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Courtroom on the clouds: how online courts are transforming China's court performances at the local level

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ABSTRACT

In 2012, China began its journey to digitalize its court system. While much of the existing scholarship has focused on the legal implications of the digitalized processes, only a small number of studies have looked into the empirical outcomes of these efforts. This research aims to fill this knowledge gap by providing both a panoramic view and close-up angle of China's experience in online court development. By tracing and accounting for the development history of court digitalization and online courts in China since 2008, this research finds that the development of online courts in China could be characterized by a bi-directional approach, which involved (1) general direction and autonomy from the top authorities, (2) innovations and development at the local level, (3) refinement and wider adoption of outstanding local innovations, and (4) regulation and standardization of the novel elements. Through the compilation and analysis of a time-series dataset on the court performances of the Guangzhou Intermediate People's Court, it finds that digitalization and online court development helped the court to achieve notable improvement in efficiency while maintaining its effectiveness at stable and high levels between 2013 and 2019. By considering online court's impacts on access to justice, transparency, judicial ethics and the quality of court services, as well as the image of the law in China, this research also explores what insights other countries could draw on China's experience in court digitalization and online court development.

KEYWORDS

Court digitalization; online court; court performances; judicial reform

1. Introduction

1.1. Background, research issues and motivations

2020 is a year of historical importance. It will be remembered as the year when millions lost their lives to the global pandemic, when humankind was forced to take a step back to reflect on the way we lived, and when we fought relentlessly and collectively to cope with the unprecedented challenges. But with the benefit of hindsight, 2020 will also be remembered as a turning point year of a global court digitalization movement. Before COVID-19, at least 32 countries had begun the development of online courts. As COVID-19 surged, over 70 countries adopted temporary digitalization measures, ranging from remote hearings to AI and blockchain e-discovery solutions, to cope with the pandemic.

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In the post-COVID world, as the costs for court digitalization will have become sunk costs, it is very likely that these countries will go further down with this digitalization path and many of these digitalization efforts will become the 'new normal'. It is for this reason that the world would need a more thorough understanding of the empirical outcomes of running highly digitalized justice systems than ever.

As a global forerunner of court digitalization, China began its journey to digitalize its court system in 2012. Since then, legal scholars in China have written extensively on the design and implementation of almost every procedure and component of the gradually digitalized court system. However, while much of the existing scholarship has focused on the design, execution and legal implications of the digitalized processes, only a small number of studies have looked into the empirical outcomes of these efforts. It is also striking that these handfuls of empirical studies mostly revolve around the progresses and outcomes at the specialized courts, and there is an absence of time-series analysis on the digitalization outcomes of the non-specialized people's courts. But if the empirical outcomes of the digitalization efforts at the non-specialized Chinese courts could be compiled and organized in a methodological fashion, China's experience of online court development would certainly generate valuable insights for the global court digitalization movement.

In light of these contexts, this article aims to answer three principal questions that have yet been addressed by existing scholarship in detail: First, what overarching strategy has China adopted in court digitalization and online court development? While the existing Chinese literature tends to approach the subject by focusing on a certain branch of law or a certain stage of legal procedure, this article provides a panoramic view of the process. Through tracing and accounting for the development history of court digitalization and online courts in China since 2008, it identifies the development patterns of this national movement and discusses the advantages, disadvantages and general outcomes of this approach.

Second, how did court digitalization and online court development affect court performances over time? More specifically, this general question can be divided into a number of sub-inquiries: how did these processes impact the efficiency, effectiveness and costs of proceedings at the people's courts? What intangible impacts did these processes have on the people's courts? How did these impacts take shape over time? As there is an absence of time-series analysis on the digitalization outcomes of the non-specialized people's courts, this article attempts to fill this knowledge gap with a case study on the Guangzhou Intermediate People's court. By compiling and analyzing a time-series dataset on the court's performances, it investigates how the court's digitalization efforts, including implementation of online case filing system, the introduction of multi-media platforms for different court users, and the conduct of remote hearings of an increasing proportion of civil and criminal cases, affected its efficiency, effectiveness and costs of proceedings between 2013 and 2019.

Third, what insights can we draw from the Chinese experience for the global movement of court digitalization and online court development? As a forerunner of this global movement, China has encountered opportunities and challenges that some court digitalization late adopters have yet encountered. Thus, by extracting and distilling useful insights from the Chinese experience, this article attempts to bridge the Chinese experience and the global court digitalization and online court development movement and explores informed suggestions and development directions that could help build more accessible justice systems around the world.

1.2. Methodology, sources and structure

In addressing the above research issues, this article is divided into five main parts. Part 1 begins with a brief discussion on the definitions of the notions of 'online courts' and 'court digitalization'. Having had the scope and parameters of the research defined, it explores the existing literature on the studies of the court digitalization and online court within and beyond China. The core objective of this literature survey is to identify the main academic debates on the topic and discover theoretical and empirical insights regarding the possible and actual outcomes of court digitalization and online court development. As the core objective of the study is to evaluate the impacts of these digitalization efforts on court performances, this part also examines various internationally recognized court performance measurement frameworks. By comparing and contrasting their coverages and suitability for evaluating the court performances in China, it identifies an appropriate evaluation framework for the case study in Part 3.

Based on the above foundations, Part 2 studies the emergence and development history of court digitalization and online court development in China. Beginning with a chronology of these developments, it looks into the related historical and socio-political contexts and the three development stages of the mentioned process. These stages include Digitalization 1.0, when the emphasis was on the foundation of basic online information platforms before 2013, Digitalization 2.0, when the attention was on the construction of the functional online court systems between 2013 and 2017, and Digitalization 3.0, when the focus has been on the development of smart court systems with AI and big data technologies since 2017. Through extensive textual analysis of a wide array of primary sources, such as judicial white papers, policy deliberations, memos, press releases, technical specifications of the digitalization platforms, and speeches by related government officials, this part of the article pinpoints the development patterns and strategies adopted by the Supreme People's Court and other related judicial authorities and analyzes the advantages and drawbacks of the identified approach.

Part 3 delves into the case study of the digitalization and online court development at the Guangzhou Intermediate People's Court. Through a close reading of the documents released by the court, it examines the historical contexts, institution and progresses of the court's digitalization and online court development since 2012. Then, based on the data extracted from the court's annual work and finance reports along with the evaluation framework identified in Part 1, this part presents a time-series dataset on the court's performances and investigates how the court's efficiency, effectiveness and costs of proceedings fared in the context of digitalization and online court development between 2013 and 2019. Regarding efficiency, it examines the court's on-time processing rate, case clearance rate, and number of cases closed per judge per year. Regarding effectiveness, it looks into the court's court order compliance rate and court user satisfaction. Regarding the cost of judicial proceedings, it studies the court's average access fee and the trends and compositions of its expenditures. Additionally, as court digitalization and online court development were carried out at the Guangzhou Intermediate People's Court concurrently with other important institutional changes, such as the judicial accountability system, this part also weighs the importance of digitalization against those of other institutional factors and provides an overall evaluation of the importance of the digitalization efforts in causing the identified changes in the court's performances.

Expanding from the findings of the case study, Part 4 explores the intangible impacts of court digitalization and online court development in China. Specifically, it looks into four critical aspects, namely access to justice, transparency, judicial ethics and the quality of court services, as well as the image of the law. By dissecting the causes and implications of the opportunities and challenges identified in these aspects, it devises practical strategies to harness the strengths of the existing design and to cope with the foreseeable challenges. Finally, Part 5 concludes the article with a summary of findings and a discussion on the future of online court within and beyond China.

1.3. Scope and parameters of the study: defining 'online courts'

Before delving into the theoretical and empirical discussions, the scope and the parameters of this research must be clearly delineated. Regarding 'online court', there has been no universal definition thus far. Scholars around the world have adopted varied interpretations of the concept. One of the most widely discussed sets of definitions is from Richard Susskind, the IT adviser to the Lord Chief Justice of England. In his influential book Online Courts and the Future of Justice, Susskind proposes that online courts could be interpreted in two senses: one is specific while the other is more general. The first sense, which is the more specific one, is online judging. It involves the determination of cases by human judges via an online service platform.[1] As Susskind argues, this specific form of online court is not appropriate for all cases but would be an excellent method to deal with low-value disputes that justice systems around the world have been struggling to handle efficiently.[2] The second sense, which is the more general one, is the use of technology to extend court activities beyond the remit of traditional courts. Instead of a specific way of doing justice, this understanding of online court is a rather flexible and inclusive one. Some practical examples under this category include online negotiation and mediation services, mobile and web platforms for court users to file cases, track cases and engage with court officials and judges, as well as computer-assisted services that guide users to complete court forms, assemble evidence and formulate their arguments.[3]

In contrast to Susskind's interpretation by functions, Reuben Binns puts forward another useful interpretation of online courts which approaches the concept by the level of digitalization. Essentially, he proposes that online court development involves three main phases, namely digitalization of the court correspondences, automation of court procedures, and deployment of computer-supported or automated decision-making (ADM) capabilities, in the given order.[4] For the deployment of ADM capabilities, its application could cover a wide range of daily court activities, such as the determination of litigants' eligibilities for benefits, the computation of risk scores for parole and commutation cases and fraud detection during evidence admission.[5]

While the mentioned two sets of definitions have covered the functions and phases of online court development, other key scholars in the field have interpreted the concept

[1]Richard Susskind, *Online Courts and the Future of Justice* (OUP 2019) 6.
[2]ibid.
[3]ibid 7.
[4]Reuben Binns, 'Algorithmic Decision-making: A Guide for Lawyers' (2020) 25 Judicial Review 2.
[5]ibid.

roughly within the described paradigms, although each of their interpretations might differ slightly depending on their research focuses. For example, as leading authorities on online dispute resolutions (ODR), Ethan Katsh and Orna Rabinovich-Einy have largely adopted Susskind's general framework and regarded the notion as a productive pathway to promote the adoption of ODR.[6] John Sorabji, the principal legal adviser to the Lord Chief Justice and Master of the Rolls of England, has employed a similar definition and argued that the development of online courts would help to create a 'multi-door courthouse', where the laypeople can get easier access to various ODR services.[7] Then, as one of the very few scholars who specializes in the empirical outcomes of online court development, Joe Tomlinson has been more inclined to use Binns' framework while referring to the progresses and outcomes of the digitalization of the UK justice system.[8] But despite these minor differences, all the mentioned scholars have consciously adopted a fluid and inclusive definition of online courts as they recognized that the manifestation of online courts may change markedly due to the advent of newly available technologies, and that a rigid definition for the concept would be neither possible nor desirable. The common ground of all of the mentioned interpretation is that online court is a kind of 'public, state-provided dispute management and resolution service'.[9]

In line with the above considerations, this article adopts a flexible and all-embracing approach to understanding online courts. On the one hand, it takes on Susskind's general framework and looks into a wide range of functions that courtroom technologies could offer. On the other hand, it also takes on Binns' phased framework and develops a holistic understanding of online court by different digitalization stages. But beyond these functional considerations of the mentioned frameworks, it must be noted that the employment of a flexible definition is very much essential in the study of online court development in China because, as illustrated by the following parts, the empirical outcomes of the online courts are determined not only by the design and execution of online trials – or the process of online judging as coined by Susskind – but also by the caliber of a comprehensive IT system to support the court proceedings involved in the trials. While an IT system as such is supposed to support a wide range of court activities, such as online case filing, evidence admission and verification and enforcement of the ruling, it would be impossible to evaluate the outcomes of the country's online courts if the research focus is confined only to the delivery of online trials. Also, given the country's vast size and significant regional variations, online trials could take highly varied forms depending on the concerned case types and jurisdictions. For example, while the use of written message threads via a specialized WeChat sub-function is generally more prevalent in the Zhejiang courts, courts in Guangdong tend to rely more on video remote hearings via their self-developed platform. Therefore, in order to take all these efforts into account, it would be most appropriate to employ a flexible and inclusive interpretation of online courts for the remainder of the article.

[6]Ethan Katsh and Orna Rabinovich-Einy, *Digital Justice: Technology and the Internet of Disputes* (OUP 2017) 32.
[7]John Sorabji, 'The Online Solutions Court – A Multi-door Courthouse for the 21st Century' (2017) 36 Civil Justice Quarterly 51.
[8]Joe Tomlinson, *Justice in the Digital State: Assessing the Next Revolution in Administrative Justice* (Policy Press 2019) 11.
[9]Susskind (n 1) 7.

1.4. Literature review: policy and academic discussions within and beyond China

By surveying the existing literature on online courts within and beyond China, this part identifies the field's main debate, explores key arguments proposed by the leading scholars, and examines the values and limitations of these sources. Beginning with the thriving Chinese discussion on the topic, it studies the areas of focuses, methodologies and findings of the concerned literature. Following that it delves into the stimulating policy and academic discussions on online court development in the English-speaking world. While the center of the debate has been lying at the propositions for and against the wide adoption of online courts, this part examines the key reasons and evidence of both sides of the debate. As the core objective of this article is to examine online courts' actual impacts on China's court performances, it also studies various internationally recognized court performance measurement frameworks and identifies the most appropriate one for the case study of the Guangzhou Intermediate People's Court in Part 3.

1.4.1. Studies on court digitalization and online court development in China

Ever since digitalization and online court had been made a technically possible option to advance the court system in China in the mid-2000s, Chinese scholars have written extensively on the topic. The existing literature on the topic is rich, extensive, and covers almost every procedure and component of the gradually digitalized Chinese court system. Generally, there are three main types of scholarships on the topic. The most prevalent type is diagnostic analysis found primarily based on in-depth hermeneutic interpretations of the newly introduced rules and specifications of certain digital ways of workings at the Chinese courts. Through diagnostic and predictive analysis, this type of research identifies the advantages and limitations of these implementations and offers practical suggestions to improve the design and implementation of the concerned digital ways of working. For example, by studying the restrictive documents, such as guiding opinions and policy references, that the Supreme People's Court issued on the design and implementation of the digital civil litigation procedures, Zhang Xingmei argues that the absence of overarching legislative efforts to promote the digitalization of the mentioned procedures was the main reason why courts of different regions tended to use highly varied information systems to handle the concerned procedures.[10] Holding that these variations in the execution would cause confusions and hinder the handling of cross-provincial civil litigations, she proposes that the National People's Congress, China's legislative body, should pass national legislations to regulate the execution of the concerned procedures.[11] Another example is Long Fei's 2018 study on China's court-administered online dispute resolution (ODR) services. By looking into the general development trends and applications of the mentioned services on e-commerce disputes in China, Long maintains that the lack of coordination among the service platforms of people's courts from different regions was a key factor that constantly compromised the effectiveness of these ODR processes, and that top judicial authorities should

[10]Zhang Xingmei, 'Zhongguo minshi dianzi susong niandu guanca baogao [Annual Observation Report of the Chinese Digital Civil Litigation Procedures' (2018) 6 Dangdai Faxue [Contemporary Law Review] 154.
[11]ibid 156.

strive to coordinate the development of these service platforms to minimize technical glitches and hold-ups.[12] This point of view is shared by other Chinese scholars in the field. For instance, through an examination of the digitalized procedures for the preparation, composition and delivery of judgments for administrative cases, Hu Changming proclaims that there existed notable room for improvement in the coordination among the internal information platforms within and among courts in the country, and that courts should endeavor to enhance and standardize their technical capabilities to ensure smooth and timely exchanges of case documents and information for the delivery of judgments.[13] Similarly, by shedding light on the practical challenges arising from the application and coordination among different court technologies, such as the maintenance of information systems for instant communications and case management, automated speech recognition for court proceedings reporting, blockchain applications for evidence verification and automated generation of case summaries for the judges' consideration, Zheng Guo further highlights that better administrative and technical coordination among these digital capabilities should be the Chinese courts' priority in furthering the development and adoption of smart online courts in the country.[14] In summary, while diagnostic analysis is the commonest type of Chinese studies on the subject of court digitalization and online court development, they have covered and explored a wide range of court technologies and their applications on various branches of law. Although this type of studies usually only includes a limited quantity of empirical data on the quantifiable outcomes of court digitalization and online court development, they would serve as highly relevant sources for the discussion of the development patterns and future development strategies of the Chinese court digitalization and online court development in Parts 2 and 4, respectively.

The second type of research is legal philosophical discussion. This type of research normally examines how the newly introduced court technologies and novel digital ways of workings would impact certain overarching legal principles. One prominent example is Xu Jun's 2017 article on the intangible challenges presented by the increasingly prevalent adoption of remote hearings and AI capabilities in court proceedings. By interrogating the nature and interaction dynamics among different court users in these digitalized or automated procedures, Xu argues that court digitalization and online court development would inevitably present challenges to judicial independence, the solemnity of the judiciary and equality among different court users before the court, and that the Chinese courts must strive to stay human-oriented and maintain a high degree of technological neutrality, of which court users should have the freedom to choose the format to proceed with their cases according to their own needs and preferences.[15] Agreeing to the necessity for the Chinese court system to remain human-oriented, Gao Yifei and Gao Jian contend that the role and influences of AI technologies in the digitalized Chinese court system had often been misinterpreted

[12]Long Fei, 'Zhongguo zaixian jiufen jiejue jizhi de fazhan xianzhuang ji weilai qianjing [Development Trends and Prospects of Court-administered Dispute Resolutions in China]' (2016) 10 Falû Shiyong [Journal of Law Application] 5.
[13]Hu Changming, 'Zhongguo zhihui fayuan jianshe de chengjiu yu zhanwang [Progresses and Prospects of China's Smart Court Construction]' (2018) 2 Zhongguo Yingyong Faxue [China Review of Administration of Justice] 107.
[14]Zheng Guo, 'Sifa keji de xietiao yu zhenghe [Coordination among Court Technologies]' (2010) 1 Falû Shiyong [Journal of Law Application] 3.
[15]Xu Jun, 'Zhihui fayuan de fali shensi [Reflections on the Legal Principles Regarding Smart Courts]' (2017) 3 Faxue [Legal Studies] 55.

and, therefore, exaggerated.[16] Specifically, they point out that, under the digitalization program, AI technologies and other automation technologies are only adopted to assist court proceedings, such as evidence verification, determination of the eligibility for benefits, and the preparation of case summaries; judges and court staff still retain dominating positions in directing and managing all of the mentioned processes after digitalization.[17] But as AI and automation technologies continue to present novel possibilities and methods to transform judicial processes, the Chinese court system, as the authors argue, must persevere in its firm stance to balance between utilizing the benefits of technology and maintaining its human-oriented approach.[18] Although legal philosophical studies on the concerned topic are relatively scarce and are not usually rooted in empirical experiences, studies under this category would be exceedingly beneficial to Part 4's discussions on court digitalization and online court's intangible impacts.

The third type is empirical studies that are founded based on real-life case studies or other empirical evidence. The most significant research under this category is the Chinese Academy of Social Science's Report on the Development of Digitalization of the Chinese Courts.[19] This report was first published as a standalone evaluative study under the title of 'Third-party Evaluation Report of the Digitalization of the Chinese Courts' in 2016. In the following year, it was expanded into a collection of in-depth research and became a recurring third-party effort to review and evaluate the digitalization progresses of the Chinese people's courts annually. With aid of a set of digitalization yardsticks, such as the percentages of cases filed online, relied solely on electronic legal correspondences, and livestreamed, this semi-official account rates and ranks the local people's courts' digitalization progresses and further explores the digitalization outcomes of the selected people's courts through case studies.[20]

Beyond this semi-official account, other academic journals under the category of empirical study can be further divided into three sub-groups, namely comparative, quantitative and qualitative research. Thus far, comparative study is the most common type of empirical study on Chinese court digitalization and online court development. For instance, by comparing the Chinese court-administered online mediation mechanism with that of the England and Wales system, Zheng Weiwei holds that the online mediation platforms of the local people's courts could at times be too complicated for users with special needs, such as the elderly and people with disabilities, to navigate and operate, and that China should learn from the English & Welsh ODR model to develop simplified alternative digital pathways to cater to those needs.[21] Similarly, by comparing the uses of AI technologies on China's ODR platforms with those in the US and Europe, Long Fei argues that the disorganization and discoordination among the massive number of ODR platforms of different local people's courts had been a

[16]Gao Yifei and Gao Jian, 'Shihui fayuan de shenpan guanli gaige [Reform of the Management of Smart Court Judgement]' (2018)1 Falü Shiyong [Journal of Law Application] 3.
[17]Gao and Gao (n 16).
[18]ibid.
[19]Chinese Academy of Social Science, *Zhongguo Fayuan Xinxihua Disanfang Pinggu Baogao* [Third-party Evaluation Report on the Digitalization of the Chinese Courts] (Chinese Academy of Social Science 2019) 41.
[20]ibid.
[21]Zheng Weiwei, 'Zhongguo zhihui fayuan zaixian tiaojie jizhi yanjiu [Research on China's Smart Court Online Mediation Mechanism]' (2020) 11 Dangdai Faxue [Contemporary Law Review] 141.

chronic problem to ODR development in China, and the top authorities should develop unified platforms to reduce confusions.[22]

The second sub-group is a quantitative empirical study. Compared to comparative study, research of this type is significantly fewer in quantity. One prominent example is a 2017 article by Chen Guomeng, Grand Justice of the Zhejiang High People's Court. Through a case study of the digitalization processes at the Zhejiang courts, Chen presents an accumulative provincial dataset to demonstrate how many cases the Zhejiang people courts' digital platforms had processed and facilitated between 2015 and 2017 under different branches of law.[23] Another example is Hao Jingjing's 2020 study on the specialized internet courts in Hangzhou, Guangzhou and Beijing. By tracing the case clearance rates by case types at the mentioned internet courts in the past five years, Hao finds that the online case filing, the practice of electronic legal correspondences and the conduct of remote hearings had allowed these courts to achieve case clearance rates that are markedly higher than the less digitalized specialized courts.[24]

The third sub-group is a qualitative empirical study, which comes in an even smaller quantity. The most representative example of this research type is Ji Yuanyi's 2020 study on the practical issues facing the Chinese smart courts. By interviewing over 20 judges and court staff at a basic people's court in Xuzhou of the Jiangsu Province, Ji finds that judges aged above 40 generally faced more difficulties in adapting to the new digitalized legal processes compared to the judges below 40.[25] Based on his interactions with the judges, he also sheds light on the risk that the court digitalization process and the expanding use of AI technologies in the Chinese court system, which could be considered a process to decrease actual human involvement of the judicial proceedings, might harm the sense of professional recognition and, therefore, the morale of the judges and court staff.[26]

Combing the insights from all of the mentioned empirical studies, it is clear that each of them has shed important lights on the implementation, outcomes as well as the strengths and weaknesses of China's gradually digitalized court system. However, it is also striking that there is a general shortage of this research type, and that there is an absence of time-series analysis of the digitalization outcomes at the non-specialized people's courts. As this perspective would form an important part of our understanding of China's court digitalization and online development outcomes in the past decade, this research fills this knowledge gap with a case study of the Guangzhou Intermediate People's Court in Part 3.

