

Research on Legal Protection of Information Rights and Interests of Digital Vulnerable Groups

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Abstract

The rapid development of Internet, big data, artificial intelligence, algorithm, 5G and other information and communication technologies has accelerated human beings to enter the digital age. At the same time, on the one hand, people fully enjoy the convenience of information acquisition and use, on the other hand, they also begin to pay attention to the risks and challenges brought by digital information technology, and pay more attention to the protection of their own information rights and interests. It is worth noting that in the tide of digital information, some groups are difficult to fully enjoy the convenience brought by information technology due to various reasons, such as their age, education level, economic status, etc., and are at a disadvantage in terms of access to information and use. They are the so-called "digital vulnerable groups". "Digital vulnerable groups" can be further subdivided into "explicit digital vulnerable groups" and "implicit digital vulnerable groups" according to different causes and characteristics. As the name suggests, "digital vulnerable groups" are produced along with the digital age and the product of the deepening development of the digital divide. The "vulnerable groups" they face are mainly represented by the infringement of their information rights and interests. These information rights and interests include the equal access to information, the use of information technology, information security and their own special protection. With the wide application of intelligent technology, the imbalance of these rights and interests becomes more and more obvious. In order to better protect the information rights and interests of "digital vulnerable groups", we should not only improve information facilities, improve the quality of information services and strengthen information supervision, but also regulate and respond to the legal level. Specifically to the construction of legal protection mechanism, we should combine the characteristics and requirements of technological governance in the digital information society, improve the rights and responsibilities system of legal protection of rights and interests, so as to better protect the information rights and interests of "digital vulnerable groups".

Keywords

"Digital Vulnerable Groups"; Digital Society; Information Access; Information Rights and Interests.

1. Introduction

In this ever-changing era, digital information has become ubiquitous like air, which has a profound impact on people's lifestyle, thinking mode and social process. We live in a whole new era, led by digital technology, an era of tremendous changes in the way information is obtained, processed and distributed. The digital information age is an era in which digital technology is the core foundation and information resources are greatly enriched and optimized. The wide application of digital technology in social networking, communication, medical care, education,

rule of law and other fields has made people increasingly dependent on digital technology. [1] In this era, the form of information is no longer limited to the traditional text and pictures, but has expanded to audio, video, data and other forms. One of the salient features of this era is the ease of access to information. With the popularization of the Internet and mobile devices, people can access the network and get the information they need anytime and anywhere. The rapidity of information dissemination is another remarkable feature of the digital information age. In this era, the speed of information transmission transcends the limitations of region and time, and truly instant communication is realized. However, with the rapid development and popularization of information technology, the Internet has penetrated into every aspect of people's lives. At the same time, digital divide and other phenomena have emerged, which have led to problems such as the imbalance of information access, information monopoly and even the infringement of citizens' personal information. In today's society, the imbalance of personal information rights and interests has become increasingly prominent. Like an invisible crack, it has quietly spread to every corner of the integration of economy, technology and culture. [2] The rapid development of information technology has brought unprecedented convenience to the dissemination and acquisition of information, but it has also quietly created a technological gap, dividing society into "digital elites" who have a better grasp of information technology and "digital vulnerable groups" who are unable or difficult to integrate into the digital torrent. At this time, only relying on the traditional government to protect citizens' information rights and interests has gradually revealed its drawbacks, and exploring more ways to protect citizens' information rights and interests, especially the protection of "digital vulnerable groups" has become the focus of more and more people.

2. The Concept of "Digital Vulnerable Groups" and the Definition of Information Rights and Interests

With the rapid development of information technology, People's Daily life is undergoing unprecedented changes. However, this change has also given birth to a new vulnerable group - the "digital vulnerable group". They not only inherit the basic characteristics of the traditional disadvantaged groups in sociology, but also have a distinct brand of The Times, such as technological attributes and digital attributes.

2.1. The Concept and Classification of "Digital Vulnerable Groups"

Traditionally, the concept of "vulnerable groups" originally came from sociology, but when we turn our attention to the world of intelligent technology and digital information, we will find that there is a special group, they are also in a vulnerable position in this field, we can call it the vulnerable group in the digital information age, that is, the "digital vulnerable groups". Specifically, it can refer to those who are relatively weak in terms of digital skills, information access and utilization. They may be difficult to adapt to and integrate into the digital process due to their age, education, social status, economic income level and other factors, and thus gradually become the "vulnerable groups" in the digital era. Generally speaking, the characteristics of "digital vulnerable groups" include but are not limited to: low ability to access and use information, weak digital skills, low acceptance of emerging digital technologies, and low sensitivity to digital resources.

