

China's E-Justice Revolution

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Electronic technologies are rapidly changing the ways that justice can be accessed by and realized in societies across the world. In China, one of the most “old-fashioned and restrained” societies, the judicial system has adopted the mindset of a tech company, aggressively promoting the application of electronic technologies in judicial proceedings. Developments have happened so rapidly that even insiders of the Chinese judicial system can easily lose track of the latest wave of changes as well as their overall magnitude. This article discusses three of the latest e-justice developments in Chinese civil judicial proceedings: the use of electronic evidence and blockchain, the nationwide Intelligent Court Project, and the establishment of internet courts.

Electronic technologies are changing the world in a profound way, and judicial proceedings are no exception. The development of e-justice — the use of electronic technologies to enhance transparency, effectiveness, and access to justice — has become essential to modernizing any judicial system. In recent years, the Supreme People’s Court of China (SPC) under Chief Justice Zhou Qiang (周强) has actively embraced electronic technologies and made a bold move toward e-justice, leading to the technologizing of civil judicial proceedings across China.¹ Such an aggressive approach is unprecedented in China and rare in the world, and thus deserves a closer look.

ELECTRONIC EVIDENCE AND “JUDICIARY + BLOCKCHAIN”

One of the biggest areas of growth in Chinese e-justice in the past decade has been the use of electronic evidence (e-evidence), which was largely restricted until 2012. Unlike U.S. courts, in which any evidence can be admitted if ruled valid by the judge, Chinese courts admitted evidence only if it fits within certain established categories. Historically, only seven types of evidence have been allowed: 1) documentary evidence, 2) real evidence, 3) audiovisual materials, 4) witness testimony, 5) statements of the parties, 6) forensic appraisal, and 7) record of investigation. Although a prototype of e-evidence existed in the “data e-text” of electronic contracts,² e-evidence was not officially recognized as an independent, legal type of evidence in China. In fact, it became the subject of heated debate: Did it count as “documentary evidence” or “audiovisual materials”? Was it even usable in litigation? These questions were answered in 2012, when the amended Article 63 of *PRC Civil Procedural Law* recognized an eighth type of evidence for civil litigations: “electronic data” (电子数据).

Three years later, the SPC explained what this new category of evidence encompassed. According to the 2015 *Judicial Interpretation on PRC Civil Procedural Law*, electronic data refers to “information formed or saved in certain electronic media through an email, electronic data exchange, online conversation record, blog, microblog, cellphone text message, electronic signature or domain name, etc. This rule also applies to audio and visual recordings saved in electronic media.”³ Since then, Chinese judicial practice has taken an ever-expanding and inclusive attitude on interpreting e-evidence, and today's trial judges may consider as e-evidence any evidentiary data that is stored, processed, and transmitted in a digital form.⁴

The application of e-evidence has surged in Chinese civil proceedings since 2015. More than 73 percent of Chinese civil cases in 2018 involved e-evidence.⁵ However, of all the e-evidence presented at trials, Chinese judges rely on less than 3 percent as a basis for fact findings.⁶ The problem is a severe lack of judicial confidence in e-evidence. Chinese civil judges — like judges elsewhere in the world — are finding it difficult to determine the authenticity of e-evidence. Electronic data is easier to manipulate than other forms of evidence, and manipulation is often difficult (or impossible) to identify. In addition, authorship is often hotly disputed. Conventionally, Chinese civil judges have allowed for the confirmation of e-evidence authenticity through one of two ways, both of them flawed. One is the opposing party's recognition; the other is notarization at the request of either party. If a party submits e-evidence at trial and the opposing party does not raise any objection, Chinese judges will generally approve its authenticity — but rarely do litigants simply agree that an opponent's e-evidence is authentic. Alternatively, a notary institute can fix and preserve e-evidence at the request of a litigant. This verification process is generally viewed by judges as highly reliable proof of authenticity,⁷ but it is both time-consuming and costly in

China and often inaccessible to ordinary Chinese civil litigants. Furthermore, Chinese notary institutes merely validate the procedure of fixing and preserving e-evidence, not the accuracy of contents or the substance of e-evidence.⁸ Chinese judges need a better understanding of the reliability of e-evidence.

