

# Theoretical Connotation and Mechanism Construction of Digital Justice

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## Abstract

With the development of artificial intelligence, the era of big data has come, and digital technology is changing the traditional way of life. The “online dispute resolution mechanism” based on the theory of “digital justice” has become a new type of dispute resolution that helps and promotes the realisation of justice. However, the theory of digital justice in the help of “close to justice” “to achieve justice” at the same time due to the rationality of the data computation there are also some shortcomings, in order to be more standardised and rational use of digital technology to achieve justice, the need for digital justice governance structure for the optimisation and construction.

**Keywords:** digital justice, online dispute resolution, justice connotation, rule of law building

## 1. Raising Issues

The question of “justice” has never ceased to be explored from ancient Greece to contemporary times. With the advent of the digital age, the development and application of digital technologies, such as the Internet, big data and artificial intelligence, have reshaped social behaviour, relationships and structures. What follows is a reconfiguration of values, institutional design, and technology. Concepts such as “digital justice”, “algorithmic justice” and “code justice” represent new forms of justice in the age of big data. The creation of a new technology creates unforeseen risks. Problems such as algorithmic black boxes and algorithmic discrimination are examples of the injustices induced by big data and algorithms in practice, and in order to avoid further problems, it is necessary to establish a legal framework for social justice that effectively regulates

algorithmic decision-making and facilitates the realisation of a higher level of digital justice, so as to achieve digital justice. Whether there is a conflict and gap between digital justice and traditional justice is a greater concern in the academic community. The author believes that digital justice still belongs to social justice, rather than machine justice, which is human value judgement and value trade-offs. Digital justice is the content of traditional justice in digital form, its content has not changed, just a different form of expression. This paper will discuss the connotation, practical application and optimisation of digital justice, with a view to providing theoretical guidance for the realisation of digital justice.

## 2. The Meaning of Digital Justice

The exploration of the theoretical content of digital justice needs to be carried out from two

perspectives: the logical starting point and the construction. The first is the question of the logical starting point of digital justice, i.e., the identification of the problem areas to which digital justice applies and its basic connotations; the second is the construction of digital justice, i.e., the summarisation and identification of the forms of digital justice that are used to evaluate whether or not digital justice has been realised.

### 2.1 Basic Connotations of Digital Justice

Academics have specifically discussed the concept of data justice, and there is a distinction between a broad and a narrow view of the concept of digital justice. Scholars who hold a broad view of digital justice believe that the concept of data justice includes both the rule guidance and value judgement dimensions. The first is the rule-guidance level, where digital justice is the content of rules about how to generate, distribute, interpret and use data in a fair and reasonable way. The main requirements of digital justice are “visibility, prior consent and prevention of unfair treatment” in the use of data. Second is the level of value judgement, digital justice has rich justice requirements, digital justice is a form of social justice, people are the main body of social justice, everything else is a carrier and tool to achieve social justice. In the era of big data, the carrier of justice to digital technology, and thus also requires a balanced consideration of digital justice from the level of value judgement, i.e., whether it meets the requirements of human society for justice. Scholars who hold a narrow view of digital justice are also distinguished into two categories: some scholars equate digital justice with digital justice. The so-called digital justice is to “approach” and “realise” justice through digital technology, using various digital technologies to improve the efficiency and effectiveness of justice.<sup>1</sup> Other scholars believe that digital justice is constructed and developed on the basis of inherent human value judgements and social justice, and is an intrinsic value that guides people to live better in the digital age.<sup>2</sup>

In summary, digital justice can be defined from different perspectives and factors, but two

points are clear: the first is to insist on the subjectivity of “human beings”, to define digital justice in terms of instrumentalism, and to realise the pursuit of human values through the use of digital technology. The second point is that the goal of digital justice is still to achieve basic social justice. Therefore, this paper regards the injustice arising from the development, design and use of algorithmic applications when using digital technology as a problem area emphasised and adjusted by digital justice, which is the use of digital technology to realise the pursuit of justice in accordance with the ideal state of human rights, justice, values and the rule of law. In this paper, the basic connotation of digital justice will be interpreted in terms of the rational allocation of data resources, the rational allocation of data rights, and effective code regulation norms.

