Book Review: The First Global Report on the Application of Artificial Intelligence in Legal Practice

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Abstract

First Global Report on the State of Artificial Intelligence in Legal Practice: A Review of *First Global Report on the State of Artificial Intelligence in Legal Practice* (hereinafter referred to as the 'Report'), based on a survey of more than 200 law firms worldwide, aims to examine the current state of artificial intelligence technology deployment in the legal industry, the attitudes of lawyers and law firms toward the utilization of artificial intelligence technology, and the challenges and opportunities confronting its application. Survey findings indicate that artificial intelligence technology is extensively utilized in the legal services market. Law firms have begun to recognize the potential of artificial intelligence in enhancing operational efficiency and reducing costs. Nevertheless, disparities exist among the surveyed law firms. The report team has conducted comprehensive research on these issues.

Full Text

Preamble

A Study on the Application of Artificial Intelligence in Law Firms: A Book Review of *First Global Report on the State of Artificial Intelligence in Legal Practice*

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Artificial intelligence[1] is being widely applied in the legal industry, affecting the concrete individuals within it. "Making law accessible touches everyone's interests. The rule of law is built upon access to law."[2] With the help of AI technology, the public is brought closer to law, seemingly able to obtain general legal services without hiring lawyers. In this sense, AI facilitates a new realization of access to justice. Beyond the public dimension, the legal profession's

attitude toward AI technology also presents multiple facets. As the Report shows, when not involving specific uses of AI technology, many law firms hold optimistic attitudes toward it. Generative AI[3], like an accelerator, compels law firms to consider actually using AI.

Law firms face urgent pressure from environmental demands to adopt AI. Some law firms conduct testing, trial periods, or pilots before formally using AI technology, while others establish dedicated AI innovation or technology departments internally. "AI is the technology that introduces human intelligence into computer platforms for logical analysis. Subfields of AI include expert systems, machine learning, neural networks, natural language processing, computer vision, robotics, speech processing, etc."[4] When actually using AI technology, law firms discover the numerous technologies behind this collective concept of "AI technology." These technologies point to different functions in legal services. However, these functions are not merely practical distinctions; they also involve different stakeholders due to varying levels of complexity.

Preliminary tools related to legal documents can help lawyers improve efficiency, and AI automation tools can even replace the work of junior lawyers. Regarding this challenge, some commentators propose addressing it through enhanced training and continuing education[5], while others argue that since these are ordinary tasks, they can also be completed with other non-AI technologies. This viewpoint points to the question: Is law firms' use of AI technology driven by practical needs or by trends? Moreover, beyond AI's preliminary tools, interviewed law firms rarely mention tools involving deep legal argumentation and reasoning. These tools require support from more complex research. Implementing these tools in the legal industry also presents difficulties because they may affect the market value of lawyers' professional judgment, which relates to lawyers' compensation through hourly billing.

Therefore, it is difficult to generalize about the application of AI technology in law firms. This article will unfold the book review from the perspectives of both ends of this relationship—the perspective of interviewed law firms and the perspective of AI technology[6]—while the introduction and conclusion attempt to describe the relationship itself.

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[1] The Report defines "AI" as software's ability to perform tasks traditionally requiring human intelligence.

[2] Triska Hamid, *How can technology make law more accessible?* See https://www.wamda.com/2023/07/technology-make-law-accessible, last accessed May 14, 2024.

[3] The Report defines "generative AI" as AI built with foundation models, possessing capabilities that previous AI did not have (such as content generation capability). Foundation models can also be used for non-generative purposes

(such as categorizing user sentiment as negative or positive based on call transcripts), while showing significant improvements over earlier models.

[4] Sil, R., Roy, A., Bhushan, B., & Mazumdar, A. K. (2019, October). Artificial intelligence and machine learning based legal application: the state-of-the-art and future research trends. In *2019 International Conference on Computing, Communication, and Intelligent Systems* (ICCCIS) (pp. 57-62). IEEE.