In recent years, more methods of authenticating e-evidence have been established in China. The 2012 amendment to the *PRC Civil Procedural Law* allows for trial assistance by technical experts.⁹ These experts are hired by the litigants to make statements and perform examinations on their behalf when dealing with complicated technical issues in authenticating e-evidence. Chinese civil judges also have the option of initiating a forensic science examination to appraise authenticity. Though these options enable trial judges to better determine authenticity, the extra costs (in both money and time) to the litigating parties often make such procedures unaffordable, putting less wealthy parties at a disadvantage. These methods are also not guaranteed: Even if both options are used, trial judges could still come to the wrong determination about authenticity.

Enter “blockchain + judiciary,” an eye-catching, relatively cost-effective solution that is gaining ground in China. It involves the use of a blockchain service that is recognized or operated by the judicial branch to preserve (or “deposit”) digital files for potential civil litigations. Blockchain technology first emerged in 2008 as the public transaction ledger of the cryptocurrency Bitcoin.¹⁰ Whereas the benefits of Bitcoin are still somewhat dubious, the success of blockchain is undeniable, with an influence that reaches far beyond the financial sector. Blockchain is an example of distributed ledger technology (DLT): a digital database (“the ledger”) that is replicated, shared, and synchronized among all participating members (or “nodes”) on a peer-to-peer network.¹¹ DLT

depends on consensus algorithms: Each node independently validates the information on the database, and the database is updated only if a consensus of all participating nodes is reached. Unlike traditional databases, distributed ledgers have no central data storage or administration functionality, which means they are inherently difficult to hack: An attacker would have to hack all the copies simultaneously to be successful. Besides possessing all the general features of DLT, blockchain utilizes an append-only structure that further strengthens its tamper-resistance. In essence, after an e-file is submitted to the end of the blockchain for recordkeeping (or encoding a “block” of data), it is hashed (given an algorithmically generated, unique code called a “hash value” that is used to “fingerprint” the input data), digitally signed, and embedded with a cryptographic hash of the previous block on the chain, which makes the blocks link together in a chain-like structure. Then the new block is distributed to the network, all nodes reflect the updated data as it occurs, and each node houses a full copy of the blockchain. Importantly, the e-file itself is not on the blockchain; only its hash is part of this chain. Even a miniscule change to an archived block in the chain breaks the chain by changing the hash code and causing the distributed copies to mismatch. If the chain is not broken, then the blocks are presumed to be in their proper state. This resistance to tampering makes blockchain an attractive solution to the demand for authentication of e-evidence. It provides a verifiable record that a given e-file (e.g., a video clip) was uploaded from a particular device at a particular time. If that video clip is later presented as evidence in a trial, the court can use its blockchain record to verify that the video clip seen in court has not been altered or processed in any way during the period between its being written onto the blockchain and its being presented in court as evidence.

The first case in which a Chinese court supported a claimant's use of a public blockchain service was to authenticate online evidence of copyright infringement, in the June 2018 case of *Huatai Yimei vs. Daotong Technology* (“华泰一媒诉道同科技”案).¹² The trial judge who decided the case noted, “We should maintain an open and neutral stance on using blockchain to analyze individual cases. We cannot exclude it just because it is a complex technology. Neither can we lower the standard just because it is tamper resistant and traceable.”¹³ Three months later, the SPC issued a new set of provisions, recognizing for the first time that e-evidence deposited in and extracted from blockchains could be admitted as valid evidence by judges, as long as its authenticity, together with its relevancy and legality, had been proved.¹⁴

