

COMPARATIVE ANALYSIS ON TECHNICAL FACT-FINDING MECHANISMS IN CHINESE INTELLECTUAL PROPERTY LITIGATION: REVIEW AND PROSPECT

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Abstract:

To ascertain technical facts is not only an important step in the IP litigation, but a difficult issue in judicial practice as well. The aim of this paper is to explore the theory and practice of the technical fact-finding mechanisms (TFFMs) in different jurisdictions and then provides suggestions to improve such mechanism in China. It begins by providing a brief historical trend of the TFFM in China, and then proceeds to discuss the current status of the mechanism in this country. After providing an overview of the TFFMs in a global scale and comparing the practices in Japan, Korea and Taiwan, it concludes by providing five suggestions to improve the TFFM in China, namely: adjusting the number and composition of the TIs; disclosing technical reports to parties on conditions; providing career planning and refresher training for TIs; establishing the reserve technical investigator pools; establishing multi-lateral cooperating TFFM.

Key Words: technical fact-finding mechanism; intellectual property litigation; technical investigator; advancement

Introduction

The development of digital and information technology has created a dramatic change with respect to both the quantity and quality of IPRs disputes.¹ Among those IPR-related lawsuits, a significant proportion are related to the technical and scientific data, such as patents,

¹ Giuseppe Zuconi Galli Fonseca, *Intermediaries Liability for Online Copyright Infringements: The Duty to Cooperate Under E.U. Law 3* (WIPO Academy, University of Turin and ITC-ILO, 2014), available at <http://ssrn.com/abstract=2714269> (last visited on November 21, 2016).

plant varieties, integrated circuits, trade secrets and computer software, where the technical facts are far more professional, complex, diverse and controversial.² Hence an intelligent evaluation of those facts is often difficult or impossible without the application of some scientific, technical, or other specialized knowledge.³ As a result, IP litigation is usually time consuming, expensive and unpredictable, which “reduces the value of exclusive rights associated with patents and defeats the general purpose of the IPRs protection”.⁴

As reflection concerning the efficiency, impartiality and predictability of court trials for IPRs disputes increased, some scholars or lawyers proposed alternative dispute resolution (ADR) as a doable process.⁵ However, due to the technological nature of patent disputes, traditional ADR processes are not widely used.⁶ Moreover, even in the ADR process, ascertaining the technical facts is still unavoidable, which is palliatives. Alternatively, establishing or improving the technical fact-finding mechanism(TFFM) in conjunction with litigation may ease the frustrations, since a large part of legal fees and time are spent in the process of ascertaining the technical facts in IP litigation. This is a useful approach which can solve the problems concerned, especially with the tendency of establishing specialized IP courts (SIPCs) worldwide. Then what are the characteristics of the TFFMs in IP litigation? And what should be done to further improve the efficiency and impartiality of such mechanism? This paper attempts to answer these questions by reviewing the theoretical framework and judicial practice of the TFFMs in some representative countries, and taking China as a typical example to provide some suggestions.

TFFM in China

Historical Trend of the TFFM in China

² Liang Ping, “Technical Fact-finding Mechanism in Chinese Intellectual Property Litigation” 8 IP 36 (2015).

³ Rule 702. Testimony by Expert Witnesses, available at https://www.law.cornell.edu/rules/fre/rule_702 (last visited on November 21, 2016).

⁴ Brian Panka, “Use of Neutral Fact-Finding to Preserve Exclusive Rights and Uphold the Disclosure Purpose of the Patent system” 2003 JDR 531(2003).

⁵ Alan W. Kowalchuk, “Resolving Intellectual Property Disputes Outside of Court: Using ADR to Take Control of Your Case” 61 DRJ (2006).

⁶ See Brian Panka (n 4), pp 540-541.