[5] The Report mentions that many invited commentators discussed training and continuing professional education. Among them, training includes both training for legal professionals and training for AI tools. In addition to training, law firms can also maintain competence through open-source platforms and tools. First, Prof. Dr. Martin Ebers and Susanne Rönnecke believe that the role of lawyers has changed. Lawyers need more project management and technical skills. Automated tasks are currently completed by junior lawyers and paralegals, requiring more non-legal personnel. Second, Saptarshi Ghosh believes lawyers should participate in more training on using AI technology and identifying and mitigating bias. Communication should be maintained between lawyers, technical experts, and policymakers to better develop standards and guidelines. The general public can also receive training to understand the potential benefits and risks of AI. Third, Burkhard Schäfer believes large law firms can more easily send employees for training than small ones. Small law firms are more vulnerable and face greater "technology lock-in" than large firms (when people who understand the system technology leave, law firms are more susceptible to staff turnover effects). Fourth, Jaromir Savelka believes maintaining the relevance and accuracy of AI models requires continuous training, which also applies analogously to legal professionals. Lawyers also need continuous training and continuing education. In open-source initiatives that share AI technology and algorithms, small law firms lacking resources to develop internal AI technology can fully utilize open-source platforms and tools.

[6] Here, the perspective of interviewed law firms also includes the perspective of lawyers. In China, law firms are the practice institutions for lawyers. Therefore, lawyers are not treated as a separate research perspective.

2. Overview: Main Contents of the Report

First Global Report on the State of Artificial Intelligence in Legal Practice (hereinafter referred to as "the Report")[7] is based on a survey of over 200 law firms worldwide, aiming to study the current state of AI technology application in the legal industry, the attitudes of lawyers and law firms toward using AI technology, and the challenges and opportunities faced by AI technology applications. The survey results show that AI technology is widely applied in the legal services market. Law firms are beginning to recognize AI's potential in improving efficiency and reducing costs. However, differences exist among interviewed law firms. The report team conducted detailed investigations on this.

The Report offers rich research perspectives, not limited to a single technical

or legal viewpoint, but rather facilitating and building communication channels and exchange platforms between legal professionals and AI researchers. The survey of over 200 law firms demonstrates the Report's practical grounding, while interviews with 17 cross-disciplinary researchers show the Report's active pursuit of intellectual interaction with academia. Finally, the Report guides readers to understand the complexity of AI technology application in legal practice and to appreciate the legal industry's diverse expectations and specific demands for AI technology.[8]

2.1 Background Context

In 2023, post-COVID-19, market demand for legal services slowed, with rising legal service costs and inflation becoming prominent issues. Law firms' operations faced numerous challenges. Lawyers' income growth rates fell below inflation rates; law firms' labor costs and other operating costs rose, with increases higher than inflation; lawyers' work efficiency declined, and under the hourly billing model, law firms' revenues decreased; clients provided negative feedback on continuously rising legal service fees and sought more efficient billing models. Law firms must effectively respond to these challenges to maintain competitive advantages in the market, and using generative AI is one of many solutions seen in the legal services industry.[9]

AI technology, represented by generative AI, is changing traditional law firm working methods and significantly impacting the structure of the legal market. AI technology, particularly generative AI, has become a key factor driving transformation in the legal services market. AI technology can process multiple data forms and communicate with clients in human-like ways. Although AI application in legal tech is increasing, the market remains unsaturated, leaving vast development space for legal tech companies. AI technology use may improve work efficiency while also potentially replacing some junior legal professional positions, changing the labor structure of the legal industry.

2.2 Research Team

The Report was compiled by an interdisciplinary team in collaboration with the Liquid Legal Institute[10]. Team members' research fields can be roughly divided into legal research, legal education, legal AI, and computer science. Among them, Michal Jackowski[11], Michal Araszkiewicz[12], and Andrzej Porębski mainly research constitutional law, jurisprudence, and administrative law. Saptarshi Ghosh, Jakub Harašta, Burkhard Schäfer, and Giovanni Sileno mainly research computer science and artificial intelligence.