Since then, the implementation of blockchain + judiciary has accelerated. In order to facilitate e-evidence generation, preservation, and presentation at trial for civil litigants, Chinese courts across the country began collaborating with giant tech companies to establish their own blockchain platforms, among them “Judicial Blockchain” in Hangzhou (September 2018, with Alibaba), “Balance Chain” in Beijing (March 2019, with Baidu, Inc.), and “Internet Legal Chain” in Guangzhou (April 2019, with JD.com). In November 2019, the SPC announced its own blockchain e-file deposition platform, the “Unified Platform of People's Court Judicial Blockchain” (i.e., the SPC blockchain), which aims to cover jurisdictions across the whole nation and was created in partnership with Ant Financial, a subsidiary of Alibaba Group, China's largest e-commerce company. “Local courts that have already established their own judicial blockchains . . . can continue to operate, but newly proposed judicial blockchain projects of local courts must stop,” the SPC stated in the announcement.¹⁵

All of China's judicial blockchain platforms are *federated* blockchain, where entities can only become members (nodes) of the network by prior approval of its host, in contrast to the fully decentralized system of public blockchain (like the Bitcoin blockchain and the Ethereum blockchain), which is open to anyone. Federated blockchain has the same default security features as public blockchain but is more efficient and cost optimized. The SPC blockchain currently has 27 members, including 21 representative courts from different regions at all levels (from the county-level local courts to city-level courts, province-level courts, and the SPC itself) and other entities such as notary offices and forensic examination centers. These members each house an electronic copy of the blockchain and are equipped with high-speed servers, data storage devices, and a designated internal LAN. All members apply the same rules for entry, preservation, and extraction of e-evidence with the goal of maintaining trusted and fixed data only. The cooperating tech company provides critical technologies such as e-signature, location and time stamps, and data encryption and decryption. End-user portals like smartphone apps and websites allow anyone to deposit e-files (e.g., webpages, online transactional records and e-contracts) at a relatively low cost.

Compared to traditional notary service in China, judicial blockchain is cheaper and more convenient, while being equally or even more reliable as an endorsement of authenticity. Blockchain significantly lowers the cost of producing evidence in a civil litigation, especially for small claims. For example, in cases with damages awarded of RMB 4,000 yuan (around USD 560 dollars) or less, notarization of evidence of a website could easily cost the claimant the entire amount of the funds awarded in China. By contrast, a simple blockchain deposition service costs as little as RMB 1 yuan (USD 14 cents) per webpage.¹⁶

Blockchain + judiciary still has issues, of course. It cannot stop data tampering *before* the e-file is deposited into the system. But more troubling is that these judicial blockchains rely on private tech companies. There are increasing concerns in China about the potential for abuse when companies are storing massive amounts of personal data (“big data”). Both the general public and many judges remain suspicious about whether commercial private companies can be impartial.¹⁷ And even though countless e-files have been stored in various judicial blockchains — including more than 180 million pieces deposited and fixed in the SPC blockchain alone — so far most stored information has shown no substantive value in judicial proceedings. In practice, from June 2018 to December 2019, Chinese courts considered blockchain e-evidence in only about 400 cases. Nonetheless, current trends suggest that the use of e-file deposition through blockchain will continue to grow in the years ahead.

THE INTELLIGENT COURT PROJECT

Like most other countries in the world, China is still relatively new to the concept of legal technologies, including the usage of artificial intelligence (AI), which started to gain momentum about five years ago. But unlike the United States, where the private sector and its market-oriented development strategy are driving the legal-tech industry, in China the major player involved is the SPC, which made the development of the legal-tech industry — or the “intelligent court” project (智慧法院) — a national priority. This top-down approach to developing legal technologies has led to rapid advances in the Chinese legal system.

