shall take into account the value level of justice for the people and fairness and justice, adopt a series of information technology means to achieve an integrated judicial model of online handling, open processes and intelligent services, and promote the modernization, fairness, convenience and scientization of the judicial capacity in a multi-faceted manner. However, there are some drawbacks and difficulties in the construction of wisdom courts. For example, the collaboration and linkage among various systems are limited in authority, failing to form a joint force for reform; and some judicial data involving national security and individual privacy are also at risk of leakage. Based on the prospect of the construction of smart court, it is necessary to uphold the judicial justice to the maximum, build a layered system connection and sharing mechanism, protect data security through both internal and external aspects, and promote the construction of smart court to flourish in the information age of 4.0 based on the existing construction experience and practice.

Keywords: Court Information 4.0; Intelligent Court Construction; Artificial Intelligence

1. Wisdom courts in the informatization 4.0 Era

With the continuous development of information technology, intelligent applications have been imperceptibly integrated into various industries and fields. The judicial field also gradually takes the digital technology as the starting point, unceasingly deepens the informatization reform, has brought the new opportunity and the new future for the judicial practice. In 2016, the smart court was raised to the strategic level of the rule of law construction in China. By 2018, the national smart court construction has taken shape. By 2019, the smart court construction structure in China has basically taken shape.

Wisdom court is regarded as a "new form of court operation"^[1]. On the one hand, it has many traditional technical and theoretical legal problems. On the other hand, it also needs to master information technology and statistical science. The reform of wisdom court mainly focuses on three types of issues: systematic integration, integrated reform and information-enabled. Systematic integration is mainly to complete the unified construction of the system within the court, to build an integrated case handling platform within the court, to provide unified litigation service channels to the outside, not only to facilitate the flow of cases and information between the upper and lower levels, but also to expand to the transfer of cases between different regions, and to truly realize the comprehensive coordination of justice on the Internet. The integrated reform will continue to improve the online collaboration between courts and public security, procuratorate, judicial and other political-legal entities, courts and real estate, taxation, banks and other coordination entities, focus on the communication and exchange among the whole of society and various systems, and realize the participation of all aspects of the whole process of case-filing, trials, and enforcement to jointly build a harmonious society. Information technology empowerment through online case filing and online submission of materials, achieve network management of electronic files, enable intelligent technology to conduct the whole chain of case filing, trial, and enforcement, and achieve online, digital and electronic service, mediation, cross-examination, court trial and other processes.

2. New Development of Intelligent Courts in the Age of Information 4.0

2.1 Ensuring Judicial Information Disclosure and Implementing Effective Post Supervision

It is helpful for ensuring the disclosure of judicial information and realizing effective supervision afterwards. First of all, in the internet era, some cases which do not involve national interests and personal privacy are developing towards the direction of transparent processes and open outcomes. This new model of judicial supervision based on information sharing not only inversely restricts the judicial conduct of judges, but also helps to continuously improve the quality of justice, regulate the conduct of judges, prevent unjust, false and erroneous cases, and monitor personnel corruption.

Secondly, the application of information system and big data platform can ensure the trace of judicial action, on the one hand, it is helpful to trace the responsibility, on the other hand, it can improve the high cost and low efficiency of human supervision.

Finally, as a key application for smart courts, the information platform should be viewed as a judicial auxiliary system, rather than the judiciary itself. There were many benefits to digital supervision, but it could not completely replace human supervision. In the face of fairness and justice, "cold" machines could not melt the hearts of the people who desperately sought justice.

2.2 Maintain fairness and improve judicial efficiency

Under the basic premise of ensuring justice, the judicial efficiency shall be enhanced. Firstly, in the initial stage of case filing, courts in all regions have innovated the two-dimensional code case filing system, which realizes the complete automation of the entry of case filing information and later supplementation, greatly saving judicial labor costs and assisting in the reform of the case filing registration system.

Secondly, when the clerks are preparing court transcripts, they should make bold attempt to use the intelligent speech recognition system to convert the simple mechanized court trial process into written words through artificial intelligence, which can then be amended and supplemented by the clerks on such basis. On one hand, intelligent speech recognition system can improve the efficiency and speed up the process of a court trial. On the other hand, it can liberate clerks from boring court proceedings and increase the sense of flow of a court trial^[2].

Finally, safeguarding fairness and justice is still the basic premise, the core guarantee of perfecting the rule of law, and the important starting point of maintaining the authority of law. Judicial justice "is the last line of defense to safeguard social fairness and justice", and justice should always be the most important when weighing the value between justice and efficiency.