With reference to the above concepts, "digital vulnerable groups" can be further divided into "explicit (absolute) digital vulnerable groups" and "implicit (relative) digital vulnerable groups". The former is mainly affected by the "access gap" in the digital divide. This group mainly includes the elderly who cannot or do not use smart devices in their lives, as well as poor citizens due to the lack of modern information education. These groups often lack the necessary digital devices or skills and often face difficulties in accessing and using digital information. Traditional vulnerable groups have a similar composition to explicit digital

vulnerable groups, so explicit digital vulnerable groups have received early academic attention. In contrast, the concept of "hidden (relative) digital vulnerable groups" is more complex and dynamic, and it originates from the "use gap" theory of digital divide. In the "use gap" theory of the digital divide, the "digital vulnerable group" does not simply refer to the absolute disadvantage in the ability to access information, but refers to a group of people who face the dividend difference due to the relative insufficiency of the ability to use information in the information society. This ability difference is not only reflected in the proficiency and depth of technical mastery, but also in how to correctly use information technology to solve practical problems and realize personal value. Therefore, "hidden digital vulnerable groups" does not refer to those who cannot or will not acquire and use information technology at all. The reasons for their vulnerability may come from the superposition of various subjective factors and objective factors. In the digital information age, a large number of people are at risk of becoming relatively digital vulnerable groups.

In addition to the above classification of the "digital vulnerable groups" from the causes, they can also be classified according to other characteristics. For example, it can be divided into physical disability groups, psychological disorder groups, economic poverty groups, elderly groups and so on. Due to the limitations of their own conditions, such as vision, hearing, limb dysfunction, it is difficult to use traditional information technology equipment. These groups often require assistive technologies or specially designed devices to effectively access and use information. Groups with mental disorders may have difficulties in mastering and using digital information technology due to psychological problems such as cognitive and emotional disorders. Economically poor groups are mostly due to the limitation of objective economic level, it is difficult to afford digital information technology equipment and network services, they may not be able to get enough education and training opportunities, thus becoming vulnerable groups in the digital age. Because of their age and educational background, the elderly are difficult to adapt to the rapid development of digital information technology, and they have problems such as rejection, low acceptance and learning difficulties.

2.2. The Main Contents of Information Rights and Interests of "Digital Vulnerable Groups"

In order to effectively protect the information rights and interests of "digital vulnerable groups", we must first grasp the specific content of their information rights and interests. If the analysis is only based on equal access and use of information, it neither meets the internal requirements of the digital information age, nor can it meet the needs of "digital vulnerable groups" for the protection of information rights and interests. The analysis must be combined with the characteristics of information development in the digital age and the actual situation of "digital vulnerable groups". Therefore, the author divides the main content of their information rights into four parts. They are equal access to information, the use of information technology, the security of information and the special protection for "digital vulnerable groups".

First, Equality of access to information. The legal basis for equal access to information for "digitally vulnerable groups" mainly comes from two levels: international law and domestic law. At the level of international law, Article 19 of the United Nations Universal Declaration of Human Rights clearly stipulates the right to freedom of information, that is, "Everyone has the right to freedom of opinion and expression; This right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers." [3] In addition, the United Nations Convention on the Rights of Persons with Disabilities requires States parties to take appropriate measures, including legislation, to ensure that persons with disabilities have equal access to and use of information, communication opportunities and new technologies. At the level of domestic law, Article 35 and Article 41 of the Constitution of China respectively stipulate citizens' right to freedom of

expression and the right to criticize, suggest, complain, accuse and report, which are all premised on equal access to information. At the same time, Article 54 of the Law on the Protection of Persons with Disabilities stipulates: "The state shall take measures to create conditions, at the same time give play to the role of community-level organizations, gradually improve the living and working conditions of persons with disabilities, support welfare enterprises and institutions for persons with disabilities, promote the production, circulation and use of assistive devices for persons with disabilities, and promote information exchange and the construction of barrier-free facilities for persons with disabilities." All of these provisions, to a certain extent, provide legal protection for the equal access to information of digitally vulnerable groups.