During a 2017 SPC symposium, Chief Justice Zhou Qiang delivered a keynote emphasizing the dual tasks of judicial reform and construction of an intelligent court, comparing these tasks to “the two wheels of a bike or the two wings of a bird”: “[T]he ‘intelligent court’ project functions as a key component of judicial reforms in China, as well as a powerful driving force for taking China’s judicial reforms to the next level.”¹⁸ But what is this intelligent court? While a full definition does not yet exist, it is generally understood in SPC documents as an embrace of the latest advanced technologies with the aim of serving the public and developing a networked, transparent, and intelligent informational system that can support online access to all litigation procedures (from case filing to enforcement of judgment), so as to improve and modernize the Chinese judicial system.¹⁹ In practice, this intelligent court means an online software system for all courts and judges in China that can digitize all case files; generate legal documents; facilitate online document and evidence review, approval, and transfers; automatically generate trial transcripts; automatically reference similar case judgments and related laws; and so forth.²⁰

The SPC’s interest lies in part in embracing the advantages and convenience brought by the latest technologies like supercomputers, 5G network system, cloud storage, big data analysis, and AI. More so, however, the SPC’s concerted drive toward the intelligent court is motivated by at least three key factors: a shortage of judges, a lack of public faith in the judiciary, and a sense of urgency to modernize China’s legal system.

First, the shortage of judges. From 1978 to 2015, the number of cases (including first-instance, second-instance, and retrial cases) taken up by Chinese courts at all levels grew from 613,000 to 16.7 million, a 27.3-fold increase. Civil cases grew at an even faster pace during that time, from

318,000 to 11.05 million (34.7-fold). While the number of Chinese judges also increased (from about 60,000 in 1981 to 196,000 in 2015, a 3.27-fold increase), the growth of the judiciary is far outpaced by that of cases. Thus the annual average workload per judge in China also has greatly increased, from 20 cases in 1981 to 85 in 2015.²¹ In a judicial system with an inquisitorial (rather than adversarial) character and no robust practice of summary judgment or directed verdict, such a workload is burdensome to judges. Moreover, in 2015, the filing system for Chinese civil cases changed from the traditional judicial review model to a so-called registration model, which made filing civil cases much easier than before and led to an even greater increase in their numbers.²² In contrast, the number of Chinese judges has decreased since 2017, mostly due to a somewhat-misdirected nationwide reform effort to eliminate “unqualified” judges.²³ In addition, high workloads have reportedly led some Chinese judges to leave the profession.²⁴ The utility of the intelligent court project is clear: A system that can automate parts of the process can improve efficiency and help relieve judges’ stress.

Second, public trust. The intelligent court project promises an antidote to a national judicial system that has often been criticized as opaque and in which few people outside of the judiciary have previously had access to case files of any kind.²⁵ Online platforms offer the general public the ability to freely and easily check the status of any given case, watch a livestream of trials, and search and review case judgments and enforcement information. Such transparency and easy access could boost the public’s understanding of and confidence in the judicial system. In turn, this exposure could also force Chinese judges to handle cases more carefully.

Finally, urgency to modernize the legal system. China has long lagged in constructing a modern legal system, and the Chinese judiciary has tended to adopt foreign models (e.g., practices of the continental law and the common law systems). China wants to change this pattern by leading the way in applying technological advances to the courtroom, while also promoting a positive image of the Chinese judicial system to the rest of the world.²⁶ Since Chief Justice Zhou was appointed the SPC presidency in 2012, China has poured hundreds of millions (if not billions) of RMB as well as enormous human capital into the construction of the intelligent court, creating a virtual judicial world within a short period of time. What follows are just four of the substantive steps taken thus far.

Digitization of Court Files. The SPC began its intelligent court project by digitizing court files (mainly about case judgments) nationwide. Before 2012, most Chinese court files, especially the important ones like judgments, were available only in hard copy and not accessible to the general public. In July 2013, the SPC launched “China Judgments Online” (中国裁判文书网, CJO) (<http://wenshu.court.gov.cn/>), an e-storage website and search engine for almost all court files with open and free access to the general public.²⁷ Today, CJO holds a total of more than 84 million case files, including 52 million civil judgments, and has been visited more than 1 billion times.