To ascertain technical facts is not only an important step in the IP litigation, but a difficult issue in judicial practice as well. Previously, there were four avenues available for judges to seek assistance in understanding complicated and technical points of a case in mainland China, namely the expert jurors, technical appraisal, expert assistants and expert consultants.⁷

It could be traced back to 1991 when the expert participated in the lawsuit of IPRs as a juror for the first time.⁸ At its early stage, some judicial officers criticized this system,⁹ and proposed some suggestions for its improvement¹⁰. The expert juror system was not popular to all Chinese courts until the SPC published *Regulations on Several Issues Concerning the Participation of People's Jurors in Trials* (PPJ Regulations) in 2010. After that some judges and scholars, such as judge Hu Chonghan, Lu Hongqing and Tang Peng, as well as scholar Wu Guangqiang, explored the legitimacy and reasonability of the system and put forward some advice by reference to the expert juror system overseas.¹¹ However, there is still an obvious drawback, that is, it is hard to select such an expert juror who is specialized in a particular field relevant to the cases due to the lack of reasonable abstraction mechanism.¹²

The judicial appraisal of IPRs commenced in middle 1990s in China and its connotation was clarified in the *Regulations on Classification of Judicial Appraisal Practice (Trial)* published by the Ministry of Justice in November of 2000.¹³ There are few relevant legislations and

⁷ See Xu Zhuobin, "Technical Fact-Finding Mechanism in IPR Cases" 16 JPJ 53 (2016).

⁸ The Supreme People's Court released the *Reply of the Supreme People's Court to Hire Technical Experts as Jurors for the Patent Trials* in 1991, stating that "in the first instance of patent cases, the People's Court may hire the relevant technical experts to act as jurors according to the technical fields related in the case".

⁹ Liao Yong'an, "Negative Evaluation on Chinese Juror System" in the *Theoretical Exploration and Procedure of Civil Lawsuit* (China Legal Publishing House, 2005).

¹⁰ Sun Yonghong, "Evaluation and Improvement of Juror System in Intellectual Property Litigation" 5 STL (2008).

¹¹ See Hu Chonghan, Lu Hongqing and Tang Peng, "Exploration and Inspection of Expert Juror System of Intellectual Property Right" 12 JSJ (2011). See also Wu Guangqiang, "Legitimacy and Improvement of the Expert Juror System of Intellectual Property Right" 23 JPJ (2014).

¹² See Xu Zhuobin (n 7), pp 53-54.

¹³ See Art.16 of *Regulations on Classification of Judicial Appraisal Practice (Trial)*: "Judicial appraisal of intellectual property right means the identification of the similarity or equality of the relevant features of the infringed technology and relevant technology, identification of whether the object of the technical transfer contract is mature and practical, and meets the standard of the agreement, identification of whether the failed performance of the technical development contract belongs to the risk responsibility, identification of whether the performance of technical consultation, technical services and any other technical contracts meet the agreement or any relevant legal standards, identification of whether the know-how constitutes the legal technical conditions, and appraisal of the technical disputes in any other intellectual property lawsuits by necessary means of inspection, test and analysis on the basis of the understanding of publically known technologies and relevant professional technologies in this area by the technical experts".

theoretical researches on relevant fields as the history of judicial appraisal of IPRs is quite short in China. Works in this respect are mainly concluded by judicial officers in the practice, such as the *Practice and Research on Technical Appraisal of Intellectual Property Cases* edited by Yang Lincun.¹⁴ This book describes some general issues of technical appraisal in IPRs disputes, such as the legal issue of appraisal conclusion as evidence in litigation, and it also analyzes some typical examples of technical appraisal involved in different types of IPR cases.¹⁵ While an appraisal center may be hired to testify on some complex issues where technical equipment is needed, its drawbacks are obvious--high costs, long time, and difficult starting procedure, rendering it unfeasible for every case and has a detrimental effect on the efficiency of a trial.¹⁶

After the publication of the *Outlines of National Intellectual Property Right Strategy* in 2008,¹⁷ the SPC hired 11 members of Chinese Academy of Engineering(CAE) to be the first batch of invited scientific and technical consultants in 2011,¹⁸ and the new *Civil Procedural Law* added the expert assistant system in 2012.¹⁹ The major scholarships related to this are including the comparative research on expert consulting system in IPR case between China and America by Yang Xiaoying,²⁰ the systematic research on the expert assistant system in IPR case in both common law system and continental law system by Fan Xiaona,²¹ and the research on the judicial appraisal and expert assistant system by Sun Hailong and Yao Jianjun.²² Those

¹⁴ Yang Lincun, *Practice and Research on Technical Appraisal of Intellectual Property Cases* (The People's Court Press, 2003).

¹⁵ *ibid.*

¹⁶ See Yang Jie, *Normative Research on Judicial Appraisal of Intellectual Property Rights* (2015) (unpublished PhD Thesis, Southwest University of Political Science and Law). See also Bai Linlin, *Research on Judicial Appraisal in Business Secret Cases* (2015) (unpublished Mphil thesis, Southwest University of Political Science and Law).