2.3 Analysis of Law Firms' AI Technology Use

Based on investigative research into the current state of AI application in law firms, the Report provides in-depth analysis from multiple angles on the application status, challenges, and future development trends of AI in the legal

industry. Law firms adopt a cautious attitude when introducing AI technology, recognizing both its potential and its risks. Large law firms have advantages in AI application, while small law firms will gradually enhance their AI capabilities as they accumulate experience and technology advances. When selecting AI technology, law firms mainly consider factors such as data security, cost, and usability, while obtaining AI information through industry exchanges and events. AI technology has broad application prospects in the legal industry, but the market remains immature, leaving huge development space for legal tech companies. As AI technology continues to develop, law firms will continue exploring how to use these tools more effectively to improve work efficiency and provide higher-quality legal services. Regarding these potential issues, some interviewed law firms have undergone trial periods and strict, cautious procedures before formally using AI. In contrast, larger law firms tend to restrict lawyers' freedom to choose technology, while small law firms allow (or tacitly permit) lawyers to explore AI use more freely. Some large law firms have also established specialized AI innovation departments internally.

2.3.1 Current Status of AI Technology Use in Law Firms According to respondents' answers, approximately 51% of law firms have already used AI technology in practice. Meanwhile, 12% of interviewed law firms are exploring AI technology use. Legal professionals often focus on risks. The legal industry is relatively conservative. How open are law firms to using AI technology? According to survey results, most law firms show high openness to AI technology, with a median score of 4 (with 5 being the most open), indicating that law firms are generally willing to use AI technology. Among interviewed law firms, US law firms (compared to non-US firms) use AI technology more actively, and small and large law firms (compared to medium-sized firms) are more likely to use AI technology.

2.3.2 Types of AI Technology Used in Law Firms What repetitive and trivial tasks in law firms can be improved through AI technology? Which tasks in lawyers' daily work are most likely to be completed with AI assistance? Reference options include document review, contract drafting, contract analysis, contract revision, legal research, due diligence, e-discovery, intellectual property management, and case management.

According to survey results, the most commonly used AI technologies in interviewed law firms are document automation and legal research technologies, with relatively fewer applications in intellectual property management, compliance, and risk management. Approximately 38.2% of work in interviewed law firms belongs to repetitive tasks (such as legal research, document review, and contract drafting) that could be replaced by AI technology. This proportion is higher in litigation firms. Additionally, the type of AI technology selected also relates to law firm size. Large law firms tend to use contract analysis technology, while small law firms tend to use legal research technology.

2.3.3 Channels for Lawyers to Obtain AI Information What are the main channels through which law firms obtain information about AI technology? Provided options include scientific conferences, academic publications, law schools, bar association events, legal tech or AI events, blogs, newsletters, social media platforms (such as Twitter and LinkedIn), networking with other professionals, and online communities. According to survey results, interviewed lawyers mainly obtain AI information through exchanges with colleagues. Additionally, participating in conferences, seminars, and other events is also an important way for lawyers to learn about AI and its applications in the legal industry. In contrast, fewer than 30% of interviewed lawyers use academic conferences and publications to understand AI information, 29% learn about AI through bar association activities, and only 14% obtain relevant information through law schools.

2.3.4 Criteria for Law Firms Selecting AI Technology What are the most important factors for law firms when selecting AI technology? Among factors such as cost, ease of use, integration with existing systems, data security and privacy, support and training provided by software vendors, vendor reputation, customizability, and explainability, the top three selected by respondents are data security and privacy protection, cost-effectiveness, and ease of use and user experience.