China's Constitution stipulates citizens' right to equality, which naturally includes citizens' right to timely and accurate access to the information they need in a reasonable manner. In order to protect the information rights and interests of "digital vulnerable groups", it is necessary to make them, like other citizens, equal and free access to the information they need. [4]The information here includes but is not limited to public information, social service information, education information, employment information, etc. As the "digitally vulnerable" may face barriers such as technical, economic or educational barriers, the government and society should take measures to ensure their equal access to information. "Digitally vulnerable groups" have the right to use information to meet their needs in life, study, work and other aspects, including the reproduction, distribution, display and transmission of information. At the same time, they should also have the right to decide how to use such information without unreasonable restrictions or interference.

Second, The use of information technology. With the development of all kinds of digital information technology, people have become accustomed to using information technology equipment to get the information they need daily. As small as a mobile phone, a computer, can meet People's Daily production and life of information needs. It is no exaggeration to say that in today's digital age, we can rely on a mobile phone to complete the information acquisition and planning of travel, education, leisure and entertainment. For some unfamiliar information, we can also easily consult with the help of these information devices. Therefore, it is not enough to guarantee equal access to information for the "digital vulnerable groups". It is also necessary to enhance their technical literacy in accessing information, that is, to cultivate their ability to access information. Of course, in addition to improving their own information skills, enterprises also need to accelerate the research and development of "weakening" products, such as actively developing products for visually impaired groups; It is also necessary for the government to speed up the construction of barrier-free website reading, and create barrier-free reading websites that adapt to the browsing of "digital vulnerable groups". Only by enhancing their own digital information skills and urging enterprises to speed up the research and development of related products can they fully guarantee the use of information technology by "digital vulnerable groups" and better meet their information needs in the digital age.

Third, the security of information. "Digitally vulnerable groups" have the right to protect their personal information from illegal collection, use, disclosure or dissemination. This requires entities such as governments and businesses to take the necessary security measures to protect their personal information from infringement. It can be said that the issue of information security is increasingly important in the digital age. Especially for the "digital vulnerable groups", due to their own access to and use of information technology there are many inconveniences, information leakage, information harassment and other problems are easy to occur in the process of information transmission and reception. In daily life, these "digital vulnerable groups" are facing an increasing number of problems such as personal information leakage, information mining, and discrimination by algorithms. Therefore, it is necessary to speed up the protection of personal information security from the legal level. At present, our

country has studied and formulated the "Cybersecurity Law", "Data Security Law" (draft) and "Personal Information Protection Law" (draft). The purpose is to better protect the security of citizens' personal information, regulate the collection, acquisition, processing and utilization of personal information and other processes, and guard the high wall of personal information security.

Fourth, special protection. The special guarantee here is mainly the guarantee of the pointer to the "digital vulnerable groups" themselves. Although China is very different from Western welfare states, differential protection has always been regarded as an important principle to eliminate the gap between subjects and better protect the weak. [5]For this reason, when protecting the information rights and interests of "digital vulnerable groups", through the specific protection of "digital vulnerable groups", such as vigorously developing the construction of barrier-free environment facilities, requiring enterprise websites and other platforms to set barrier-free reading mode, and increasing the construction of information technology facilities and capital and technology investment in poor and backward areas, etc. These differential treatment is to better guarantee the fair realization of information, but also to better protect the basic human rights of "digital vulnerable groups".

3. The Necessity and Urgency of Legal Protection of Information Rights and Interests of "Digital Vulnerable Groups"

3.1. Necessity

The first is the guarantee of constitutional rights. Information rights and interests, as one of the basic rights of citizens in modern society, are closely related to constitutional rights such as freedom of speech and right to know. As a part of society, the protection of digital vulnerable groups' information rights and interests is the embodiment and requirement of constitutional rights. Protecting their information rights and interests not only helps to safeguard the authority of the Constitution, but also can realize the equal protection of citizens' rights. Protecting the information rights and interests of "digitally vulnerable groups" means protecting the basic rights and interests of all citizens in the information society, so that everyone can enjoy equal information rights. Secondly, protecting the information rights and interests of "digital vulnerable groups" is also an inevitable requirement of the information society. With the rapid development and popularization of information technology, information has become an important resource for social development. As a vulnerable group in the information society, the protection of digital vulnerable groups' information rights and interests is an inevitable requirement for the development of the information society. Only by protecting their information rights and interests can we ensure that they can enjoy equal opportunities and rights and interests in the information society. Finally, the embodiment of social equity and justice. The access and use of information resources have an important impact on personal development and social status.