¹⁷ According to Art.46 of *Outlines of National Intellectual Property Right Strategy* issued on 5th Jun 2008, "Lawsuit systems like judicial appraisal, expert witness and technical investigation should be established and improved in view of the high professionalism of the intellectual property right cases".

¹⁸ See *Decision of the Supreme People's Court about Hiring 11 Scientific and Technical Consultants Including Ma Guoxin*, F [2010] 174.

¹⁹ See Art.79 of the *2012 Civil Procedural Law*, "The parties may apply to the People's Court for notifying the person with professional knowledge to appear in court to give opinions on the appraisal results made by the appraiser or the professional problems".

²⁰ Yang Xiaoying, "Comparative Study of the Expert Consulting System in Intellectual Property Litigation between China and America" JPJ (2011).

²¹ Fan Xiaona, *Research on the Expert Assistant System in Intellectual Property Litigation* (2014) (unpublished Mphil thesis, Nanjing Normal University).

²² Sun Hailong and Yao Jianjun, "Research on the Judicial Appraisal and Expert Assistant System from the Perspective of Intellectual Property Right Trial" JPJ (2008).

literatures reveal that parties may employ expert witnesses (assistants) to give testimonies and provide opinions to clarify technical issues, while the impartiality of those experts is questioned due to the fact that they are hired by the parties. Besides, a technical expert database may be established by judges, in which they are able to consult privately with researchers and technicians. However, in this case, those consultants may not always provide accurate opinion due to the lack of background knowledge of the case as well as timely and geographical restrictions.²³

In order to facilitate the improvement and advancement of the resolution of IPRs disputes and in general ensure all IP cases are handled with the highest expertise to reach a fair resolution, on 31 December, 2014, the Supreme People's Court (SPC) released the *Provisional Regulations on Several Issues Concerning the Participation of Technical Investigators in the Proceedings of Intellectual Property Courts (TI Provisional Regulations)* to recognize and give effect to the operation of technical investigator (TI) system in mainland China.²⁴ This is a supplementary but essential measure taken by the SPC after the decision of establishing SIPCs in Beijing, Shanghai and Guangzhou passed by the Standing Committee of the National People's Congress (NPC). However, since it is a new system in mainland China, further observation and study will be needed on its impact on the modern IP litigation.

Current status of the TFFM in China

Since the first appearance in the Guangzhou IP Court to assist judges in resolving specific technical issues on 22 April, 2015,²⁵ the TIs are hired by PRC courts more frequently to help them come to decisions without the need for further analysis by outside experts. They can assist in adjudicating cases involving matters such as patents, new plant varieties, layout design of

²³ Matthew Murphy and Joyce Chng, "China's New Provisions on Court Appointed Experts in IP Cases", Firm's Profile & Article by MMLC Group, available at <https://www.hg.org/article.asp?id=38257> (last visited on November 21, 2016).

²⁴ Available at <http://www.chinaiplaw.cn/index.php?id=504> (last visited on December 12, 2017).

²⁵ In 22 April, 2015, the technical investigators participated in the Guangzhou IP Court to assist in the trial *Guangzhou Music Network Digital Technology Co. Ltd [广州市乐网数码科技公司] v. China Union Guangdong Branch [中国联通广东省分公司]*. This is the first appearance of the technical investigators in Chinese IP court. See Suo Youwei, Fanzhen & Han Yaqi, "The First Appearance of the Technical Investigators in Guangzhou IP Court" Website of the Chinanews, April 22, 2015, available at <http://www.chinanews.com/fz/2015/04-22/7226935.shtml> (last visited on October 16, 2017).

integrated circuits, trade secrets and software infringements.²⁶ The use of TIs is expected to improve the efficiency and quality of court work and reduce the cost of litigation for the parties.