Beyond its benefit to the public, this expansive database is of use to the SPC itself. By mining what it calls “judicial big data,” the SPC can conduct statistical analysis that was previously thought impossible. For instance, during a formal law lecture Chief Justice Zhou gave to students of Tsinghua University in November 2019, he shared data showing that 74 percent of all divorces in China are filed by women, most often after only three years of marriage. This data drew

widespread attention within Chinese society because it contradicted the general wisdom that most divorces were filed by men and related to “the seven-year itch.”²⁸ Justice Zhou’s assertion was based on a recent SPC report that studied more than 1.4 million divorce cases in China in 2017.²⁹ Without digitization of case files, this kind of empirical study would have been very difficult to complete. Thanks to judicial big data, SPC has already published 25 such research reports, covering both civil and criminal cases and a broad range of topics.³⁰

Construction of Multiple Online Platforms. By early 2018, the SPC had established a multifunctional, inter-court, online platform that connects every courtroom in China — a total of 3,520 courts and 9,238 courtrooms.³¹ This inter-court network allows all judges in China to handle cases, work, study, and communicate on the same online platform in real time, and it facilitates supervision of lower courts by higher courts. With a simple click of a mouse, someone sitting in an office of the SPC can livestream the proceedings of any given courtroom in the nation.³²

In addition to this inter-court network, the SPC has also launched several gateway websites for the general public. These websites include: the “China Judicial Process Information Online” (中国审判流程信息公开网) (<https://splcgk.court.gov.cn/gzfwwww/>), which offers the parties and their lawyers online access to information on the trial process (e.g., transcripts, recordings, case files, and legal documents); “China Trials Online” (中国庭审公开网) (<http://tingshen.court.gov.cn/>), which broadcasts live trials from across the country for viewing by the public; and “China Enforcement Information Online” (中国执行信息公开网) (<http://zxgk.court.gov.cn/>), which publishes enforcement procedures and a list of individuals who have defaulted on their obligations. Along with the “China Judgments Online” search engine, these three websites are viewed by the

SPC as an important means for judicial transparency and as vital for the general public's access to the judiciary.

Development of Legal AI Software and Programs. Legal AI has become a hot topic in recent years in China. According to statistics from Thomson Reuters, the number of patents related to legal technology filed globally rose more than fourfold from 2013 to 2018, from 202 to 933. In 2018, more than half of these patents — 51 percent — were filed in China, while 23 percent were filed in the United States and 11 percent in South Korea.³³ This is not to say that legal AI is replacing human judges in making rulings and case decisions in China, as some reports have claimed.³⁴ Such reports are overstatements and quite misleading. Even though expectations are higher than ever, AI judging in a real sense has not yet become a reality in Chinese courts. Nor is it likely to happen in the near future. But AI software and programs are indeed being used to *assist* Chinese judges in handling cases.³⁵ Two key developments are automatic speech recognition (ASR) technology for trial transcripts and an automatic notification system for similar cases.

ASR technology holds great potential for limiting the amount of human capital and resources that Chinese courts must spend when preparing trial transcripts. The Zhejiang Province Higher People's Court began using ASR technology to generate real-time trial transcripts in August 2014,³⁶ and such efforts quickly gained popularity in China. A trial voice auto-recognition system developed by iFlyTek, China's leading ASR tech company, was approved by the Expert Appraisal Committee of the SPC in December 2016 and later promoted for implementation in courtrooms nationwide.³⁷ According to iFlyTek, its ASR system can more than double the transcription speed for law clerks, from 120–150 to 250–350 words per minute, shortening overall trial time by 30

percent.³⁸ Although some judges and lawyers are suspicious of the ASR system, particularly of its (in)ability to recognize dialects and of potential profiteering motives, it has spread widely across the country. As of today, iFlyTek's ASR system has been installed in more than 4,200 courtrooms across 31 of China's 34 provincial administrative regions.