Protecting the information rights and interests of digitally vulnerable groups is an embodiment of social equity and justice. If digitally vulnerable groups are left at a disadvantage in terms of access to and use of information, it will exacerbate social inequality and differentiation and affect social harmony and stability.

3.2. Urgency

With the rapid development and upgrading of information technology, digitally vulnerable groups face increasingly severe challenges in accessing and using information. They may face problems such as high technical threshold and information asymmetry, which lead to them being in a more disadvantageous position in the information society. Therefore, there is an urgent need to strengthen the legal protection of the information rights and interests of digitally

vulnerable groups to meet the challenges of rapid technological development. There is also the risk of personal information leakage and misuse. In the digital age, the security and privacy of personal information has become particularly important. Due to the lack of sufficient information security awareness and skills, digital vulnerable groups are more likely to become victims of personal information leakage and abuse. Therefore, there is an urgent need to strengthen legal protection for the information rights and interests of digital vulnerable groups to prevent their personal information from being illegally collected, used, disclosed or disseminated. It is also based on the needs of social stability. If the information rights and interests of the digital vulnerable groups are not guaranteed in a timely and effective manner, it will lead to a series of social problems, such as social trust crisis and social conflicts. This will not only affect the harmony and stability of society, but also hinder the development and progress of society. Therefore, there is an urgent need to strengthen the legal protection of the information rights and interests of digitally vulnerable groups to maintain social stability and harmony.

To sum up, from the perspective of jurisprudence, the legal protection of information rights and interests of digital vulnerable groups is not only necessary, but also urgent. The government and society should attach great importance to this issue, take practical and effective measures, strengthen the formulation and implementation of relevant laws and regulations, and ensure that the information rights and interests of digital vulnerable groups are fully protected. At the same time, it is also necessary to strengthen publicity and education to improve the information literacy and awareness of rights protection of digital vulnerable groups, so as to better safeguard their information rights and interests.

4. The Current Challenges Faced by the Legal Protection of the Information Rights and Interests of "Digital Vulnerable Groups"

4.1. The Lack of Directly Related Legal Norms

At present, the legal protection of "digital vulnerable groups" also faces two problems. One is the lack of directly related legal norms, that is, the legal system is not perfect. In the digital age, the high speed and efficiency of information acquisition show people a virtual real world, and information has become the most basic element of people's production and life. To some extent, mastering information resources is equivalent to mastering the original power to promote their own progress and development. At present, there is still a gap in the special legal protection for "digital vulnerable groups" in our country. Although there are laws such as the Law on the Protection of the Rights and Interests of the Elderly and the Law on the Protection of Persons with Disabilities, they mainly focus on the general rights and interests of elderly and disabled groups, and lack specific legal provisions for their special needs in the digital information age, such as digital education, access to digital information, and information network security. And they are not specific legislation, but only indirectly involved in telecommunications networks, protection of the rights and interests of vulnerable groups, personal information protection, information technology education and other legislation. For example, the Regulations on the Disclosure of Government Information, the Regulations on the Construction of a Barrier-free Environment, the Law on Electronic Commerce, the Regulations on Telecommunications and the Law on Network Security and other legal provisions[6].

For reference, some foreign countries have made progress in protecting the information rights and interests of "digital vulnerable groups" and are worthy of our reference. For example, the US National Information Technology Infrastructure: Action Plan, Freedom of Information Act and public policy on bridging the digital divide, France's Digital Infrastructure Imbalance Act, South Korea's Digital Divide Act, as well as Switzerland, Spain, the Netherlands and Ireland's

regulations on Internet accessibility for vulnerable groups, all directly or indirectly address this issue.

4.2. Lack of Targeted Legal Measures

Second, the lack of systematic and targeted legal measures. The problem is particularly acute at the level of accountability. Since information gaps and inequalities lie at the heart of the digital divide problem, legal measures should be both encouraging and restrictive to suit the legal needs of different situations. For public libraries, senior citizen associations and other non-profit organizations or specific groups, the protection and realization of their digital rights and interests often rely on specific legal system design and policy guidance. Therefore, the formulation and implementation of such encouraging legal measures, which clearly stipulate their rights and obligations, can help guide these organizations to actively embrace digitalization, and at the same time protect the basic rights and interests of digitally vulnerable groups.