(1) Data Security and Privacy Protection as a Criterion. Data protection is the primary consideration for law firms when selecting AI technology, with 79.6% of interviewed law firms listing it as a key factor, reflecting concerns about cybersecurity and privacy breaches, as well as being the most direct requirement of lawyers' professional ethics regarding confidentiality. Additionally, lawyers' attention to confidentiality runs through the entire process of using AI technology. When asked what resources law firms need to use AI technology, 52.2% of respondents believe both legal and non-legal teams need additional education and training, such as training on AI-related privacy security and data protection.

(2) Cost-Effectiveness as a Criterion. 75.5% of interviewed law firms focus on costs, which aligns with the economic challenges facing the legal industry. When selecting AI technology, law firms weigh their financial situation against the actual benefits of AI technology. However, the impact of costs on law firms' AI use cannot be generalized. "Large law firms' clients have higher demands for transparency in lawyers' hourly billing. Under this pressure, law firms may use AI technology to reduce costs."[13] On this issue, other commentators propose different viewpoints. "Partners at US law firms may hold conservative attitudes toward using AI technology. The typical pricing structure for legal services is hourly billing based on time spent on client matters. Reducing billable hours for senior lawyers or junior partners through technical means (which may save costs for clients) provides no economic incentive for lawyers, unless clients expect lawyers

to use AI technology or the law firm's lawyers cannot complete current work."[14] The cost-effectiveness factor also influences law firms' willingness to use AI technology.[15]

(3) Ease of Use and User Experience as a Criterion. 61.7% of interviewed law firms consider AI technology's ease of use an important factor. Law firms hope tools can simplify daily operations and improve productivity. Meanwhile, interviewed law firms hope AI technology can better integrate into existing daily business processes. This also inspires AI technology suppliers to value providing intuitive, simple, and user-friendly tools for law firms.

2.3.5 Methods Used by Interviewed Law Firms for AI Technology

(1) Trial and Monitoring Methods. 58% of law firms first learn about and test the potential benefits and risks of specific technologies through trials before fully using AI solutions. 50% of interviewed law firms maintain close monitoring of AI technology implementation when using it. Furthermore, invited commentators[16] believe that the trial periods or pilots adopted by law firms before using AI technology deserve further discussion, such as: What are the evaluation criteria for trial periods or pilots? Are trials only discussed internally within the law firm, or have they also tried to systematically collect and consider client feedback?

(2) Pre-approval Methods. 49.5% of interviewed law firms believe that using AI technology must be pre-approved by the law firm (such as by partners and chief information officers). In practice, 32% of interviewed law firms require lawyers to obtain pre-approval when using AI technology, while another 18.5% allow lawyers freedom of choice in using AI technology. This data reflects the relationship between law firms' control over AI technology use and lawyers' freedom of choice.

(3) Establishing AI Innovation Departments or Hiring Technical Personnel. 43% of interviewed law firms have established specialized AI innovation departments, with an average department size of 2 to 3 people. Most law firms have innovation departments with 1 to 2 employees. The size of these departments suggests they may not be particularly independent parts of law firms, but rather individual technical personnel engaged in technology work. This indicates law firms have flexibility in using AI technology and may have dependence on (limited numbers of) technical personnel. 13% of interviewed law firms have hired AI domain experts (such as legal engineers), which also proves law firms' attitudes toward AI technology.

(4) Bottom-up Technology Introduction Methods. Over half of interviewed law firms allow bottom-up introduction of AI technology within the law firm, providing space for lawyers to experiment with AI technology. This bottom-up method differs from the aforementioned "cautious" methods

> of trial, monitoring, and pre-approval. However, revealing this difference does not deny lawyers' bottom-up choice of AI technology. In fact, if bottom-up introduction and use of AI technology describes an objective state, then there are also scenarios of conscious and unconscious AI technology use. Sometimes lawyers objectively use AI technology first, only realizing afterward that machines participated in decision-making.