2.3 Make it convenient for citizens and safeguard fairness

The development of science and technology has brought about changes in the society, but also brought about changes in the way of citizen participation in litigation. An important goal of the construction of Smart Court is to provide better and more convenient judicial services to meet people's litigation needs and ensure the practical needs of judicial services for people. With electronic litigation service platforms, citizens can complete the case filing process at home by logging in websites, instead of the need to travel to courts. Moreover, with the help of intelligent systems, the platform can also help ordinary citizens determine the appropriate jurisdiction of the court, to achieve the early process of automated management.

At the trial stage, matters such as supplementing follow-up materials and submitting judicial evidence by the parties may also be completed through a computer system. On one hand, the parties concerned are required to complete trivial matters at home, on the other hand, the subsequent filing and management work by the court is convenient. The construction of intelligent courts opens up new ways and means for the provision of legal services, which is also the profound manifestation of the idea of judicature for the people.

3. Challenges to Intelligent Courts in the Age of Information 4.0

3.1 Authority Restrictions on Collaborative Linkage

With the construction of information technology by courts at all levels according to local conditions, various information systems have been basically established. However, such systems are highly decentralized and isolated from each other, and have not formed a coordinated management mechanism. First, the information construction progress of different courts is different, and there are such phenomena as non-uniform information formats, system interfaces and protocol standards, which are important reasons for difficulties in system and resource compatibility and sharing^[3].

Information does not exist in isolation, the most important feature of big data era and information system is the circulation and sharing of data, and the uniform format has a deep impact on the speed of circulation and sharing. Second, another important reason that data can not be shared dynamically focuses on the practical dilemma that departments are unwilling to share, dare not share. The basic data of some departments is obtained through purchase, pay a greater human, financial and management costs, naturally unwilling to share free of charge. There are also some more confidential and private information, because of the fear of data in the dissemination and application of the leakage and do not want to share. But we still need to recognize that judicial data is the basic "fuel" for the construction of smart courts^[4]. Cross-level and cross-department typing will help to expand the quantity and quality of judicial data and establish a sound data flow mechanism.

3.2 Test Faced by Network Information Security

The foundation of the construction of intelligent court is the construction of information network and platform. In the process of transferring from offline work to online work, there will be some hidden trouble of network information security. Most of the materials in the digital applications or systems of the courts involve personal information and privacy. As the subject of the information, judicial parties, as the subject of the information, may worry about whether their uploaded information can be effectively protected or leaked, which may reduce the acceptance of judicial digital applications. However, when judicial workers collect and use such information, there is a real risk of information leakage and illegal use of such information.

Some courts also choose to entrust third-party companies to establish the digital platform due to their lack of internal digital technicians and their inadequacy in terms of big data. However, it shall be noted that, as companies are profitable and profit-driven entities, the third-party platform companies and their staff are likely to conduct illegal operations to personal information or other data when conducting technical processing, resulting that the security of personal information is always uncertain^[5]. Once a third-party platform company illegally and illegally collects or transacts personal information on the platform without authorization for certain benefits, or illegally conceals, forges or tampers with the data on the platform by use of opaque technologies for certain purposes, it will not only damage personal information rights and interests, but also undermine judicial justice and lower judicial credibility.

3.3 Increase of the inertia of judicial officers

Smart courts have played an important role in improving judicial efficiency and enhancing judicial satisfaction with the court and in other aspects. However, in the practical dilemma of having a large number of cases but a small number of persons assigned to such courts, judicial officers will inevitably become excessively dependent on digital technologies and smart applications, and become more inert in their work. Objectively, over-reliance on the intelligent assistant system weakens the main body status of the judge's responsibility. To a certain extent, it eliminates the judge's responsibility.

Subjectively, judges will actively seek for the minimization of liability. When using algorithmic system and automatic procedure, judges inevitably have psychological motivation to reduce their own liability with the help of digital technology, and eliminate liability by resorting to technology dependence and external transfer. Finally, there is a dilemma that judges shirk their decision-making responsibility on the grounds of algorithms and automated procedures. This dilemma runs counter to the original intention of the intelligent system to assist judicial personnel, but it brings about the ambiguity of responsibility and the embarrassment of shirking responsibility.

4. Countermeasures for the Development of Wisdom Court in the Age of Court Information 4.0

4.1 Building of Layered Authorization Mechanism for Systematic Connection

First of all, the internal administration of courts shall be transformed from a monologue to a chorus with joint actions of the whole society, and two unified administration parts, namely, overall administration and administration of courts at all levels, shall be formed^[6]. The former emphasizes that uniform monitoring and management shall be conducted over the resource pools of courts at all levels through the resource management service platform within the scope of the whole court resource service system and centralized statistics on the resource conditions of courts at all levels shall be conducted. The latter emphasizes the independence and autonomy of courts at all levels and strengthens the characteristic management to realize the autonomous construction within its own area.

