

The Challenges and Responses Faced by Digital Legal Education in the Era of Big Data

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Abstract: With the development of new science and technology, modern society has entered the digital age. Law is facing challenges in the fields of legal theory, practice, and law. Modern legal education is facing a transformation towards digital legal education, which is a requirement for the construction of new liberal arts and new digital law. Building digital law requires shaping correct digital values, big data thinking, and integration with new engineering disciplines. Deep innovation and transformation should be carried out from the aspects of training objectives, curriculum system, and practical teaching, continuously exploring ways to build a digital law discipline in the era of big data, and cultivating composite talents who master law and new technology.

Keywords: Big Data; Digital Law; Legal Education; Composite Talents.

1. Introduction

After the 21st century, science and technology have entered an era of accelerated development. From the continuous improvement of network technology and the popularization of the internet, to the emergence of technologies such as big data, artificial intelligence, and blockchain, people have felt the tremendous changes that technology has brought to the way they live, work, and learn. Digitization has become a universal phenomenon in current society. Embrace the digital age, activate the potential of data elements, promote the construction of a strong network country, accelerate the construction of a digital economy, digital society, and digital government, and drive the overall transformation of production methods, lifestyles, and governance through digital transformation. [1] The advancement of technology in human society has given rise to various new types of legal issues, which have had an impact on modern legal knowledge and subsequently have had an impact on the theoretical and practical fields of law. Faced with the changes in the legal field brought about by new technology, countries around the world have formulated corresponding laws and regulations to regulate electronic evidence. For example, the Supreme People's Court, Supreme People's Procuratorate, and Ministry of Public Security of China have formulated the "Regulations on Several Issues Concerning the Collection, Extraction, Review, and Judgment of Electronic Data in Criminal Cases", the Canadian "Uniform Electronic Evidence Act", and the United States "Federal Rules of Evidence" with special provisions on electronic evidence.[2] Although there is a positive attitude towards the development of new technologies both domestically and internationally, there is a certain lag in the changes made in the field of law compared to the rapid development of new science and technology, the acceleration of digital transformation, and so on. In view of this, legal education is bound to undergo changes to meet the needs of technological innovation and digital transformation, integrating "digitalization" and "law", and constructing a new digital legal education model that meets the requirements of the big data era.

2. The Challenges Faced by the Legal Field in the Era of Big Data

In the era of rapid development of new technologies such as big data, information technology has permeated every aspect of life and had a wide-ranging and far-reaching impact on human society, changing the structure of society, industry, and economy. The innovation of technology and digital transformation have brought benefits to people, while the new things that have emerged have also challenged the legal field.

2.1. Challenges Faced by Laws and Regulations

"Big data evidence" refers to analysis results or reports formed based on massive electronic data.[3] In theory, there are fundamental differences between big data evidence and the eight types of evidence defined in the Criminal Procedure Law, but as a new type of evidence, big data evidence has not been given the status of an independent type of evidence. In judicial practice, big data evidence is often classified as documentary evidence such as appraisal opinions, expert opinions, and inspection reports.[4] Big data evidence heavily relies on big data algorithm systems. Big data, as a source of evidence for big data, has the characteristic of being massive. After a series of analyses such as mining, cleaning, organizing, and calculating by big data algorithm systems, these collected massive data generate data analysis reports, which in turn form big data analysis reports.[5] It is obvious that big data evidence relies more on algorithms, rather than documentary evidence such as appraisal opinions, expert opinions, and inspection reports that require specialized knowledge. The documentary evidence of appraisal opinions, expert opinions, and inspection reports is generated before or during the occurrence of the case, while the results or reports of big data analysis are generated after the occurrence of the case. Therefore, there must be a fundamental difference between big data evidence and any type of evidence defined in the Criminal Procedure Law, and the types of big data evidence must be reasonably regulated. A series of issues such as personal privacy [6] and "big data-enabled price

discrimination” [7] in big data applications also require legal regulation.