Of course, beyond these methods mentioned in the Report, lawyers need to exercise professional due care regarding AI technology-generated results. "Just as lawyers check the work of paralegals and non-lawyer personnel, lawyers also need to maintain caution regarding AI-generated results, repeatedly cross-checking, reviewing, and editing to avoid potential errors such as citation errors."[17]

2.3.6 Special Impact of Generative AI 59.2% of interviewed law firms indicate they have used AI technology for less than one year. However, the popularity of AI technology began earlier than one year ago. This seems to indicate the explosive growth of generative AI technology's driving force and influence on law firms' AI technology use.

2.4 Invited Commentaries in the Report

Part V of the Report centrally presents comments from 17 invited individuals on AI application in the legal industry. The basic format of the comments is: describing Report results and first thoughts, and on this basis making predictions about the benefits and risks of AI technology application in legal practice and offering recommendations. These comments generally reflect the legal community's positive attitude toward AI technology, while also reminding the public to pay attention to potential legal and ethical issues involved in AI use.

These viewpoints cover the 17 invited individuals' broad perspectives on AI application in the legal industry. The following sections are organized according to four parts: current application of AI technology in the legal industry, challenges and risks, responses to AI technology, and predictions for AI technology's future development.

2.4.1 Application and Acceptance of AI Technology in the Legal Industry Federico Costantini emphasized AI's application in document automation, legal research, and information retrieval, as well as law firms' positive attitudes toward technology. Gijs van Dijck mentioned AI's potential in improving efficiency and assisting decision-making, while emphasizing the importance of data security and privacy. Additionally, some AI technologies also show trends and tendencies toward automation. Federico Costantini believes AI has potential in simplifying repetitive tasks and improving efficiency. Gijs van Dijck summarized AI's application in legal research and document review, and made further exploration of the interaction between human judgment and AI. Finally, AI application in the legal industry is also influenced by cultural differences and

regional characteristics. Juliano Maranhão believes cultural differences may affect AI application. Masha Medvedeva discussed different regional law firms' different needs for AI technology.

2.4.2 Challenges and Risks Brought by AI Technology Federico Costantini mentioned problems that may arise from using new technology without appropriate testing. Gijs van Dijck discussed risks of data leakage and privacy infringement, as well as the legal industry's commitment to protecting sensitive information.

Regarding AI technology's explainability and transparency issues, Tomer Libal pointed out that law firms pay less attention to explainability and more attention to liability, privacy, and accuracy. Enrico Francesconi discussed the role of the European AI Act in regulating AI and the importance of transparency obligations.

2.4.3 Responses to AI Technology Training and continuing education related to AI technology should be valued. Martin Ebers discussed the necessity of project management and legal technology courses in legal education. The use of AI technology raises training issues for legal professionals. Law firms can introduce lawyers to "the limitations of AI technology capabilities, how to use tools ethically, how to interpret AI technology-generated results, when to rely more on human judgment, the latest developments in AI technology and their legal implications, etc."[18] in training. Additionally, Masha Medvedeva emphasized the importance of evaluating technologies in the market. AI regulatory frameworks also have guiding significance for the safe implementation of AI technology. Martin Ebers discussed the importance of the European AI Act in ensuring transparency and accountability. Bernhard Waltl emphasized the role of legal frameworks in promoting technological development and maintaining democratic principles.

2.4.4 Future Development of AI Technology Giovanni Sileno discussed the future of AI technology application within the legal field, including impacts on legal research and document analysis. Jaromir Savelka mentioned AI technology's applications in different fields such as education and law, as well as potential support for students and teachers in programming courses.

2.5 Conclusions of the Report

Part VI of the Report summarizes law firms' attitudes toward AI technology, predicts application trends of AI technology in legal practice, and proposes relevant challenges and recommendations. AI application in the legal industry is considered key to improving efficiency and reducing costs, but attention must also be paid to challenges in legal, ethical, and practical implementation.

