

Study on the Utilization of Electronic Files in the Context of Intelligent Courts

Yanhong Lin¹, Nian Liu² and Jiayi Zhao¹

¹ Anhui University of Finance and Economics, Bengbu, 233030, China

² Bengbu University, Bengbu, 233030, China

Abstract: With the online litigation, intelligent justice in all parts of China's courts to fully promote the wisdom of the court is in an important stage of rapid development, the traditional paper file archiving has not been able to effectively adapt to the information age judicial reform to explore the practical needs of the courts around the world to explore the application of electronic files. The popularization and application of electronic file, not only the authenticity of the case file, the effectiveness of the new requirements, but also for the right to read the file and other rights of the exercise of the right to bring new challenges. Combined with an analysis of the current state of practice and problems in the use of electronic files, it promotes the formation of countermeasures and recommendations for solving problems related to the generation, management, transfer and access of electronic files.

Keywords: Smart Courts, Electronic File, File Management, Litigation efficiency

1. Introduction

1.1. Background and Significance of the Study

During the "14th Five-Year Plan" period, the construction of smart courts has entered a brand-new stage, and in the face of the new development needs of smart courts in the new period, the simultaneous generation and in-depth application of electronic files with cases has also ushered in brand-new challenges. Combined with the current construction status and practical problems of the national court electronic file, how to further respond to and implement the Supreme Court's guidance on the simultaneous generation and in-depth application of electronic file with the case, better use of information technology to serve the people, judges and police officers, judicial management, and to promote online handling of the whole business as well as the whole process of judicial openness is the key direction for the development of the construction and development of the synchronous generation of electronic file with the case and the in-depth application of electronic file. The key direction of the construction and development of the synchronized generation of electronic files with cases and in-depth application.

1.2. Research Status and Literature Review

At the theoretical level, the SPC has successively issued a series of normative documents to guide the generation, management and application of electronic litigation materials. The Interim Measures for the Management of Electronic Litigation Files in the People's Courts was issued in December 2013; the Guiding Opinions on Comprehensively Promoting the Synchronized Generation and In-depth Application of Electronic Dossiers Along with the Cases in the People's Courts was issued in July 2016; the January 2018 issuance of the Notice on Further Accelerating the Work of Synchronous Generation and In-depth Application of Electronic Files with Cases; the Provisions of the Supreme People's Court on Several Issues Concerning the Hearing of Cases in Internet Courts, which came into effect in September 2018; and the Rules for Online Litigation in People's Courts,

which came into effect in August 2021.

At the practical level, by the end of 2020, 3,256 courts nationwide had constructed e-file-related systems, technically realizing the construction of core functions such as compiling e-file catalogs, online reading of files, assisting in the generation of legal documents, and e-file filing, accounting for more than 93% of the total number of courts nationwide. In 2018-2020, the national courts' e-file for newly received cases. The coverage rate is 84.71%, 89.06% and 90.64% respectively, realizing the steady progress and continuous growth of the people's courts' e-file coverage.

Comprehensively referring to the domestic literature, there are mainly the following opinions:

(1) The implementation of a single-set system for electronic files, the realization of a seamless connection between the case-handling system and the document management system and the in-depth application of information technology to the entire process.

(2) In-depth application of the "artificial intelligence + court" model. The development of artificial intelligence has, to a certain extent, promoted the deepening of archival research and the reconstruction of the archival knowledge system.

(3) Clarify the legal effect of electronic files, realize the electronic file "one key filing", improve the electronic file transfer system, the electronic file access procedures.

(4) Clarify the legal effect of the original type of electronic file, clarify the applicable status and scope of the "double set system" and the "single set system", and improve the filing rate of the electronic file on schedule.

As can be seen through the opinions of scholars, the application of electronic files in the construction of China's needle wisdom court has entered the field of vision of more scholars, and there is an urgent need for advanced theoretical support for substantive practice feedback.

1.3. Research Methodology

1.3.1. Literature Research Method

In the whole process of writing this paper, reference to consult a large number of authoritative research results on the

construction of the wisdom of the court and the use of electronic files of relevant scholars, literature and books and magazines, etc., and at the same time, selecting the valuable part of the sorting and integration of these for the paper to lay a good foundation for the research, but also for the paper's research provides a large number of bases for checking.