Firstly, from the connotation of digital justice, the rational allocation of data resources is the fundamental and basis for the realisation of digital justice. The theory of distributive justice is more often reflected in the rational allocation of digital resources in the digital society. According to the theory of limited resources, when digital resources appear as a new social resource, in order to realise social justice, it is necessary to clarify how to allocate digital resources, and the reasonable allocation of digital resources belongs to the framework of digital justice. This requires the state and the government to establish a distribution system that can guarantee the enjoyment of digital resources by different data subjects. In order to fulfil the connotation of digital justice, it is necessary to construct a digital resource allocation system from the aspects of subject and responsibility.

In terms of subjects, the rational allocation of data resources requires the coordination of the interests of multiple parties to ensure that each data subject can participate in the process from data input to data output, and that the interests of individuals, platforms, the market order, and the State and other subjects are included, and that multiple subjects allocate and access digital resources based on different needs; in terms of responsibility, the allocation of data resources includes both rights and responsibilities. In order to reflect the essence of digital justice and the requirements of “justice”, the data subject in the acquisition of data resources at the same time on how to use, preservation, destruction of

<sup>1</sup> See Ethan Cash, Ona Rabinovitch-Aini. (2019). *Digital Justice: When Dispute Resolution Meets Internet Technology*, translated by Zhao Lei, Zhao Jingwu, Cao Jianfeng, Beijing: Law Press, p. 74.

<sup>2</sup> See Clifford G. Christensen. (2019). A New Theory of Justice in the Digital Age, translated by Liu Moxiao, *Journal of Global Media*, (1).

data resources to different degrees of responsibility limit. Individual ordinary users are in a relatively weak position in digital resources and digital technology, and the responsibility of individuals is relatively the lowest degree of requirements, which is manifested in the reasonable application, and shall not infringe upon the data security of others, the society and the state; platforms and technology developers can collect and store a large amount of data resources and information in different fields and at different levels, and in order to maintain the data security of the state and the individuals, it is necessary to put forward relatively higher responsibilities for platforms and technology developers. In order to maintain national and individual data security, platforms and technology developers need to put forward relatively high responsibilities for platforms and technology developers. Their responsibility is mainly manifested in setting up data privacy protection mechanisms, data warning risk mechanisms, and ensuring that the research and development of algorithms and digital technologies meet legal and ethical requirements; the responsibility of the state and the government in the distribution of data resources has both similarities and differences with the requirements of the responsibility of the traditional distribution of justice. The state and the government, as the subjects of public power to guarantee the realisation of fairness and justice, should likewise play a good role in monitoring and sanctioning the subjects of public power in digital justice. At the same time, digital justice is to carry out activities with digital technology and algorithmic calculation as a carrier, so the state and government should fully consider the characteristics of digital technology to carry out the construction of power, and the responsibility of the state and government is mainly manifested in the establishment of a fair and just data collection, use and storage system, eliminating the inequality of data ownership and use between data subjects, introducing relevant laws and regulations and policies, and establishing a data regulatory mechanism, and maintaining digital security.

Secondly, the comprehensive allocation of digital rights is an important guarantee for the realisation of digital justice. While digital technology brings convenience to human beings, there are also conflicts with the pursuit of