However, for the government and its related departments, their actions are more likely to have a significant impact on the rights and interests of the digitally vulnerable due to their important role in the digital divide issue and their rich administrative resources and decision-making powers. Therefore, for these entities, legal measures should pay more attention to the use of restrictive means, and ensure that they fully respect and protect the rights and interests of the digital vulnerable groups in the process of promoting digital transformation by setting strict division of responsibilities and detailed standards. To sum up, in order to truly protect the rights and interests of the "digital vulnerable groups", we must first clarify the rights of the subject and ensure that the rights and interests of every citizen in the digital world can be effectively protected.

4.3. Existing Legal Safeguards Lack Practical Operability

In the dynamic digital society, law and technology are no longer just a one-way response and acceptance, but a vivid picture. [7]At present, China's existing legal measures to protect "digital vulnerable groups" lack practicality, which is mainly manifested in the following places. First, the legal provisions are too principled. Some legal provisions are too principled in protecting the rights and interests of "digitally vulnerable groups" and lack specific implementation standards and operational guidelines. This makes it difficult and uncertain how to define and protect the rights and interests of "digital vulnerable groups" in actual operation. Second, there is a lack of detailed implementation plans. Although some legal provisions clarify the rights and interests of "digitally vulnerable groups", there is a lack of specific enforcement plans and measures. For example, there is a lack of detailed planning and implementation steps for specific measures such as how to enhance cybersecurity education and how to provide digital skills training. Third, there is insufficient cross-departmental collaboration. The protection of the rights and interests of "digital vulnerable groups" requires the cooperation and cooperation of multiple departments, but in practice, due to the lack of communication and cooperation between departments, some legal provisions are difficult to be effectively implemented. Fourth, the popularization and publicity of laws are insufficient. Many "digitally vulnerable groups" do not know enough about existing legal safeguards, and lack legal awareness and awareness of safeguarding their rights. This leads to the fact that in practice, even if legal safeguards are in place, they are difficult to play their due role due to the lack of understanding and how to use them by the "digital vulnerable groups".

In order to enhance the operability of legal safeguard measures for "digital vulnerable groups", it is necessary to formulate more specific and detailed implementation plans and measures, strengthen cross-departmental collaboration and cooperation, and strengthen legal popularization and publicity to improve the legal awareness and awareness of rights protection of "digital vulnerable groups".

5. The Establishment of Relevant Legal Protection of Rights and Responsibilities System

5.1. Improve Relevant Legislation

Improving the legal protection of "digitally vulnerable groups" is an important part of building a fair and just information society. In the digital age, the right to information has become an important part of citizens' basic rights and interests. Protecting the information rights and interests of "digital vulnerable groups" will not only help safeguard their basic civil rights, but also promote the harmonious coexistence of information technology and social development.

It is crucial to build a comprehensive, detailed and efficient legal system to ensure the actual implementation of the information rights and interests of "digital vulnerable groups". Such a legal system should clearly define their legitimate rights and interests in the information age, including but not limited to specific rights and interests in information acquisition, use and protection, and provide clear codes of conduct and legal guarantees for "digital vulnerable groups".

"Digital vulnerable groups" are a specific social group that needs special attention. Due to various reasons such as age, physical condition, education level and economic status, they are in a relatively disadvantageous position when it comes to using and obtaining information. Their predicament stems from the unbalanced distribution of digital resources and the imperfection of social service mechanism in the process of social informatization, and is a social problem in the context of the rapid development of information technology.

In order to better protect citizens' information security, China has introduced two specialized regulations, the Personal Information Protection Law of the People's Republic of China and the Data Law of the People's Republic of China, in 2021. The two laws define the rights and obligations of "digitally vulnerable groups" from the perspectives of individuals and data respectively, providing strong support for legal protection. In addition, the country has actively promoted barrier-free legislation. In September 2020, the China Disabled Persons' Federation and the Ministry of Industry and Information Technology issued the Guiding Opinions on Promoting Information Accessibility, which provides a legal basis for promoting the construction of an information barrier-free environment in China and is conducive to the protection of information rights and interests of "digitally vulnerable groups".

5.2. Strengthen Legal Supervision

As the largest provider of information resources and the core institution of social management, the government plays a crucial role in protecting the information rights and interests of "digitally vulnerable groups". In the information society, the government has the responsibility to protect the information rights and interests of all citizens in the digital era, and ensure that everyone can equally access, use and share information resources. The government should actively perform its functions as a regulator, strictly observe and supervise the law enforcement of all types of entities providing digital technical services, ensure that they comply with national laws and regulations and relevant policy documents, and actively fulfill their legal responsibilities to prevent information asymmetry and rights infringement.