1.3.2. Case study Method

This paper takes the practical achievements of the courts in various regions of China as an example, takes the reform situation in various regions as the research object, fully grasps the current situation of the use of electronic files in China to promote the wisdom of the court in the context of the comprehensive analysis of the collected information, finds the problems in the process of the court's use of electronic files, carefully analyzes the reasons and puts forward the optimization strategy of the court's use of electronic files.

1.3.3. Survey Research Method

Through the form of network survey of China's courts in all regions of the relevant data for collation, through the use of electronic files on the court to carry out a full range of investigations, and then be sorted out and integrated, a comparative analysis of all the shortcomings exposed and their differences, pointing out that the current stage of the court's use of electronic files the actual situation, to elaborate on the use of electronic files in the process of the problems, through the analysis of the causes of the problem, and put forward optimization strategies.

2. Concepts Related to E-filing

2.1. Definition of E-Files

Electronic file, refers to the case before acceptance or in the process of acceptance of the case, will be bound into a volume of paper case file materials, relying on digital imaging technology, text recognition technology, database technology and other media technology produced by a specific format of electronic documents and related electronic data.

Electronic file contains the court in the case of acceptance or handling the process of electronic documents, images, audio, video and other electronic documents, as well as paper case file materials relying on digital imaging, text recognition and other technologies to produce electronic documents, data and other electronic documents.

2.2. The Concept of Smart Courts

Intelligent court is a people's court organization, construction, operation and management form that relies on modern artificial intelligence, focuses on justice for the people and fair justice, insists on the integration of judicial law, institutional reform and technological change, and supports judicial trial, litigation service and judicial management with a high degree of informatization, so as to realize online handling of all business, disclosure of all processes in accordance with the law, and all-around intelligent service.

The construction of smart courts strives to improve the quality and efficiency of the people's courts' trials and executions, so that the development trend of informatization construction can be increasingly combined with the business of trials and executions, so that fairness and justice can be realized faster and better.

3. The Current Status of the use of Electronic Files in Smart Courts

3.1. Current Status of the Application of Electronic Files in the Construction of Smart Courts

3.1.1. Construction of E-File-Related Systems

By the end of 2020, 3,256 courts nationwide had constructed e-file-related systems, but the systems are characterized by insufficient intelligence, repetitive storage and lack of unified supervision, so that there are still big differences between the courts in different regions at the level of synchronization with the case and in-depth application, and there are duplicated and incompatible functions in the construction of e-file systems in some courts, and there is no Some courts have duplicated and incompatible e-file system construction functions, no docking between systems, no data interaction, etc., which not only wastes construction resources, but also fails to provide good services. Therefore, the top-level design should be strengthened to form an overall solution, and the construction of electronic file-related systems should be planned in an integrated manner, so as to better serve the participants in judicial practice activities.

3.1.2. The Generation of Electronic Files

In the practice of the Smart Court, relevant litigation materials are uploaded by the parties themselves, however, it is really difficult for the parties to submit electronic materials. The current electronic litigation system cannot fully realize the automatic classification and automatic cataloging of electronic materials, etc. The parties need to submit to different ports according to the system prompts, and limited by the level of professional knowledge and judgment, the materials uploaded by the parties are often confusing and disorderly, and are often categorized under the wrong directory. Therefore, in promoting the application of electronic files, should improve the relevant management system, improve the intelligence of the electronic litigation system, scientific, better serve the people and judges and police, fully protect the rights and interests of the parties.

3.1.3. Electronic File Archiving in Practice Problems

Electronic file archiving "double set system" and "single set system" two modes, their respective operating procedures are not the same. In the current practice, there are still the lack of independent effectiveness of the electronic file, filing mode of application of the order of misplaced and overdue filing and other dilemmas. In order to protect the depth of the application of electronic files in judicial practice, it is necessary to clarify the legal effect of the electronic file, clarify the "double set system" and "single set system" of the application of the order and scope of the electronic file to improve the filing rate on schedule.