Additionally, Part VI responds to issues and recommendations raised by invited commentators in Part V, and proposes directions for future research and sur-

veys. Future research will increase respondent geographic diversity (such as including Asian and South American law firms), subdivide questions and answers (such as respondent location, internal business structure, already adopted technology types, intended technology types, and specific purposes), focus on other types of risks (such as legal liability, reputational impact, organizational issues, professional development, etc.), emphasize concepts such as AI explainability, transparency, and trustworthiness in options, and investigate AI technology's impact on the legal labor market, automated business models, and the legal system itself.

3. Respondent Perspective: Differences in Law Firm Size, Geography, and AI Use

Law firm size and geography have significant impacts on their attitudes and practices toward AI technology. Small law firms may be more inclined to use AI technology due to flexibility and innovation potential, while medium-sized firms may be more cautious due to stability and risk management considerations. Large law firms may actively invest in AI technology due to resources and pursuit of market leadership. Additionally, differences exist in AI technology use among law firms by geography. US law firms may be more advanced in AI application due to market pressure and technological advancement, while non-US law firms may focus more on localized needs and jurisdiction-specific legal practices. These differences reflect law firms' different considerations and strategies when facing technological change.

3.1 Size Differences and Representative Viewpoints

3.1.1 Small Law Firms (1-10 lawyers) Small law firms are relatively flexible when using AI technology and possess innovation potential.[19] Small law firms can usually adapt to new technology more quickly because they have shorter decision-making chains, allowing rapid technology adoption. Regarding cost-effectiveness, small firms may focus more on cost-effectiveness and therefore tend to adopt AI technology that can improve work efficiency. Small firms have potential in using AI for legal research and document review. Meanwhile, results show that both small and large law firms are more likely to use AI, while medium-sized law firms are less likely to use AI. Such data indicates that law firms' AI technology use does not have a simple linear relationship with law firm size and may be influenced by factors such as the cost of developing and using AI.[20]

3.1.2 Medium-Sized Law Firms (11-99 lawyers) Compared with small law firms, medium-sized law firms focus more on business stability and risk management, holding more cautious attitudes toward using new technology. Medium-sized law firms have already invested heavily in existing processes and are more dependent on them, which may also lead to more conservative attitudes toward change. Before discussing AI technology's efficiency improvements, it is

necessary to first understand what law firms' existing processes are, how much investment has been made in terms of money and time, and what current efficiency levels are. Efficiency improvements depend on understanding existing processes. Only by fully understanding law firms' existing processes and evaluating how technology can integrate with them can technology better promote efficiency. Small and medium-sized law firms measure efficiency less often and conduct fewer trials and investment evaluations before formally using AI (compared to large law firms). Therefore, expecting AI technology to automatically improve efficiency is unreasonable.[21] Additionally, report results show that large and small law firms are more likely to use AI than medium-sized law firms. This conclusion may not always hold true. Law firms are interested in AI, but this does not mean they will incorporate AI technology into existing systems. Law firms' use of technology may sometimes also be driven by AI's popularity and law firms' reputation considerations.[22]

3.1.3 Large Law Firms (100+ lawyers) Regarding resources and investment capacity, large law firms often have more resources and infrastructure to support greater use, research and development, and exploration of AI technology. Large law firms can invest in specialized technology innovation departments, pilot projects, and cooperate with technology companies due to their scale. Conversely, when small law firms use AI technology, they may prioritize AI technology that can immediately promote efficiency improvements and solve specific problems. Therefore, although survey results show that both the smallest and largest law firms have already used AI technology, indicating universal recognition of technology's value, law firms' reasons and methods for use may differ.[23] Large law firms are more cautious before using AI technology, conduct trials of tools, are more likely to adopt restrictive attitudes toward technology use, and require pre-approval before using technology.[24] When large law firms use AI-driven technology, they can first form pilot groups of lawyers advocating technology use to try it out. Pilot groups can verify AI technology's ease of use and practicality and provide timely feedback. After they become proficient in using the technology, they can share experiences with other lawyers, demonstrate successful examples of technology use for other lawyers, and conduct pre-exercises for widespread AI use in law firms.[25]