human values. The existence of algorithmic black box, algorithmic alienation and other problems will violate some of the basic rights of data subjects in the pre-digital era, such as the violation of the right to free choice and the right to privacy by big data surveillance, and the violation of personal information protection by algorithmic alienation. In order to prevent and stop the adverse consequences of the expansion and marginalisation of algorithmic rights for data subjects, the theory of digital justice has emerged. As an important theoretical product to deal with the contradiction between digital technology and fundamental rights, digital justice, in order to play its function well, needs to clarify the data rights of data subjects from the perspective of rights, according to the characteristics of digital technology, and further safeguard the interests of digital subjects. Clear data rights is an important guarantee to prevent and counteract the damage to the legitimate rights and interests of data subjects, digital rights are based on big data and algorithmic interests,<sup>1</sup> and big data and algorithmic interests are the substantive expression of digital justice, the legitimate rights and interests of data subjects are transformed into the rights that can be protected by national laws before digital justice can be effectively realised. When determining digital rights, two considerations should be focused on, firstly, to ensure that the autonomy and responsibility of the data subject is strengthened, and the legitimate interests of the data subject are safeguarded through the allocation of rights. Secondly, in order to ensure the realisation of digital justice in the distribution of power based on the principle of protection of the weak to set up some tilted protection of rights to ensure the realisation of digital justice. The right to data is a broad and rich bundle of rights, including a variety of digital rights, such as the right to access data, the right to modify data, the right to request algorithmic interpretation, the right to manual access and the right to be free from automated decision-making.

## 2.2 Manifestations of Digital Justice

In terms of manifestation, digital justice is manifested in four main forms: distributive justice, procedural justice, interactive justice and

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<sup>1</sup> See Xu Ziwen. (2021). On the Standard of Proof for Emerging Rights — Taking the Doctrine of the Concept of Rights as an Entry, *Law and Political Science*, 1.

informational justice.<sup>1</sup>

The realisation of distributive justice is mainly manifested in the following three aspects, the first of which is the fair distribution of digital resources, ensuring that everyone can enjoy fair opportunities and benefits in the data era, and avoiding the phenomenon of digital divide. The second is the fairness of the use of digital technology, ensuring that the application of artificial intelligence, big data and other technologies meets the requirements of fairness, and avoiding inequality in the use of digital technology in society. Once again, distributive justice also requires effective regulation and governance of digital platforms to ensure fair competition and service quality. The realisation of distributive justice requires the participation of multiple subjects and the satisfaction of the interests of each subject.

Procedural justice emphasises first and foremost the impartiality of digital decision-making and algorithms, ensuring that the decision-making process is free from discrimination and bias. The degree of openness and transparency of information in the digital decision-making process is guaranteed to ensure the fairness and legitimacy of decisions. Secondly, it is important to focus on protecting the data privacy rights of individuals and organisations in the digital era, and to ensure that data and information are legally accessible and used. Third, algorithmic fairness should be ensured. When using algorithms for decision-making, it is important to ensure that the algorithms are fair and unbiased, in order to avoid the use of algorithmic black boxes to carry out data discrimination, and unreasonable treatment of those who are in a relatively disadvantaged position in the data era. There is no change in the core content of digital justice from the requirements for procedural justice in traditional justice, only a shift in form. The last point about procedural justice in digital justice emphasises procedural justice in the judicial process, the operation of the judicial system in the digital age should also meet digital justice, digital technology has been applied to the judicial process, such as online courts, e-litigation and e-discovery and other activities, the manifestation of procedural justice in digital

justice in the online judiciary or emphasises the need to ensure that the fairness and legality of the judicial process with the core connotation of the traditional judicial procedural justice requirements is not fundamentally different.

Interactive justice is concerned with fairness and inclusion on digital social platforms and in cyberspace, ensuring that everyone can participate and speak equally. The vision of justice must openly propose mutual respect between people in order to be well represented. In data mining, computer systems categorise different groups of people according to different processing logics, coding and assigning values based on their characteristics, which are used to represent different levels of priority, risk and economic value. Self-referencing systems formed in automated control systems do not require communication and negotiation with external users, and these self-referencing systems often tend to reinforce inequalities in the real society. Interactive justice in the application of digital technologies therefore requires the establishment of consultative procedures and mechanisms for individuals, technical groups, industry associations, etc., to enable users or decision makers to raise objections and express their views. The need for individuals to be able to challenge information technology systems and to make timely revisions and corrections of errors with the help of professional reviewers is seen as an intuitive necessity for personal dignity.