For the "digital vulnerable groups", the government should formulate targeted regulations and policies to ensure that they enjoy fair information rights and interests. This includes, but is not limited to, providing digital products and services that are easy to understand and use, setting reasonable usage thresholds and costs, and removing possible technical barriers; Strengthening information security measures to protect personal privacy and sensitive information from illegal theft or abuse; And establish an effective complaint and reporting mechanism to handle and respond to the demands of "digitally vulnerable groups" in a timely manner.

In the process of promoting the reform of the legal protection mechanism for the information rights and interests of "digital vulnerable groups", the government needs to determine the law enforcement basis, law enforcement departments and law enforcement procedures in accordance with the relevant laws, regulations and normative documents formulated by itself, and ensure that the regulations and policies of various departments do not conflict with each other and strengthen communication and cooperation between departments. At the same time, the government should extensively solicit the opinions and suggestions of citizens, especially "digital vulnerable groups", fully understand their needs and demands, and ensure that the means and processes of law enforcement and supervision are in line with public opinion and public sentiment.

5.3. Strengthen Judicial Relief

For special cases where the information rights and interests of "digital vulnerable groups" have been infringed, we must deepen legal interpretation and draw on guiding cases to enhance the applicability of justice and enhance judicial credibility. In order to properly solve the judicial application problems in such cases, we must rely on constantly improving legal norms as the basis for judgment, and give play to the guiding role of guiding cases. As a supplement to legal provisions, judicial interpretation can explain the ambiguities, ambiguities or contradictions in legal provisions, so as to clarify its scope of application, because it has become an important role in judicial practice to coordinate law and social reality. At present, China's legal provisions on "digital vulnerable groups" are not perfect, and in practice, there are infringement cases of information rights and interests of "digital vulnerable groups", which often need to rely on judicial interpretation and guiding cases for reference.

At the same time, in the implementation and application process of the Civil Code and the Personal Information Protection Law, we need to give play to the role of judicial interpretation, and timely issue targeted judicial interpretation or guiding opinions for legal gaps and disputes in the field of emerging technologies. We need to pay attention to those "digital vulnerable groups", who may suffer illegal violations in the protection of personal information, but are often unable to effectively safeguard their legitimate rights and interests due to technical limitations, information asymmetry and other reasons. For these cases, we should give existing rules regulatory power in the field of emerging technologies, so that the law can better adapt to the challenges of the digital age. At the same time, we should standardize judges' use of legal interpretation methods in specific cases by means of expanded interpretation and purpose interpretation, so as to ensure that the scope of application of legal provisions can fully cover all types of cases involving emerging technologies and safeguard social fairness and justice.

In addition, it is also crucial to improve the legal aid system and the public interest litigation system. By expanding the coverage of legal aid services, we have strengthened legal aid for digitally vulnerable groups to ensure that they have access to effective legal aid. At the same time, we have improved the system of public interest litigation, giving full play to the role of procuratorates and related organizations in providing a strong institutional guarantee for the protection of social public interest in the digital era. Through these measures, we will be able to better safeguard the basic rights and interests of individuals such as privacy and data security in the digital era, and ensure that the function of judicial assistance is further strengthened.

6. Epilogue

In the digital information age, on the one hand, we can enjoy the convenience brought by the development of various new digital information technologies, which greatly enrich the way and content of citizens' access to information. On the other hand, we should also pay attention to the "digital vulnerable groups" which are accompanied by the phenomenon of "digital divide".

This group is at a disadvantage in today's digital information society. The rapid change of information technology may also increase the difficulty of their access to information. Although the tide of digital technology progress is unstoppable, the development of digital economy should still adhere to the principle of people-oriented. We should not blindly follow the development of digital information technology while ignoring the protection of citizens' rights, or even ignore or forget those vulnerable groups who have not adapted to the digital information society. Moreover, to some extent, the emergence of "digital vulnerable groups" is not only due to their own reasons, but also a "socialized product" of digital social change and artificial intelligence technology discrimination. Therefore, in order to better protect the information rights and interests of "digital vulnerable groups", in addition to the traditional technical protection measures, it is more necessary to standardize and improve the protection of information rights and interests of this group from the legal level. And it is necessary to constantly explore the balance between scientific and technological progress and human rights protection, so that it becomes an important guiding principle to protect the information rights and interests of "digital vulnerable groups"[8].

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