The automatic notification system for similar cases was launched in January 2018 in response to what the SPC recognized as a longstanding problem: lawsuits with similar case facts being judged in different ways. Although previous cases lack a binding effect on future judicial rulings because China is not a case law country, the SPC recognized a need for standardization.³⁹ In a 2017 opinion, the court called for a mechanism that could ensure more consistency across judgments: "On the basis of improving the mechanism of referring to similar cases and judging guidance, the People's Courts at all levels shall establish a *mandatory* search mechanism for similar and related cases, in order to make sure similar cases are judged by the same standard and the law applied uniformly."⁴⁰

This notification system allows for both manual searches and auto-notifications of similar cases. The SPC hopes that it will help Chinese judges make judgments, standardize their rulings, foster the uniform application of the law, and further improve the quality of trials. According to an official media report, this system covers all types of civil complaints and criminal charges in China through four aspects: a) nature of the case, b) features of the facts, c) focus of the disputes, and d) applicable laws. The overall accuracy rate of auto-notification on similar cases is purported to be 63.7 percent; notification of similar cases on the top ten types of civil and criminal cases reaches 85.5 percent.⁴¹ However, just as with ASR, this notification system is quite unpopular among

Chinese judges and the parties. The technology is simply too unrefined to be useful at the moment, although with the speed of technological advances, that may soon change.⁴²

Institution of E-Service of Judicial Documents. Beginning in 2012, the SPC, together with other Chinese government sectors, took big steps to realize e-service of litigation documents in the Chinese judicial system. Serving documents has long been a challenge in China, with this work accounting for up to 80 percent of the workload of clerks and legal assistants in some jurisdictions, and service taking anywhere from a few days (by regular mail) up to three months (by public announcement) to complete.⁴³ The 2012 amendment to the *PRC Civil Procedural Law* allowed for the serving of certain litigation documents (no judgments, rulings, or mediation results) by fax or email.⁴⁴ Three years later, the SPC added “mobile communication” as a legitimate service method and also established specific rules on the use of e-service.⁴⁵ These developments have made judicial documents more accessible — at least to the percentage of the population that uses cell phones and email — but they have been accompanied by a troubling rise in surveillance potential, particularly because China achieved real-name registration for all mobile phone users in 2017.⁴⁶ Chinese courts are also working with local police departments and telecom companies to share information databases. Further, some local Chinese courts have implemented a “forced pop-up notification function” for e-service via mobile phones.⁴⁷ This function causes the recipient’s cell phone to lock up unless he confirms receipt of the e-document. Though effective, this function has been criticized for violating property rights and operating like a computer virus.⁴⁸

The intelligent court project shows great promise, but, as the lukewarm reception to many of these innovations underscores, the project is far from completion. No matter how enthusiastically people

and the media talk about legal AI, it is immature and not yet used much in practice. The algorithms underlying the legal AI technologies (or “machine learning”) must improve, and the SPC must develop a more sophisticated, long-term plan rather than throwing money at some vague concept. The “intelligence” behind the intelligent court project must ultimately be the crystallization of Chinese judges’ intelligence, not that of any IT software or program technician or company. This means Chinese judges have to get involved in the early stages of IT program development and work closely with technicians and data analysts.

The real world is dynamic, adaptive, and changeable. Each individual is different. No matter how well-developed and advanced such an intelligent court project may be in the future, the technologies and algorithms behind it are not likely to work as well in the complex systems of trials as they do in closed systems like the games of chess and Go. Legal AI may play a supporting role, but it will never replace human judges, and to imagine it doing so is dangerous. Also potentially dangerous are the “big data” sets that the SPC is building, which could allow for infringements on citizens’ rights of privacy if in the wrong hands. And the success of such an intelligent court system depends on a secure cyberspace that can prevent attacks from cyber hackers and network viruses. Cybersecurity of the intelligent court system will always be a crucial task for the SPC.