Afterwards some scholars made research on the legal status, duty and effect of the technical investigator. For instance, scholar Wu Rong points out that the technical investigators, as judicial auxiliary staffs, have no right to vote on case adjudication, but they can provide some technical consultancies and other necessary technical assistances to judges for reference.²⁷ As for the limitation of the existing technical investigator system in mainland China, some scholars have presented their own opinions. For example, scholar Wang Gangqiang recognizes that the technical investigators can only participate in IP litigation which is too limited, and the imperfect selection system may result in the conflict of interests.²⁸ In addition, scholar Du Ying points out that from the perspective of horizontal analysis, the existing team of technical investigators is insufficient to meet the demands of every professional field and from the perspective of vertical analysis, the existing competence of technical investigators is limited and lagged behind the technical development.²⁹ Also, some scholars have conducted the comparative analysis of the technical investigator system with other TFFMs,³⁰ and some have made efforts to explore technical fact-finding systems methods from the patent disputes and business secret infringement lawsuits.³¹ Beyond that, some have discussed about how to reconstruct and improve the technical investigator system, such as Yang Haiyun and Xu Bo, who propose the path of “relying on technical investigator system with support from technical

²⁶ Article 2 of the *Provisional Regulations on Several Issues Concerning the Participation of Technical Investigators in the Proceedings of Intellectual Property Courts* [关于知识产权法院技术调查官参与诉讼活动若干问题的暂行规定] (hereinafter “*TI Provisional Regulations*”), “In hearing highly technical civil and administrative cases related to patents, new plant varieties, integrated circuit layout designs, technical secrets, and computer programs, the Intellectual Property Court may appoint technical investigators as participants in the proceedings thereof”.

²⁷ *ibid.*

²⁸ Qiang Ganghua, “Study on the Construction of Technical Investigator System in Chinese Intellectual Property Right Courts” EIP (2014).

²⁹ Du Yin and Li Chenyao, “Analysis of Legal Status and Function of Technical Investigators” 1 IP (2016).

³⁰ Ni Xiang and Li Zhu, “Improvement of the Technical Fact-Finding Mechanism in Civil Intellectual Property Litigation” (2015) 1 J HUP (2015). See also Liang Ping (n 2). See also Xu Zhuobin (n 12).

³¹ Wang Hu, “Establishment and Improvement of Technical Investigation System in Chinese Patent Disputes” 2 HBLs (2016). See also Xu Difeng and Huang Binhui, “Technical Fact-Finding Mechanism in the Business Secret Infringement Lawsuits” 20 JCQU (2014).

judge system”,³² and some judges from Shanghai SIPC advocate the “4-in-1” TFFM,³³ and Liao Zhen and Huang Kun put forward improving measures by comparing the practice of two major legal systems.³⁴

Nevertheless, we cannot deny the fact that TI system has highly promoted the trials of some difficult, complicated and long pending cases. Take the Guangzhou IP Court for example, since the establishment of the court, TIs or technical experts have assisted in a total of 114 cases, and their opinions on the technical matters have been adopted up to 100%.³⁵ Judging from the current situation, TIs are mainly needed in patent cases, with complicated issues in computer software, DNA sequence, technical parameters of medical equipment. Meanwhile, a large number of cases are assisted by oral consultation.³⁶

Comparative analysis of the TFFMs in different jurisdictions

TFFMs in a global scale

The laws of each society are essentially faced with the same problems, but a number of extremely different approaches are taken by those legal systems to solve these problems.³⁷ In order to facilitate the ascertainment of technical facts, many countries or regions have made efforts to establish and improve their unique identification systems, which can be roughly divided into three models.³⁸

³² Yang Haiyun and Xu Bo, “Constructing the Technical Fact-Finding Mechanism with Chinese Characteristics: The Path of ‘Relying on Technical Investigator System with Support from Technical Judge System’” 6 CJFS (2015).

³³ Li Shulan, Chen Huizhen and Ling Zongliang, “Position Identification and System Coordination of Technical Investigator in the Intellectual Property Trial: The Construction of the ‘4-in-1’ Technical Fact-Finding Mechanism” *Symposium of Annual Meeting 2015 of Chinese Intellectual Property Law Association* (2015).

³⁴ Liao Zhen, *Settings and Related Research of the Technical Investigator System in Intellectual Property Litigation* (2014) (unpublished Mphil thesis, Jinan University). See also Kun Huang, *On Reconstruction of Technical Investigator System in China’s Intellectual Property Litigation* (2016) (unpublished mphil thesis, Hebei University of Economics and Business).

³⁵ “Guangzhou IP Court Applies Technical Investigators to Assist Judges” *People’s Daily*, 23 May 2017, available at http://news.youth.cn/jsxw/201705/t20170523_9846925.htm (last visited on July 11, 2017).

³⁶ Assisted by the technical investigators, the case withdrawal rate is over 60% in Guangzhou IP Court by 6 December 2016.