Information justice, on the other hand, is concerned with the fairness and transparency of information, ensuring that people have access to accurate and reliable information. It requires insight into the data processing process, interpretability through the 'black box' of data and algorithms. The 2019 EU Code of Ethics for Artificial Intelligence sets out clear requirements for the visibility and interpretability of big data. For example, visibility and interpretability of big data systems require big data companies and algorithmic platforms to provide users with information about data processing and automated decision-making processes, so that users have a clear understanding of how they work, data processing and automated decision-making data, and descriptions. The information provided by data controllers and algorithms has to fulfil the information fairness requirement to a great extent in its description and explanation.

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<sup>1</sup> See Sason A. Colquitt, et al. (2001). Justice at the Millennium: A Meta-Analytic Review of 25 Years of Organizational Justice Research, *Journal of Applied Psychology*, 86(3), p. 427.



### 3. Bridging Digital and Traditional Justice

#### 3.1 Consistency of Digital Justice with the Core Spirit of the Traditional View of Justice

Justice in the pre-digital era was mainly realised through proportionality and individual considerations, with the development of digitalisation, digital justice has undergone a slight shift in form compared to traditional justice which is consistent in its connotation and spirit. Now, we can assess and realise justice through computation, extending the scope of justice to groups and scenarios. In addition, digitisation has made justice more visual, making it easier for people to understand and engage with it. These changes provide new opportunities and challenges for us to think about and achieve justice.

Digital justice is a manifestation of traditional justice in the era of big data, emphasising substantive justice. The Internet era is an emerging stage in the development of human society, but the basic rules and principles of human life in the traditional era have not changed, so the concept of justice in the digital era is consistent with the value judgement standard of justice pursued by human beings in the traditional era, and it is only in the specific content pursued that it will be adjusted due to the real needs. Some scholars suggest that in the era of digital technology, justice is the core concept of good life, built on the inherent dignity of human beings.<sup>1</sup> Digital justice, as an evolution of the traditional concept of justice in the digital age, reflects the increasing demand for fairness and justice after human beings have entered the digital society.

#### 3.2 Changing Forms of Digital Justice

The shift from proportional to computational justice, from contractual to scenario justice, and from proximity to visual justice is a profound shift in the shape of justice as a result of digitisation. In the pre-digital era, justice was primarily realised through proportional and individual considerations. Proportional justice is concerned with the fair distribution of resources, ensuring that everyone enjoys fair opportunities and benefits. Individual justice, on the other hand, emphasises the rights and interests of individuals, ensuring that everyone receives due respect and protection.

However, with digitalisation, the shape of justice has shifted. We can now assess and realise justice through computation. Computational justice emphasises the use of algorithms and data to make decisions and allocate resources to ensure fairness and efficiency. Through computing, we can more accurately assess the needs and contributions of each individual, leading to a fairer distribution. In addition, digitisation has brought about a shift from contractual justice to scenario justice. Contractual justice emphasises ensuring fairness and equity through contracts and agreements. However, with digitalisation, we can better adapt to different contexts and needs. Scenario justice emphasises decision-making and implementation of justice according to the situation and context to better meet the needs of different groups. Finally, digitisation has also brought about a shift from proximity justice to visible justice. Proximity justice emphasises justice through contact and understanding. However, with digitisation, we can demonstrate and communicate the principles and values of justice more visually. Visual justice presents concepts and practices of justice through images, videos and other visualisations, making them more accessible and understandable.

Overall, digitisation has had a profound impact on the shape of justice. From proportional to computational justice, from contractual to scenario justice, and from proximity to visual justice, these shifts have enabled us to achieve the goal of justice with greater precision and flexibility. However, we also need to be mindful of the challenges and risks that digitisation may bring and ensure that digital justice can truly benefit the development of human society.