1.4.2. Development and studies of court digitalization and online court development: a global perspective

Court digitalization and online court development have sparked stimulating policy and academic discussions around the world. But like the situation in China, this discussion

[22]Long Fei, 'Rengong zhineng zai jiefen jiejue lingyu de yingyong yu fazhan [Applications and Development of the Use of AI Technologies in China's Smart Courts]' (2016) 10 Falü Kexue [Journal of Law Application] 7.
[23]Chen Guomeng, 'Hulianwang shidai zixum keji de yingyong yu sida liucheng zaizuo [Application of IT Technologies and the Remake of Judicial Procedures in the Age of Internet]' (2017) 2 Falü Shiyong [Journal of Law Application] 2–8.
[24]Hao Jingjing, 'Hulianwang de chengxufa kunjing yu chulu [Challenges and Solutions of the Internet Court Procedures]' (2021) Falü Kexue [Science of Law] 83–95.
[25]Ji Yuanyi, 'Qianxi zhihui fayuan mianlin de lilun yu shiji wenti [Analysis of the Theoretical and Practical Issues Facing the Chinese Smart Courts]' (2020) 6 Fazhi Bolan [Legality Vision] 216.
[26]ibid.

has been dominated by theoretical insights. Essentially, ever since online courts had become a technically viable option, this ongoing discussion have mostly centered around the foreseeable outcomes of online courts and whether online court is a preferred direction to advance justice systems. As most countries only began online court development from the mid-2010s, there is generally limited experience foundation for large-scale and systematic empirical studies to develop on. By far, the most notable empirical study is the CEPEJ 2016 Thematic Report: Use of IT in European Courts, which is an in-depth and extensive international study of the level of IT development in the European courts. Based on the survey results collected from the judicial departments of 46 EU member states, the report appraises the countries' performances in various aspects of technological adoption, such as level of video-conferencing capabilities, coverage of online case filing services, availability of online mediation services, by a 0–10 scale in court settings.[27] But beyond this research, most existing empirical research revolves around the practice of remote hearings in criminal law in the Commonwealth jurisdictions.[28]

The COVID-19 pandemic has certainly acted as a historical turning of the global movement of court digitalization and online court development. Before COVID-19, at least 32 countries had begun the development of online courts. Forerunners of online courts included Austria, China, Estonia, Finland, Germany, New Zealand, South Korea, Switzerland, and Australia.[29] Based on this distribution of country forerunners, there have not been any strong associations between the level of court digitalization and the type of legal system or the digitalization level of national governments. Regarding types of legal system, forerunners of online courts could come from common law or civil law jurisdictions; the same logic applies to latecomer or reluctant adopters. Regarding digitalization level of national governments, most Scandinavian countries are well known for having highly digitalized government systems, but not all of them, such as Denmark, Iceland and Norway, are keen online court developers. Additionally, countries that have online court capabilities, such as the digital platforms to conduct remote hearings, may not necessarily be keen to wield those capabilities. For example, most EU countries had been equipped with video-conferencing remote hearings equipment by 2016, but only a few of them have promoted a wider adoption of it.

Then, as COVID-19 surged, the landscape of the global movement of court digitalization and online court development changed fundamentally. By the end of 2020, at least 70 countries had adopted temporary digitalization measures, ranging from remote hearings to AI and blockchain e-discovery solutions, to cope with the challenges presented by the pandemic.[30] This wave of digitalization quickly sparked the rise of a new wave of empirical studies on the topic. Two of the most notable empirical studies in the

[27]European Commission for the Efficiency of Justice, *CEPEJ 2016 Thematic Report: Use of IT in European Courts* (Council of Europe 2016).
[28]Natalie Byrom, 'What We Know about the Impact of Remote Hearings on Access to Justice: A Rapid Evidence Review' *Nuffield Family Observatory* (2020) <https://www.nuffieldfjo.org.uk/resource/impact-remote-hearings-access-to-justice> accessed 10 March 2021.
[29]ibid.
[30]IBA Litigation Committee, *Impact of COVID-19 on Court Operations & Litigation Practice* (IBA 2020) <https://www.lalive.law/wp-content/uploads/2020/05/2020-SGI-IBA_Impact_of_COVID-19_on_court_operations_and_litigation_practice.pdf > accessed 10 March 2021.

English-speaking world include the International Bar Association's (IBA) Report on the Impact of COVID-19 on Court Operations & Litigation Practice and the UK Civil Justice Council's (CJC) Report and Recommendations on the Impacts of COVID-19 Measure on the Civil Justice System. Specifically, the IBA study looks into the litigation practices in 37 jurisdictions under the COVID-19 pandemic. Although much of its attention is dedicated to the COVID-19 measures resulted from the pandemic, the study does shed light on how the resulted digital ways of workings were implemented and perceived in various countries.[31] In comparison, the CJC report would be more directly relevant to our understanding of the impacts of various digital ways of doing justice. Based on online survey responses submitted by 1077 court users who had participated in a remote hearing in the civil courts in England and Wales between 19 March and 15 May 2020, the CJC report investigates how the lived experiences of various court users, such as judges, barristers, solicitors and litigants in person, fared under the remote hearings during the pandemic.[32] At any rate, both studies would be incredibly beneficial to the examination of the impacts of online courts in this study.

Overall, it is clear that online court development and the academic discussion on the topic are closely intertwined. On the one hand, the ongoing policy and discussions determines whether, when and how the certain legal system digitalize itself. On the other hand, the online court development determines the pool of empirical experience that the academics could draw from and, therefore, determines the landscape – or more precisely, the amount of existing empirical studies – of the policy and academic discussions. Understanding this delicate relationship between the two is crucial to understanding the main debates about online courts. While the main debate has been revolving around the expected outcomes of online courts and whether online court is a preferred direction to advance justice systems across the globe, exploring why certain countries are keen to develop online courts while the others are hesitating and what factors constitute their decisions would be exceedingly beneficial to the understanding of the arguments for and against online court development. Thus, in the following deliberations, this section explores the debate by drawing insights both from the existing English scholarship and the ongoing court development around the world.

On the affirmative side, scholars, such as Richard Susskind, Ethan Katsh and John Sorabji, have suggested several key advantages of promoting online courts. The paramount suggested advantage is to widen the society's access to justice. In particular, the development of online court does not only entail the digitalization of core court services, such as the conduct of remote trials and the provision of online case filing and tracking services, but also provision of other court-administered online dispute resolutions, such as negotiation and mediation services. Essentially, all of Susskind, Katsh and Soraji have argued that online court development would be able to create a 'multi-door courthouse' and broaden the traditional understanding of court-centric understanding of access to justice by opening up more practical avenues to justice.[33] Although being the most emphasized advantage, the establishment of this expected outcome would still need

[31]IBA Litigation Committee (n 30).
[32]Natalie Byrom, Sarah Beardon and Abby Kendrick, *The Impact of COVID-19 Measures on the Civil Justice System* (Civil Justice Council 2020) <https://www.judiciary.uk/announcements/civil-justice-council-report-on-the-impact-of-covid-19-on-civil-court-users-published/> accessed 10 March 2021.
[33]Susskind (n 1) 22; Katsh and Rabinovich-Einy (n 6) 40; Sorabji (n 7) 51.

further empirical evidence to substantiate. As the majority of the online courts around the world are still at very young age, there has yet been much long-term empirical studies to track how the mentioned court-administered online dispute resolutions help to widen access to justice.

The second most frequently mentioned advantage is reduced costs both for the courts and the lay court users. As both Susskind and Sorabji have argued, moving an increasing proportion of court activities online would allow the justice system to free up resources it used to occupy physically and to reduce operational costs for running court estates.[34] This line of reasoning is totally sensible in theory and is supported by some early evidence. In particular, under the direction of the UK Ministry of Justice (MoJ), the UK justice system began an ambitious reform to digitalize itself from 2016. Between 2016 and 2020, moving its activities online allowed to the UK justice system to close 127 physical courtrooms.[35] It is expected that, by 2023, the UK justice system will be able to save £244 million a year from these changes.[36] Another glaring example is the digitalization of the Estonian court system. As a forerunner of online courts, Estonia have been running one of the most digitalized court systems in the world. By 2020, it was already about to reach the stage of 'digital by default' throughout the court system in the country and have been actively seeking to broaden its use of AI technologies on the process of online judging.[37] Most notably, in the context of extensive digitalization, the country was able to stay at the Top 10 of the most developed civil justice systems on the World Justice Project while continuously running on the lowest judicial budget per capita across Europe.[38]

Another commonly mentioned advantage is increased efficiency. As both Susskind and Katsh argue, online court development would speed up the communication within and among courts via the consolidation of internal and external instant communication and document-sharing platforms.[39] In some cases, online court development would even induce the re-structuring and simplification of the original judicial proceedings. Like the case of widened access to justice, this train of thought is largely sensible. Yet it has yet been supported by wide empirical evidence. Part 3's case study of the impacts of online court development on the Guangzhou People's Intermediate Court will serve to verify this argument.

Standing on the contrary to the online court advocates are the conservatives. Indeed, it must be noted that total skeptics of online courts are rare in the English-speaking world. More commonly known are the conservatives, who are acknowledged about the potential advantages presented by online courts, but also concerned about the risks entailed in the digitalized processes and, therefore, call for wider concerns and greater public scrutiny of the design and implementation of online courts. The conservatives' concerns primarily center around two types of uncertainties presented by the wide adoption of online courts. The first type is the uncertainties about online courts' impacts on access to

[34]Susskind (n 1) 23; Sorabji (n 7) 56.
[35]House of Commons Committee of Public Accounts, *Transforming Courts and Tribunals: Progress Review – Second Report of Session 2019* 3–4.
[36]ibid.
[37]European Commission, 'Estonia' *European Commission Digital Government Factsheets* (2019) <https://joinup.ec.europa.eu/sites/default/files/inline-files/Digital_Government_Factsheets_Estonia_2019> accessed 10 March 2021.
[38]*World Justice Project, World Justice Project – Rule of Law Index 2020* (World Justice Project 2020) <https://worldjusticeproject.org/sites/default/files/documents/WJP-ROLI-2020-Online_0.pdf> accessed 10 March 2021.
[39]Susskind (n 1) 25; Katsh and Rabinovich-Einy (n 6) 41.

justice. In contrast to the online court advocates' point of view, the conservatives point out that online court development and ultimately the policy goal of 'digital court service by default' could limit access to justice by excluding the digitally impoverished, the elderly and the people with disabilities, from accessing the justice system.[40] This problem is exacerbated by the fact that court digitalization reforms are usually accompanied by the closures of physical courtrooms, which would directly jeopardize the mentioned groups' access to basic court services.[41] This train of thought is supported by an important empirical study carried out by Joe Tomlinson on the digitalization of the UK administrative system. By tracking how a number of social benefit appeal cases were processed and handled at the online Social Security and Child Support Tribunal platform, Tomlinson demonstrates that the digitalization of the mentioned judicial processes gave rise to actual cases and future possibilities in which the government entities could exploit the litigants in person with the claimant fatigue exacerbated by the complications caused by the digital processes.[42] For these reasons, he argues that the UK court digitalization reform could be considered 'a major policy gamble by a government under pressure to reduce costs'.[43]

Another important concern raised by the conservatives is the uncertainty that the online courts would cast on the power balance of litigations. More specifically, this concern can arise from several possible scenarios. First, the parties' abilities to communicate with the judge and the counsels might be impaired during remote hearings.[44] Second, remote hearings might negatively impact the perceptions of parties' and witnesses' credibility.[45] Third, remote hearings might make the determination of vulnerability profoundly difficult and, therefore, impair the courts' ability to ensure reasonable and effective adjustments.[46] Empirically, these possibilities have been the real reasons why certain legal systems were hesitant to adopt online courts widely. For example, in the UK, before and during the digitalization reform was implemented, stakeholders, such as the Law Society, the Bar Council, Transform Justice and the Law Centers Network, had expressed concerns over all the mentioned possibilities. This context was one of the reasons why the digitalization reform had to go through protracted parliamentary debates before implementation.[47] Another interesting example is in South Korea. As an early starter of court digitalization, the country had already developed advanced courtroom tech infrastructure ready for most case types at higher level courts by 2015.[48] However, its remote hearings feature has been rarely used. On the one hand, the judges do not often see the necessity to. On the other hand, as given the option to proceed their cases digitally and remotely, the litigating parties often opt for the traditional way to proceed their cases to avoid the uncertainties presented by the

[40]Dame Hazel Genn, 'Online Courts and the Future of Justice' (Birkenhead Lecture, London, 16 October 2017) <https://discovery.ucl.ac.uk/id/eprint/10062267/> accessed 10 March 2021; Tomlinson (n 8) 37–40; Byrom (n 28) 2–4.
[41]National Audit Office, *HMCTS: Early Progress in Transforming Courts and Tribunals* (2018) <https://www.nao. org.uk/report/early-progress-in-transforming-courts-and-tribunals/> accessed 10 March 2021.
[42]Tomlinson (n 8) 37–40.
[43]ibid 38.
[44]Byrom (n 28) 2–4.
[45]Genn (n 40).
[46]Byrom (n 28) 4.
[47]House of Commons Committee of Public Accounts (n 35) 5–14.
[48]'e-Court System' *Supreme Court of Korea: The Judiciary* <https://eng.scourt.go.kr/eng/judiciary/eCourt/eTrials.jsp> accessed 10 March 2021.

new digital way of proceedings. Even during the pandemic, this mentality persisted. As revealed by the IBA Report on the Impact of COVID-19 on Court Operations & Litigation Practice, only the high court in Seoul used hold preparatory hearings.[49] Most South Korean courts continued to refrain using their ready-to-use video-conferencing platforms to hold virtual hearings. While there have been significant institutional frictions for the wide adoption of online courts in South Korea, the collective mindset that quality of trials could be better ensured under the traditional way of conduct is the main reason why online courts did not become a mainstream practice even when all the required technological infrastructures are ready.[50]

Combing all the mentioned insights, it is safe to claim that global movement of online court development, as well as the landscape and key arguments of the corresponding academic debates, are closely intertwined. As most countries only began online court development from the mid-2010s, there is generally limited experience foundation for large-scale and systematic empirical studies to develop on. Accordingly, an empirical perspective of China's online court development, which is what this article attempts to present, would be exceedingly beneficial to our understanding of the actual outcomes and impacts of online courts. But, despite the limited amount of existing empirical research, the existing English scholarship on the concerned subject still allow us to develop a fundamental understanding of what intangible outcomes could be expected from court digitalization and online court development. By combing insights from the literature survey of the Chinese literature and the findings from the case study of the Guangzhou Intermediate People's Court in Part 3, Part 4 will explore whether the discussed foreseeable outcomes have ensued in the Chinese experience.

1.4.3. Studies on the measurement of court performances

As the core objective of this study is to evaluate the impacts of court digitalization and online courts on China's court performances, the following section is set to explore the ways to evaluate court performances. By studying the constituents of three internationally recognized court performance evaluation frameworks, it compares their suitability for the evaluation of the court performances in China and arrives at a suitable evaluation framework for the case study of the Guangzhou Intermediate People's Court in Part 3.

Thus far, there are three internationally recognized court performance evaluation frameworks. The first one is the ICCE Global Measures of Court Performance developed by the International Consortium for Court Excellence (ICCE). The research and development of this evaluation framework were supported by four founding members of the ICCE, namely the Australasian Institute of Judicial Administration, the US Federal Judicial Center, the US National Centre for State Courts (NCSC), and the State Courts of Singapore.[51] Currently, at its third edition, this evaluation framework covers 11 core court performance measures, namely (1) court user satisfaction, (2) access fees, (3) case clearance rate, (4) on-time case processing, (5) duration of pre-trial custody, (6) court file integrity, (7) case backlog, (8) trial date certainty, (9) employee engagement, (10) compliance with court orders, and (11) cost per case, that are aligned with the core court values, namely equality, fairness, impartiality, independence, competence, integrity,

[49]IBA Litigation Committee (n 30) 62–4.
[50]ibid 64.
[51]'International Consortium for Court Excellence – Executive Committee' *ICCE* (2020) <https://www.courtexcellence.com/members/executive-committee> accessed 12 March 2021.

transparency, accessibility, timeliness and certainty, as set by the ICCE.[52] While this framework has been adopted or adapted by a number of courts and court systems, its most prevalent use is in Australia, Indonesia, Kenya and Moldova.[53]

The second evaluation framework is CourTools. Developed by the US National Centre for State Courts, the CourTools framework covers 10 court performance areas and advocates calculation methods that largely resemble those of the ICCE framework.[54] The main differences are that CourTools leaves out pre-trial custody and access fees but includes the number of citizens selected for jury service. Another main distinction from the ICCE framework is that CourTools is a national framework based in the United States, although a number of common law jurisdictions have taken the reference of the CourTools model while developing their own court performance evaluation framework. In the US, 13 states have adopted and implemented this framework statewide.[55]

The third evaluation framework is the EU Justice Scoreboard. Developed by the European Commission to provide reliable and comparable data, this evaluation framework focuses on the quality, independence and efficiency of judicial services provided in 27 EU countries.[56] Specifically, it looks into 8 critical areas of court performances, including (1) case clearance rate, (2) on-time case processing, (3) case backlog, (4) effectiveness of monitoring and evaluation, (5) use of ICT systems for courts, (6) number, average duration and costs of cases brought before ADR entities, (7) training of judges, and (8) resources and budget available to courts.[57]

Since the inception of the second stage of the Chinese judicial reform in 2014, courts in China have generally shown a growing awareness of the importance of recording and reporting court performance information in a timely and accurate fashion. But the country has not yet developed a uniform set of yardsticks to measure court performances thus far. As one of the most transparent people's courts in China, the Guangzhou Intermediate People's Court (GZ-IPC) has released annual work reports and judicial data since 2005. In particular, it has published complete and calculated time-series data for the number of cases closed per judge, court order compliance rate, and court user satisfaction rate between 2013 and 2019. It has also published a range of raw data, including the total number of incoming cases, total number of cases closed, court incomes and expenditures, with which observers can calculate the court's case clearance rate and average access fee manually. As shown in Table 1, the described situation has made the ICCE Global Measures of Court Performances the most compatible framework for the evaluation of the court's performances among the three described frameworks. The other two frameworks, namely CourTools and the EU Justice Scoreboard, certainly their own edges. For instance, despite its high resemblance with the ICCE framework, it covers the number of citizens selected for jury service, which would surely be an interesting aspect to look into in the case study of GZ-IPC. Equally interesting are the EU

[52]International Consortium for Court Excellence, *ICCE Global Measure of Court Performance* (Secretariat for the International Consortium for Court Excellence 2020) 1–5.
[53]ibid viii.
[54]National Center for State Courts, *CourTools: Giving Courts the Tool to Measure Success* (National Center for State Courts 2017) 1–6.
[55]National Center for State Courts, 'Reports from Courts' *CourTools* <https://www.courtools.org/trial-court-performance-measures/reports-from-courts> accessed 12 March 2021.
[56]European Commission, *The 2020 EU Justice Scoreboard* (Publication Office of the European Union 2020) 5.
[57]ibid 1–13.

Table 1. Constituents of three internationally recognized court performance evaluation frameworks.

	GZ-IPC data	ICCE global measures of court performance	CourTools	EU justice scoreboard
Case clearance rate	✓	✓	✓	✓
On-time case processing	✓	✓	✓	✓
Case backlog		✓	✓	✓
Court order compliance rate	✓	✓	✓	
Court user satisfaction	✓	✓	✓	
Trial date certainty		✓	✓	
Cost per case		✓	✓	
Court file integrity		✓	✓	
Employee engagement and satisfaction		✓	✓	
Pre-trial custody		✓		
Average access fees for civil cases	✓	✓		
Citizens selected for jury service			✓	
Monitoring and evaluation				✓
Use of ICT systems for courts				✓
Costs of cases brought before ADR entities				✓
Training of judges				✓
Resources and budget available to courts				✓

Justice Scoreboard' unique constituents, such as training of judges as well as monitoring and evaluation. But since compatibility with the case of GZ-IPC would be priority in the selection of evaluation framework for the case study, Part 3 will use the ICCE framework to evaluate GZ-IPC's court performance in the context of digitalization and online court development between 2013 and 2019.

2. Emergence and development history of court digitalization and online courts in China

Drawing on a wide range of official documents, including judicial white papers, policy deliberations, memos, press releases, and technical specifications of the digitalization platforms, this part of the article explores the emergence and development history of court digitalization and online court development in China. It first provides a chronology of these developments. It looks into related historical and socio-political contexts and examines the progresses and outcomes of three development stages of the mentioned process. Then, by tracing the links and patterns among the major developments of China's court digitalization and online court development process, it identifies the development strategies employed the top judicial authorities and discusses the advantages and pitfalls of these strategies.

2.1. Chronology of court digitalization and online court development in China[58]

2.1.1. Historical contexts: judicial reforms in China

Before delving into the particularities of China's court digitalization and online court development process, the socio-political contexts of this epic page of development

[58]For detailed annotations on the nature and significance of all the cited primary sources, please refer to the Appendix – Major Development, Regulations and Official Documents of Court Digitalization and Online Court Development in China, 2008–2020.

must be clearly sketched out. Principally, court digitalization and online courts emerged in the context of China's ongoing judicial reform. The historical roots of China's ongoing judicial reform dated back to the late 1970s. Before 1978, the concept of rule of law was officially rejected as a 'bourgeois social construct' which could undermine the CPC's ideological underpinnings.[59] In contrast to laws and regulations, administrative orders and economic plans were the most frequently used policy vehicles to allocate resources and guide public behavior between 1949 and 1978. Only until 1978, as the country's political turmoil had come to an end, China began an unprecedented campaign to reconstruct its legal system. During the 1980s and 1990s, the National People's Congress passed numerous landmark pieces of legislations, such as Company Law, Administrative Law and Procedural Law, which laid the foundation of the contemporary Chinese legal system.[60] Parallel to the enactment and enforcement of these legislations was the reconstruction of the Chinese court system. Key efforts during this period included the development of an enlarging body of professional judges, enhancement of judicial capabilities, expansion of court services and improvements in the openness and transparency of the judicial process.[61]

To formalize plans and efforts to consolidate the Chinese court system, the Supreme People's Court (SPC) issued the first and second five-year plans to reform the people's court system in 1999 and 2004, respectively. While the emphases of these two five-year plans were on clearing the case processing pipelines and ensuring a smooth handling of cases of different types and stages, the third five-year plan was sketched out in 2009 to improve the mentioned legal infrastructural foundation.[62] Specifically, in Section 4.24, the document spells out that people's courts at different levels should begin the construction of basic IT systems to enhance transparency and facilitate internal case management processes.[63] This document marked the first action plan for the Chinese courts to kick start their court digitalization and online court development processes.

2.1.2. Technologies as core means to enhance judicial capabilities

Indeed, the scene for the adoption of court digitalization was set long before the publication of the 2009 Third Five-Year Plan for the Reform of the People's Court. As early as the early 2000s, China already saw a blooming demand for court services. As the country's economy was expanding at remarkable growth rates, ranging from 8.5% to 11.4% between 2000 and 2005, socio-economic relations among individuals and entities within the country were simultaneously undergoing rapid and radical changes.[64] These factors together gave rise to burgeoning instances of socio-economic disputes and legal issues to be resolved and clarified by the Chinese courts. In view of these circumstances and the context that the previous judicial reform efforts had laid a functional legal infrastructural foundation for the country, the 17th National People's Congress

[59]Wang Chenguang and Zhang Xianchu, *Introduction to Chinese Law* (Sweet & Maxwell 1997) 11.
[60]Donald Clarke, Peter Murrell and Susan Whiting, 'The Role of Law in China's Economic Development' in Loren Brandt and Thomas Rawski (eds) *China's Great Economic Transformation* (CUP 2008) 379.
[61]State Council of China, *Zhongguo Fazhi Jianshe Baipishu* [China's Rule of Law Construction White Paper] (PRC State Council 2008) s 2.
[62]Supreme People's Court of China, *Renmin Fayuan Disange Wunian Gaige Gangyao* [Third Five-Year Plan for the Reform of the People's Courts] (People's Court Press 2009).
[63]ibid s 4.24.
[64]Clarke, Murrell and Whiting (n 60) 365.