³⁷ [German] K. Zweigert and H. Kötz, *Einführung in die Rechtsvergleichung* 56 (Pan Handian (trs.) Guizhou People’s Publishing House, 1992).

³⁸ See Yang Haiyun and Xu Bo (n 32), p 8.

The first model is the technical expert system, representatives of which are expert witness system in America and technical consultant system in UK. Those technical experts are appointed by courts or parties, acting as witnesses or identifiers, who provide non-binding reports with a technical evaluation of those facts that the judge is not expected to know about.³⁹

Fred Chris Smith & Rebecca Gurley Bace examines the technical expert witnesses who specialize in information technologies, and highlights the problems that a technical expert encounters in testifying in court and provides various analogies and techniques for improving the ways that witness demeanor and non-verbal communication skills can be integrated with expert testimony.⁴⁰ Additionally, Deborah D. Kuchler attempted to untangle how an expert can effectively assist the jury to either understand the evidence or determine a fact in issue.⁴¹ In her article, she emphasized “a four-step to use in the direct examination of witnesses” and “a two-step process that counsel can utilize to maximize the effect of experts’ testimonies on jurors”.⁴²

The second model is the technical judge system, which is adopted by German and European patent courts. The technical judges shall encompass members of the competent tribunal who, in addition to an appropriate legal qualification, are also obliged to have a technical qualification. They have sufficient technical knowledge, and knowledge gained by experience in their field of expertise, to allow them decide patent cases without the need to obtain external expertise.⁴³

The other one is the technical investigator or technical examination officer system, such as that in Japan, Korea, Taiwan and mainland China. Acting under instructions from a judge, the technical investigators or technical examination officers have no rights to vote on case adjudication, but as judicial auxiliary staffs, they can give their opinions with regard to case-related technical issues as a reference for the judges.⁴⁴ It should be noted that even different

³⁹ See Wang Hu (n 31), p 184.

⁴⁰ Fred Chris Smith and Rebecca Gurley Bace, *A Guide to Forensic Testimony: The Art and Practice of Presenting Testimony as an Expert Technical Witness* (Pearson Education, 2002).

⁴¹ Deborah D. Kuchler, “An In-Depth Look at Direct Examination of Expert Witnesses” *FDCC QUARTERLY* 151 (2010).

⁴² *Ibid.*

⁴³ See Hao Ma, Eugene Arievich and Mathias Karlhuber, *Report on Specialized IP Jurisdictions* (ICC, 2015). See also Norbert Hansen, “Germany: BPATG Judges Have Adequate Technical Expertise” *The Global IP Resource*, May 26, 2015, available at <http://www.managingip.com/Article/3456758/Germany-BPATG-judges-have-adequate-technical-expertise.html> (last visited on July 12, 2017).

⁴⁴ Christine Chen, “Technical Examination Officers at Taiwan’s IP Court”, *Winkler Partners*, 21 April 2015.

countries or regions adopt the same systems, those systems may vary in practice due to the “different national legal traditions, legal systems, human resources constraints, local industrial development status, and the more diffuse but equally important stance of the country or region with respect to the function of IPRs”.⁴⁵

Since the systems adopted by Japan, Korea and Taiwan are more similar with that in mainland China, then we will further examine the regulations in these jurisdictions to see the differences and draw some lessons.

TFFM in Japan

To resolve IP disputes involved technical matters fairly and expeditiously, Japanese courts have sought contribution and cooperation from various experts such as judicial research officials, technical advisors and court-appointed expert witnesses. Judicial research officials are full-time court officials specializing in various technical fields such as machinery, chemicals and electronics, and as ordered by the court, they carry out necessary research on technical matters involved in patent, utility model and other intellectual property cases.⁴⁶ With a history of more than fifty years, the judicial research official system has already been accepted as an integrated part of IP litigation,⁴⁷ and from April 2005, judicial research officials may, with the permission of a presiding judge, ask questions to the parties during oral proceedings so as to clarify the issues of the case.⁴⁸

In order to achieve higher quality of court proceedings and judgments in specialized fields of lawsuit such as intellectual property cases, in which scientific and technical matters are often disputed, the technical advisor system was introduced into practice in April 2004. Under this system, experts who have a wealth of knowledge in relevant scientific fields are asked to participate in court proceedings as part-time court officials so as to help judges have better

⁴⁵ Jacques de Werra and eds., *Specialized Intellectual Property Courts: Issues and Challenges* 12 (CEIPI-ICTSD publication series, 2016) Issue 2.