2.2. Challenges Faced by Judicial Practice

The application of big data in judicial practice involves two aspects: smart justice and big data evidence. Case retrieval is a typical application of big data in smart justice. From the national to local level, various judicial departments have developed numerous retrieval systems, such as the China Judgment Document Network, the Procuratorial Business Application System 2.0 developed by the Supreme People's Procuratorate, and the Class Case Intelligent Push System developed by the Supreme People's Court. The use of big data intelligent retrieval systems helps to achieve “same case and same judgment”. However, the usage of case retrieval systems is not very ideal. On the one hand, judicial departments at all levels and localities across the country have developed their own case retrieval systems. Some retrieval systems are only used within departments, and data is not shared between different case retrieval systems. The retrieval results of different retrieval systems vary, which affects the effectiveness of case retrieval systems in assisting in handling cases. On the other hand, similar case retrieval systems use different algorithms, search rules, and methods. The vast majority of judicial personnel lack professional knowledge in computer science, making it difficult to understand the principles of system operation under specific search rules. They cannot accurately input search rules, and even using the same system can lead to different search results.

In the digital age, big data evidence plays an increasingly important role in criminal evidence. The formation of big data evidence relies on massive amounts of data and algorithms. Some cases involve a large amount of data, and data mining techniques can obtain effective information from a large number of irregular datasets.[8] In criminal litigation practice, when faced with a large amount of data, both parties to the lawsuit or expert experts may selectively select a small portion of the sample data for analysis, resulting in incomplete or even deviating from the valid results. This situation is not an isolated case, but a relatively common phenomenon. The application of big data evidence also bears algorithmic risks. The designer of intelligent algorithms may have weak legal knowledge, or the designer may have subjective factors in the algorithm due to personal preferences and discrimination, which cannot guarantee the fairness of big data evidence.

2.3. The Challenges Faced by Lawyers

What is an effective defense? Effective defense refers to the practice in criminal proceedings where the defense counsel, in accordance with the specific provisions of the Criminal Procedure Law, should make every effort to collect evidence that is beneficial to the defendant, express reasonable and sufficient opinions during the trial process, use legal means to make the court accept the opinions presented, and maximize the protection of the defendant's legitimate interests, in order to achieve substantive and procedural fairness.[9] The core of effective defense lies in the word “effectiveness”, which is measured by whether a lawyer has fulfilled the minimum obligations of a lawyer in criminal proceedings, as well as whether a lawyer has fulfilled their duties in criminal proceedings, in order to ensure the fairness of the trial process and results. The use of big data evidence has affected the effective defense of lawyers. Firstly,

regarding the big data evidence provided by the prosecution, the defense party exercises the right to review, and the scope of its review is only based on the conclusion obtained through algorithmic analysis of big data. The defense team is unable to access the storage devices, collection methods, scope and methods for extracting data samples, design principles of algorithms, software and hardware for algorithm system operation, and operation of algorithm systems for big data. There is inequality in the control of information resources between the prosecution and defense teams, making it difficult for lawyers to provide effective defense in situations where comprehensive review is not possible. Secondly, the presentation of big data evidence can prove the guilt and severity of the suspect or defendant, as well as their innocence and leniency. In judicial practice, the public prosecutor provides big data evidence to prove the guilt of suspect and defendants, ignoring the aspect of proving the innocence and light guilt of suspect and defendants. As big data and algorithms are provided by a third-party platform, the vast majority of trade secrets are protected, and the defense's access rights are limited, the defense has no strong ability to collect effective evidence, and lawyers have no way to refute the evidence of the public prosecution that proves that the suspect and defendant are guilty or serious. The prosecution converts big data evidence into documentary evidence such as appraisal opinions, expert opinions, and inspection reports, as well as physical and electronic evidence. The defense cannot access the problems of big data or algorithms, depriving the defense of the right to cross examine, greatly increasing the probability of wrongful and erroneous cases.

3. The Demands of Digital Law Education in the Era of Big Data

The emergence of new technologies such as big data poses enormous challenges to the field of law. The changes in the field of law have had a profound impact on the demand for legal talents, and modern legal education has also been impacted. Modern legal education needs to transform towards digital law and reconstruct the mechanism and model of legal education, forming a new form of digital legal education.