(NPC) thus progressed to set out the overarching policy objectives to 'carry out governance according to the law' and accelerate the construction of a 'socialist rule-of-law state' in October 2007.[65] In response to this policy direction, the Chinese State Council (SC) published China's Rule of Law Construction White Paper 2008, a landmark piece of policy reference of China's ongoing judicial reform, to confirm this development direction and map out the specific roadmaps for the judicial authorities to follow. It is in this 2008 document that 'court digitalization' was first mentioned in any official Chinese document and was considered a crucial tool to 'enhance judicial capacities to meet the country's growing demanding for court services' and 'elevate the transparency and openness of the Chinese judicial system'.[66] As a policy outcome of this policy directive, the Third Five-Year Plan for the Reform of the People's Court was issued to convert these directives into action plans. In the following years, China's court digitalization and online court development process can generally be divided into three stages according to the official rhetoric: Digitalization 1.0, when the emphasis was on the foundation of basic online information platforms before 2013, Digitalization 2.0, when the attention was on the construction of the functional online court systems between 2013 and 2017, and Digitalization 3.0, when the focus has been on the development of smart court systems with AI and big data technologies since 2017.

2.1.3. Digitalization 1.0 – foundation of basic online systems, before 2013

In the late 2000s, as video-conferencing technologies were becoming increasingly widespread and capable, there were limited instances of remote hearings to cater to the specific needs of the concerned cases. Special circumstances, such as the admission of statements or evidence given by overseas experts or witnesses with disabilities, were common reasons behind such arrangements.[67] The official starting point of Digitalization 1.0 was in 2009, when the SPC issued the Third Five-Year Plan for the Reform of the People's Court. Under its directions, the development stage of Digitalization 1.0 was characterized by the development of internal IT systems and construction of official webpages of courts of different levels.[68]

Two years later, as more and more people's courts had developed their own official webpages and begun exploring the means to conduct remote hearings, the SPC issued the Basic Requirements for the Digitalization of People's Courts in 2011. As the first set of rules to regulate digitalization of courts, this landmark piece of restrictive document granted people's courts of different levels and regions the autonomy to develop their own digitalized platforms and stipulated the basic requirements concerning the filming, storage and publication of trial recordings.[69] While making video recording a default arrangement for most hearings, it provided the ground rules for the filming angles, editing procedures and storage file formats of the recorded hearings and set up the standard procedures for the procurement of digitalization services from external

[65]State Council of China (n 61) s 1.
[66]ibid s 6.
[67]Wu Shaojun and Liao Yuanxun, 'Renmin fayuanshenpan fating xinxihua jiben yaoqiu jiedu [An Analysis of the Basic Requirements for the Digitalization of the People's Courts]' *Zhongguo Shenpan Xinwen Yuekan* [China Judgement News Magazine] (2012) 82.
[68]Supreme People's Court of China (n 62) s 4.24.
[69]Supreme People's Court of China, *Renmin Fayuan Shenpan Fating Xinxihua Jiben Yaoqiu* [Basic Requirements for the Digitalization of People's Courts] (People's Court Press 2011) s 3–8.

service providers.[70] But beyond this basic restrictive framework, the people's courts are otherwise free to explore the exact execution details, such as the layouts, functions and service providers of their web-based platforms, that best suit their local practical needs.[71]

According to the 2012 China's Judicial Reform White Paper, which is the first judicial white paper that the SC released after the inception of the national court digitalization process, Digitalization 1.0 had by and large completed by the end of 2012.[72] Like previous judicial white papers, the 2012 document has offered a review of the judicial reform efforts made after the publication of the last judicial white paper. These efforts included a wide range of policies and programs to enhance judicial capabilities of the country, such as the founding of more local courts, expansion of the judiciary body, consolidation of the continued training of the full-time judges and strengthening of anti-corruption reporting mechanisms.[73] But regarding court digitalization, the 2012 white paper has generally provided a more specific outlook of the policy goals of the national court digitalization process when compared to the previous official documents. Specifically, it sets out that 'upholding social justice', 'reinforcing human rights protection', 'enhancing judicial capability', and 'developing a judiciary for the people' were the core objectives of the upcoming reform efforts, and that digitalization would be a pivotal measure to achieve these goals.[74]

Beyond identifying more specific policy aims, the document also sheds light on the progresses and outcomes of China's national court digitalization efforts by the end of Digitalization 1.0. In particular, by the end of 2012, 95% of the people's courts had completed the construction of their basic internet infrastructure; 99% of them had developed their own official webpages; 92% of the intermediate people's courts and 84% of the basic people's courts had developed their database and servers; and over 1400 people's courts had begun schemes to explore the implementation of remote online trials.[75] Overall, the digitalization process during Digitalization 1.0 was swift and remarkable. Within three years' time, the basic online infrastructure of the Chinese court system had already been laid.

2.1.4. Digitalization 2.0 – construction of online courts, 2013–2017

In continuation of the previous digitalization efforts, Digitalization 2.0 was a development stage characterized by the construction of basic online court platforms. The main goal of this stage was to enhance the transparency and accessibility of the court system by simplifying case filing processes and facilitating the conduct of trials through technologies. Compared to the previous stage, Digitalization 2.0 unfolded at an even faster pace, and was paved with more specific directions from the top authorities and numerous major national and local developments.

Another notable change during this development stage was court digitalization's growing significance in China's political and societal arenas. By the end of the Third Plenary Session of the 18th Central Committee of the CPC in November 2013, the

[70] ibid.
[71] ibid.
[72] State Council of China, *Zhongguo de Sifa Gaige Baipishu 2012* [China's Judicial Reform White Paper 2012] (PRC State Council 2012) s 2.
[73] State Council of China (n 72) s 2–5.
[74] ibid s 2.2–3, 3.1, 4, 5.4.
[75] ibid.

Central Committee (CC) of the CPC issued the Decision on Some Major Issues Concerning Comprehensively Deepening the Reform. As a guiding document akin to administrative regulations, the document emphasized that 'governance according to the law' and construction of a 'socialist rule-of-law state' would continue to be a core component of the central government's national policy,[76] and that all judicial authorities should strive to reinforce the openness and transparency of the judicial system through the publication of judicial information online in an accurate, systematic and timely fashion.[77] Despite previous endorsements and directions given by the SC and the SPC, it was the first time that court digitalization was incorporated into the decisions given by the top Chinese political body.

In the following year, the CC gave an even more eloquent direction on the subject. As an outcome of the Fourth Plenary Session of the 18th Central Committee of the CPC, the Decision on Several Important Issues of Promoting the Rule of Law in a Comprehensive Way recognized that the existing Chinese judicial system was 'still not standardized, stringent, transparent and civilized enough in implementation'[78] and instructed courts at different levels to 'make groundings, procedures, progresses, outcomes of rulings available in a timely and legitimate fashion to eliminate chances of corruption and collusion'[79] and create an 'open, dynamic, transparent and accessible judicial system'.[80]

Although the court digitalization was having increasing significance in China's political and societal arenas, the SPC Court continued to play a pivotal role in formulating the overarching action plans for the national court digitalization movement. Between 2013 and 2017, the SPC issued five important policy references, including the Opinion on the Promotion of the 'Three Main Judicial Openness Platforms'[81] in 2013, the First Five-year Plan of the Digitalization of the People's Courts (2013–2017)[82] in 2013, the Opinion on Further Reinforcing the Digitalization of the Courts[83] in 2014, the Fourth

[76]Central Committee of the CPC, *Zhonggong Zhongyang Guanyu Quanmian Shenhua Gaige Ruogan ZHongda Wenti de Jueding* [Decision on Some Major Issues Concerning Comprehensively Deepening the Reform] (Publicity Department of the Central Committee 2013) s 1.

[77]ibid s 4.

[78]Central Committee of the CPC, *Zhonggong Zhongyang Guanyu Quanmian Tuijin Yifa Zhiguo Ruogan Zhongda Wenti de Jueding* [Decision on Several Important Issues of Promoting the Rule of Law in a Comprehensive Way] (Publicity Department of the Central Committee 2014) s 1.

[79]ibid s 4.4.

[80]ibid s 4.1.

[81]Issued shortly after the CC's 2013 policy directives, the document announced the foundation of three web-based platforms, which publish trial proceedings, rulings and enforcement information in a real-time manner. More importantly, the document also granted local courts autonomy to develop their own 'three platforms' and 'dare to innovate' on their own while considering the SPC's national platforms as practical examples. See Supreme People's Court, *Zuigao Remin Fayuan Guanyu Tuijin Sifa Gongkai Sanda Pingtai Jianshe de Ruogan Yijian* [Opinion on the Promotion of the 'Three Main Judicial Openness Platforms] (People's Court Press 2013).

[82]Unlike the aforementioned five-year plans that focused on China's ongoing judicial reform in general, this document is the first SPC five-year that was written specifically for country's court digitalization and online court development. As the local people's court had already begun exploring the development of their own internal and external IT systems, the 2013 document held that the people's courts should (1) consolidate the software and hardware infrastructures of the increasingly digitalized court system; (2) accelerate the digitalization of trial proceedings to increase efficiency and transparency of the processes; (3) improve resource allocation and coordination across IT systems of courts of different levels and regions; and (4) strengthen information security of their internal and external systems. See Supreme People's Court, *Renmin Fayuan Xinxihua Jianshe Wunian Fazhan Guihua (2013–2017)* [Five-year Plan of the Digitalization of the People's Courts (2013–2017)] (People's Court Press 2013) s 4.

[83]Having explicated that local court digitalization efforts should emphasize 'innovation based on solid and continuous research work', 'timeliness, accuracy and thoroughness of the production and publication of judicial information', 'acumen for grasp the ever-evolving needs of the people',[83] the opinion provided 7 action points to follow, namely (1) to enhance efficiency and quality of the compilation of judicial information to be published; (2) to

Five-year Reform of the People's Courts (2014–2018)[84] in 2014, and the Five-year Plan of the Digitalization of the People's Court (2016–2020)[85] in 2016. Depending on its time of publication, each document revealed a telling picture of the country's court digitalization progress for the time being and set the scene for the coming one to two years' policies. Ultimately, they were issued either to introduce new technological elements, such as trial livestreams and online case filing functions, or to devise strategies to remedy weaknesses of the gradually digitalized Chinese court system.

Under the direction of the SPC, the pace of this development stage was remarkably fast. The whole process was paved with major progresses and achievements. On the national level, the period saw the founding of the four national 'judicial openness platforms'.[86] In addition to the three judicial openness platforms that were launched in 2013, the fourth one that was designed to broadcast trial livestreams was launched in 2017.[87] The same year also saw the introduction of the National Litigation Tracking and Notification Function, which was a mini-function in-built in the Chinese social media platforms, such as WeChat, that could allow the litigating parties to receive updates of their cases in real-time.[88]

At the local level, numerous schemes were piloted at the local people's courts to test the feasibility of various novel technological elements during this period. For example, in December 2015, the Zhengzhou Intermediate People's Court handled the country's first remote trial through a WeChat sub-function.[89] As a mobile application function on WeChat, this new means of trial was co-developed by the Zhengzhou Intermediate People's Court and Tencent, the Chinese social media and technology company.[90] Given the positive feedback provided by the participating judges, lawyers and lay court users, this local innovation was later introduced to 3 other cities in the Henan

systematize channels to report digitalization progresses to SPC; (3) to strengthen vertical communication channels within and between courts at different levels; (4) to reinforce structure and leadership while furthering digitalization; (5) to clarify duties and responsibilities in digitalization work; (6) to account digitalization costs as a continuing and increasing part of the courts' budget; and (7) to ensure stable and sustainable operation of the digitalized system, of which online services would not be disrupted by administrative factors, such as change of personnel and change of service provider. See Supreme People's Court, *Guanyu Jinyibu Jiaqiang Renmin Fayuan Xlnxi Gongzuo de Yijian* [Opinion on Further Reinforcing the Digitalization of the Courts] (People's Court Press 2014) s 1–3.

[84]Issued in February 2015, this five-year plan was a follow-up policy reference of the 2009 five-year plan on China's overall judicial reform efforts. Compared to the previous version, the 2015 document further highlighted the importance of court digitalization and elevated the process to a 'necessary means to construct an open, dynamic, transparent and accessible judicial system.' But beyond this rhetorical change, the document's most important subject was the introduction of several novel technological elements at the national level. As elements, such as remote hearings, online mediation services, online case filing and the livestreams of trials, had been piloted successfully at a handful of selected local people's courts, the document was instructing all other people's courts in the country to explore the mentioned functions. See Supreme People's Court, *Renmin Fayuan Disige Wunian Gaige Gangyao [Fourth Five-year Reform of the People's Courts (2014–2018)]* (People's Court Press 2015).

[85]As a follow-up policy reference of the 2013 specialized five-year plan on court digitalization, this document was issued in 2016 to confirm that the development stage of Digitalization 2.0 was about to be completed ahead of schedule, and that the next digitalization stage on the construction of smart court systems with big data and AI technologies was then scheduled to begin from 2017. See Supreme People's Court, *Renmin Fayuan Xinxihua Jianshe Wunian Fazhan Guihua (2016–2020)* [Five-year Plan of the Digitalization of the People's Courts (2016–2020)] (People's Court Press 2016).

[86]Chinese Academy of Social Sciences, '2017 nian Zhongguo fayuan xinxihua dashiji [Chronicles of the Major Developments of Court Digitalization in China 2016]' *Zhongguo Fayuan Xinxihua Fazhan Baogao No. 2* [Report on the Development of Digitalization of the Chinese Courts No. 2] (China Social Sciences Press 2018) 381–87.

[87]Chinese Academy of Social Sciences (n 86) 381–87.

[88]ibid.

[89]Chinese Academy of Social Sciences, '2016 nian Zhongguo fayuan xinxihua dashiji [Chronicles of the Major Developments of Court Digitalization in China 2016]' *Zhongguo Fayuan Xinxihua Fazhan Baogao No. 1* [Report on the Development of Digitalization of the Chinese Courts No. 1] (China Social Sciences Press 2017) 359–65.

[90]ibid.

and Zhejiang Provinces in the following year.[91] Similarly, functions, such as online case filing, online mediation services and instant-messaging court services directory, were first piloted in the Guangdong courts and were later adopted to other parts of the country.[92]

As the country's online court system was gradually taking shape, the period also saw the introduction of new regulations and the rise of external evaluation mechanism to guide and monitor the local court digitalization and online court development efforts. In July 2016, the SPC introduced the Standards for the Digitalization of the People's Courts and set out 30 technical requirements to regulate court digitalization efforts, such as data management, IT service procurement, interface design, operation standards and hardware infrastructures, at the local courts.[93] Two months later, the SPC further introduced the Overall Plan to Enhance Information Security in the Digitalization of the People's Courts to coordinate efforts to strengthen the physical, digital and operational security of the increasingly digitalized Chinese court system.[94] Equally relevant was the founding of an external scientific evaluation mechanism. In 2016, the Chinese Academy of Social Science (CASS) published the 2016 Third-party Evaluation Report of the Digitalization of the Chinese Courts. As a semi-official account, the report tracks the national and local court digitalization and online court development efforts, ranks the local courts' level of digitalization by a range of yardsticks, such as the percentage of cases filed online and the percentage of cases relied solely on electronic legal correspondences, and explores the outcomes of the pilot schemes through case studies.[95] Since 2017, the report has become an annually recurring publication by the CASS.

2.1.5. Digitalization 3.0 – development of smart court systems, 2017–2023 (expected)

Scheduled to take place between 2017 and 2023, Digitalization 3.0 is the final court digitalization stage with an emphasis on the development of smart court systems with the use of AI, big data and cloud computing technologies.[96] Like the previous stage, Digitalization 3.0 has unfolded at a remarkable speed and been paved with major national and local developments. According to the SPC's 2017 specialized five-year plan on court digitalization, it is expected that 100% of the high people's courts and 100% of the intermediate people's court in China will achieve full digitalization with online case filing and management systems and remote hearing capabilities by 2018 and 2020, respectively.[97]

In this development stage, the SPC has continued to play a critical role in guiding the national court digitalization efforts. Its directions and guidelines have been even more specific and comprehensive compared to those of the previous two stages. In particular, through the 2017 SPC Opinion regarding Accelerating the Construction of Smart Courts, it set out 55 practical missions for the local people's courts to attain. Generally, the courts

[91]Long (n 12) 5–7.
[92]Chinese Academy of Social Sciences (n 89) 360.
[93]Supreme People's Court of China, *Renmin Fayuan Xinxihua Biaozhun* [Standards for the Digitalization of the People's Courts] (People's Court Press 2016).
[94]Supreme People's Court of China, *Renmin Fayuan Xinxi AnquanBaozhang Zongti Fangan* [Overall Plan to Enhance Information Security in the Digitalization of the People's Courts] (People's Court Press 2016).
[95]Chinese Academy of Social Sciences, *Zhongguo Fayuan Xinxihau Disanfang Pinggu Baogao 2016* [Third-Party Evaluation Report on the Digitalization of the Chinese Courts 2016] (China Social Sciences Press 2019).
[96]Supreme People's Court of China, *Renmin Fayuan Xinxihua Jianshe Wunian Fazhan Guihua (2017–2021)* [Five-year Plan of the Digitalization of the People's Courts (2017–2021)] (People's Court Press 2017).
[97]ibid.

were directed to (1) consolidate software and hardware infrastructure; (2) accelerate digitalization enhance efficiency; (3) expand the digitalized court system's connection with various social media platforms to increase transparency; (4) widen adoption of technologies to provide accurate and effective legal advisory services; and (5) reinforce administrative and financial stability and sustainability of the digitalized court systems.[98] Equally relevant is the emergence of more in-depth regulations from the SPC. The most notable example is the 2017 SPC Management Guidelines for the Digitalization of the People's Courts, which established the standard procedures for people's courts at all levels to design, implement, evaluate, amend and abolish technological elements of their digital platforms.[99]

In addition to more specific regulations, Digitalization 3.0 is also characterized by a greater emphasis on national coordination. By 2020, under SPC's coordination, at least seven national platforms have already been launched to synchronize information given by the local people's court digital systems. These platforms include an internal instant-messaging system to facilitate communication, case file sharing and video-conferencing calls among courts of different levels and regions (2017); the National Commutation and Parole Information Platform (2017); the Smart Court Navigator and Smart Case Recommendation Systems (2017); the People's Court Mediation Platform (2018); the 'Fa Xin' artificial intelligence legal Q&A platform (2018); and the People's Court Information Platform (2019).[100] The founding of these coordinated platforms had two main impacts. On the one hand, they facilitated the general public's digital navigation on the increasingly digitalized Chinese court system and enhanced the overall transparency and accessibility of the Chinese judicial system. On the other hand, these developments also prompted the local people's courts to develop their own service platforms up to the national standards and therefore ensured a baseline for the configuration and quality of the local platforms.

At the local level, local innovation has continued to be the main driving force of Digitalization 3.0. The most notable development is the founding of the specialized Internet Courts firstly in Hangzhou in 2017 and later in Beijing and Guangzhou in 2018. Established to process cases arising from online transactions and activities totally by digital means, these internet courts have become the most forerunning experimental grounds not only for online case filing practices and video-conferencing trials but also for the most cutting-edge technologies such as blockchain applications for evidence verification and AI applications for the determination of the eligibility for benefits.[101] For instance, the country's first blockchain evidence admission platform was launched at the Hangzhou Internet Court in 2017.[102] As this new practice had received highly affirmative

[98]Supreme People's Court of China, *Zuigao Renmin Fayuan Guanyu Jiakuai Jianshe Zhihui Fayuan de Yijian* [Opinion regarding Accelerating the Construction of Smart Courts] (People's Court Press 2017) s 2–6.
[99]Supreme People's Court of China, *Remin Fayuan Xinxihua Biaozhun Zhiding Gongzuo Guanli Banfa* [2017 SPC Management Guidelines for the Digitalization of the People's Courts] (People's Court Press 2017).
[100]Chinese Academy of Social Sciences, '2019 nian Zhongguo fayuan xinxihua dashiji [Chronicles of the Major Developments of Court Digitalization in China 2019]' *Zhongguo Fayuan Xinxihua Fazhan Baogao No. 4* [Report on the Development of Digitalization of the Chinese Courts No. 4] (China Social Sciences Press 2020) 331–42.
[101]Chinese Academy of Social Sciences, '2018 nian Zhongguo fayuan xinxihua dashiji [Chronicles of the Major Developments of Court Digitalization in China 2018]' *Zhongguo Fayuan Xinxihua Fazhan Baogao No. 3* [Report on the Development of Digitalization of the Chinese Courts No. 3] (China Social Sciences Press 2019) 362–69.
[102]ibid.

responses by various court users, the technology was later introduced to the other two internet courts and a number of people's courts in the Zhejiang province.[103]

Overall, although Digitalization 3.0 has yet been completed, this development stage could thus far be characterized by its emphases on more specific regulations, stronger national coordination and thriving local innovations. According to the latest 2021 CASS Evaluation Report of the Digitalization of the Chinese Courts, the Chinese court system is expected to meet the policy targets of Digitalization 3.0, that is, to achieve full digitalization at all high and intermediate people's courts by 2023, ahead of schedule.[104] The COVID-19 pandemic certainly served as a critical catalyst to accelerate this national court digitalization process. In order to maintain court services under lockdowns and social-distancing measures, the Chinese courts, like courts in many other countries, were left with limited choices but to move majority of its proceedings online. Yet, the bright side of this turn of events was that China's previous court digitalization efforts had laid a solid technical and operational foundation to ensure a smooth and swift transition to the digital ways of doings under these unprecedented times. These COVID-19 measures also prompted the local people's courts to speed up their original digitalization plans to meet the challenges presented by the pandemic.

2.2. Roles of the Supreme People's Court and patterns of China's court digitalization and online court development

Along China's impressive court digitalization path, Chinese scholars have written extensively to identify the existing issues and challenges facing China's gradually digitalized court system. As discussed in the literature survey in Part 1, a number of scholars, including Zhang Xingmei, Hu Changming, Zheng Guo and Long Fei, have highlighted that lack of coordination among the many digital platforms developed by different local people's courts was one of the most significant problems facing the Chinese court system.[105] In tackling this existing issue, most of the mentioned scholars have considered the absence of national legislations in guiding this national effort the root cause of the issue.[106] They hence go forward to propose that the national law-making bodies should work to enact overarching legislations to coordinate and standardize the local court digitalization efforts.[107] But based on a close reading of the official documents released by the national and local authorities and an extensive archival analysis of the document as sketched out above, this article contends that the existing scholarships might have simplified the role that the SPC had played in China's court digitalization and online court development path and, therefore, overlooked the underlying benefits of the SPC's adopted strategy in leading this national movement. Accordingly, the following deliberations aim to clarify the SPC's evolving role in guiding this national movement, identify a development pattern that has yet been pinpointed by the existing scholarship, and discuss the benefits and drawbacks of this identified approach.

[103]ibid.
[104]Chinese Academy of Social Sciences (n 100) 331–42.
[105]Zhang (n 10) 156; Hu (n 13) 117; Zheng (n 14) 10; Long (n 12) 7.
[106]Zhang (n 10) 156; Hu (n 13) 117; Long (n 12) 8.
[107]ibid.

Throughout China's court digitalization and online court development path, the SPC has been the chief architect and key administrator of this process. Unlike the law-making bodies in the country, it is not equipped with the authorities to enact formal laws. Instead, it has relied on policy references and guiding opinions, which possess de facto ancillary restrictive power, to set out general development directions and national standards. Over the years, the SPC has assumed evolving roles with changing administrative focuses to guide this national movement. But its administration has always revolved around five core elements, namely (1) mapping out development plans and targets, (2) setting practical examples by pioneering certain digital platforms, (3) granting autonomy for local innovation, (4) establishing national standards through regulations, and (5) making adjustments to its development plans based on the country's latest court digitalization progresses.

During Digitalization 1.0 (before 2013), when only a limited number of local people's courts had ventured to explore novel digitalization measures, the SPC largely played a steering and encouraging role at this stage. Through the Third Five-Year Plan for the Reform of the People's Courts (2009), it mapped out plans and policy goals for the local people's courts to construct basic IT systems. But since court digitalization at this stage was still confined mostly to the recording and publication of trial proceedings and construction of database and official websites, it also exhibited restrains in wielding its ancillary rule-setting power. In particular, through the Basic Requirements for the Digitalization of People's Courts (2011), it only established the standard protocol for the procurement of digital services from external service provider and set out the basic requirements for the filming, storage and publication of trial recordings, while leaving the local people's courts with considerable freedom and autonomy to explore their own ways of execution.