⁴⁶ Data from the Technical Advisor System, available at <http://www.ip.courts.go.jp/eng/documents/expert/index.html> (last visited on 2 January, 2019).

⁴⁷ See the Organization of Japanese Intellectual Property High Court, available at <http://www.ip.courts.go.jp/eng/aboutus/organization/index.html> (last visited on 20 October, 2018).

⁴⁸ Article 92-8 of the *Code of Civil Procedure*.

understanding on the technical aspects and to narrow down legal and factual issues of the case from the viewpoint of a fair and neutral adviser.⁴⁹ Unlike judicial research officials who are supposed to participate in proceedings of all cases relating to IP rights, technical advisors participate only in cases to which they are assigned. In a dispute over highly specialized or advanced technology, both judicial research officials and technical advisors may participate in the proceedings. As for the court-appointed expert witnesses, they provide expert opinions on specific matters as requested by the court, and their opinions may be adopted as evidence and relied on in the judgment. On the other hand, technical advisors participate in the proceedings as the court's advisers and provide explanations on technical matters disputed in individual cases. Their opinions do not constitute a part of the evidence.

	Judicial research official	Technical advisor	Expert witness
Status	Full-time court official	Part-time court official	Not a court official
Term of office	No statutory term in general	Two years	No term
Remuneration	Salary paid for full-time official	Allowance paid for each case	Free for an expert opinion
Possibility to be questioned by the parties	Not expected to be questioned	Not expected to be questioned	May be questioned on the expert opinion
Nature of explanation or opinion	Carry out research on necessary matters as ordered by the court and report the research results. The research results may not be adopted as evidence.	Provide easy-to-understand explanations on scientific matters as the court's adviser. The explanation may not be adopted as evidence.	Provide expert opinion on specific matters as requested by the court. The opinion may be adopted as evidence and relied on in the judgement.

Figure 1: Comparison among Judicial Research Official, Technical Advisor

⁴⁹ See Technical Advisor System, available at <http://www.ip.courts.go.jp/eng/documents/expert/index.html> (last visited on 2 January, 2019).

and Expert Witness

TFFM in Korea

In Korea, the technical examiner (or “technical advisor”) system has been created to help resolve highly technical cases. The technical examiners with long-term experiences in various scientific fields, such as mechanical engineering, electronic engineering, chemical engineering and bio-engineering serve at the Patent Court to assist judges on the technical matters of patent and utility model cases by providing consultation and expertise to judges.⁵⁰ The *Court Organization Act* as well as the *Supreme Court’s Rules Concerning Technical Examiners* specify the legal status, qualifications and legal responsibilities of the technical examiners.⁵¹ The duties of the technical examiners include: to provide advice and suggestions on technical and professional issues under the instruction of the president; to consult the files of litigation, identify technical evidences, investigate and confirm facts except trademark cases under the instruction of the president; to ask questions to the participants during and before litigation under the instruction of the president or the chief judge; to express their opinions on technical issues in the relevant cases under the instruction of the president or the chief judge. The opinions and written reports provided by the technical examiners shall not make known to the public.⁵²

Apart from technical examiners, the Korean Patent Court also has advisory councils on science & technology to serve as a conduit between the scientific research institutes and the court so as to enhance the court’s credibility. At present, there are 11 advisory councils serving in the Patent Court, who are responsible for the establishment of an advisory committee on science

⁵⁰ See The Supreme Court of Korea, p 22, available at <http://www.supcourt.uz/files/library/Верховный%20суд%20Кореи.pdf> (last visited on May 20, 2017).

⁵¹ See Article 54-2 of the *Court Organization Act* & Rule 2 of the *Supreme Court’s Rules Concerning Technical Examiners*.