Secondly, in view of the status that courts are unwilling or afraid to share data, data sharing lists may be sorted out and developed to improve the construction of the connection and coordination system^[7]. All departments are encouraged to abandon the concept of data ownership, strengthen the concept of public service, sort out data from the perspective of promoting data circulation, sharing and mutual recognition, make a list of the data that can be shared or a negative list of the data that cannot be shared, and specify unified standards, conditions and procedures, so as to make the data interconnection more standardized and transparent.

Finally, courts in all regions and at all levels shall strengthen the interconnection within their respective systems and strengthen the unified management and control of the whole field to eventually form cloud media data center of the courts and promote the collaborative construction mode. It deeply integrated technology court, electronic file, remote trial, mobile execution, video petition and other business platforms. From the primitive accumulation stage of collecting big data of judicature, it gradually transforms to the information utilization stage of neural network technology, machine self-learning, data dynamic analysis and so on.

4.2 Improve the System for Construction of Network Information Security

The network information security problems faced by digital courts are mainly in paperless application scenarios, which mainly involve the three parties: case handlers, litigation participants, and a third party building a platform. We shall focus on these three issues, take legal and technical measures into consideration at the two levels of information security protection awareness and information security protection measures, and strictly observe the red line of network information security. As the leader in the judicial digitalization construction, the court shall put forward the overall requirements for or provide relevant guidance on the cyber security awareness of the three parties. Courts shall publicize and educate handling personnel on the awareness of network information security, prohibit random switching between intranet and intranet, invite technical personnel to carry out relevant skill training for judicial personnel, and pay attention to the cultivation of inter-disciplinary talents.

Moreover, the court shall also consider the ability of protecting network information security as a factor for selection of the third party. It is also required that the third-party companies cooperating with it shall provide network information security training to their employees on a regular basis and, through prompt interface, oral education, case publicity and other methods, improve the security awareness of litigation participants during the period of using the court's digital application, and deliver basic network security experience, such as prohibition on downloading and using pirated application software, and prohibition on opening unknown short message links at random.

4.3 Improving the responsibility system of judicial personnel

Faced with the dilemma of responsibility of judicial personnel caused by the application of judicial intelligence, we should clarify the assistant status and the limitation of application of intelligence technology in judicial system. First of all, on the basis of affirming the great advantages of intelligent technology in judicial application, it is clear that intelligent technology is only used as an assistant tool in judicial work and has a certain application limit.

Secondly, although the digital technology at the current stage has certain defects, such as algorithmic discrimination and algorithmic black boxes, and the sharing and transfer of judicial liability are reasonable to a certain extent, this cannot be an absolute ground for exemption from judicial liability, and the judicial personnel accountability mechanism under intelligent assistive technology is

in urgent need of improvement. If judicial workers choose to apply intelligent assistance systems, they shall have the duty of review for intelligent output. The key to the accountability of judicial error lies in the determination of whether the duty of review has been fulfilled. If in fact, judicial officers exercise a sufficient level of scrutiny, they will be exempted from liability accordingly; otherwise, judicial officers will be held liable if they allow the defects of intelligent assistive system to be taken advantage of due to their "judicial inertia" or negligence. Of course, if judicial workers choose not to apply the intelligent assistant system, they can directly apply the traditional judicial accountability mechanism instead of shirking their responsibility on the grounds of digital technologies.

5. Conclusion

Information technology development of courts through the application and integration of artificial intelligence technology, courts shall take into account the value level of justice for the people and fairness and justice, adopt a series of information technology means to achieve an integrated judicial model of online handling, open processes and intelligent services, and promote the modernization, fairness, convenience and scientificity of the judicial capacity in a multi-faceted manner. However, there are some drawbacks and difficulties in the construction of wisdom courts. For example, there is authority limitation on the collaboration among different systems; some judicial data involving national security and individual privacy are also under the risk of leakage; and the responsibilities of judicial officers are not clear. Based on the prospect of the construction of smart court, it is necessary to maintain the judicial justice, build a multi-level system of communication and sharing, protect the security of data, and improve the responsibility system of judicial personnel. Starting from the existing construction experience and practice, we will help the construction of smart courts to flourish in the era of information 4.0.

Acknowledgements

Science and technology plan project of Zhejiang Provincial Department of Education "Research on the Reform of 'Zhejiang Regional Digital Court' " (Y202249411)

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