Then, during Digitalization 2.0 (2013–2017), when local innovations, such as the conduct of remote hearings in various forms, was booming and the manifestations of court digitalization began to widen, the SPC resorted to a more diversified mixture of administrative elements, which essentially covered all the mentioned five administrative elements. More notably, it issued one general five-year plan to consolidate the ongoing Chinese judicial reform efforts, two specialized five-year plans to further the national court digitalization efforts, and two guiding opinions to facilitate the implementation of its proposed action plans. While these documents were developed based on the country's latest court digitalization progresses, the SPC exhibited high awareness of the changing landscape of court digitalization in China and high responsiveness to make appropriate adjustments to its development plans. For example, since the national network of digital platforms was gradually taking shape, the SPC initiated the Overall Plan to Enhance Information Security in the Digitalization of the People's Courts in September 2016 to strengthen the physical, digital and operational security of the national network. In order to set national examples, it founded the 'Four Main Judicial Openness Platforms' to guide the people's courts' livestreams of court cases and the publication of real-time judicial processes, rulings and enforcement information. But beyond these steering and directive roles, it was also allowing the local people's courts to have sufficient freedom and autonomy to explore their own path to court digitalization. In particular, through its 2013 Opinion on the Promotion of the 'Three Main Judicial Openness Platforms', it not only discussed the purposes and policy targets for it to develop the

national judicial openness platforms, but also instructed the local people's courts to 'date to innovate' and develop the 'three judicial openness platforms' of their own while considering the SPC's one a practical example. Finally, as local innovations continued to flourish during this development stage, the SPC also wield its rule-setting power to establish the basic ground rules for local court digitalization efforts. The most significant example was the 2016 Standards for the Digitalization of the People's Courts, which set out 30 technical requirements for the data management, IT service procurement, interface design, operation standards and hardware infrastructures of the local digital platforms.

As of Digitalization 3.0, local innovations for the application of AI, big data and cloud computing technologies are still booming. But since the fundamental online court systems at the local people's courts have already been laid, much of the advancements of this period are, by nature, the refinements of the existing digital legal infrastructure. These contexts also mean that, compared to the previous development stages, there are now more substances and digital infrastructures to be regulated. Thus, during this period, the SPC has continued to resort to a mixed approach. Specifically, it has continued to set national examples and make room for local innovation. Simultaneously, it has also been placing more emphases on regulations and standardization as well as review and evaluation compared to the previous two stages. In terms of national examples, it launched a range of national platforms, such as the National Commutation and Parole Information Platform (2017) and the Smart Court Navigator System (2017). In terms of initiatives to encourage innovations, this period continued to see a wide range of local innovations, including the founding of three specialized internet courts in Hangzhou, Guangzhou and Beijing, the pilot implementation of Mobile WeChat Court at selected basic people's court in the Zhejiang and Guangxi provinces, and the gradual adoption of blockchain evidence verification system in a number of courts. As for regulation and standardization, the SPC has been proactive to put forward more specific standards, including the Management Guidelines for the Digitalization of the People's Courts (2017), while placing more emphases on information security. Finally, through the introduction of the Evaluation System for Smart Court Development, it has also been making greater efforts to review and improve the Chinese online court system. This endeavor has been crucial by any benchmark. It not only provided the local people's courts with a set of national standards to operate by, but also allowed the SPC to identify the outstanding digitalization innovations and ideal practices for wider adoption across the country.

From the above analysis, it is clear that the SPC has been the chief architect and main administrator of China's court digitalization and online court development processes. But despite its pre-eminent role, it would be erroneous to claim that China's court digitalization and online court development was a top-down centralized movement. On the contrary, as illustrated by the previous deliberations, it was a bi-directional movement which entailed not only the directions and instructions given by the top authorities but also the responses and actions taken by the local people's courts. During Digitalization 2.0 and 3.0 in particular, local innovation was an indispensable driving force of the national court digitalization and online court development process. Specifically, it determined whether this national movement was taking off, where this movement was trending into, and how fast this process was taking shape. It also provided the SPC with the essential substances for regulation, the empirical experiences that the

local people's courts could learn from and, most importantly, a pool of innovations from which the SPC could choose the outstanding practices for national adoption. As such, in contrast to a centralized top-down approach that most existing Chinese scholars identify with, China's court digitalization and online court development movement should more precisely be recognized as a bi-directional process characterized by (1) autonomy from the top authorities, (2) innovations and development at the local level, (3) refinement and wider adoption of the outstanding local innovations, and (4) regulation and standardization of the novel elements in the given order. There are ample examples of practices that went through the mentioned processes; they include the online case filing system that was first introduced in Guangdong, the WeChat instant-messaging trial format that was first introduced in Zhejiang for small claim civil cases, the automated generation of case bundles that was first piloted in Hebei, and the blockchain evidence verification technology that was first introduced at the Hangzhou Internet Court.

Certainly, this bi-directional strategy did not come without its drawbacks. As aforementioned, many Chinese scholars have highlighted that the discoordination and incompatibility among the digital platforms of the local people's courts were one of the most pressing issues facing China's court digitalization and online court development movement. This identified issue was the direct outcome of this bi-directional approach. It is true that such discoordination and incompatibilities arose because of the absence of overarching legislative efforts to centralize and guide the inputs from the local people's courts. But to a large extent, the absence of legislative effort was a collateral factor that came along with the identified bi-directional approach. More accurately, it was primarily because of this bi-directional approach that the digitalization efforts of different local people's courts were not coordinating with one another. They were not compatible because they were instructed not to. The discoordination was, in certain light, part of the plan.

However, it was also because of this bi-directional approach that China's court digitalization and online court development process could take off at a remarkable speed. Like any ground-breaking technological fields, online court development is a field that requires extensive trial and error. Its need for continual experiments and adjustment is further amplified by the fact that it is a highly people-facing area of technological application, and that it would require back-and-forth usability and user experience testing. But the bi-directional approach has offered the country the opportunity to speed up this trial-and-error process. By turning all the local people's courts into hundreds of individual experimental grounds, it allowed the country to undertake hundreds of experiments simultaneously, instead of betting on one single way of execution which might not necessarily be successful in practice. Then, based on rigorous review and evaluation process, the SPC could identify the outstanding practices, work on the refinement and wider adoption of these practices, and develop realistic rules and standards to regulate them. It was through this way that most of the novel digital practices, such as the introduction of online case filing systems, the practice of remote hearings and the application of blockchain technologies on evidence verification, could typically be implemented smoothly and successfully nationwide.

In summary, to understand the development history and patterns of China's court digitalization and online court development would require us to recognize the intricate

bi-directional dynamics between the top authorities and the local people's courts. Looking forward, it is likely that the SPC would continue to resort to this bi-directional approach. One final bright side of the mentioned processes is that the SPC has been highly aware of the discoordination among the digital platforms of the local people's courts. This awareness has been discernible not only in the official documents, such as the judicial white papers and the speeches by the SPC president, but also in the latest guiding opinions and action plans issued by the SPC. In all likelihood, the later stage of Digitalization 3.0 will continue to see the founding and implementation of more specific regulations and standardization over a wide range of court technologies. As this part of the article has reviewed China's court digitalization and online court development between 2012 and 2020, Part 3 will delve into a case study of the Guangzhou Intermediate People's Court and examine the actual implementation and impacts of various digital ways of doing justice at the local level.

3. Impacts of digitalization and online court development on court performances: a case study of the Guangzhou Intermediate People's Court

Based on a close reading of the Guangzhou Intermediate People's Court's (GZ-IPC) work reports, finance reports and judicial statistics, this part of the article investigates how the court's digitalization efforts, including implementation of an online case filing system, the introduction of multi-media platforms for different court users, the conduct of remote hearings of an increasing proportion of civil and criminal cases, and the use of automated decision-making (ADM) technologies for the automatic generation of case summaries for all case types and the computation of risk scores for parole and commutation cases, affected the court's efficiency, effectiveness and costs of proceedings between 2013 and 2019. Given the country's vast size and significant regional variations, the case of GZ-IPC can by no means paint a comprehensive picture for the whole country. However, as the court is one of the three most digitalized people's courts in China since 2016,[108] this case study can facilitate the understanding of what a highly digitalized court is like in practice and what kinds of consequences could be expected from this level of digitalization in a cosmopolitan setting.[109] Furthermore, as the GZ-IPC has historically been a pioneer and role model of judicial reform efforts in the country, observers may reasonably expect that many other people's courts in China will follow the footsteps of GZ-IPC in the near future. But most importantly, the GZ-IPC case also involves some curious dynamics between the court's efficiency and judge headcount. Between 2012 and 2019, GZ-IPC experienced a notable improvement in efficiency, namely a 156% increase in the number of cases closed per judge, despite a 40% reduction in the number of judges. This part of the article illustrates that digitalization is the key reason behind this trend.

[108]Chinese Academy of Social Sciences, *Zhongguo Fayuan Xinxihua Fazhan Baogao No. 4* [Report on the Development of Digitalization of the Chinese Courts No. 4] (China Social Sciences Press 2020) 112–4.

[109]In 2019, Guangzhou has a population of 14.9 million, making it the 5th most populous city in the country. Its GDP per capita was RMB 150,678 or USD $22,317, ranking the 8th among all Mainland Chinese cities. While the city's GDP growth rate has remained around 6% in the past decade, services and industrial production are the main drivers of its economy. See Guangzhou Statistic Bureau, *Guangzhou Statistics Yearbook 2020* (China Statistics Press 2021).

3.1. Methods and data

In examining the impacts of GZ-IPC's digitalization efforts on its court performances, this part is divided into three sub-sections. The first sub-section begins with an overview of GZ-IPC's digitalization efforts since 2012. It traces the historical contexts, institution and progresses of this ongoing process. Then, the second sub-section investigates how the court's efficiency, effectiveness and costs of proceedings fared between 2013 and 2019 against the backdrop of digitalization. Specifically, efficiency is measured by on-time processing rate, case clearance rate, and number of cases closed per judge per year; effectiveness is measured by court order compliance rate and court user satisfaction; and cost of judicial proceedings is measured by average access fees and the trends and compositions of the court's expenditures. Finally, this sub-section concludes with an overall evaluation of GZ-IPC's digitalization efforts in causing the changes identified in the previous sub-section. As digitalization took place concurrently with other important institutional and procedural changes, such as the introduction of the judicial accountability system and the reform of the civil and criminal procedures, this sub-section weighs the importance of digitalization against those of other factors and elucidates the roles that digitalization played in causing the changes identified in GZ-IPC's court performances.

The analyses of this case study are made based on a close reading of the documents released by the court between 2012 and 2020. The calculations of GZ-IPC's efficiency, effectiveness, cost of proceedings are computed primarily based on the data extracted from the court's annual work and finance reports with the formulae retrieved or moderated from the International Consortium for Court Excellence (ICCE) Global Measures of Court Performances framework.[110] But as the structures and ways of presentation of the mentioned primary sources have changed over time and the judicial data released in the documents are found to be disorganized, the analyses are complemented by the data extracted from a wide range of documents, including the court's policy deliberations, memos, press releases, technical specifications of the digitalization platforms, and speeches by the court's presidents.

Overall, this part of the article illustrates that digitalization has allowed GZ-IPC to achieve notable improvement in efficiency while managing to keep the effectiveness of the system at high and stable levels. Although it is still pre-mature to determine whether digitalization reduces the court's costs of proceedings, technology has acted as an effective lubricant to facilitate and, in some cases, serve as the essential vehicle for the conduct of its proceedings.

3.2. Background: digitalization at the Guangzhou Intermediate People's Court

3.2.1. Burgeoning demand for court services

As Guangzhou's population and economy were booming throughout the 2000s and 2010s, the city faced a burgeoning demand for court services. Between 2005 and the

[110]The part of the article provides a detail discussion on various internationally recognized court performance measurement frameworks. In particular, it explores the ICCE framework, CourTools and the EU Justice Scoreboard. Having compared and contrasted the designs and coverages of these frameworks, it concludes that the ICCE framework is the most comprehensive framework among the three and is the most suitable one to evaluate GZ-IPC's performances. See International Consortium for Court Excellence (n 52) 1–5; National Center for State Courts (n 54) 1–6; European Commission (n 56) 5.

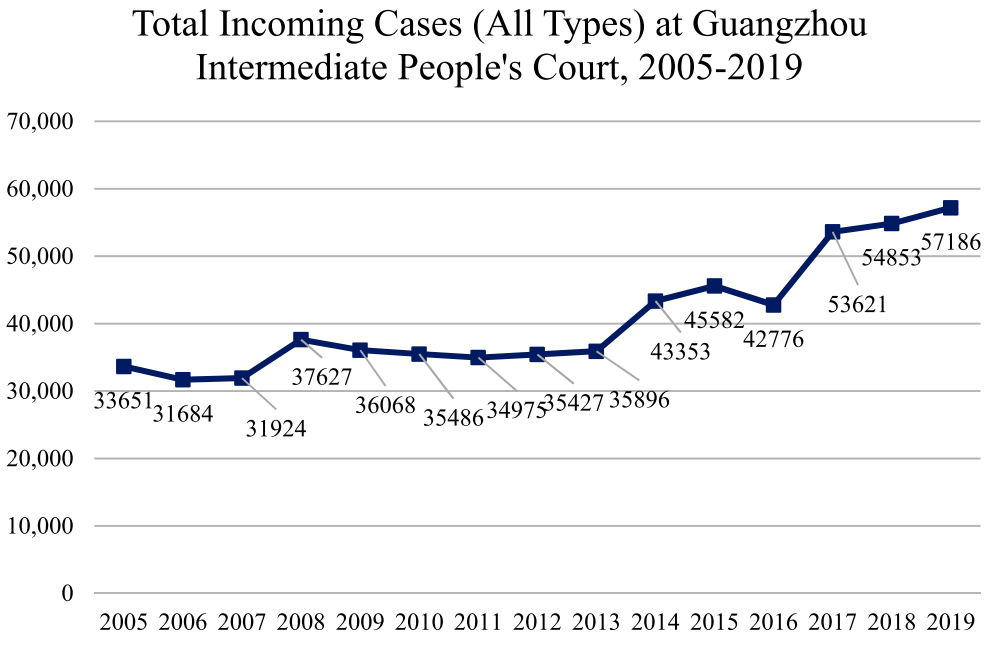

Figure 1. Total incoming cases at Guangzhou Intermediate People's Court, 2005–2019. Source: GZ-IPC Annual Work Reports, 2013–2020.

early 2010s, the number of the incoming cases at GZ-IPC was rather steady, ranging between 31,684 and 37,627. A turning point arose in 2013, after the issuance of the China's Judicial Reform White Paper, which confirmed the country's development path to 'accelerate the construction of a socialist rule-of-law state'.[111] On the one hand, the document signified the official start of a new stage of judicial reform, in which all judicial authorities were urged to 'enhance judicial capabilities'.[112] On the other hand, it also urged all economic actors and individuals to place greater reliance on the court systems to resolve disputes.[113] The period after 2013 thus saw a sharp increase in total incoming cases at GZ-IPC (Figure 1).

3.2.2. Digitalization and construction of online courts in the context of judicial reform

To meet the burgeoning demand for court services, digitalization was considered an essential means to enhance judicial capacity in China's ongoing judicial reform.[114] Historically a pioneer of judicial reform efforts, GZ-IPC has demonstrated initiatives to digitalize itself. Its digitalization process can be divided into two phases. During the first phase, the core objective of digitalization was to construct online platforms to enhance transparency and facilitate the provision of court services. One of the court's earliest digitalization efforts was the launch of its trial livestream platform in September 2012. Through this platform, general public could access the livestreams and recordings

[111]State Council of China (n 72) s 1.
[112]ibid s 2–5.
[113]ibid.
[114]State Council of China (n 72) s 2.2–3, 3.1, 4, 5.4.

of a gradually increasing proportion of cases heard at GZ-IPC.[115] The following year then saw even more progressive digitalization efforts. In July 2013, the 12368 Litigation Services Platform was founded to allow court users to reach out to court staffers and on-duty judges to inquire about litigation matters via video calls and instant messages, file cases, pay court fees, and get access to the electronic copies of their legal correspondences.[116] Simultaneously, a similar platform was launched to facilitate the court's mediation services.[117] As the foundation of the court's online system was gradually laid, the period also saw the conduct of remote hearings for an increasing proportion of cases of all types.[118]

The second phase of digitalization began in early 2015, when GZ-IPC progressed to develop smart court systems with greater reliance on AI and big data technologies. In March 2015, the court introduced the internal 'Smart Court' system. Equipped with a wide range of automated decision-making (ADM) functions, the system could allow judges to access automatically generated risk scores for parole and commutation cases and generate automatic case summaries to assist their judgment-writing processes.[119] At the same time, the court founded the 'Smart Court Proceedings' platform, which is a unified multi-media podium for the conduct of remote hearings for all case types.[120] To further enhance the transparency of GZ-IPC's work, the court also launched the 'Three Main Judicial Openness Platforms', which are three separate websites covering the publications of court proceeding updates, ruling documents and enforcement information of an increasing proportion of cases heard at GZ-IPC.[121] As the emphasis of this development stage was to optimize the user experience of the digitalized court system, the court furthered its digitalization by introducing the 'Smart Lawyer' and 'Smart Judge' platforms in April 2016. While the earlier enabled lawyers to file cases, submit evidence, access case documents and track trial dates, the later provided a podium for judges to manage their schedules, share case materials and conduct collegiate panel discussions via video calls (Figures 2 and 3).[122]

By late 2016, a comprehensive digital smart court system had taken shape. At this stage, the digitalized system could already allow for the possibility of hearing and processing a small claim civil case without requiring anyone of the involved parties to physically appear in court. Several indicators would be helpful for the assessment of GZ-IPC's digitalization progresses. The first indicator is the percentage of cases filed online. Introduced in November 2014, this new service did not attract many court users at the beginning. But as the court continued to fine-tune the system's interfaces

[115]Guangzhou Intermediate People's Court, *Guangzhoushi Zhongji Renmin Fayuan 2013 Nian Gongzuo Baogao* [Guangzhou Intermediate People's Court 2013 Annual Work Report] (Publicity Office of Guangzhou Intermediate People's Court 2013).
[116]Guangzhou Intermediate People's Court, *Guangzhoushi Zhongji Renmin Fayuan 2014 Nian Gongzuo Baogao* [Guangzhou Intermediate People's Court 2014 Annual Work Report] (Publicity Office of Guangzhou Intermediate People's Court 2014).
[117]ibid.
[118]ibid.
[119]Guangzhou Intermediate People's Court, *Guangzhoushi Zhongji Renmin Fayuan 2016 Nian Gongzuo Baogao* [Guangzhou Intermediate People's Court 2014 Annual Work Report] (Publicity Office of Guangzhou Intermediate People's Court 2016).
[120]ibid.
[121]ibid.
[122]ibid.

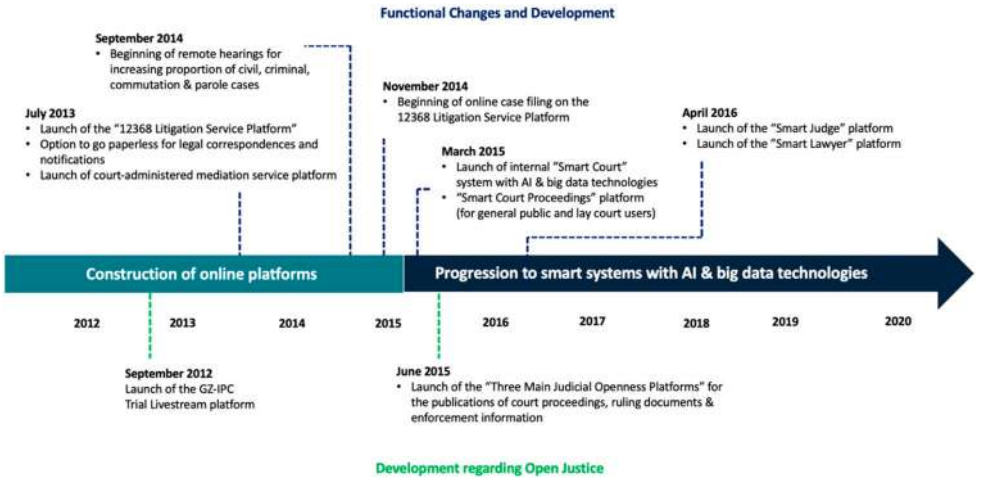

Figure 2. Timeline of digitalization and online court development at GZ-IPC, 2012–2020. Source: GZ-IPC Work Reports, 2012–2020; illustration by author.

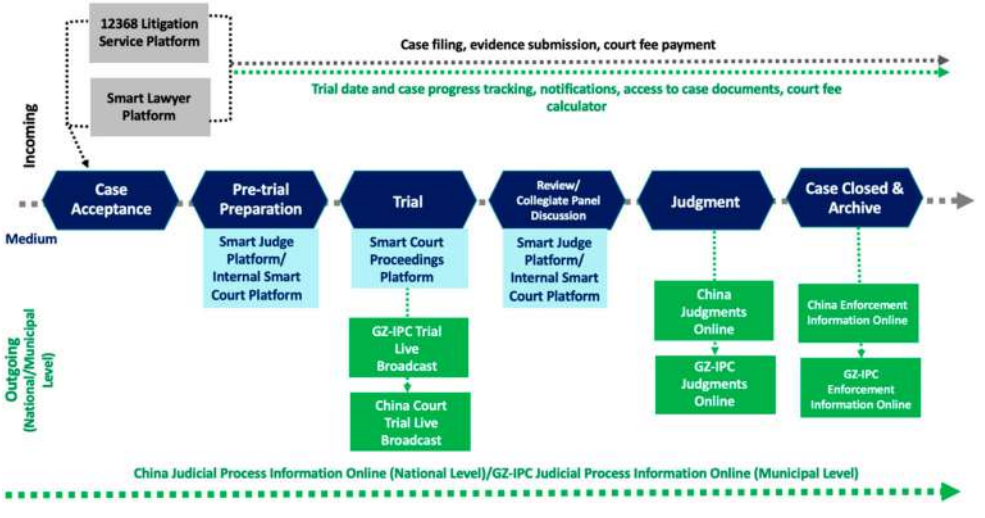

Figure 3. Key stages and components of trials at GZ-IPC after digitalization, 2016 onwards. Source: GZ-IPC Annual Work Reports, 2015–2017; illustration by author.

and carry out virtual programs to train lawyers to adapt to the new system, the percentage of case filed online soared from 3% in 2017 to 32% in 2018 and 74% in 2019 (Figure 4).