3.1.4. Electronic File Transfer System

Due to the lack of relevant legislation on the transfer of electronic files to be clear, the current electronic file and the traditional carrier file transfer procedures are not big difference, not give full play to the convenience of electronic file transfer, timeliness and other advantages. In judicial practice, the transfer of electronic files, there is a case file transfer cycle is too long, the transfer of case file materials are not qualified phenomenon, very easy to cause "new procedural injustice" problem. In order to standardize the order of file transfer, improve the efficiency of file transfer,

so that the trial of the case is more convenient and efficient, should be for the electronic file transfer problems in practice and the legal system on the transfer of files to amend and improve.

Electronic file access to the provisions of the program: electronic file reading, including electronic file in the internal, cross-court access, including the people's court outside the other subjects of the right to read the file. On the electronic file access, as well as the relevant subjects of the right to read the file clear, decided the electronic file in the whole litigation process. Therefore, a sound system of access to electronic files should be established to ensure that participants in litigation activities enjoy a differentiated right to read the files.

3.2. Practical Examples of E-filing in the Construction of Smart Courts

In the context of the construction of smart courts, courts are actively promoting the "electronic" process of case files to deepen the reform of the judicial system and to promote the future development of justice.

Guang'an District People's Court, Guang'an City, Sichuan Province, was named "the province's court of wisdom court construction advanced collective", the whole process of online case-related experience was "People's Court News" published, more than 50 provincial and foreign courts to learn and exchange. In this regard, Guang'an District Court Party Secretary, President Zhang Fanping said, "from 'nothing' to 'something', and then from 'something' to 'superior'. 'superior'". He emphasized that the case filing reform prompted a profound change in the trial and execution mode of Guang'an District Court, gradually realizing the goal of the Smart Court, "all business online, all processes are open in accordance with the law, and all-round intelligent management".

In the future, Guang'an District Court will continue to deepen the organic integration of modern science and technology with the work of the court, promote the transformation and upgrading of the trial and execution mode of work, and strive to create a higher level of digital justice system, so that the people can truly feel the fairness and justice around. Guang'an District Court will continue to deepen the construction of the Smart Court, conscientiously implement the spirit of the province's court case filing method reform work conference, take the information construction and digital transformation as a breakthrough, strengthen the hardware support, break through the data barriers, and reshape the trial process. Under the guidance of the concept of breaking and setting up, first try, Guang'an District Court has crafted three key workflows to actively explore and implement the new mode of case filing reform "based on electronic files, supplemented by paper files". The goal is to promote the modernization of the trial system and trial capacity through informatization, intensification and standardization, and to provide intelligent support for the high-quality development of the courts.

3.3. Problems with the use of Electronic Files in Practice

To summarize, there are significant differences in the application and work of electronic files in courts across the country, with the following three main problems: insufficient degree of intelligence, repetitive storage and lack of unified supervision.

First, some courts are not intelligent enough in terms of in-depth application functions. They have failed to actively

promote the deployment of relevant in-depth application functions, such as the lack of full-text search of content and flexible marking of files in the online reading function of the electronic file; the cataloging system is not intelligent enough, the evidence has not been effectively cataloged, and the system response time is too long. The depth of the current electronic file application provides intelligent auxiliary function is not intelligent and humane enough, for example, the current use of class case push function of the court, its system is almost 100% based on the cause of the case push, rather than the case facts push, resulting in excessive push, not accurate enough; case information automatic backfill needs to be further improved, cannot be achieved comprehensive backfill of the information. All these problems have seriously affected the judges' experience.

Secondly, various applications have duplicated the storage of electronic files. According to the actual research of the national court, the electronic file system and the trial business system operate independently, in most cases, the trial business system and other business applications in the access to the electronic file for duplicate storage, resulting in the electronic file stored in different applications, has not yet realized the unified storage of the electronic file.

Finally, the supervision and management of electronic files needs to be improved. At present, there is a lack of supervision and management mechanisms for electronic files, and the courts across the country have mainly focused on the construction of electronic file systems at the application level, but the supervision and management and regulatory aspects of electronic files still need to be strengthened. Courts around the country should realize the multi-dimensional management function of electronic files according to the management requirements of electronic files.