⁵² Zhang Yurui and Han Xiucheng, “Report on the Reform of Intellectual Property Judicial System in China”, *China Intellectual Property New*, 23 August, 2006.

and technology, stimulating research motivation on 'patent academies' and providing lectures on cutting-edge issues of science and technology.⁵³

TFFM in Taiwan

On 1 July, 2008, the IP Court of Taiwan set up the technical examination officers to make up for the shortcomings of judges in the field of technology.⁵⁴ There are three sources of technical examination officers: formal establishment, temporarily transfer, and recruitment. The seconded personnel mainly selected from the patent examiners and other public officials of the Intellectual Property Rights Bureau, with a term not exceeding two years and may be extended for one year if necessary, whilst the recruiting ones mainly come from non-public officials and are employed once a year. According to Article 15 (4) of the *IP Court Organization Act*, "Pursuant to the Judge's instruction, Technical Examination Officers shall collect technical information as well as provide evaluation, advice and analysis on technologies. In accordance with the applicable laws, a Technical Examination Officer may participate in trial proceedings".⁵⁵ In the process of litigation, the technical examination officers have no right to vote on the judgement and they merely play the role of assistant personnel. After examination and verification, they provide written technical advice to the judges. Whether the judges agree with their suggestions or not, they cannot directly quote their suggestions as the basis of the judgement.⁵⁶ Besides, the technical examination officers do not accept the inquiry from the parties, and the written technical reports provided by them are not fully disclosed to the parties. In addition, as provided by Article 8 of the *IP Case Adjudication Act*, "Before any special professional knowledge already known to the court is adopted as a ground for judgment, parties shall be accorded an opportunity to present their arguments regarding such knowledge."⁵⁷ If

⁵³ Data from the Patent Court of Korea, available at

http://patent.scourt.go.kr/patent_e/intro/intro_06/intro_06_01/index.html (last visited on July 23, 2017).

⁵⁴ JK Lin and HG Chen, "Patent Litigation in Taiwan: Overview" Thomson Reuters, 1 January 2016, available at

[https://uk.practicallaw.thomsonreuters.com/Document/Id509ac85ba6211e598dc8b09b4f043e0/View/FullText.html?transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/Document/Id509ac85ba6211e598dc8b09b4f043e0/View/FullText.html?transitionType=CategoryPageItem&contextData=(sc.Default)) (last visited on July 13, 2017).

⁵⁵ See Article 15(4) of the *Intellectual Property Court Organization Act*.

⁵⁶ Zhuli, 'Investigation and Reference on the Litigation System of Intellectual Property Court in Taiwan' (2015) 10 *Intellectual Property*.

⁵⁷ See Article 8 of the *IP Case Adjudication Act*.

the chief judge or the appointed judge fails to explain the legal issues to the parties, express their legal opinions in time or appropriately reveal the evidence, it is a major procedural defect and can constitute the cause of revocation of the judgement.⁵⁸

China's Way Forward

After reviewing the TFFM in Chinese IP litigation and comparing the mechanism in Japan, Korea and Taiwan, the author attempts to propose for the advancement of the TFFM in China from the following five points:

1. Adjusting the number and composition of the TIs

From the current practice, the main way for TIs to participate in litigation is that the technical investigation office assigns one TI to carry out technical fact finding according to the technical field of the case, and only two TIs are appointed in cases involving cross-technical fields or in major and difficult patent cases. Facing with the doubts about the identify of TIs, the Beijing IP Court takes the lead in formulating the *Rules for the Implementation of the Recusal of Technical Investigators (Pilot)*, where it establishes four working mechanisms to specify the recusal situations and procedures of TIs from different sources so as to avoid possible injustices.⁵⁹ From the point of view that the influence of the number of judicial research officials involved in the trial on the quality of litigation is widely recognized in Japan, it is better to appoint two to three TIs in each case with different sources if possible. TIs from the examiners of the State IP Office can explain the technical fact issues that need to be ascertained to other TIs with only technical knowledge. It can not only guarantee the correctness and accuracy of the identification of technical facts, but also dispel the doubts of the source identify of the TIs brought by parties when several TIs investigate, discuss and reach a conclusion on the same technical issue.

2. Disclosing technical reports to parties on conditions

⁵⁸ See Zhuli (n 56).

⁵⁹ See *Rules for the Implementation of the Recusal of Technical Investigators (Pilot)*.

Under the Japanese judicial research official system and Korean technical advisor system, technical investigation opinions should not be made public. According to Article 16 of the *IP Case Adjudication Rules of Taiwan*, “The Court may order a Technical Examination Officer to prepare a written report on the results of his/her performance of duties and, where the case is of a complex nature, to separately prepare an interim report and a final report in writing if necessary. Such reports compiled by a Technical Examination Officer will not be made public. However, before any special professional knowledge learnt by the court from a Technical Examination Officer is adopted as a ground for judgement, parties shall be accorded an opportunity to present their arguments regarding such knowledge”.⁶⁰ That is to say, technical reports in Taiwan can be made public on conditions. The author believes that the selective publicity model adopted by Taiwan Court has certain enlightening significance for the perfection of the TI system in mainland China. If a technical report provides special expertise, which will have a substantial impact on the judgement of the case, it should be made public to the parties, providing them the right to express their opinions on the technical report. This can not only enhance the credibility and authority of the judgement, but also better protect the litigation rights of the parties.