The second and third indicators are the percentages of cases heard remotely and those that relied on electronic legal correspondences. Before 2020, there were no public records for both indicators. However, it is known that the COVID-19 pandemic significantly boosted GZ-IPC's digitalization progresses on these two aspects. In 2020, 89.6% of GZ-IPC's closed cases were heard remotely, and 41.5% of the closed cases relied solely

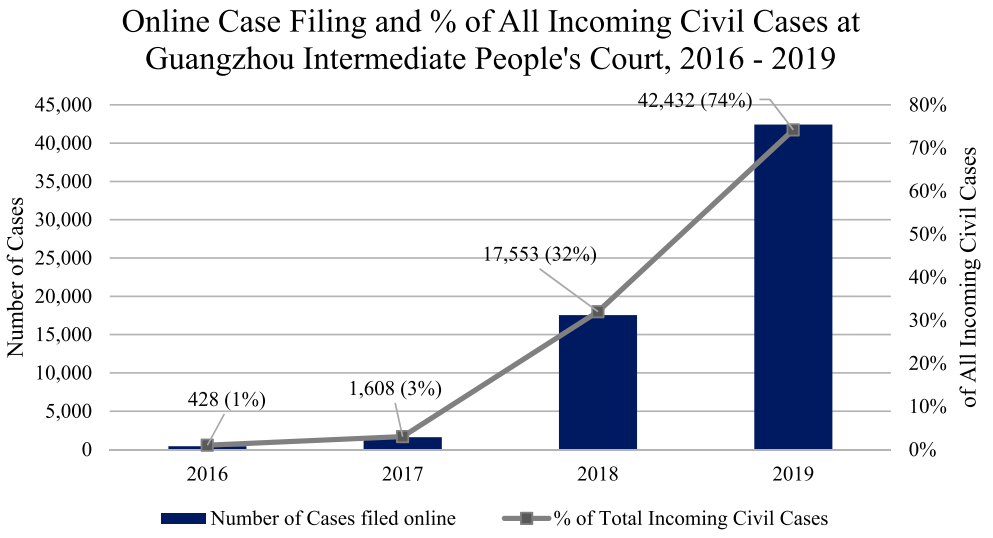

Figure 4. Online case filing and percentage of all incoming civil cases at Guangzhou Intermediate People's Court, 2016–2019. Source: GZ-IPC Annual Work Reports, 2017–2020.

on electronic legal correspondences.[123] It is possible that the percentage of cases heard remotely will fall back moderately after the pandemic. But the pandemic has in some way acted as an unplanned stress test for the capacity of the GZ-IPC digitalized system. Provided the numbers of incoming cases and closed cases in 2020 remained comparable to those of 2019, GZ-IPC certainly excelled at this test.[124]

Beyond the discussed indicators, the percentages of cases livestreamed and those that had their ruling documents published online are revealing indicators of the court's improving transparency. Since 2014, the percentage of cases livestreamed has been growing steadily. It started at 4.67% in 2014. But after an average 9.2% growth over the following 5 years, it grew to 50% in 2019 and is expected to increase further in the coming years. As for the percentage of cases that had their ruling documents published online, it began at a high level at 83.4% in 2014. Later, as the publication of ruling documents was made a standard protocol for almost all cases heard at GZ-IPC in 2017, the percentage has stood at high levels between 97.7% and 99.1% since then (Figure 5).[125]

Overall, GZ-IPC's digitalization process was swift and progressive. From its implementation of online case filing and livestreams of trials, it is evident that some of its digitalization efforts did not pick up right after implementation. For both cases, it

[123]'Guangzhoushi Zhongji Renmin Fayuan Dangzu Shuji, Yuanzhang Wangyong: Tuidong qianyan jishu zai Guangzhou fayuan zhuoxian yingyong [Promoting Technology Adoption in the Work of the GZ-IPC – Interview with the GZ-IPC President Wang Yong]' *Guangzhou Daily* (2020) <https://www.gzdaily.cn/site2/pad/content/2020-11/18/content_1424496.html> accessed 12 March 2021.

[124]According to the latest GZ-IPC judicial statistics, over the first 11 months of 2020, there were 2.28% increase and 0.58% decrease in the numbers of incoming cases outgoing cases at GZ-IPC, respectively, when compared to the same period in 2019. See Guangzhou Intermediate People's Court, 'Yuedu shoujiecun taizhang [GZ-IPC Monthly Court Activities]' *Guangzhou Shenpan Wang – Sifa Tongji* [Guangzhou Judgement – Judicial Statistics] (2020) <http://www.gzcourt.gov.cn/sftj/ck289/index.html> accessed 12 March 2021.

[125]From January 2017, non-disclosure would require approval from the court's president.

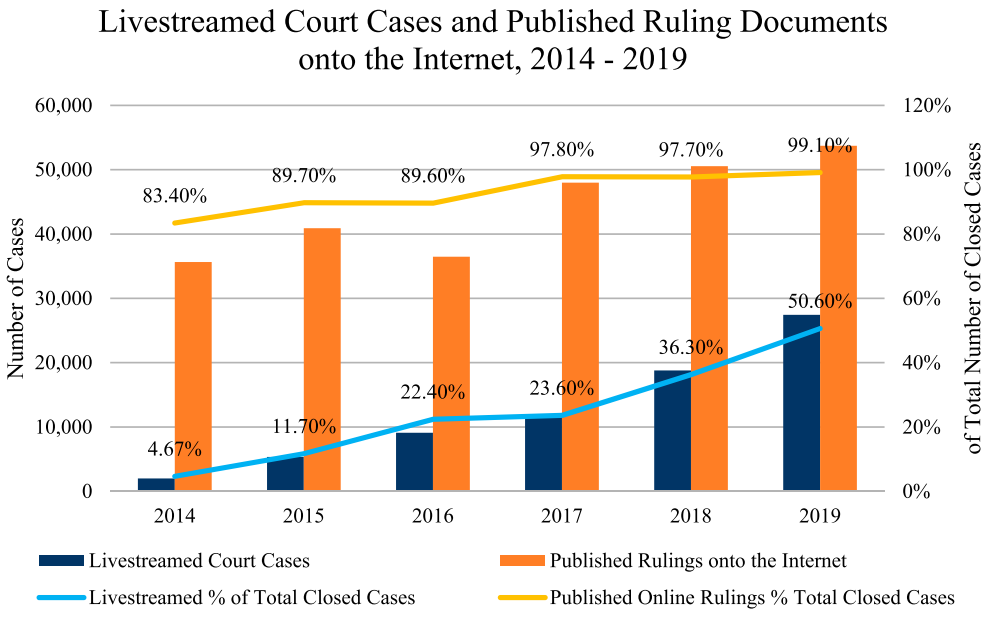

Figure 5. Livestreamed court cases and published ruling documents, 2014–2019. Source: GZ-IPC Annual Work Reports, 2015–2020.

took court users two to three years to gradually adapt to the digitalized pathways. But GZ-IPC's digitalization path was accompanied by the court's constant enhancement of their existing digital platforms and proactive educational efforts to train court users to migrate to the digitalized pathways. It was through these well-rounded solutions that GZ-IPC developed into a highly digitalized court within a decade.

3.3. Impacts of digitalization and implementation of online court on court performances

3.3.1. Data availability and measurements of court performances

Since the inception of the second stage of the Chinese judicial reform in 2014, courts in China have generally shown a growing awareness of the importance of recording and reporting court performance information in a timely and accurate fashion. But the country has not yet developed a uniform set of yardsticks to measure court performances thus far. GZ-IPC is one of the country's most transparent people's courts which constantly updates and releases its judicial statistics.[126] In particular, it publishes complete and calculated time-series data for the number of cases closed per judge, court order compliance rate, and court user satisfaction rate between 2013 and 2019. It also releases a range of raw data, including the total number of incoming cases, total number of cases closed, court incomes and expenditures, with which observers can calculate the court's

[126]According to the judicial transparency rankings compiled by the Chinese Academy of Social Science, GZ-IPC was consistently among one of the 5 most transparent people's court in the country between 2015 and 2020. See Chinese Academy of Social Sciences, *Zhongguo Sifa Touming Zhishu Baogao* [Chinese Judicial Transparency Index Report] (China Social Sciences Press 2021).

case clearance rate and average access fee manually. However, for important data such as average processing time and on-time case processing rates, the court has only released patchy information occasionally. There is also a lack of data for the measurement of the court's trial date certainty, the average duration of pre-trial custody, case backlog, court file integrity and court employee engagement.

Like the lack of time-series data on the percentages of cases heard remotely and those that relied on electronic legal correspondences, the absences and patchiness of the mentioned data are important indicators of the court's transparency. By 2020, there still exists substantial room for improvement in the quantity and quality of data released by the court. It must also be noted that the reliability of the released GZ-IPC data could be subject to a number of practical limitations and potential weaknesses. For example, since notable improvements were expected from the country's ongoing judicial reform and court digitalization plans, the people's courts, and particularly those that had a track record of pioneering China's legal infrastructural development like GZ-IPC, might have the tendency to overstate the performance record by simply inflating the reporting figures or by changing the measurement thresholds to enable the record of better performance data. Given the constrained transparency of the collection and calculation methods of the released judicial data, it is hard to gauge accurately whether and, if applicable, to what extent the official judicial data at GZ-IPC has been affected by these tendencies. But despite these limitations, the available data can still enable a basic understanding, particularly the trending, of GZ-IPC's performances between 2013 and 2019. As the incompleteness of the released data has made a comprehensive investigation of GZ-IPC's performances with the ICCE Global Measures of Court Performance impossible, this part of the article aims to evaluate GZ-IPC's performances with as many ICCE yardsticks as data permits. In doing so, it sorts the GZ-IPC data into three groups, namely data groups that portray the efficiency, effectiveness and costs of proceedings of the court, renders raw data into time-series indicators with formulae retrieved or moderated from the ICCE framework, and comments on the quality, trends and implications of the data.

3.3.2. Impacts on court efficiency

3.3.2.1. On-time case processing. According to the ICCE framework, on-time case processing is defined as the percentage of cases that are closed within the reference timeframe set by the court itself.[127] It is an important indicator of the timeliness of court proceedings and the court's ability to strike sustainable balances between the time needed to obtain, present and evaluate evidence, the law and arguments and the time occupied by undesired delays due to practical reasons, such as insufficient resources and inefficient processes.[128]

From GZ-IPC's work reports, the court has adopted the ICCE definition and calculation method for the calculation of its on-time processing rate. One noteworthy limitation is that it has only reported the concerned figure every other year. More frequent reporting would certainly be more desirable. Between 2013 and 2019, GZ-IPC's on-time processing rate remained at high levels between 98.00% and 99.85%. Although the numerical values of this indicator represent a stable trend in the court's timeliness in case processing, this trend

[127]International Consortium for Court Excellence (n 52) 49.
[128]ibid.

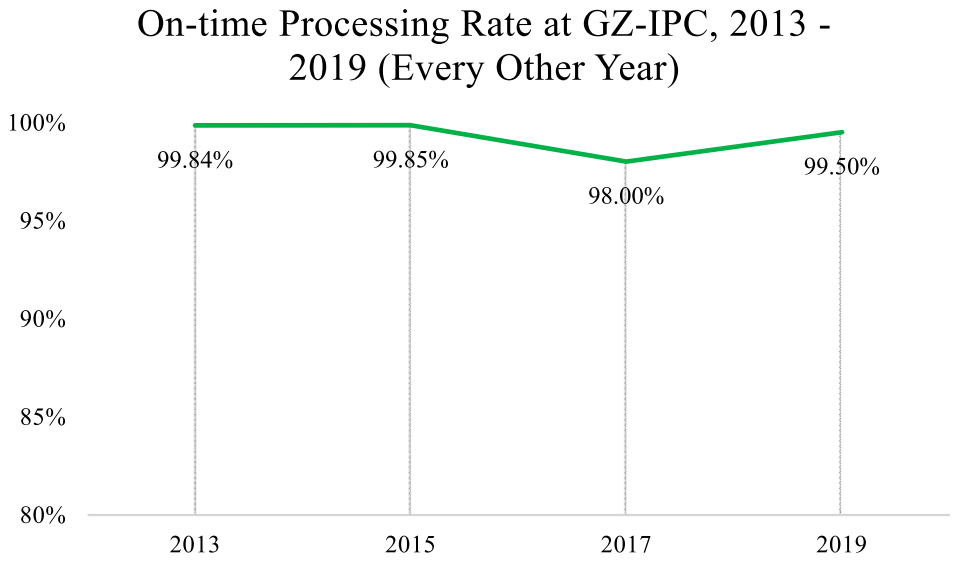

Figure 6. On-time processing rate at GZ-IPC, 2013–2019 (every other year). Source: GZ-IPC Annual Work Reports, 2017–2020.

must be understood with the context that the number of incoming cases soared by 53.9% and the number of judges decreased by 38.6% over the concerned period. Given these contexts, a steady trend in GZ-IPC's on-time case processing rates implies that there were notable improvements in the court's efficiency (Figure 6).

3.3.2.2. Case clearance rate and number of cases closed per judge. By ICCE's definition, case clearance rate is the number of outgoing cases as a proportion of the number of incoming cases.[129] Ideally, this indicator should be calculated both court-wide and by case type to enable understanding of the court's overall and divisional efficiencies. Relied mostly on the number of cases closed per judge as the core indicator of its efficiency, GZ-IPC only began to report its case clearance rate from 2018. There is also a lack of data on the number of incoming and outgoing cases by case type. However, as the court has released raw data on the total incoming and outcoming cases that dates back to 2004, GZ-IPC's overall case clearance rates can thus be derived to enable historical comparisons over a relatively protracted period.

Between 2004 and 2011, there was a slowly growing trend in GZ-IPC's overall case clearance rate. Ranging between 82.1% and 90.7%, the indicator was growing steadily until 2012, when it jumped to 99.7%. Following that it underwent some ups and downs. But generally, it had ascended to a higher level where it has consistently been over 91%. Again, this development trend must be understood with consideration of the court's burgeoning number of incoming cases and the downsizing of the judge headcount over the concerned period. The fact that its overall case clearance rate has risen to a higher level and remained steady since then indicates that there were notable improvements in the court's efficiency in the 2010s (Figure 7).

[129]Incoming cases are defined as cases that are 'filed, registered or opened'; outgoing cases are defined as those that are 'resolved, disposed or closed'. See International Consortium for Court Excellence (n 52) 41.

Compared to case clearance rate, GZ-IPC has relied more on using the number of cases closed per judge as the principal indicator of its efficiency. Indeed, it is not only an indicator that GZ-IPC frequently refers to, but also a point of reference that is commonly used by courts throughout the country. Derived through dividing the total number of outgoing cases by the total number of judges at the court, this indicator enables a vivid understanding of the court's efficiency at the individual level. While the overall case clearance rate could only allow observers to see by how large the proportion of the total number of incoming cases the court was able to close, the number of cases closed per judge enables observers to envision how many cases a judge handles a year, what his or her daily productivity is like, and how the judges' productivity has changed over time. But for limitations, since GZ-IPC only calculates this estimate court-wide instead of by case type, the resulted value inevitably blurs the discrepancies in efficiencies across different divisions within the court.

In response to the Supreme People's Court's advocacy to increase the transparency of the Chinese court system, GZ-IPC began to publish the number of cases closed per judge in 2012. Between 2012 and 2019, there was a remarkable and consistent growth in the figure. The annual growth of the figure was particularly significant in the mid-2010s. In 2014, 2015, 2016 and 2017, there were 22.1%, 15.3%, 19.6% and 31.9% growth, respectively. The figure only became relatively stable from 2018. Overall, this remarkable growing trend confirms that there were notable increases in GZ-IPC's efficiency between 2012 and 2019. Specifically, compared to 2012, a judge was able to close 156% more cases a year in 2019 (Figure 8).

3.2.3. Impacts on court effectiveness

3.2.3.1. Court order compliance rate. Court order compliance rate is a crucial indicator of the effectiveness of a court in upholding the rule of law. According to ICCE, this indicator can be calculated by dividing the total amount of collected monetary penalties by the total amount of monetary penalties ordered by the court.[130] The main advantage of this methodology is that it can take the varied sizes of the penalties into consideration and provide an accurate picture of the extent to which the court is enforcing compliance effectively.

GZ-IPC has adopted the described approach and released its court order compliance rate since 2014. Ranging between 91.8% and 93.6%, its court order compliance rate was generally high and stable between 2014 and 2019. As the number of incoming cases was growing, there was a general increase in the value of penalties ordered by the court. Although the base of GZ-IPC's court order compliance rate was generally enlarging, the court was able to maintain its effectiveness in enforcing compliance at comparable levels (Figure 9).

3.2.3.2. Court user satisfaction. Defining court user satisfaction as the percentage of court users who believe that the court provides procedural justice through the delivery of accessible, fair, accurate, timely, knowledgeable and courteous judicial services, ICCE recommends that courts should survey court users regularly and continuously to keep track of their court-using experiences by court division and type of users.[131] Specifically, it has provided a sample questionnaire with which courts can inquire into

[130]International Consortium for Court Excellence (n 52) 84.
[131]International Consortium for Court Excellence (n 52) 22–26.

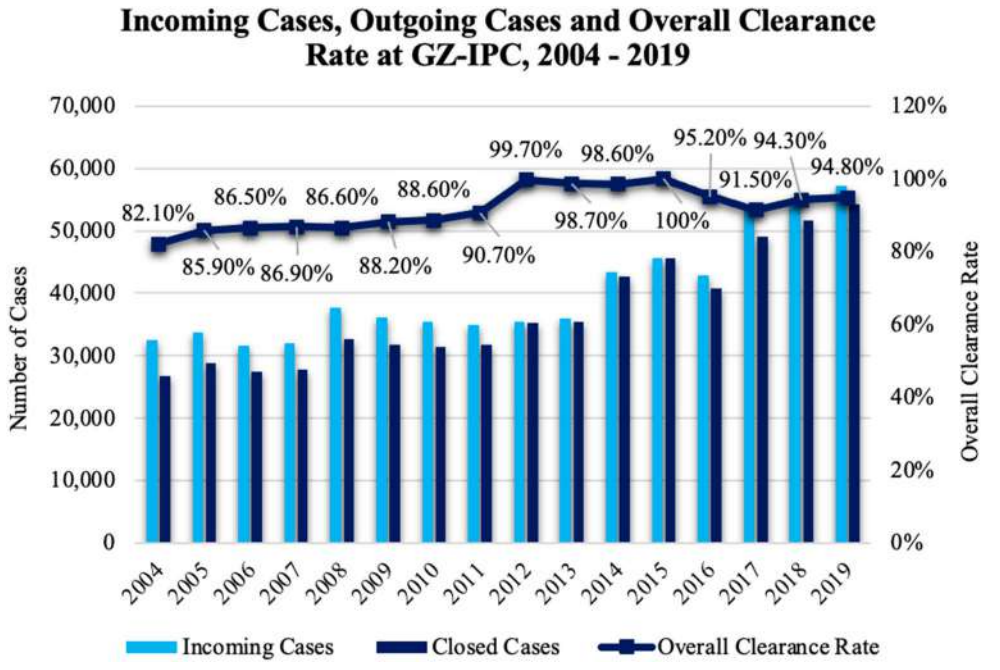

Figure 7. Cases, outgoing cases and overall clearance rate at GZ-IPC, 2004–2019. Source: GZ-IPC Annual Work Reports, 2017–2020.

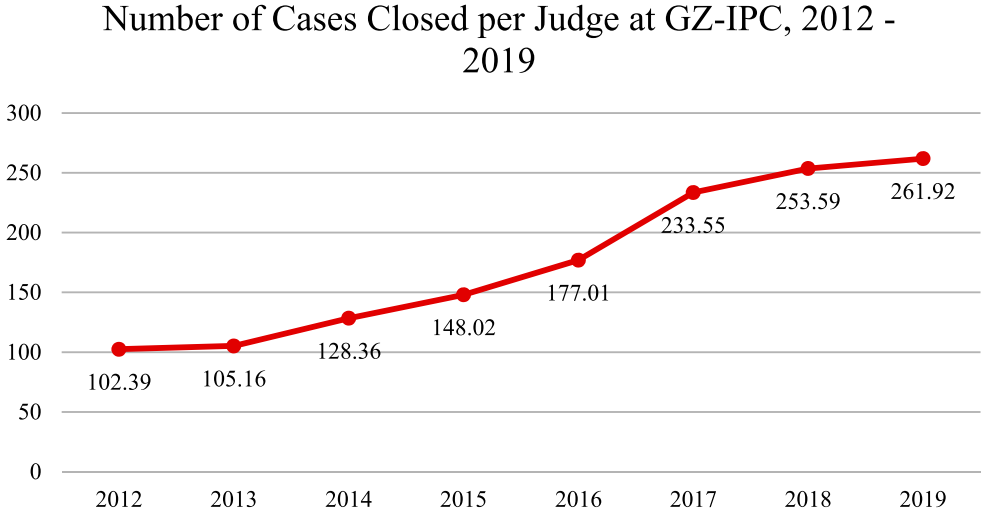

Figure 8. Number of cases closed per judge at GZ-IPC, 2012–2019. Source: GZ-IPC Annual Work Reports, 2017–2020.

the court users' agreement with 10 simple statements about how the court has performed in the critical areas of accessibility, convenience, courtesy, transparency, fairness, clear procedures, timeliness, efficiency, equality, and effectiveness on a five-point scale.[132]

[132]ibid.

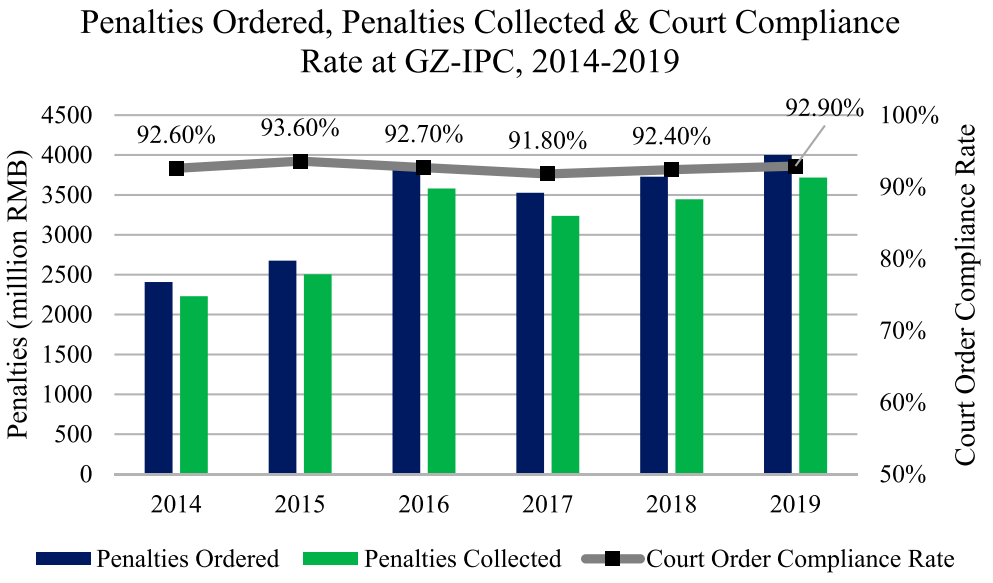

Figure 9. Penalties ordered, penalties collected & court compliance rate at GZ-IPC. Source: GZ-IPC Annual Work Reports & Finance Reports, 2015–2020.

With this method, the court should be able to derive average scores for each response and determine the percentage of responses that pass the historical or hypothetical baseline of satisfactory performances.

GZ-IPC has adopted a similar approach to survey its court user satisfaction. In 2008, it carried out its first court user satisfaction survey to inquire into the court users' agreement with 11 simple statements about how the court had performed in areas of fairness, efficiency, effectiveness in enforcing court orders, accessibility, convenience, transparency, accuracy and knowledge of the law, courtesy, effectiveness in monitoring, honesty and quality of anti-corruption efforts, and overall satisfaction on a five-point scale. Since then, this framework has become the paradigm of GZ-IPC's court user satisfaction surveys. As shown in Figure 3, there are plenty of similarities between the ICCE and GZ-IPC survey frameworks. In particular, both have looked into the areas of fairness, accessibility, convenience, efficiency, effectiveness in enforcing court orders, transparency and courtesy. The key difference is that the GZ-IPC survey has left out questions about clear procedures, timeliness and equality, but looked into the areas of accuracy and knowledge of the law, effectiveness in monitoring, as well as honesty and quality of anti-corruption efforts.

From the design of its court user satisfaction survey, it is sensible to argue that, by 2008, GZ-IPC had already developed a basic framework to collect feedbacks from its court users. It is also evident that the court had shown considerable awareness of inquiring into court performance areas, such as quality of anti-corruption efforts and effectiveness in monitoring, that were tailored for the country's socio-political conditions. But the survey was limited by the design of its demographic questions. As information about case type and type of user was not collected from each response, the court was only able to calculate an overall satisfaction rate, but not categorized satisfaction rates by case

type and type of user for each year. Additionally, there is also a lack of detailed study on GZ-IPC's court user satisfaction with qualitative methodologies, such as interview and focus group discussions. As the court was undergoing a radical transformation in the 2010s, in-depth qualitative studies as such would be highly desirable (Figures 10 and 11).