CHINA’S INTERNET COURTS

Seemingly the most successful and promising part of China’s recent move toward e-justice are internet courts, which conduct their proceedings online and focus on online civil disputes. These courts first arose in 2017 as a byproduct of the SPC’s intelligent court project, and they are both

high tech and traditional in nature. The SPC established the first internet court in Hangzhou City, which is home to Alibaba Group and the most prosperous city in China's e-commerce industry.⁴⁹

Although the SPC encourages the Hangzhou Internet Court to run all court proceedings online, and although the court has a multifunctional website as its online platform, it does have a physical location and personnel in Hangzhou City, and it tries cases that fall under the jurisdiction of Hangzhou City. It is operated out of a former hotel⁵⁰ that has been renovated into courtrooms with computers and big screens. It has a team of 20 full-time judges, roughly the same number as an ordinary local People's court. According to official statistics published by the court, as of August 17, 2018, one year after its establishment, the Hangzhou Internet Court had taken 12,074 internet-related cases (mostly civil cases and a few administrative disputes), of which 10,391 cases — including 80 transnational disputes — had already been adjudicated. Published records indicate that the average duration of these online trials was 28 minutes, and the average processing period from filing an online complaint to case termination at the Hangzhou Internet Court was 38 days (significantly quicker than traditional civil cases in China, which average two hours in trial and 76 days in processing).⁵¹

The Hangzhou Internet Court has functioned as a test case for the SPC, which established two more internet courts in September 2018, in Beijing and Guangzhou. Both of these cities are central to China's internet industry, with Beijing home to Baidu and JD.com, and Guangzhou home to Tencent, the biggest video game company in the world whose messaging apps, WeChat and QQ, are used by more than two-thirds of Chinese people. That same year, the SPC published *Provisions*

on Several Issues Concerning the Trial of Cases by the Internet Courts (the “Provisions”), clarifying the jurisdiction of these courts and regulating procedural issues related to internet courts.

According to the Provisions, internet courts are designated to handle online contractual disputes over sales of goods, services, and financial loans; online copyright disputes; disputes over internet domain names; disputes over the use of the internet to infringe on others’ personal or property rights; disputes over product liability as a result of online shopping; internet-related public interest lawsuits brought by prosecutors; and administrative litigations arising out of internet management by the government.⁵² Currently, all three internet courts are trial courts within the jurisdiction of their own cities. Most appeals are heard by the (non-online) intermediate courts in their respective jurisdictions.⁵³

As a general rule, the entire litigation process in internet courts is conducted online, including the service of legal documents, the presentation of evidence, and the actual trial. Most of the evidence in these cases is electronic data and stored on the internet. Notably, the Provisions was the first SPC publication to confirm that electronic evidence was valid if it could be authenticated by electronic signatures, time stamps, hash value verification, blockchain, or other tamper-proof verification methods.⁵⁴ In fact, the Hangzhou Internet Court was the first court in China to admit evidence authenticated by public blockchain technology.

Whether China’s internet courts are beneficial, all things considered, is yet to be determined. Their introduction has come at certain costs, not least of which is the loss of solemnity and ritual associated with the traditional courtroom setting.⁵⁵ Even though the internet court judge announces

the online trial protocol (e.g., no phone calls), someone may fall off the line, environmental noises may interfere, or the Wi-Fi quality may be subpar. People may be less inclined to truthfulness in the online environment, where a cross-examination feels more like an online quarrel with netizens, and the online format also hinders the judge's ability to observe facial expressions and other nonverbal cues.⁵⁶ Trial judges behind a screen naturally have much less control over their proceedings. Of course, many courts throughout the world, including China's, now have significant experience conducting trials online because of the COVID-19 pandemic; this may improve the "acceptability" of internet courts even after the pandemic fades.