3. Providing career planning and refresher training for TIs

The career planning issue mainly focuses on the authorized and employed TIs due to the facts that the tenures of the exchanged and part-time TIs are relatively short, and their personnel relations remain in the original units whose rank promotion is still pursuant to the provisions and requirements of their original units. In order to be competent for the trials of technical cases and realize the personal career development scientifically, the authorized and employed TIs should fully consider the requirements of their professional technical updates and rank promotion. Here the author provides the following points for consideration: 1) The administrative ranks should not be applied to the authorized and employed TIs, and the professional and technical management rules should be formulated for them solely.⁶¹ At present there are no regulations on the management of professional and technical civil servants in

⁶⁰ See Article 16 of the *IP Case Adjudication Rules*.

⁶¹ In accordance with the *Civil Servant Law*, civil servants with administrative establishment can be divided into three categories, namely integrated management civil servants, professional and technical civil servants and administrative law enforcement civil servants.

central government, but the standards drafted by some regional government can be references. In regard to the assessment of the technical title, the SPC and the higher people's courts may set up the assessment committee and the evaluation organizations respectively.⁶² 2) The pre-job training and refresher courses may do some favors in improvement of their professional standards. 3) In the premise of using different types of combination models, the court should allocate working tasks to the exchange and part-time TIs reasonably in order to provide time and opportunities for the authorized and employed ones to engage in a scientific research or communicate with other technical front-line departments to update their technical knowledge.

4. Establishing the reserve technical investigator pools

Judging by the existing situation, the scale and the number of the court's technical investigation division is small, and only one technical staff is served in some professional fields. In order to provide necessary space for the deployment and overcome the difficulty of the selection issue resulted from revocation, it is necessary to enrich the reserve source of the TIs. Due to the limited resources and the lack of experience in the construction of database, it is better to adopt the method of gradual and steady implementation. At the initial stage, the court should further review the list recommended by the relevant institutions, industry associations and professional organizations, and then preliminarily approved them as members of the TI pool if they meet the requirements. After the initial establishment and operation, the actual scale and composition of the reserve TI pool will be further determined in the next stage according to the operation effect and actual needs.⁶³

5. Establishing multi-lateral cooperating TFFM

As discussed previously, before the establishment of TI system, technical appraisal, expert assistants and expert jurors are the main systems for ascertaining technical facts in the IP lawsuits in China. And due to the defects of the above three systems, TI system was introduced, and its unique efficiency, neutrality and convenience have brought great convenience to the IP litigation. However, due to the limitation of the number, technical level and equipment, it is impossible to solve all technical problems by merely TIs. Because these systems have their

⁶² See Yang Haiyun and Xu Bo (n 32).

⁶³ See Qiang Ganghua (n 28).

own merits and demerits, they are independent and irreplaceable. Only when TIs, technical appraisals, expert assistants and expert jurors cooperate in a IP trial can them bring out the best in each other. More specifically, in case when there is little technical controversy and TIs can draw conclusions directly by virtue of their professional knowledge, TIs can replace the technical appraisals to speed up the trial process; when complex technical facts involved in the case and professional technical means or equipment are needed to identify the technical issues, then judicial appraisal procedure may be initiated according to the parties' application or court's authority; when the parties are in dispute over the technical facts and have submitted an application, the expert assistants should be allowed to present their opinions in court, and the expenses should be borne by the applicant; when both technical facts and legal judgements are complex, expert jurors can also make up collegial bench to participate in the litigation.

Conclusion

To ascertain technical facts is not only an important step in the IP litigation, but a difficult issue in judicial practice as well. Nevertheless, because of the different legal systems and the national policies or traditions, most jurisdictions have adopted a unique TFFM in their own merits. This paper has distinguished and compared the characteristics of TFFMs among different jurisdictions and drawn some lessons from those jurisdictions in order to advance the TFFMs in China. The advancement of the TFFMs will also make contributions to the efficiency and quality of the IPRs litigation.