### 4. Practical Applications of Digital Justice

#### 4.1 Practical Applications of Digital Justice in the Context of Digital Justice

Digital justice is a way to achieve justice in the age of big data and has judicial value. This argumentative scenario is discussed on the basis of the dispute resolution process. In the traditional litigation era, the dispute resolution process had some shortcomings, such as a higher threshold of the process, scarce litigation resources, and higher litigation costs. Entering the digital era with the help of big data online platform to resolve disputes can be simpler and more convenient to enable the parties to achieve justice. Advances in information technology

<sup>1</sup> See [U.S.] Clifford G. Christensen. (2019). A New Theory of Justice in the Digital Age, translated by Liu Moxiao, *Global Media Journal*, (1), p. 98.

have given rise to new dispute resolution tools, such as online courts and smart justice, making digital justice a means of realising “justice in proximity”. The Opinions of the Supreme People’s Court on Regulating and Strengthening the Judicial Application of Artificial Intelligence states that it is necessary to take a step further to promote the integration of digital intelligence with judicial work, to comprehensively build smart courts, and to achieve a higher level of digital justice. Digital justice in this context is precisely pointing to the construction of information technology in the courts, through online litigation rules, online mediation rules and other intelligent court construction and Internet justice model, to enhance the trial capacity and efficiency, and to safeguard justice for the people and fair justice.<sup>1</sup> Digital technology provides more efficient and fairer judicial services. For example, through digitised legal databases and intelligent legal analysis tools, judges and lawyers can more quickly locate and analyse relevant legal cases and statutes, so as to more accurately make judgments and defences. In addition, digital technology can provide a more convenient online dispute resolution platform, enabling citizens to resolve disputes and obtain judicial remedies more easily.

#### 4.2 The Value-Orientated Role of Digital Justice in the Field of Digital Technology

Digital justice is regarded as the ideal and normative frame of reference for the application of digital technology, emphasising and highlighting its value-oriented role in the technical field. With the rapid development of the Internet, big data, blockchain, artificial intelligence and other technologies, the development and application of digital technologies have reached unprecedented heights, changing social relations to a certain extent and forming a data-centred and algorithm-driven digital society. Digital technologies can provide more data and information to help legal professionals make more accurate and fair decisions. The common

application of digital technology in the legal field, such as predictive justice and data-driven judgement, analyses and evaluates social disputes, social relations and social structure from the perspective of digital technology. At the same time, some scholars believe that digital justice should include the rational distribution of data resources, the use and protection of digital rights, and the openness and transparency of algorithmic decision-making.<sup>2</sup> On the basis of technology-oriented research, digital justice pays more attention to the fundamental issues of digital technology, so that digital technology itself becomes the focus of discussion on the concept of justice, rather than just a means of solving social justice problems.

#### 4.3 The Role of Digital Justice in Safeguarding Digital Democracy

In the context of digital democracy, digital justice can promote citizen participation and government transparency. Through digital technology, governments can more easily interact and communicate with citizens and collect their opinions and suggestions. At the same time, digital technology can also provide a more transparent government decision-making process, enabling citizens to have a clearer understanding of the basis and process of government decisions. In addition, digital technology can provide a more convenient online election and voting platform, enabling citizens to participate in political decision-making more easily. Through the application of digital technology, we can achieve more efficient and fairer judicial services and promote citizen participation and government transparency, thereby promoting social justice and democratic development.

### 5. Constructing and Optimising Digital Justice Governance Structures

The increasing impact of digital justice on society and the economy makes it crucial to build and optimise digital justice governance structures. Building and optimising a digital justice governance structure is a complex and important task that needs to take into account different forms of digital justice, transparent and trustworthy mechanisms, privacy and data protection, as well as public participation and democratic decision-making. Only by

<sup>1</sup> See Zhang Chen. (2022). Proactively Embracing Advanced Technology to Sing the Strongest Voice of Digital Justice, *Rule of Law Daily*, 22 December 2022, p. 6.