From existing data, GZ-IPC's court user satisfaction was of a high standard in general. With a sample size of 800 court users, the 2008 survey found that 90% of the surveyed court users were satisfied or very satisfied with their experience of using the GZ-IPC services. In 2011, a second survey with a similar framework and sample size was implemented. It found that 96.8% of the surveyed court users were satisfied or very satisfied with their experience. From 2013, the court began to implement this survey continuously on its 12368 Litigation Services Platform, where court users would be invited to complete the described survey at a randomly selected stage of their case to recount their experience using the court's services through and outside the platform. As the survey was then implemented with greater ease and lower costs, the sample sizes of the surveys were enlarged to approximately 2000 court users per year between 2013 and 2019. Over the concerned period, the overall court user satisfaction rate was steady and remained at impressive levels between 97.6% and 99.1%. This trend confirms that the court was able to keep its services at stable and high levels in the context of digitalization, despite the burgeoning number of incoming cases and downsizing of judge headcount.

3.2.4. Impacts on costs of judicial proceedings

3.2.4.1. Access fees. As one of the eleven global measures of court performance in the ICCE framework, access fee is an important indicator of the court's ability to ensure that the costs of its services are reasonable, fair and affordable to the general public. According to the ICCE framework, it can be calculated by dividing the total court fee collected for civil cases by the total number of civil cases.[133] Ideally, averages disaggregated by various characteristics, such as case type, case and litigant characteristics and ability to pay, should also be computed to enable more comprehensive historical and regional comparisons.

From GZ-IPC's previous work reports, access fee has never been reported or considered an indicator of the court's performance. But a court-wide average can be computed manually from the data extracted from GZ-IPC's finance reports. By dividing the total fees collected for civil cases by the total number of civil cases at GZ-IPC, this study finds that there was a steady and general increase in GZ-IPC's average access fee between 2013 and 2020. The value began at RMB 7442.2 in 2013. It then underwent a 10% average annual growth over the following six years. In 2019, it reached RMB 12,916, which was 73.6% greater than the 2013 standard.

This notable increase can be explained by two factors. First, as the access fees of all civil cases at GZ-IPC were charged at a price discrimination schedule, of which greater case value would entail a greater percentage of the case value being charged as access fee, the increase in the average access could be caused by the increases in the court's average civil case value. Although the described data was not made public, this reason is highly probable as Guangzhou's GDP per capita increased rapidly from USD $18,579 in 2013 to USD

[133]International Consortium for Court Excellence (n 52) 37–39.

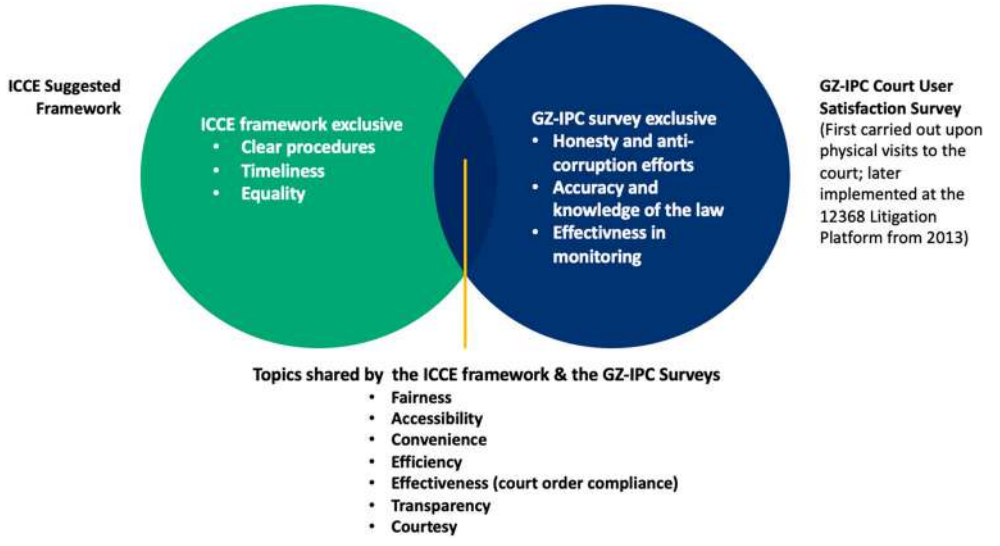

Figure 10. Similarities and differences between the ICCE framework and the GZ-IPC survey framework. Source: ICCE Global Measures of Court Performance; GZ-IPC Court User Satisfaction Survey; GZ-IPC Annual Work Reports, 2014–2020; illustration by author.

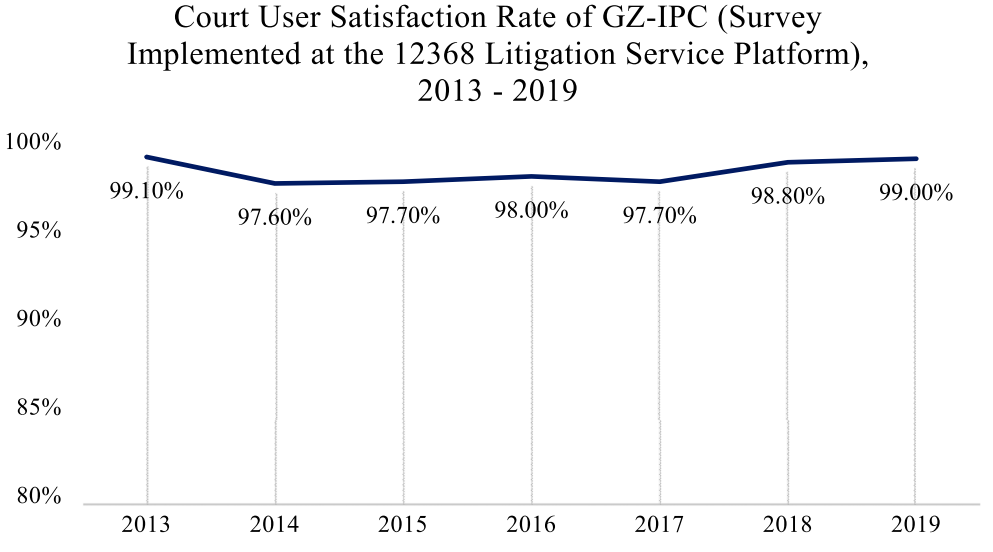

Figure 11. Court user satisfaction rate of GZ-IPC (survey implemented at the 12368 Litigation Service Platform), 2013–2019. Source: GZ-IPC Annual Work Reports, 2014–2020.

$22,317 in 2019.[134] The second reason behind this increasing trend is the introduction of the court's new admission fee system. In late 2017, the court introduced a new admission fee schedule that would impose more accurate price discrimination on the court

[134]Guangzhou Statistic Bureau (n 109).

users.[135] For property disputes, for example, while the admissions fee for cases valued below RMB 100,000 were the same or even given discounts, the court was charging cases valued above RMB 100,000 the original percentage of their case value plus an additional charge ranging between RMB 300 and RMB 41,800. Similar admission fee changes were introduced to other civil case types, such as divorces, intellectual property disputes and bankruptcy cases (Figure 12 and Table 2).

Given the mentioned two factors, it would be erroneous to claim that digitalization failed to reduce access fees at GZ-IPC. On the contrary, from the illustrated policy changes, it is evident that the introduction of this new fee schedule actually lowered the financial barriers for the low-income groups to access court services through a more accurate price discrimination strategy. Although there exists little evidence to confirm whether digitalization and online court development played any role in enabling this change, the discussed changes at least confirm that GZ-IPC was administratively aware and financially capable of making its services more accessible to the low-income groups over the concerned period.

3.2.4.2. Cost per case and court expenditures. Cost per case is an important indicator of how well the court was managing its resources effectively and efficiently. It allows observers to draw connections between how many resources were used and how many cases were solved with those resources. According to the ICCE framework, this indicator can be derived by measuring the average cost of resolving a single case disaggregated by case type.[136] But this study would instead argue that, for budgeting and accounting reasons, it would be a mistake to determine if digitalization helped to reduce costs at GZ-IPC based on the court's cost per case between 2013 and 2019.

As shown in Figure 13, the mentioned period saw two waves of increases in GZ-IPC's expenditures on 'infrastructural consolidation' and 'technology adoption'.[137] The first wave of increment took place before 2016, when the court was developing the basic infrastructure for its online platforms. The investments during this period were immense. In 2015, the court's expenditure on infrastructural consolidation was as high as 16.9% of its total expenditure. The second wave of expansion took place between 2016 and 2018, when the court was building more developed smart court platforms with AI and big data technologies. The investments during this period were still high, typically taking up 10% of the court's total expenditure. Only until 2019 the court's expenditures on 'infrastructural consolidation' and 'technology adoption' began to decline because much of the construction of its digital infrastructure was approaching completion. As the costs related to the operation

[135]Guangzhou Intermediate People's Court, 'Guangzhou Zhongyuan susongfeiyong susuan gongshi [New Admission Fee Schedule at GZ-IPC]' *Guangzhou Courts* (2017) <http://www.gzcourt.gov.cn/sszn/ssfy/ck102/2017/09/19172810757.html> accessed 5 April 2021.

[136]International Consortium for Court Excellence (n 52) 89.

[137]Before 2016, the expenditure for technology adoption was accounted under the expenditure category of 'infrastructural consolidation'. Between 2016 and 2018, 'technology adoption' became a distinct category to account for the key technology platform development projects, including the construction of the 'Smart Court Proceedings' platform for general public and lay court users, while other technology costs outside these projects were still accounted under the category of 'infrastructural consolidation'. But from 2019, 'technology adoption' has become a recurring main expenditure component, standing alongside 'infrastructural consolidation', in the court's budgeting and financial reporting. See Guangzhou Intermediate People's Court, *Guangzhoushi Zhongji Renmin Fayuan 2016 Nian Bumen Juesuan* [Guangzhou Intermediate People's Court Final Accounts] (Publicity Office of Guangzhou Intermediate People's Court 2017).

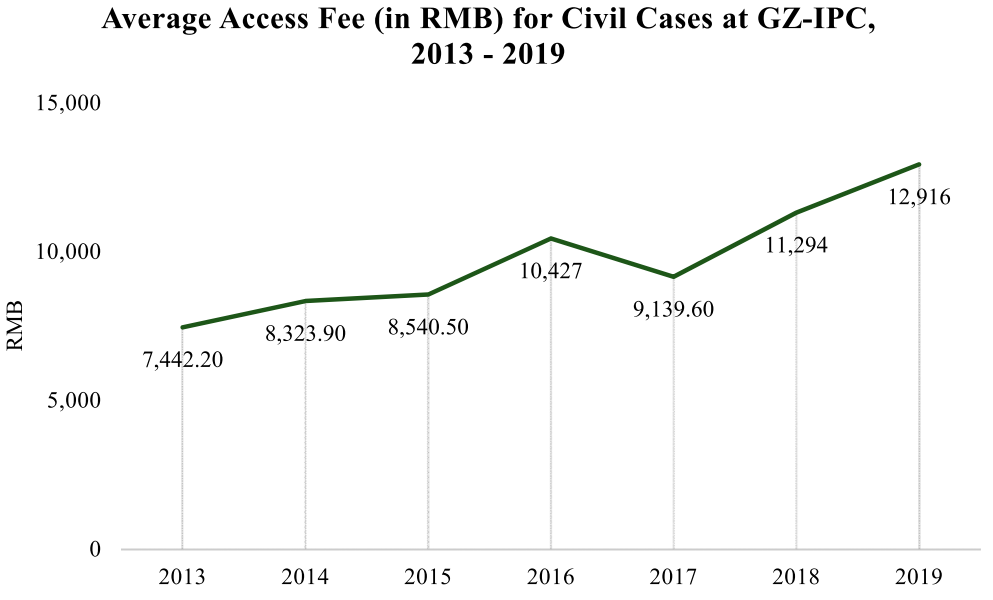

Figure 12. Average access fee (in RMB) for civil cases at GZ-IPC, 2013–2019. Source: GZ-IPC Annual Work Reports & Finance Reports, 2015–2020.

Table 2. Admission fee changes for property dispute cases at GZ-IPC.

Case value (RMB)	Admission fee before 2017 adjustment (% of case value)	Admission fee after 2017 adjustment (% of case value + additional charge in RMB)
Below 10 K	50	50
10 K ≤ Case Value < 100 K	2.5%	2.5% − 200
100 K ≤ Case Value < 200 K	2%	2% + 300
200 K ≤ Case Value < 500 K	1.5%	1.5% + 1300
500 K ≤ Case Value < 1 M	1%	1% + 3800
1M ≤ Case Value < 2 M	0.9%	0.9% + 4800
2M ≤ Case Value < 5 M	0.8%	0.8% + 6800
5M ≤ Case Value < 10 M	0.7%	0.7% + 11800
10M ≤ Case Value < 20 M	0.6%	0.6% + 21800
At or Above 20 M	0.5%	0.5% + 41800

Source: GZ-IPC court fee schedules.

and maintenances of GZ-IPC's digital platforms are all recorded under the cost categories of 'infrastructural consolidation' and 'technology adoption', the calculation of cost per case by the ICCE method would inevitably draw in the platform-developing costs and render estimates that do not accurately reflect the effectiveness and efficiency of GZ-IPC's resource allocation. Given these contexts, it would clearly be more responsible to argue that, by 2019, it is still pre-mature to determine whether digitalization reduces the average cost of resolving one single case at GZ-IPC.

3.3. Relative importance and overall evaluation

From the above analyses, it is demonstrated that GZ-IPC achieved significant improvement in efficiency while managing to maintain its effectiveness at stable and high levels

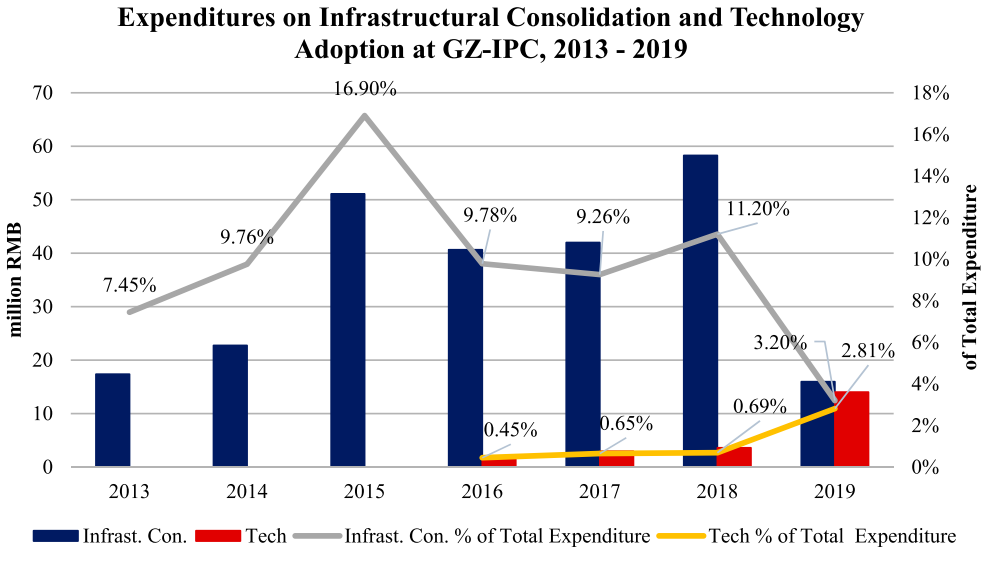

Figure 13. Expenditures on infrastructural consolidation and technology adoption at GZ-IPC, 2013–2019. Source: GZ-IPC Finance Reports, 2014–2020.

against the backdrop of digitalization between 2013 and 2019. As aforementioned, given the incompleteness of the released data and the obscurities in GZ-IPC's data collection methods, there still exists the possibility that the explored judicial data could be inflated or overstated because of the court's tendencies to present good-looking data to affirm the value of the ongoing judicial reform and court digitalization efforts. But if the findings were to be discounted moderately and the trending of the reported figures was supposed to continue to hold true, it is still reasonable to conclude that GZ-IPC managed to improve its efficiency while maintaining its effectiveness at stable and satisfactory levels against the backdrop of digitalization between 2013 and 2019. Certainly, it is also crucially important to note that this state of affairs does not necessarily mean that digitalization was the main cause of these developments. As this process took place in parallel with the implementation of other important institutional changes, such as the introduction of the judicial accountability system and the reform of the court's dispute resolution mechanism, this sub-section weighs the importance of digitalization against those of other factors and clarifies the roles that digitalization played in causing the changes identified in GZ-IPC's court performances.

In response to the Supreme People's Court's and the State Council's advocacies of enhancing judicial capabilities to meet the burgeoning demand for court services in the country, GZ-IPC has implemented plenty of institutional changes since 2012. These changes can be sorted into two categories. The first category consists of changes related to the responsibilities and workload of the judges. The most important change was the introduction of the Judicial Accountability System. As a key component of the national judicial reform, this system was designed to build a 'judge-oriented framework', in which the judges could be freed from administrative tasks and concentrate their time

and attention primarily on hearings and the delivery of judgments.[138] Introduced in early 2016, this system brought sweeping changes to GZ-IPC. First, the compulsory judicial examination was introduced. Under this new system, only judges who passed the national judicial examination would be able to stay in the reformed structure. While this arrangement was a restructuring measure to reduce redundancies and improve the overall quality of the court's personnel, it was also the main reason behind the sharp decrease in judge headcount between 2015 and 2016. Parallel to this measure was the re-allocation of judges across different divisions to minimize the number of idling judges, improvements in the compensation packages for all judicial personnel, and the expansion of the size of judicial clerks and judge assistants at GZ-IPC. Specifically, between 2015 and 2020, the class sizes of judicial clerks and judge assistants at GZ-IPC were enlarged by 42.1% and 23.8%, respectively.[139] These changes all enabled more efficient resource allocation and gave rise to better morale and higher quality of services. Another important development was the standardization of the style and preparation procedures for ruling documents at GZ-IPC. In August 2013, the court developed and adopted a standard framework together with a set of templates for the preparation and composition of judgments for different civil case types.[140] As the presentation styles of ruling documents could vary greatly across judges and these discrepancies often made cases involving collegiate panels more complicated, this institutional change effectively shortened the average preparation time for ruling documents and hence the average processing time for civil cases (Figures 14 and 15).

The second category of reform efforts consists of changes related to streamlined legal procedures. One important development was the reform of the court's dispute resolution mechanism. In 2011, GZ-IPC began to offer a one-stop mediation-litigation service at its mediation center. Operated by a mediation team comprised of 4 retired judges and a trial team comprised of 4 salaried judges, this fast-tracked scheme allowed the disputing parties to receive verdicts upon the same occasion in case mediation failed.[141] From 2013, this one-stop service was made available on the center's online platform. By compressing two distinct legal processes into one, this reform significantly shortened the average processing time for small claim civil cases. Another profound development was the fast-tracked procedures for criminal cases. Introduced in June 2014, this reform was designed to simplify the trial procedures for criminal cases under the conditions of 'clear facts, solid evidence, the defendant pleads guilty, and the typical sentencing was under one year'.[142] After introduction, the average processing cycle for criminal cases was reduced to 7 days in 2015 and has remained at this level since then.[143]

By compressing legal procedures and enabling more efficient resource allocation, the discussed institutional and procedural changes clearly contributed to the increases in

[138]Guangzhou Intermediate People's Court, *Guanzghou Fayuan de Sifa Gaige (1949–2016) Baipishu* [Judicial Reform of the Guangzhou Courts (1949–2016) White Paper] (Publicity Office of Guangzhou Intermediate People's Court 2017) s 2.1.
[139]Guangzhou Intermediate People's Court (n 138) s 2.2.
[140]ibid.
[141]Guangzhou Intermediate People's Court (n 138) s 4.
[142]Guangzhou Intermediate People's Court, *Guangzhoushi Zhongji Renmin Fayuan 2015 Nian Gongzuo Baogao* [Guangzhou Intermediate People's Court 2015 Annual Work Report] (Publicity Office of Guangzhou Intermediate People's Court 2016).
[143]Guangzhou Intermediate People's Court, *Guangzhoushi Zhongji Renmin Fayuan 2019 Nian Gongzuo Baogao* [Guangzhou Intermediate People's Court 2019 Annual Work Report] (Publicity Office of Guangzhou Intermediate People's Court 2020).

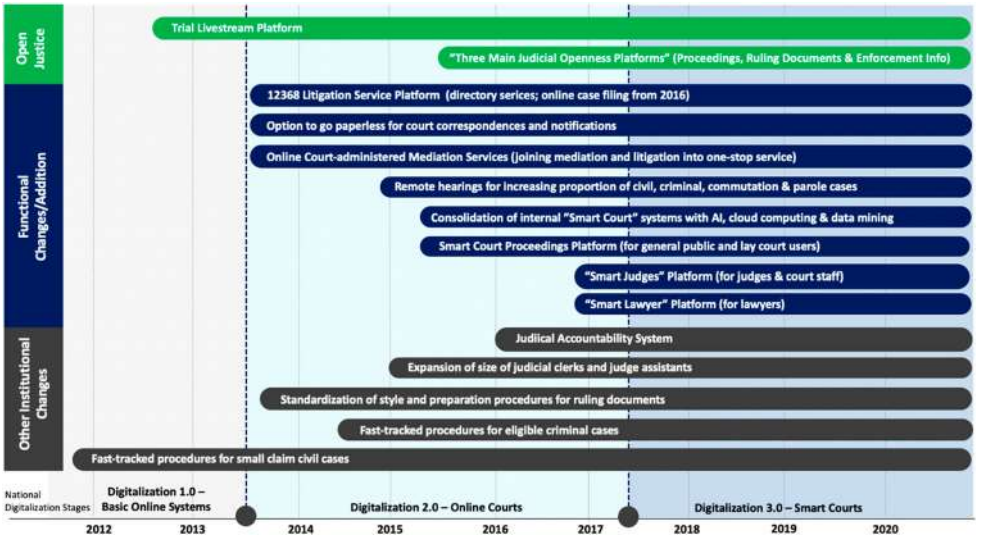

Figure 14. Timeline of digitalization and institutional changes at GZ-IPC, 2012–2020. Source: GZ-IPC Work Reports, 2012–2020; illustration by author.

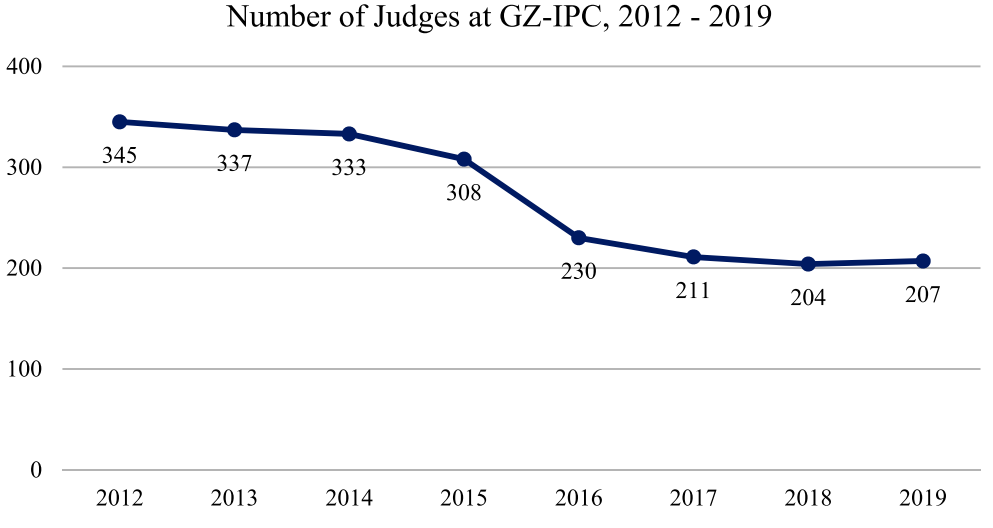

Figure 15. Number of judges at GZ-IPC, 2012–2019. Source: GZ-IPC Work Reports, 2013–2020.