4. Countermeasures and Suggestions on the Utilization of Electronic Files in the Context of Intelligent Courts

4.1. Strengthening Top-Level Design

The wide application of electronic files in the judicial field has made their functions complex and varied, so some courts have the problem of duplication and incompatibility in the construction of electronic file systems, with no docking between systems and no interoperability of data. This not only wastes resources, but also fails to provide good services. Through top-level design, an overall solution can be formulated to coordinate the planning of the construction of e-file-related systems. It should unify the research and development, procurement, maintenance and updating of powerful and convenient and friendly e-file system and related software. Of course, the integrated planning also needs to take into account the local characteristics as well as the habits and needs of the court case handlers, so as to develop and purchase and leave the necessary flexibility.

4.2. Forming a Regulatory Mechanism

The correct, compliant, complete and effective generation of electronic files is the basic premise of the depth of application, directly affecting the effectiveness of the depth of application of electronic files. However, the current lack of effective supervision in this regard, should establish a set of perfect regulatory mechanism, covering the generation, application and storage of electronic files, and through technical means to achieve intelligent supervision.

Supervision of the integrity of the file, generation of timeliness, quality excellence, standardization, the application of the electronic file process from different dimensions of supervision, statistical analysis of the results, visualization and so on, in order to better serve the electronic file with the case to generate quality enhancement and promote the depth of the application of electronic files.

4.3. Increase Training Efforts

The original intention of the electronic file is to enable judges to no longer use paper files, but to use the electronic version online, in order to facilitate the handling of cases, fast handling, standardized handling. However, for judges who have long used paper files to handle cases, the use of electronic files has certain difficulties and resistance. For some courts electronic file use rate is low, the use of the scope is not wide, the use of the status quo, should be through the way of training, so that the case staff to establish the concept of information technology case. Through phased training, judges will become proficient in the use of electronic files, gradually overcome resistance psychologically, and develop the habit of handling cases online.

5. Conclusions and outlook

With the rapid development of modern science and technology, we will further deepen the reform of the judicial system, combine the application of modern science and technology with judicial reform, promote the transition from paper to electronic files, and continue to promote the construction of smart courts, so as to provide the people with a feeling of faster and more convenient litigation procedures in judicial practice. The development of electronic files is the trend of smart courts, which has been widely emphasized by courts nationwide. In order to realize better development, the future smart court needs to increase human and material resources, improve the relevant development planning and system, and timely follow up the development status of e-file, with a view to obtaining more development opportunities through e-file and becoming a leader in the judicial field in the new era.

Acknowledgements

This work is supported by Innovation and Entrepreneurship Training Project for College Students of Anhui University of Finance and Economics in 20232, Project number: XSKY23214.

References

- [1] European Judicial Systems Efficiency and Quality of Justice [EB/OL].[2021-05-20]. <https://rm.coe.int/rapport-avec-couv-18-09-2018-en/16808def9c>.
- [2] LEDLEY R S.Special issue on Optical Character Recognition [J]. *Pattern Recognition*, 1970, 2(3):145-145.
- [3] CUNNINGHAM H, MAYNARD D, BONTCHEVA K, et al. A framework and graphical development environment for robust NLP tools and applications [C] // *Proceedings Meeting of the Association for Computational Linguistics*.Philadelphia:ACL, 2002:168-175.
- [4] QIANG H, YONG G, FENG Z D. High performance Chinese OCR based on Gabor features, discriminative feature extraction and model training[C]//2001 IEEE International Conference on Acoustics, Speech, and Signal Processing. Salt Lake City:IEEE Press,2001:1517-1520.
- [5] ZHI T, HUANG W, TONG H, et al. Detecting text in natural image with connectionist t-ext proposal network [J]. *European Conference on Computer Vision*. [S.l.] :Springer, 2016: 56-72.
- [6] Xu, B., Xu, F. & Lien, X. Y... (2022). Research on the Synchronous Generation and In-depth Application of Electronic Dossier in the Intellectual Court. *Journal of CAEIT* (08), 787-793.(in china)
- [7] Hao Le. (2022). The Theoretical Basis, Practical Exploration and Institutional Improvement of the Application of Electronic Case Files by the People's Courts. *Archival Research* (02), 40-47. doi:10.16065/j.cnki.issn1002-1620.2022.02.006.
- [8] Leng, L. X., Li, N., Zhang, Y. Y. & Zhang, W. D.. (2019). Practical Exploration into the Management of "Single Filing System" of Electronic Archives—A Case Study of Hunchun Court.*Lantai World* (04), 35-37. doi:10.16565/j.cnki.1006-7744.2019.04.07.