3.2 Geographic Differences and Representative Viewpoints

3.2.1 US Law Firms Regarding technological advancement and market pressure, US law firms may be more inclined to use AI technology due to market pressure and pursuit of technological advancement. Regarding regulatory environment, the US regulatory environment may provide more relaxed conditions for AI technology use. Masha Medvedeva discussed how US law firms use AI technology to improve competitiveness and meet client expectations for efficient legal services. Ugo Pagallo mentioned US law firms' advancement in AI use and their leadership in legal technology innovation.

3.2.2 Non-US Law Firms Regarding cultural and legal diversity, the cultural and legal system diversity faced by non-US law firms may affect their adoption and use of AI technology. These firms may focus more on localized needs and jurisdiction-specific legal practices. Ken Satoh mentioned how non-US law firms customize AI solutions according to their regions' specific needs. Bernhard Waltl discussed how non-US law firms balance global trends with local practices when using AI.

4. Tool Perspective: AI Usage Patterns in the Legal Industry

AI technology applied in the legal industry is a collective concept encompassing different types of specific AI technologies. Each type of technology has specific application scenarios and functions. These technology applications are gradually changing law firms' working methods and may change the legal services market structure. Meanwhile, they also bring new challenges, such as concerns about data security and privacy, and demands for explainability and transparency in AI decision-making processes.

4.1 Application Scenarios and Functions of AI Technology

Many studies on AI technology application in the legal industry follow similar paradigms, namely enumerating specific types of AI applications, problems in AI technology application, and solutions. AI and machine learning technologies can be used for case prediction, recidivism risk prediction, jury modeling, litigation risk assessment, etc.[26] These multiple inductions of AI technology applications reveal the diversity of AI technology.

4.1.1 Document Generators Document generator tools can automatically generate legal documents such as contracts and pleadings, improving document creation efficiency, reducing human errors, and allowing lawyers to spend more time communicating with clients and on more important tasks. Marc Lauritsen believes document generators can help simplify repetitive tasks and are among the most popular AI technologies.

4.1.2 Document Summarizer Tools Document summarizer tools can quickly generate summaries based on analysis of legal documents, providing lawyers with overviews of document content, helping lawyers quickly understand core document content, and being very useful when handling large volumes of documents.

4.1.3 Case Law Analysis Tools Case law analysis tools can help lawyers find and analyze relevant legal precedents and cases. Lawyers can more accurately predict case outcomes through case law analysis tools, thereby providing clients with more targeted professional legal advice. However, lawyers also need to verify the reliability and accuracy of tool output results.

4.1.4 Compliance and Risk Management Systems Compliance and risk management systems can help law firms monitor compliance and identify potential legal risks, being crucial for ensuring law firms comply with laws and reduce legal risks.

4.1.5 Document Verification Tools Document verification tools are mainly used to verify the authenticity and integrity of legal documents, and can be used to determine whether documents have been tampered with and verify document sources.

4.1.6 Negotiation Support Systems Negotiation support system tools can help lawyers develop negotiation strategies and make decisions, analyze opponents' positions, predict possible negotiation outcomes, thereby improving negotiation efficiency. Meanwhile, lawyers using negotiation support system tools also need to pay attention to AI's "limitations in complex interpersonal interactions."[27]

4.1.7 Legal Argument Assistants Legal argument assistants can help lawyers optimize argument strategies when preparing legal arguments. However, interviewed law firms have limited use of legal argument assistant tools; comparatively, law firms may prefer AI technologies that assist repetitive work.[28]

4.1.8 E-Discovery Solutions E-discovery is mainly used to identify and collect case-related information from electronic data. When handling large amounts of data and in litigation and dispute resolution, e-discovery can assist lawyers in quickly finding key evidence. Vern R. Walker discussed in commentary the importance of e-discovery tools for promoting dispute resolution, but the ability to process large amounts of data and accuracy also need attention.