Further, and potentially more problematic, is that all three Chinese internet courts are located in cities with giant tech companies and are supported in part *by* those tech companies. Public records indicate, for example, that the Hangzhou Internet Court is supported by Gongdao Network Technology (共道科技),⁵⁷ a subsidiary of the Alibaba Group.⁵⁸ Alibaba, which is a party in most online disputes resolved in the Hangzhou Internet Court, thus also supplies the technology on which the internet court determines its legal fate. There are increasing public doubts as to whether these internet courts can maintain impartiality when trying cases involving the tech giants that help them operate.

And yet, these costs are balanced by certain benefits. Without question, online trials save litigants time and money.⁵⁹ Some official propaganda even tells Chinese citizens that "litigating at the internet court is as easy as online shopping."⁶⁰ Such a description may not be quite true (and is actually quite troublesome), but it conveys the clear message that online trials have changed the rules of the game. Litigants offering *online* evidence of their dispute no longer need to experience

the awkwardness of *offline* printout, submission, and presentation at trial. Instead, online evidence can now be submitted and preserved in the database of the internet court (of which one option is judicial blockchain) before trial, and it can be easily retrieved, displayed, and examined by litigants and trial judges. The bold moves and heavy investment that China has made in developing the internet courts have made China the frontrunner in this field of legal practice.⁶¹ A first-class online litigation system has been indeed established in China, as its number of legal technology-related patent applications makes clear.

Last but not least, the establishment of internet courts supplements the SPC's intelligent court project. Because internet courts simply do more innovative things than traditional courts can, the three existing internet courts function like laboratories of the SPC, where the latest legal technologies and new rules can be tested or created. Tested practices can then spread to all courts nationwide.

The courts are one node of the electronic technologies changing legal practice in China. To some extent, the Chinese judicial system has been pushed in this direction simply by the era: We live in an electronic world, and so the law and judicial system have to change accordingly. It may be just a matter of time before almost all court hearings are held online. But the SPC strategically chose to accelerate the revolution of Chinese judicial proceedings. While it may be too early to claim any real victory, e-justice in China is beginning to come into its own. Even if some of China's initiatives prove to be missteps, China is accumulating experience that other countries will be able to look to in attempting to bring their own legal systems into the Digital Age.

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¹ Other than internet courts, many of the developments mentioned in this article also relate to criminal proceedings in China, although criminal proceedings are outside the focus of this article.

² “Data e-text” (数据电文) was introduced in the 1999 (中华人民共和国合同法) [Contract Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., March 15, 1999, effective Oct. 1, 1999) arts. 11, 16, 26, 33, 34, which regulated the legal effect of electronic contracts, and elaborated on in the 2004 (中华人民共和国电子签名法) [Electronic Signature Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 28, 2004, effective Apr. 1, 2005), which specified the formality, preservation, and examination of data e-text.

³ See Article 116, (最高人民法院关于适用《中华人民共和国民事诉讼法》的解释, 法释【2015】5号) [Supreme People's Court of China's Judicial Interpretation on application of <Civil Procedural Law of People's Republic of China>, Judicial Interpretation No. 5 [2015]] (promulgated by the Judicial Comm. Sup. People's Ct., Jan. 30, 2015, effective Feb. 4, 2015) Sup. People's Ct. Gaz., Jan. 30, <http://gongbao.court.gov.cn/Details/63ff48da6a9792f8ad1cb65a8b99d1.html>. The SPC's judicial interpretation is not technically law since it was not enacted by the National People's Congress, the legislative body of China. But judicial interpretations function as de facto law in China.

⁴ See, e.g., Article 2, (杭州互联网法院《民事诉讼电子数据证据司法审查细则》) [Hangzhou Internet Court Rules of Judicial Examinations on Electronic Data Evidence in Civil Litigations [2018]], <http://www.xn--fiq8k55ad6inseq1wsth8rle6yb5qck6a.cn/index.php?id=5305>.

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