Firstly, legal education needs to shape correct digital values. The professional activities of legal professionals should establish a sense of professional honor due to their significant social influence. Strengthening professional ethics education in the era of big data requires adhering to correct values. The self-restraint, intrinsic appeal, and social harmony of professional functions of legal professionals are the requirements of legal professional ethics education.[10] The core values of law are all fairness and justice. With the overall digital transformation, the production and life relationships and value principles of the digital society have been formed, and their value scale has broken through the scope of justice in physical space. That is to say, it is no longer limited to physical resource allocation models and mechanisms, but forms a justice mechanism based on data and information as the core and digital. In this way, the control of data information, algorithmic control, algorithmic control, and digital human rights become the focus of digital justice.[11] Therefore, digital legal education must re-examine and develop traditional justice values, promote digital justice values, provide value guidance and professional ethics for legal talents in the new era, so as to better eliminate the digital divide, protect digital rights, promote digital justice, and

achieve digital governance.

Secondly, research on legal education requires big data thinking. The legal profession requires a high degree of logicity, and in the era of big data, legal talents need to unleash their big data thinking. Legal education should respond to changes in the field of law with a more positive attitude. The huge amount of data has a significant impact on the empirical research thinking in the era of small data in legal education. Research in legal education requires innovative thinking, the establishment of a big data concept, and the analysis of problems and prediction of results from a full sample and data perspective. The diversity of data exceeds the data styles provided in modern legal education research. Judicial big data presents a wide range of data types, including basic judicial data, trial process data, massive judicial document data, and trial activity data. The value of data requires legal education to transform its way of thinking and cultivate talents in the field of judicial big data rule of law. The application of judicial big data is not only limited to the judicial data itself, but also includes the results after algorithm analysis and processing.

Thirdly, the discipline of law needs to be integrated with new engineering disciplines. The cultivation of legal big data talents requires interdisciplinary background knowledge, covering multiple dimensions such as legal theory, computer technology, mathematical modeling, engineering law, and transportation law. Therefore, in talent cultivation, it is necessary to break the boundaries of traditional disciplines, abandon the thinking limitations of traditional disciplines with obvious boundaries and strict barriers, and maintain openness to knowledge from other disciplines. The mastery of such interdisciplinary knowledge should not be a simple superposition and stacking of knowledge, becoming a closed game in the legal field. Instead, efforts should be made to achieve the integration of interdisciplinary knowledge, by integrating disciplinary resources such as law and computer science, setting up a reasonable curriculum system, using interdisciplinary methods, and cultivating students to form interdisciplinary knowledge structures, thinking abilities, interdisciplinary accomplishment and interdisciplinary patterns. Only by systematically cultivating composite talents who understand both technology and law can we better practice in the field of big data justice.

4. Strategies for Dealing with Digital Law

The transition from modern legal education to digital legal education in the era of big data has posed profound challenges to current legal education concepts, educational theories, and educational practices, as well as unprecedented development opportunities. Below, we will construct a modern digital law system from three aspects: training objectives, curriculum system, and practical teaching.

Firstly, the training objectives. In 2018, the Opinion on Adhering to the Implementation of the Excellent Legal Talents Education and Training Plan 2.0 for Moral and Legal Education was released, which requires deepening the reform of higher legal education and teaching, strengthening the first-class legal profession, and cultivating first-class legal talents. At the same time, a strategic deployment was proposed to develop "new engineering, new medical, new agricultural, and new humanities". In a sense, this is an exploratory attempt and institutional innovation to address the "dual crisis" of

legal education. However, the current new legal system is still conducted within the framework of modern law and has not been based on interdisciplinary approaches. Therefore, it cannot fully reflect the theoretical knowledge of digital law. This requires changing the modern goal of cultivating legal talents and repositioning it according to the objective requirements of the digital age and the transformation of digital law. With the continuous upgrading and development of digital justice, a large number of simple, repetitive, and mechanical legal affairs will be increasingly completed by artificial intelligence assisted systems. Only those difficult legal issues involving multiple fields and high complexity require skilled and experienced legal professionals to complete them. This undoubtedly puts higher demands on the cultivation of knowledge composite legal analysis abilities.[12] Especially the theoretical knowledge and professional skills of digital law have become very important. Therefore, the construction of digital law, committed to cultivating new digital legal talents who are adaptable to digital rule of law government, digital social governance, digital judicial operation, and digital dispute resolution, should become the basic training goal of digital law education.