GZ-IPC's efficiency between 2013 and 2019. But it must also be emphasized that, in most cases, technology acted as a lubricant to facilitate the reformed structures and processes. In some cases, it even served as the core vehicle to allow the reformed processes to happen. For instance, by offering a multi-media platform for instant communications, case material sharing and automated generation of case summaries for all cases and risk scores for parole and commutation cases, technology facilitated the conduct of pre-trial preparation, collegiate panel discussions and judgment-

writing processes at GZ-IPC. Then, by offering the option to go paperless for court correspondences and enabling the function to track whether the recipient had received and read the sent document, it facilitated the flows of court correspondences and improved trial date certainty. For the provision of online one-stop mediation-litigation services and the conduct of remote hearings for commutation and parole cases, it also acted as the medium for the execution of the fast-tracked procedures and the essential element to reduce transfers of inmates between correctional services and the court, respectively. From these examples, it is clear that digitalization was the powerful driving force behind the increases in GZ-IPC's efficiency and its steady and high effectiveness.

But beyond these identified benefits, it must be emphasized that court digitalization does not come risk-free. By radically changing how the courts perform their duties, it is transforming the ways that court managers, court staff, court users and the general public perceive and interact with the court system. One implication of digitalization is that it has become significantly easier to measure court performances with a variety of quantifiable indicators. For example, in recent years, more and more Chinese courts are using average online trial time as a point of reference of their efficiency and convenience of their services. At GZ-IPC, for instance, its average online trial time was 46 min in 2018 and was reduced to 23 min in 2019.[144] This piece of information may be a handy and comprehendible pointer of the court's digitalization progresses, but it also raises concerns about the appropriateness of using it to illustrate the court's efficiency. First, together with the affirmative language that this piece of information was presented in, it could mislead the public to regard it as an important indicator of good court performance. Second, it could lead judges, court managers and staff to regard it as a key performance indicator (KPI) that they should purposefully work hard on. Furthermore, as judicial authorities are now compiling rankings to track and compare the performances of courts of different levels and regions,[145] there is a further risk of cultivating an undesirable competitive culture where courts might direct unwarranted attention and resources to drive up these quantifiable KPIs at the expense of the less quantifiable aspects, such as fairness, equality and courtesy, of its services. The impacts of this tendency are particularly real as those quantifiable KPIs not only affect government budget decisions, but also constitute important parts of the judicial personnel's performance evaluation and, therefore, their career prospects. Thus, on the aspect of court performance, court digitalization raises questions about what kinds of indicators should be considered appropriate yardsticks for the measurement of court performances, what attitude should be adopted to treat these indicators, and what kind of attainments should be pursued by the courts to ensure healthy balance among efficiency, effectiveness and due processes in the digital age.

[144]ibid.

[145]Prominent examples include the Chinese Rule of Law Index and the Chinese Judicial Openness Index. Developed by the Chinese Academy of Social Science and endorsed by the Supreme People's Court, these indices rank the Chinese people's courts according to their performances in a wide array of quantifiable aspects, such as the number of trials they livestreamed, the number of pieces of enforcement information they published online and the average hours of additional professional training their judges received. For background information about the development and endorsement of the indices, see Chinese Academy of Social Sciences, 'Summary – CASS Centre for National Index of Rule of Law' *CASS Structure* (2017) <http://www.iolaw.org.cn/web/organ/fzzs.html> accessed 12 April 2021.

4. Intangible impacts of court digitalization and online court development in China: opportunities, challenges and coping strategies

Expanding from the findings of the case study of the Guangzhou Intermediate People's Court (GZ-IPC) and combining the insights drawn from the existing literature on the subject, this part of the article explores the intangible impacts of court digitalization and online court development in China. Specifically, it looks into four critical aspects, namely access to justice, transparency, judicial ethics and the quality of court services, as well as the image of the law. By dissecting the causes and implications of the opportunities and challenges identified on these aspects, it devises practical strategies to harness the strengths of the existing design and to cope with the foreseeable challenges. Ultimately, this part of the article strives to shed light on the final designated research question: what insights can we draw from the Chinese experience for the global movement of court digitalization and online court development?

4.1. Access to justice

4.1.1. Opportunities and challenges

As discussed in Part 1, one paramount expected advantage of court digitalization and online court development is the widening of the society's access to justice. As argued by the online court advocates, such as Richard Susskind, Ethan Katsh and Rabinovich-Einy, online court development should, in theory, be able to broaden the traditional court-centric understanding of access to justice by opening up more practical avenues to dispute resolution.[146] From the case of GZ-IPC, it is proven that online court development did effectively widen the number of ways that the general public could access the court's services, which include not only its trial services but also its mediation and litigation directory services. In particular, through the option of remote hearings, the one-stop online mediation-litigations service and the legal directory service, the society was given greater freedom to opt for the method that he or she finds most suitable for one's circumstances. Beyond these obvious benefits, it is also noteworthy that court digitalization and online court development have helped to widen access to justice at GZ-IPC by enhancing its judicial capacities to handle and process cases in a timely fashion. In line with the universal legal maxim 'justice delayed is justice denied', the advancement of GZ-IPC's judicial capabilities – more specifically, being able to maintain a high level of case clearance and on-time processing rates despite a 61.7% increase in the number of incoming cases between 2012 and 2019 – means that more people were able to access timely court services at GZ-IPC over the concerned period.

Despite the mentioned benefits, court digitalization and online court development also brought challenges and difficulties to certain groups' accesses to justice. For instance, Chinese scholar Zheng Weiwei holds that the online mediation platforms of the local people's courts could at times be too complicated for people with special needs, such as the elderly and people with disabilities, to navigate.[147] This issue is particularly true as the digital pathway is gradually becoming the mainstream way of case processing

[146]Susskind (n 1) 22; Katsh and Rabinovich-Einy (n 6) 40.
[147]Zheng (n 21) 141–8.

under the national court digitalization target of 'digital by default'.[148] Also, confusions and difficulties in navigation around the digital platforms could be exacerbated if the concerned case entails legal procedures and communications involving more than one people's court. As highlighted by various Chinese legal scholars, including Zhang Xingmei, Long Fei, Hu Changming and Zheng Guo, the lack of coordination within and among the service platforms of different people's courts was a key factor that constantly compromised the effectiveness of China's online dispute resolution processes.[149] These problems were discernible in GZ-IPC's digital platforms too. To illustrate, there are in fact plenty of overlapping services and functions among the court's 'Smart Lawyer', 'Smart Court Proceedings' and the '12368 Litigation Service' platforms. While their co-existence would sometimes require professional and lay users to submit materials and insert information repeatedly, they could cause confusions and, possibly, delays and mistakes in the digitalized procedures. There has also been very limited technical assistance, such as simplified interfaces, available to court users with special needs.

4.1.2. Coping strategies

In resolving the challenge of discoordination among different people's courts' service platforms, some Chinese scholars, including Zhang Xingmei and Hu Changming, have proposed that the National People's Congress should pass national legislations to regulate the execution of the concerned procedures.[150] But as illustrated in Part 2, this point of view has largely overlooked the intricate nature of China's court digitalization and online court development strategy. While developing its online court systems over the past decade, China has essentially resorted to a bi-directional approach that is characterized by (1) autonomy from the top authorities, (2) innovations and development at the local level, (3) refinement and wider adoption of the outstanding local innovations, and (4) regulation and standardization of the novel elements in the given order. It was through this bi-directional approach that China could turn all the local people's courts into individual experimental grounds, undertake hundreds of experimental practices simultaneously, and identify and promulgate the outstanding practices within a remarkably short period of time. With full consideration of the above contexts, this article is not trying to argue against the necessity of putting overarching national legislations in place. In fact, in line with the mentioned Chinese scholars' reasoning, national legislation should be considered a profound and powerful undertaking to coordinate and formalize the country's court digitalization and online court development efforts. But its timing and way of execution must be carefully planned. Since the country is currently undergoing the development stage of Digitalization 3.0 and exploring the use of AI and big data technologies with the discussed bi-directional approach, it would be desirable to enact and implement national legislations only when this final development stage reaches its completion. While the main goal of future legislative efforts is to enhance coordination and establish national standards to regulate the development of local online court systems, the design of these laws should also aim to provide the 'bottom line' standards and be flexible enough to enable spaces for continuous local innovation

[148]Supreme People's Court of China (n 96).
[149]Zhang (n 10) 156; Hu (n 13) 117; Zheng (n 14) 10; Long (n 12) 7.
[150]Zhang (n 10) 156; Hu (n 13) 117.

in the long run. In the meantime, local courts should continue to develop adaptive strategies to broaden their online systems' accessibilities to the general public and, particularly, to users with special needs. Specific practical solutions include integration of multiple overlapping platforms into one unified platform, development of simplified system interfaces for user groups with special needs, and implementation of continuous evaluation schemes to collect various online court users' views and recommendations regarding their user experiences of the online court services.

4.2. Transparency and openness

4.2.1. Opportunities and challenges

Another expected advantage of court digitalization and online court development is the enhancement of the transparency of the court system.[151] In theory, these digitalization processes should be able to facilitate information management and the disclosures of judicial information to enable systematic and productive public scrutiny. The case of GZ-IPC has largely confirmed this assertion. Through the livestreams and recordings of its trials as well as the founding of its 'Three Main Judicial Openness Platforms', GZ-IPC has effectively widened the number of ways that the general public could access the key information related to the judicial processes, ruling documents and enforcement information of almost all cases processed and heard at the court. Specifically, in 2019, 99.1% of the cases heard at the court had their ruling documents published online; 50.6% of the total incoming cases were livestreamed and this figure is expected to continue to increase in the coming years.

Although the past decade had seen remarkable improvements in GZ-IPC's transparency, there still existed some major rooms for improvement in the quantity and quality of data released by the court by 2020. As noted in Part 3, the data released in GZ-IPC's annual work and finance reports were still subject to the problems of disorganization, incompleteness and patchiness. Outside the core judicial data, such as the total number of incoming and outgoing cases, overall court user satisfaction and court order compliance rate, the court only releases patchy data for on-time case processing and has not published any data on its trial date certainty, average duration of pre-trial custody, case backlog, court file integrity and court employee engagement. There is also a lack of detailed study on the court's user satisfaction with qualitative methodologies, such as interview and focus group discussions. While GZ-IPC is already one of the most transparent people's courts in China, the described problem has been prevalent and sometimes even more concerning at other people's courts.

Another major issue, as raised in the concluding remarks in Part 3, is related to the suitability of using certain yardsticks to report the courts' performances. While the ultimate goal of any disclosure efforts is to enable organized and productive public scrutiny, some of the adopted yardsticks, such as average trial time, could mislead the general public to regard those yardsticks as important indicators of good court performances. As these quantifiable indicators often constitute important considerations in government funding and the court staff's personal appraisal, the misuses of these quantifiable indicators could also give rise to the risk of cultivating an undesirable competitive culture,

[151]Susskind (n 1) 22; Sorabji (n 7) 51.

where the court managers may direct unwarranted attention and resources to drive up these indicators.

4.2.2. Coping strategies

The root cause of all of the identified challenge in this aspect is that, despite its major progression in its judicial reform efforts and its initiatives to establish procedures and evaluation mechanisms to monitor the design and procurement of ICT services of the local people's courts' digital platforms, China has yet developed a uniform set of yardsticks to measure court performances for the courts' internal uses and public disclosures. Commissioned by the Supreme People's Court, the Chinese Academy of Social Science (CASS) has developed well-rounded recurring research programs to evaluate China's general legal development as well as the transparency and level of digitalization of the local people's courts. The most relevant research program is the CASS Chinese Rule of Law Development Report. As a wide-ranging report which covers the legislative development, judicial reform progresses, and the transparency indices for the Chinese governmental, judicial, procuratorate, law enforcement and maritime law bodies, the CASS Chinese Rule of Law Development Report offers detailed chronicles of each year's major legal development and includes three to five case studies on certain highlighted areas of rule of law development.[152] In addition to these semi-official accounts, there are also recurring academic efforts to evaluate the judicial reform progresses and legal development of the country. The most prominent project is the Renmin University Report on Chinese Legal Development led by Professor Zhu Jingwen. As a recurring research program, the report looks into different thematic areas of China's legal development, such as the trends and development of China's legal education,[153] the general public's perception and satisfaction of China's rule of law,[154] the career prospects and vocational options of China's legal practitioners,[155] each year. But despite all the mentioned research efforts, there still exists no official or academic research program to survey the Chinese people's courts' performances on a regular basis. As the Chinese justice system has been undergoing some radical transformations under the ongoing judicial reform as well as the court digitalization and online court development movement, the suggested research program would certainly facilitate the development of a systematic understanding and productive evaluation of China's court performances under these rapidly changing times.

As aforementioned, the founding of the described studies and particularly the compilation of rankings could give rise to the risk of cultivating an undesirable competitive culture, where the court managers may direct unwarranted attention and resources to drive up the quantitative indicators. But the recommendation of devising

[152]Chinese Academy of Social Sciences, *Zhongguo Fazhi Fazhan Baogao* [Chinese Rule of Law Development Report] (China Social Sciences Press 2016–19).

[153]Zhu Jingwen, *Zhongguo Renmin Daxue Zhongguo Falü Fazhan Baogao 2013: Faxue Jiaoyu yu Yanjiu* [Renmin University Report on Chinese Legal Development 2013: Legal Education and Research] (Renmin University Press 2014).

[154]Zhu Jingwen, *Zhongguo Renmin Daxue Zhongguo Falü Fazhan Baogao 2018: Zhongguo Fazhi Manyidu Pinggu* [Renmin University Report on Chinese Legal Development 2018: Satisfaction of China's Rule of Law] (Renmin University Press 2019).

[155]Zhu Jingwen, *Zhongguo Renmin Daxue Zhongguo Falü Fazhan Baogao 2012: Zhongguo Falü Gongzuozhe de Zhiyehua* [Renmin University Report on Chinese Legal Development 2012: Professionalization of Legal Practices in China] (Renmin University Press 2013).

a uniform set of yardsticks to measure court performances in China is set out exactly to tackle this imminent risk. Indeed, it is through this unifying undertaking that the judicial authorities – and possibly along with partner research and academic institutions – could work to determine what kind of indicators should be considered the appropriate yardsticks to measure court performances and what kind of attitude should be adopted towards each of the selected yardsticks. Practically speaking, the SPC may consider developing an evaluation model based on the prototype given by the ICCE Global Measures of Court Performances[156] framework and make tailor-made adjustments to the model based on China's unique socio-political conditions. Simultaneously, it may also consider setting up internal guidelines to clarify and regulate the calculations, disclosures and uses of various court performance indicators. For instance, in practical workings, it may be unrealistic to rule out on-time case processing and case clearance rates from the court personnel's personal evaluation. However, the SPC could work to strengthen the measuring and reporting of the qualitative aspects of court performances, such as the professional and lay user satisfaction of the court's services by case type, to enable a more holistic evaluation and advancement of the court's performances. Through these strategies, the local people's courts can thus have a standardized set of rules and procedures to follow; the general public can also have a more accurate understanding of the local people's courts' performances.

4.3. Judicial ethics and quality of digitalized court services

4.3.1. Opportunities and challenges

Beyond enhanced transparency and the widening of the public's access to justice, the online court advocates also argue that online court development and particularly the use of automated decision-making (ADM) technologies could, in theory, make court judgments more rational and predictable.[157] On the contrary, one reason why certain countries have remained conservative and prudent in court digitalization and online court development is that these digitalization processes would present a variety of uncertainties to the processing and hearing of trials. While the most prominent uncertainty is related to the unknown impacts that the ADM technologies would have on the quality of the judgments, it is also uncertain about what kind of impacts the digitalized legal procedures, such as the conduct of remote hearings, would bring to the power balance between parties in litigation. Specifically, the parties' abilities to communicate effectively with the judges and representing counsels and, therefore, their credibility could be impaired.[158] It is also possible that the conduct of remote trials could make the determination of vulnerability profoundly difficult and thus negatively impact the courts' ability to ensure reasonable and effective adjustments.[159]

By far, there has been very limited empirical evidence to confirm nor contradict these possibilities. But as GZ-IPC has surveyed its court user satisfaction, which consists of

[156]International Consortium for Court Excellence (n 52) 1–5.
[157]Susskind (n 1) 40; Katsh and Orna Rabinovich-Einy (n 6) 61.
[158]Genn (n 40).
[159]Byrom (n 28) 2–4.

their views towards the court's performances in the areas of fairness, accuracy and knowledge of the law, its high and stable performances in overall court user satisfaction indirectly implies that GZ-IPC has performed generally well in these areas in the context of rapid digitalization and online court development. However, this state of affairs should by no means be considered a sign that these digitalization efforts present limited challenges to the areas of judicial ethics and the quality of digitalized court services. Indeed, one of the very few existing empirical qualitative studies from China has identified some drawbacks of court digitalization and online court development that had yet been foreseen or widely discussed in the theoretical scholarships. Specifically, based on his interviews with over 20 judges and court staff at a basic people's court in Xuzhou of the Jiangsu Province, Chinese scholar Ji Yuanyi finds that judges aged above 40 generally faced more difficulties in adapting to the new digitalized legal processes compared to the judges aged below 40.[160] Furthermore, this valuable study also finds that, as the expansion of the use of AI technologies could be considered a process to decrease actual human involvement of the judicial proceedings, some judges and court staff actually find this process a challenge to their profession, which, from the perspective of court management, could hurt the professional recognition and morale of the judges and court staff.[161]

4.3.2. Coping strategies

One essential step to tackle the mentioned challenges is to strengthen the research and evaluation of the empirical outcomes of the country's court digitalization and online court development efforts. The kernel of the mentioned issues is that there is a scarcity of factual foundation to devise fitting coping strategies to mitigate the drawbacks presented by the digitalization efforts. Linking back to the previously suggested coping strategies, an important step to gather information as such is to develop a uniform set of yardsticks to measure court performances that include systematic and in-depth investigations into the qualitative aspects, including court user satisfaction by case type and court employee engagement as suggested in the ICCE Global Measures of Court Performances framework. As court digitalization and online court development have been casting fundamental changes to the interaction dynamics among all parties in court cases and the daily workings within and among courts, there is a pressing need to inquire into the actual impacts of the digitalization efforts and identify the areas that need adjustments and improvements. Equally relevant are the research efforts taken by external parties, such as research institutions, universities and individual academics. In supplement to the official evaluation taken by the SPC and the local people's courts, research efforts taken by these entities would be able to provide alternative insights into the empirical outcomes of China's court digitalization and online court development efforts and shed light on thematic areas that the standard official evaluation may not be able to cover. Certainly, to make the most out of the insights derived from these official and external research, the SPC is highly recommended to develop a responsive mechanism to make timely and appropriate policy and institutional changes based on the empirical findings.

[160]Ji (n 25) 216–7.
[161]ibid.

4.4. Image of the law

4.4.1. Opportunities and challenges

One less discussed aspect of the intangible impacts of court digitalization and online court development is these processes' influences on the image of the law. Although this aspect is still largely unexplored, it is expected that the country's digitalization efforts would cast profound changes to the overall image of China's justice system and, more specifically, the general public's perceptions of justice and the country's rule of law, by fundamentally changing how various court users and the general public interact with the Chinese justice system. By far, there has been very limited empirical evidence on the subject. But if it is held that the transparency of the country's justice system has a generally positive correlation with the general public's perception of the country's justice system, these digitalization efforts should, in theory, be able to enhance the credibility and image of the Chinese justice system by making the disclosures of judicial information more systematic.

But like any other aspects of intangible impacts, court digitalization and online court development could also bring challenges to the image of the law. For example, while the use of remote hearings was extended to almost every courts in China during the COVID-19 pandemic, there were multiple reports about the occurrence of mild disorderliness, such as digital appearance in improper attires and disturbing background noises, in the remote trials.[162] In the absence of court marshals, the maintenance of order and decent conduct could at times be difficult in remote hearings.[163] As the livestreaming of court hearings have become increasingly prevalent throughout the country, the damages brought by these disorderly incidents could be broadcasted and amplified through the livestreams. These incidents certainly present challenges to the solemnity of the Chinese court system.

4.4.2. Coping strategies

To develop a thorough understanding of court digitalization and online court's impacts on the image of the law, one essential step is to strengthen research and evaluation efforts on the subject. The inclusion of a section surveying the court users' perceptions of the law would be helpful. But research on this topic should be complemented by studies initiated by external parties, such as universities and research institutions, to which the court users and the general public would usually be more comfortable and outspoken to discuss the subject in-depth. Preferably, research as such should be carried out on a regular basis to keep track of how the court users and the general public perceive the Chinese justice system in the context of the ongoing judicial reform as well as rapid court digitalization and online court development over time.

In mitigating the difficulty of maintaining order and descent digital court conduct in remote hearings, it would be crucial to strengthen the training and education for various types of court users. One prominent past example is the training efforts taken by GZ-IPC to prepare lawyers to adapt to the gradually digitalized procedures at the court.[164] Originally, when the court's online case filing system was first made available in 2016, this new

[162]Xu (n 15) 55–64.
[163]ibid.
[164]Guangzhou Intermediate People's Court (n 143).

function did not attract many court users. Less than 4% of the court's incoming cases were filed through this new digital pathway in 2017. But through continuous training with the professional court users, more and more lawyers in Guangzhou began to recognize the convenience offered by this new method. The percentage of cases filed online thus jumped to 32% in 2018 and 74% in 2019.[165] In view of the successes and influences of these training efforts, the Chinese courts may design and carry out similar training programs, such as simple audio-visual guides on the social media platforms or interactive webinars, to train professional and lay court users to familiarize themselves with the digital platforms and the digitalized procedures. More specifically, to ensure descent digital court conduct, the courts may develop training of trainers (ToT) models to equip the representing lawyers with the skills and knowledge to introduce their clients to the 'dos and don'ts' in remote trials. Civil society organizations, such as NGOs and legal aid centers, may organize training programs, such as seminars that are tailor-made for certain case types, to prepare the court users to adapt to the digitalized procedures. Finally, the courts may also strive to improve the interfaces, for example, through simplification and the inclusion of quick guidance tags on the platform, to make their digital services more accessible, user-friendly and human-centered.

4.5. Summary

Having considered China's court digitalization and online court development's impacts on access to justice, transparency, judicial ethics and the quality of court services, as well as the image of the law, this part of the article finds that digitalization would bring both opportunities and challenges to the mentioned aspects. Regarding access to justice, this study finds that digitalization and online court development could help to enhance judicial capabilities and widen the number of ways that the general public could access the court's services. However, as the digital pathway is gradually becoming the default way of case processing, this development trend, together with the complications and discoordination arising from the digital platforms, could also give rise to the risk of 'digital exclusion', of which people with special needs, such as the elderly and people with disabilities, may have difficulties in accessing court services in the increasingly digitalized justice system.

Regarding transparency and openness, this study finds that digitalization and online court development could largely facilitate information management and the disclosures of judicial information to enable systematic and productive public scrutiny. But it also finds that, by 2020, there still exist major rooms for improvement in the quantity and quality in the information released by the Chinese courts. The most pressing issue resides in the appropriateness of using certain quantitative indicators, such as average trial time, as an important indicator of a court's efficiency; the misuse of these indicators could mislead the general public to regard them as important indicators of good court performance.