4.1.9 Smart Contracts Smart contracts are self-executing contracts (legal agreements) usually based on blockchain technology that can automatically execute contract terms, thereby helping reduce the time and resources needed for contract execution.

4.1.10 Legal Research Tools Legal research tools can help lawyers quickly access legal databases and conduct effective legal research. Legal research tools are indispensable in lawyers' daily work, improving research efficiency and ensuring lawyers can access the latest legal information. However, legal research tools also need to be easy to use.[29]

4.2 Classification of AI Technology and Its Significance

Beyond the enumeration of AI technologies in the Report, there are many discussions about AI technology. The International Association for Artificial Intel-

ligence and Law holds seminars every two years. Each seminar includes many AI technology topics and analyzes potential impacts of technology use.[30] This proves that the scope of AI technology application within the legal industry is uncertain and continuously developing. Is it necessary to induce and classify these scattered technologies? And what significance does this classification have?

Tomer Libal's commentary discusses classifying AI technology according to quantity and quality. Different categories of technology point to different explainability and accuracy requirements for impact strategy formulation. The first category of technology mainly targets tasks requiring processing large amounts of data (such as legal research based on much data). For these, AI technology can promote efficiency improvements and cover as much data and information as possible. For these tasks, the pursuit of efficiency and data coverage exceeds the pursuit of explainability (but not that accuracy is unimportant), and minor flaws can be tolerated. In contrast, the second category of technology has higher demands for explainability, compliance, and ethical requirements. For example, generative AI generating legal documents, case law analysis tools, and compliance work. In these cases, flaws in AI technology are less tolerable.

5. Conclusion: Discussion and Insights

The diverse applications of AI technology in the legal industry have attracted attention. The emergence of generative AI has made this attention itself a trend. This is precisely what the Report mentions—some law firms are interested in AI technology but do not necessarily really incorporate AI technology into existing systems. Law firms' systematic use of AI technology requires costs, and once they have "top-down" deployed and used AI technology, to recover invested costs and obtain benefits, using AI technology becomes a necessity. This necessity is not because AI technology is good at improving efficiency, but possibly because costs have already been invested so they must continue using it. Similarly, law firms' use of AI technology is not entirely because it is truly necessary, but may be because surrounding trends are urging law firms to use AI. In the trend of chasing AI technology, these reflections are meaningful for recognizing AI technology's limitations and risks and thereby adopting cautious attitudes. However, if we further ask why large law firms are more cautious about adopting AI technology? As the Report reveals, lawyers need to treat AI technology cautiously, avoid over-reliance on tools, maintain professional independence and professional judgment, and pursue and achieve professional competence.

Additionally, lawyers are consciously positioning AI as assistive technology. This may be the need for lawyers to maintain professional income and monopoly status under the hourly billing model, or it may be the maintenance of existing normative order[31] and human free will. Finally, surrounding AI application in law firms, the Report involves not only issues of AI technology types, benefits, and risks, but also further inspires thinking about factors such as law firm size

and geography. Most uniquely, the Report adopts empirical research methods, based on extensive data, specifically considering different law firms' unique needs for various specific AI technologies. In the future, AI technology application in law firms will also trigger thinking about regulatory frameworks and governance models. "Private sector, public sector, research institutions, and international organizations can all participate in AI technology governance, and address issues such as unemployment caused by automation, malicious use of AI technology, loss of liability and accountability, algorithmic bias, lack of transparency, and unintended consequences of AI technology through establishing legal and regulatory frameworks."[32] As Part VI of the Report depicts the prospects, specific governance issues involved in AI application in the legal industry can also serve as directions for future research.

6. References

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Note: Figure translations are in progress. See original paper for figures.