Secondly, the curriculum system. The curriculum of digital law related majors should reflect the characteristics of "digital+ law", and the overall curriculum should revolve around the main line of "based on legal courses and supplemented by digital technology courses". The curriculum is divided into two parts: legal and digital technology courses, aiming to cultivate digital law talents who understand both law and technology. We should also improve the textbook system of digital law. The era of mathematics is driven by innovation, which includes innovation in science and technology as well as innovation in educational reform ideas. This is a requirement put forward by the new liberal arts and digital law. Digital law textbooks should be combined with the requirements of the construction of new liberal arts, supported by new technologies such as law and big data, to build a three-dimensional teaching material system that meets the needs of talent cultivation in new liberal arts. At present, there are problems in the field of digital law in China, such as a small number of textbooks, limited coverage, and insufficient variety. When compiling digital law textbooks, interdisciplinary approaches should be integrated, and efforts should be made to lay the groundwork for legal regulation of digital technology and other content, in order to promote better integration between legal content and digital technology, and thus achieve the goal of cultivating versatile talents.

Thirdly, practical teaching. The interdisciplinary nature of digital law requires that the form of practical teaching should be different from traditional legal practice education, to avoid digital law practice teaching being superficial. Therefore, the Department of Digital Law should enrich practical teaching as much as possible, expanding traditional legal practice teaching locations from courts and law firms to legal technology companies, in order to enrich students' practical teaching content, improve their practical abilities, and provide opportunities for students to participate in digital legal practice. Encourage students to choose career internships that interest them based on the learning in practical teaching classrooms, and fully engage in career experiences. At the same time, the Department of Digital Law should develop more scientific and reasonable practical teaching plans to ensure the efficiency and quality of practical teaching, and

fully leverage the role of practical teaching.

5. Conclusion

In the digital age, new technologies such as big data have penetrated into the legal field. Legal education must face the innovative development of new technologies, build interdisciplinary fields of digital law, and cultivate composite talents who understand both law and new technology. Continuously exploring the integration path between legal education and new engineering in the cultivation of new talents in humanities, drawing on the new concepts of new engineering talent education to guide legal education practice, and fully leveraging the role of new engineering talent cultivation in legal education.

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References

- [1] Outline of the 14th Five Year Plan for National Economic and Social Development of the People's Republic of China and the Long Range Objectives for 2035, <https://zhuanlan.zhihu.com/p/359193984>, Date of Visit: April 10, 2024.
- [2] Liu Pinxin. China-style Innovation of Intelligent Justice. *Journal of National Prosecutors College*, 2021,29(03):84-85.
- [3] Liu Pinxin. On Big Data. *Global Law Review*, 2019,41(01):25.
- [4] Zhou Muhan. On the Legal Status of Big Data Evidence. *Science of Law*, 2023,41(04):9.
- [5] Zhang Jixi,Kong Delun. On Big Data Evidence in Criminal Prosecution. *Journal of Guizhou University(Social Sciences)*, 2020,38(04):84.
- [6] Zhao Yanhong. Research on Legal Regulation of Big Data Monitoring Measures: A Discussion Centered on Privacy Rights. *SJTU Law Review*, 2020(04): 132-148.
- [7] Tang Fen,Min Yun. The Dilemma and Solution of Legal Regulation on "Big Data-enabled Price Discrimination" in the Information Age. *Journal of Henan University of Science & Technology(Social Science Edition)*, 2023,41(05): 81-86.
- [8] Gu Xian feng ,Tang Yong li. Simulation of Mixed Attribute Big Data ClusteringBased on Swarm Intelligence Algorithm. *Computer Simulation*, 2023,40(09): 458-461.
- [9] Liu Peihong. Construction of Effective Defense System withChinese Characteristics Under the Principle ofEquality Between Prosecution and Defense. *Presentday Law Science*, 2022,20(02): 80-90.
- [10] Wang Shen. The Construction of Legal Profession Ethics Standard Must Respond to the Moral Needs of the New Era. *Nanjing Journal of Social Sciences*, 2019(01):97.
- [11] Ma Changshan. The Justice Criterion of Algorithmic Governance. *Frontiers*, 2022(10): 68-76.
- [12] Sun Haoliang,Wang Meng. Legal Education under the Development of Artificial Intelligence in the New Era. *Legal Education Research*, 2019,27(04): 25-40.