Regarding judicial ethics and quality of digitalized court services, it is found that there still exists insufficient evidence to determine whether the use of automated decision-making technologies has helped to make court judgments more rational and predictable,

[165]ibid.

while the lack of data is a telling indication that there still exists substantial room for improvement in the country's evaluation and research on the topic. Also, from the findings provided by existing Chinese scholarship, there is evidence that digitalization and online court development could harm the sense of professional recognition and the morale of the judges and court staff as these digitalization efforts are, by nature, processes to decrease actual human involvement of the judicial proceedings.

Regarding image of the law, this study finds there is also insufficient empirical data to determine whether the digitalization and online court development help to improve the public's perceptions of justice, the country's rule of law and its justice system in general. Again, the absence of related data is a revealing indication that there exists a pressing need for the country to develop a systematic mechanism to collect related information. Beyond this aspect, there have also been reports about the occurrence of mild disorderliness in remote trials. The damages caused by these incidents could be broadcasted and amplified by the livestreaming of these court cases.

To tackle the mentioned challenges, this article recommends that the Supreme People's Court could enact and implement national legislation to coordinate and formalize the country's court digitalization and online court development efforts when the development stage of Digitalization 3.0 reaches completion. Equally important is to develop a uniform set of yardsticks to measure court performances for the courts' internal uses and public disclosures. Ideally, this set of standards should include systematic and in-depth investigations into the qualitative aspects, including court user satisfaction and court employee engagement, of the Chinese courts' performances. Simultaneously, the local people's courts should continue to improve the design of their digital platforms and strive to increase their systems' accessibilities to people with special needs. Research institutions could seek to expand their research on the empirical outcomes of the court digitalization and online court development efforts in the country. Civil society organizations could work to develop training programs, such as seminars that are tailor-made for certain case types, to prepare the court users to adapt to the digitalized procedures.

As noted at the beginning of this part, the final designated research question of this article concerns: what insights can we draw from the Chinese experience for the global movement of court digitalization and online court development? As a forerunner of this global movement, China has encountered opportunities and challenges that some late court digitalization adopters have yet encountered. While the paces and methods of various countries' approaches to court digitalization and online court development could vary greatly, other countries may not essentially encounter all of the issues as discussed in this part of the study. But an understanding of the Chinese experience and particularly the intangible challenges that arose from its court digitalization and online court development would certainly enable these countries to have a more realistic grasp of the potential consequences of their court digitalization efforts. This exercise would be particularly helpful because some of these empirical outcomes, as illustrated by this part, might not have been foreseen or thoroughly explored in the theoretical scholarship. Two prominent examples are the risk arising from the misuses of the quantitative court performance indicators and the damages that the use of ADM technologies could cast on the sense of professional recognition and morale of the judges and court staff. To make online courts around the world more accessible and inclusive, it would

be most desirable if the empirical outcomes of the existing court digitalization and online court development efforts could be thoroughly explored and taken into consideration in the design and planning of future court digitalization efforts.**5.**

5. Conclusion: China as a pioneer of court digitalization and online court development

5.1. Summary of findings

This article sets to resolve three main research questions: First, what overarching strategy has China adopted in court digitalization and online court development? By tracing and accounting for the development history of court digitalization and online courts in China since 2008, Part 2 discovers a development pattern that has yet been pinpointed by existing research. Specifically, it finds that the development of online courts in China could be characterized by a bi-directional approach, which involves (1) general direction and autonomy from the top authorities, (2) innovations and development at the local level, (3) refinement and wider adoption of the outstanding local innovations, and (4) regulation and standardization of the novel elements. Although this approach has created temporary confusion and discoordination among the digital platforms of different local people's courts, it was through this bi-directional approach that China could turn all the local people's courts into individual experimental grounds, undertake hundreds of experimental practices simultaneously, and identify and promulgate the outstanding practices within a remarkably short period of time.

Second, how did court digitalization and online court development affect court performances, namely efficiency, effectiveness and costs of proceedings, at the people's courts over time? Since there has been an absence of time-series analysis on the digitalization outcomes of the non-specialized people's courts, this article seeks to fill this knowledge gap with a case study on the Guangzhou Intermediate People's court. By compiling and analyzing a time-series dataset on the court's performances, Part 3 finds that digitalization and online court development enabled the court to achieve notable improvement in efficiency – specifically, to be able to handle 156% more cases while managing to maintain its effectiveness at stable and high between 2013 and 2019. Although it is still pre-mature to determine whether digitalization reduces the court's costs of proceedings, it is established that it has acted as an effective lubricant to facilitate and, in some cases, serve as the essential vehicle for the conduct of the court's proceedings.

Third, what insights can we draw from the Chinese experience for the global movement of court digitalization and online court development? As a forerunner of this global movement, China has encountered opportunities and challenges that some court digitalization late adopters have yet encountered. Thus, by looking into the empirical outcomes of China's experience, other countries would have a better understanding of what consequences could be expected from their court digitalization and online development efforts. Specifically, having considered China's court digitalization and online court development's impacts on four critical aspects, namely access to justice, transparency, judicial ethics and the quality of court services, as well as the image of the law, Part 4 finds that digitalization would bring both opportunities and challenges to the mentioned

aspects. Regarding access to justice, it finds that digitalization and online court development could help to enhance judicial capabilities and widen the number of ways that the general public could access the court's services, but they may also give rise to the risk of 'digital exclusion', of which people with special needs, such as the elderly and people with disabilities, may be excluded from the increasingly digitalized court system. Regarding transparency, it finds that digitalization would largely facilitate the management and disclosures of judicial information, but the misuses of certain quantitative court performance indicators, such as average trial time, could drive the public to mistake these yardsticks as important indicators of good court performance. Regarding judicial ethics, while the use of automated decision-making technologies may, in theory, make court judgments more rational and predictable, it could also harm the sense of professional recognition and the morale of the judges and court staff. Regarding image of the law, while digitalization may enhance the credibility and image of the Chinese justice system by making the disclosures of judicial information more systematic, there also arises practical challenges in the enforcement and maintenance of order and descent conduct in remote trials in the absence of court marshals.

5.2. The future of online courts within and beyond China

Looking forward, it is expected that China would continue to advance the use of AI and big data technologies in the construction of its smart court systems with the identified bi-directional approach. It is also highly likely that this approach would allow the country to continue to progress with remarkable speed. Along this path, the Supreme People's Court will keep on playing the leading role in providing the general directions of the country's court digitalization and online court development efforts. While the local people's courts will carry on exploring their own approaches and innovative solutions to improve the user experience of their digital platforms and procedures, it is possible that the top authorities, namely the SPC and the National People's Congress, may seek to coordinate the standardization and regulation of the latest court digitalization efforts through guiding opinions and national legislations, respectively. As the pandemic has substantially accelerated the court digitalization processes and promulgated the use of various digital practices, such as the conduct of remote hearings and the use electronic legal correspondences, to almost all local basic people's courts across the country, the coming few years may also see the rise of bottom-up efforts organized by civil organizations, such as NGOs and law centers, to help the general public to gradually adapt to these new digital ways of accessing justice.

As noted at the beginning of this article, since numerous justice systems around the world have been prompted to adopt temporary digitalization measures to cope with the COVID-19 pandemic, 2020, in all likelihood, will be remembered as a turning point year of the global court digitalization and online court development movement. Through the examination of the development patterns and strategy of China's court digitalization and online court development processes as well as a case study of one of the country's most digitalized courts, this article has provided both a panoramic view and close-up angle of the Chinese experience. Then, by looking closely at the empirical outcomes of these processes, it has assembled a synthesis of tangible and intangible outcomes that other countries may encounter on their paths of court digitalization and

online court development. Although other countries may not necessarily encounter all the identified issues, understanding China's experience would certainly enable them to have a more practical empirical foundation to design and plan their court digitalization and online court development efforts. Beyond everything, given the complications entailed in the interactions among various court users and the machines, online court development is a field that requires extensive trial and error. While other countries may benefit from China's experience, China would also benefit greatly from understanding other countries' strategies and approaches. Accordingly, it would be most desirable if justice systems around the world could learn from one another's experiences and work to make online courts around the world more accessible and inclusive together.

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Disclosure statement

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Appendix. Major development, regulations and official documents of court digitalization and online court development in China, 2008–2020.

Dates	Issuer	Nature	Item	Summary/Comment
Digitalization 1.0 – Basic online systems (Before 2013)				
Feb. 28 2008	SC	Official Report	China's Rule of Law Construction White Paper	Published in context of the 17th NPC decisions to thoroughly carry out 'governance according to the law' and accelerate the construction of a 'socialist rule-of-law state' (Section 1) Three mentions of 'digitalization' ('信息化'), and confirmed determination to develop a transparent legal system and emphasized the importance of judicial openness (Section 6)
Mar. 17 2009	SPC	Policy Reference	Third Five-Year Plan for the Reform of the People's Courts	First mention of 'court digitalization' in official strategic plans Set out plans and policy goals to construct basic IT systems to enhance transparency and facilitate internal communications and case management (Section 4.24)
Dec. 9, 2011	SPC	Policy Reference	Basic Requirements for the Digitalization of People's Courts	Basic framework to regulate the digitalization of the people's court at different levels Granted autonomy to courts of different levels and regions to develop their own digitalized platforms Stipulated basic requirements concerning the filming, storage and publication of trial recordings (e.g. regulations on filming angles, editing procedures, storage file formats, authenticity and entirety of published data, standard procedures to procure digitalization services from external service providers) (Section 3–8)
Oct. 9 2012	SC	Official Report	China's Judicial Reform White Paper	Provided a review of China's continuous judicial reform (Section 1) and confirmed 'upholding social justice', 'reinforcing human rights protection', 'enhancing judicial capability', and 'developing a judiciary for the people' as the core objectives of the upcoming reform efforts (Section 2–5) Declared that judicial authorities across the country had generally begun digitalization (Section 2.1) and confirmed that digitalization would be a pivotal measure to further the discussed objectives of China's ongoing judicial reform (Section 2.2–3, 3.1, 4, 5.4)
Digitalization 2.0 – Online Court (2013–2016)				
Jul. 2013	SPC	National infrastructural development	Founding of China Judgements Online	Rulings of trials throughout the country were made online on the platform

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Dates	Issuer	Nature	Item	Summary/Comment
Oct. 24 2013	SPC	National infrastructural development	Founding of China Civil Litigation Enforcement Information Disclosure Online	Information regarding the enforcement of civil litigations throughout the country were made online on the platform
Nov. 12 2013	CC	Admin. Laws/ Regulations	Decision of the Central Committee of the CPC on Some Major Issues Concerning Comprehensively Deepening the Reform	Decision from the Third Plenary Session of the 18th Central Committee of the CPC Emphasized that 'governance according to the law' and construction of a 'socialist rule-of-law state' would continue to be a core component of the central government's national policy (Section 1) Confirmed determination to reinforce the openness and transparency of the judicial system and plans to promote more systematic publications of judicial information throughout the country (Section 4)
Nov. 21 2013	SPC	Policy Reference	Opinion on the Promotion of the 'Three Main Judicial Openness Platforms'	First mention of the 'Three Main Judicial Openness Platforms', which covers the publications of trial proceedings, rulings, and enforcement information, in official document Discussed the purposes, targets and requirements (e.g. the type, format and quality of information to be included and published) for the platforms Granted local courts autonomy to develop the 'three platforms' and 'dare to innovate' on their own while considering the SPC's national platforms as practical examples (Art. 8)
Dec. 2013	SPC	Policy Reference	Five-year Plan of the Digitalization of the People's Courts (2013–2017)	First SPC Five-year plan for digitalization Set out 4 missions: (1) consolidate the software and hardware infrastructures of the increasingly digitalized court system; (2) accelerate the digitalization of trial proceedings to increase efficiency and transparency of the processes; (3) improve resource allocation and coordination across IT systems of courts of different levels and regions; (4) strengthen information security. (Section 4)
Jun. 30, 2014	SPC	Policy Reference	Opinion on Further Reinforcing the Digitalization of the Courts	Determined 'digitalization' as a 'high priority' of China's ongoing judicial reform (Introduction) Set out the core guiding principles for courts of different regions to develop their own information systems; core principles include 'innovation based on solid and continuous research work', 'timeliness, accuracy and thoroughness of the production and publication of judicial information', 'acumen for grasp the ever-evolving needs of the people' (Section 1–3) Provided 7 general guidelines to further the development of digitalized systems of local courts: (1) enhancing efficiency and quality of the compilation of judicial information to be published; (2) systematizing channels to report digitalization progresses to SPC; (3) strengthening vertical communication channels within and between courts at different levels; (4) reinforcing structure and leadership while furthering digitalization; (5) clarifying duties and responsibilities in digitalization work; (6) considering digitalization costs as a continuing and increasing part of the courts' budget; and (7) ensuring stable and sustainable operation of the digitalized system, which would not be disrupted by factors such as change of personnel and change of service provider (Section 4.11–17)

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Dates	Issuer	Nature	Item	Summary/Comment
Oct. 23 2014	CC	Admin. Laws/ Regulations	Decision of the Central Committee of the CPC on Several Important Issues of Promoting the Rule of Law in a Comprehensive Way	Outcome of the Fourth Plenary Session of the 18th Central Committee of the CPC Recognized 'not standardized, stringent, transparent and civilized enough in implementation' were the major weaknesses of the existing judicial system (Section 1) Confirmed determination to develop an 'open, dynamic, transparent and accessible judicial system' (Section 4.1) Emphasized the importance to make groundings, procedures, progresses, outcomes of rulings available in a timely and legitimate fashion, in order to elimination chances of corruption and collusion (Section 4.4) Prompted courts at different levels to develop platforms to make judicial information accessible to the public (Section 4.4)
Nov. 13 2014	SPC	National infrastructural development	Founding of the China Judicial Proceedings Information Online	Progress updates of trials throughout the country were made online on the platform
Feb. 4, 2015	SPC	Policy Reference	Opinion on Comprehensively Deepening the Reform of the People's Courts – Outline of the Fourth Five-year Reform of the People's Courts (2014–2018)	Put great emphasis on digitalization; considered it a 'necessary mean' to construct an 'open, dynamic, transparent and accessible judicial system' Set out specific targets to further digitalization of the people's courts in official document for the first time First mention of remote online litigation and mediation in official documents: Further development of online litigation filing and tracking platforms, promote remote online litigation and mediation services with technological applications (Art. 43) First mention of livestreams of court trials in official document: Construct mechanisms to record and livestream trials (Art. 15)
Dec. 17 2015		Local Development	First WeChat trial handled by the Intermediate People's Court of Zhengzhou	This local innovation was later introduced in 3 other cities for wider testing the next year.
Feb. 23 2016	SPC	Policy Reference	Five-year Plan of the Digitalization of the People's Court (2016–2020)	Confirmed plan to complete Digitalization 2.0, which focuses primarily on the increasing the openness and transparency of the system, by 2017, and begin Digitalization 3.0, which concentrate on the construction of smart courts with the use of AI, big data and cloud computing technologies from 2017
Apr. 12 2016	CASS	Third-party report	Third-party Evaluation Report of the Digitalization of the Chinese Courts	First third-party report on the digitalization process; later became a section under the CASS Annual Report on the Development of Digitalization of the Chinese Courts (first issue in Feb. 2017)
Jul. 15, 2016	SPC	Policy Reference	Standards for the Digitalization of the People's Courts	Set out 30 technical requirements, which cover areas such as data management, IT service procurement, interface design, operation standards and hardware infrastructures, for the digitalization of People's Courts at the local level.

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Dates	Issuer	Nature	Item	Summary/Comment
Jul. 15, 2016	SPC	Policy Reference	Guiding Opinion on the Comprehensive Promotion of the Preparation and Use of Electronic Case Files	Require judges to deepen the use of electronic case files in ten areas.
Sept. 15, 2016	SPC	Policy Reference	Overall Plan to Enhance Information Security in the Digitalization of the People's Courts	The area of Information security had been covered in previous strategic plans, technical standards, guiding opinion and policy references. But it was the first time when the SPC set out a detailed plan to guide the strengthening of the information security of the digitalizing courts
Sept. 27 2016	SPC	National infrastructural development	Launch of China Court Trial Live Broadcast	The fourth main online platform to promote judicial openness after the launch of the 'Three Main Platforms for Judicial Openness' in 2013–14
Nov. 5 2016	SPC	Official Report	SPC Report on Progresses of Deepening Judicial Openness and Promoting Justice	Finds that the digitalization process by late 2016 was on a productive track and had yielded satisfying results Confirms plans to further refine the construction of the digital judicial platforms, strengthen information security, consolidate internal monitoring mechanisms, and stimulate innovation at the local level
Feb. 23 2017	CASS	Third-party Report	Report on the Development of Digitalization of the Chinese Courts No. 1 (2017)	First recurring third-party effort to review and evaluate the digitalization progresses of the Chinese People's Courts
Feb. 28 2017		National Development	Launch of the National Litigation Tracking and Notification Function on various internet platforms	With this function, court users (e.g. litigants) would then receive notifications on internet platforms, such as Weibo, Sina Email, WeChat and Alipay, regarding the progresses of their cases The launch of this function also opened up opportunities for technical experiences related to identity verification and enforcement of rulings
Digitalization 3.0 – Smart Court with AI, Big Data and Cloud Computing (2017–2023 Expected)				
Apr. 20, 2017	SPC	Policy Reference	Opinion regarding Accelerating the Construction of Smart Courts	Confirms conclusion of digitalization stage 2.0 by the end of 2017 and progression to the construction of smart courts that focus on the application of AI, big data and cloud computing technologies
May 3 2017	SPC	Policy Reference	Five-year Plan of the Digitalization of the People's Court (2016–2020)	Provides 55 practical missions on five key mission areas: (1) consolidating software and hardware infrastructure; (2) accelerating digitalization at local people's courts to enhance efficiency; (3) expanding the digitalized court systems' connection with various social media platforms to increase transparency; (4) widening adoption of technologies to provide accurate and effective legal advisory services; (5) reinforcing administrative and financial stability and sustainability of the digitalized court systems (Section 2–6)
Aug. 15 2017	SPC	National Infrastructural Development	Launch of the Instant-Messaging Platform across courts	Internal instant-messaging system across courts of different levels and regions; other functions include case file sharing and video conference calls
Aug. 18 2017	HIC	Local Development	Founding of the Hangzhou Internet Court	First online court designed to resolve cases arising from online transactions and activities totally on online platforms

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Dates	Issuer	Nature	Item	Summary/Comment
Sept. 18, 2017	SPC	Restrictive document	Management Guidelines for the Digitalization of the People's Courts	Provides the basic guidelines for the management of the digitalization of courts at courts of all levels, i.e. standard procedures for the design, implementation, evaluation, amendment and abolition of digital functions and platforms
Nov. 23 2017	SPC	National Development	Launch of National Commutation and Parole Information Platform	First coordinated platform among courts, procuratorates and correction facilities for information sharing and exchanges
Dec. 12, 2017	SPC	Restrictive document	Evaluation System for Smart Court Development (2017)	First set of internal guidelines to evaluate the progresses of the construction and operation of smart courts at various levels An extension of the Management Guidelines for the Digitalization of the People's Courts (released 3 months ago in Sept. 2017)
Jan. 5 2018	SPC	National Development	Launch of the 'Smart Court Navigator System' and the 'Smart Case Recommendation System'	Online and mobile applications designed to assist laymen's navigations on various digitalized court platforms and researchers' access to case of interest; operation heavily depending on AI, big data and cloud computing technologies
Feb. 7 2018	CASS	Third-party Report	Report on the Development of Digitalization of the Chinese Courts No. 2 (2018)	Recurring third-party annual effort to review and evaluate the digitalization progresses of the Chinese People's Courts
Feb. 28 2018	SPC	National Infrastructural Development	Launch of the People's Court Mediation Platform	National platform that directs citizens to appropriate local mediation webpage where they can access online mediation services
Jun. 28 2018	HIC	Local Development	Launch of the country's first electronic evidence admission platform at the Hangzhou Internet Court (HIC)	Follow-up development of the founding of the Hangzhou Internet Court in the previous year (Aug. 2017) First electronic evidence admission system in the country and the world; local innovation Cooperation with external verification service provider (i.e. Certificate Authority) who would issue digital certificates Launch of platform accompanied by the issuance of the HIC Regulations on the Submission of Electronic Evidence and Rules of the Judicial Examination of Electronic Evidences for Civil Litigations, the country's first two sets of rules to regulate the submission and admission of electronic evidences
Sept. 9 2018	BIC	National Infrastructural Development	Founding of the Beijing Internet Court	Second internet court in the country; court that was designed to resolve cases arising from online transactions and activities totally on online platforms Core functions: mediation services, evidence admissions and exchanges, trials, tracking of enforcement information New function: automated generation of legal documents (local innovation)
Sept. 28 2018	GIC	National Infrastructural Development	Founding of the Guangzhou Internet Court	Third internet court in the country (after the Hangzhou and Beijing ICs) Streamlined processes and refined interface Trial implementation of AI judges for bankruptcy cases

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Dates	Issuer	Nature	Item	Summary/Comment
Dec. 12 2018	SPC	National Infrastructural Development	Launch of the 'Fa Xin' artificial intelligence legal Q&A platform	First instant-messaging Q&A platform to address public queries on legal issues Operation primarily relies on AI and big data technologies
Dec. 12, 2018	SPC	Restrictive document	Evaluation System for Smart Court Development (2018)	Internal guidelines to evaluate the progresses of the construction and operation of smart courts at various levels An extension of the 2017 Evaluation System for Smart Court Development 2018 version as an updated version of guidelines to evaluate and regulate the newly adopted technologies (e.g. speech recognition) that were not previously covered
Jan. 23 2019		National Development	Nationwide adoption of the '206 Smart Trial Assistance System for Criminal Cases'	Originally a local innovation at the Shanghai courts Now simplified and refined; current version with 26 core functions, 88 sub-functions Adopted nationwide to deepen standardization
Feb. 27, 2019	SPC	Policy Reference	Outline of the Fifth Five-year Reform of the People's Courts (2014–2018)	Two new strategies: (1) utilizing the three internet courts to be experimental grounds for novel digital solutions; (2) deepening and widening the adopting of automatic speech recognition, image recognition, AI assistance, blockchain applications in the digitalized court systems to enhance efficiency and court user experience
Mar. 1 2019	CASS	Third-party Report	Report on the Development of Digitalization of the Chinese Courts No. 3 (2019)	Recurring third-party annual effort to review and evaluate the digitalization progresses of the Chinese People's Courts Confirmed that the basic infrastructural foundation for Digitalization 3.0 – Smart Court had already been laid, nationwide coverage of compulsory Argued that future digitalization efforts should focus primarily on the technical capabilities for AI judge development
Mar. 22, 2019	SPC	Local Development	Trial launch of Mobile WeChat Court at selected basic People's Courts	Pilot implementation in Zhejiang and Guangxi Trial to be implemented via a mini-function on WeChat
Aug. 17 2019	BIC	Official Report	Beijing Internet Court White Paper on the Judicial Application of Technologies	An annual review of the work and achievements of the BIC since establishment in Sept. 2018
Nov. 8 2019	SPC	National Infrastructural Development	Launch of the 'People's Court Working Platform' and the 'People's Court Information Platform'	People's Court Working Platform: platform where the public could keep track of the structures, staffing, trial processes of the basic people's courts People's Court Information Platform: platform where the public could keep track of the latest news, performances and significant cases of the basic people's courts

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Dates	Issuer	Nature	Item	Summary/Comment
Dec. 4 2019	SPC	Official Report	Release of the SPC White Paper on China's Online Judiciary	First SPC white paper on China's digitalized court systems Argued that online courts have thus far been and would continue to be an essential tool to meet the Chinese ever-growing needs for legal and judicial services and to enhance the public's accessibility to justice
Dec. 27 2019	SPC	National Development	Launch of the SPC Online Training Platform for Judges	Previously, judges and courtroom staff would have to attend training physically at the Judge College or at provincial training centers Foundation of the SPC online training platform allows for more flexible delivery of the classes and practical training