People’s Court Daily. (2022). Striving to Create a Higher Level of Digital Justice, 11 October 2022, p. 1.

Ning Jie. (2021). Creating a Higher Level of Judicial Civilisation with Digital Justice, *People’s Justice*, (16), p. 1.

<sup>2</sup> See Zhou Shangjun and Luo Youcheng. (2022). Digital Justice Theory: Theoretical Connotation and Practical Mechanism, *Social Science*, (6), p. 170.

establishing a rational and effective digital justice governance structure can we better address the challenges posed by digitisation and achieve fairness and justice in society.

First, building a digital justice governance structure needs to take into account different forms of digital justice, such as distributive justice, procedural justice, interactive justice and information justice. Each of these forms requires corresponding governance mechanisms and rules to ensure fairness and justice. Second, digital justice governance structures need to establish mechanisms for transparency and credibility. Digitisation brings with it a large amount of data and information, so it is important to ensure the accuracy and reliability of this data and information. The establishment of transparent data collection and processing mechanisms, as well as a credible digital identity authentication system, can effectively prevent data tampering and information leakage. In addition, the digital justice governance structure needs to take into account the issues of privacy and data protection. With the development of digitalisation, the privacy and data security of individuals are facing increasing challenges. Therefore, the establishment of appropriate legal and policy frameworks to protect individual privacy and data security is an important part of the digital justice governance structure. Finally, digital justice governance structures also need to focus on public participation and democratic decision-making. Digitisation brings more opportunities and channels for participation, but it also brings new issues of inequality and exclusion. Therefore, establishing inclusive decision-making mechanisms and encouraging public participation and democratic decision-making can ensure the rationality and fairness of digital justice governance structures. Constructing digital justice should comprehensively consider legal, technological, ethical and humanistic elements, and only in this way can it become social justice in the digital era through the theory of digital justice.

## 6. Concluding Remarks

Numbers are symbols with special meaning. Numbers not only count, but also have rich philosophical and sociological connotations and are important and essential elements in the interpretation of legal phenomena. Numbers are evolving and their legal significance is being enriched. Ensuring the realisation of fairness and justice is the meaning that digital justice

gives to law in the era of big data. Big data allows digital justice to break the traditional boundaries of justice and allows justice to develop to new heights. Big data makes the quantification of many legal phenomena a reality, advancing the scientific process of law. Big data also makes many useless legal data useful, tapping into the greater potential value of data.

## References

- [Indian] Amartya Sen. (2012). *The Idea of Justice*, translated by Wang Lei and Li Hang.
- [US] Clifford G. (2019). Christensen: A New Theory of Justice in the Digital Age, translated by Liu Moxiao. *Global Media Journal*, 1, p. 98.
- Liu Chao. (2022). Manifestations, Causes and Governance Strategies of Algorithmic Discrimination. *People's forum*, (2).
- Ning Jie. (2021). Creating a higher level of judicial civilisation with digital justice. *People's Justice*, (16), p. 1.
- People's Court Daily. (2022). Striving to create a higher level of digital justice, p. 1.
- Viktor Mayr Schönberg, Kenneth Kukier. (2013). *The Age of Big Data: The Great Transformation of Life, Work and Thinking*, translated by Sheng Yangyan and Zhou Tao, Hangzhou: Zhejiang People's Publishing House, 2013 edition.
- Zhang Chen. (2022). Taking the initiative to embrace advanced technology to sing the strongest voice of digital justice. *Rule of Law Daily*, p. 6.
- Zheng Yushuang. (2021). Computational justice: A jurisprudential construction of the relationship between algorithms and law. *Politics and law*, (11).
- Zhou Shangjun, Luo Youcheng. (2022). Digital Justice Theory: Theoretical Connotation and Practical Mechanism. *Social Science*, (6), p. 170.
- Ziwen Xu. (2021). On the Standard of Evidence for Emerging Rights - Taking the Doctrine of the Concept of Rights as a Cutting Edge. *Law and Political Science*, (1).