Ethical Issues in the Era of Big Data

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ABSTRACT

The advent of the era of big data makes people change their way of life, transforms the structure of enterprises, and even changes the nature of competition. Nowadays, it has become an outdated concept to regard information technology as an auxiliary or service tool. Information technology has had a wide impact on our lives. With the rapid development of information technology, social life is changing constantly. Through research, this paper finds that although big data facilitates people's daily work and life, rules and regulations are not fully matched with the development of science and technology. Therefore, there are many problems of infringing personal privacy brought by the era of big data to be solved.

Keywords: Big data era, privacy, constraint, awareness

1. INTRODUCTION

In the era of big data, people are actively or passively receiving every day in the information from different areas, different time and space and region, however, in today's society in different social classes, different ages or different people have different education levels of information literacy, difficult to correctly identify information of right and wrong, to People's Daily life brought a big or small inconvenience. The sharing of information and data is one of the significant signs of the era of big data. The mutually beneficial sharing of information resources on the Internet should follow certain rules and order. However, there are obviously phenomena such as information asymmetry and adverse selection in real life, which hinder the sharing of information and the transformation and deepening of its internal value.

The availability of readily available data, low-cost storage capacity and powerful tools to extract information from data can dramatically improve the quality of people's work and lives. However, as with all advanced technologies, there is a potential for this convenience to be misused. At the present stage, people are faced with problems in the following aspects when using big data. First of all, with the rapid development of science and technology, it is difficult to balance big data technology without complete and systematic constraints. As a result, personal data privacy and data ownership cannot be legally guaranteed, and the credibility of data users cannot be guaranteed.

In the era of big data, data is sharing. The shared values based on group rationality and the spirit of contract have gradually become the main ethical spirit in the era of big data.[1]To practice shared values, it is necessary to balance the rights between information receivers and information sharers, strengthen social supervision and rule of law, so as to ensure scientific and accurate information. Fully explore the role of intelligent technology in the construction of information ethics, so as to avoid the trap of "over-entertaining" data; Focus on the universality and fairness of sharing to promote the responsible and valuable sharing of information and data.

Big data analytics is a rapidly growing phenomenon, but the consequences are poorly understood. Therefore, it is important to identify and explore its ethical implications for both users of big data and those who use it. This paper aims to explore the ethical problems that big data brings to people's life and the underlying reasons, and puts forward corresponding solutions.

2. AREAS IN TROUBLE IN THE CONTEXT OF BIG DATA

2.1. Involving the invasion of personal privacy

In today's era, each individual enjoys the convenience of information to varying degrees, but at the same time exposes his own information to the public knowingly or unknowingly.Using tools and means such as data mining and data analysis to explore the past

history of human beings and predict what will happen in the future based on existing resources has become an achievable technology. As a result, privacy issues have gradually become a thorny issue that people must face.Some argue that the benefits of big data analytics come at a cost, such as the loss of privacy and control over the data. Personal data analysis has obvious benefits, including systems to track prison populations, the use of sensors to recover stolen equipment and monitoring communications related to national security issues. However, in fact, every individual or organization contributes their personal data to the big data industry when they use data, use the Internet and other technological products, but they have no ownership of their data. Exercising the right to personal data means that individuals should be able to benefit from it. Individuals who use digital services can be tracked by providers in return for using their services and losing their privacy. Privacy is the protection and access to personal information. This includes protection from unwanted attention or surveillance. The concept of privacy implies that individuals should have control over their personal data. However, few people have real control over what they store, whether it is accurate, how it is updated, and how it is deleted. Large organisations retain a large degree of control over personal data, allowing them to tailor offers and manipulate individuals' behaviour for their own benefit. As a result, individuals are not bound by choice and may be discriminated against by algorithms based on race, income, gender, or social class.

Data analysis tools are used to analyze and mine the personal data provided by people. After a series of operations, users' personal information can be easily obtained, and their information can be illegally used or even sold. Therefore, in the information environment, the privacy of users is one of the obstacles and challenges in the data era.

Firstly, with the development of the big data technology, all kinds of application are put forward for the user's location and the request of the real-name authentication information. Apps can through network analysis technology find out the user's needs, preferences and other private information. Through these methods business can benefit themselves. However, these access of users' data are always without permission of users, which directly jeopardize user's privacy. In addition, the predictive function of big data infringes on information privacy, which is mainly embodied in using big data to predict personal privacy information. For example, many businesses through the user consumption record and search history of the user's travel plan, personal emotional status, occupational needs and other related predictions, even according to the data to explore the user purpose and use the fraud phone to seize the user psychological characteristics and needs for personal or property fraud.

At present, the integration of artificial intelligence into human life also provides opportunities for ethical problems caused by big data, such as intelligent car "Leading Ideal" and "Nio".When a user purchases such a smart car, not only the car condition information is recorded, but also the user personal information is recorded accordingly.Most users provide their personal privacy information in accordance with the remote data collection notice proposed by the OGE, and attempt to provide better protection for their cars and related information here, but they are often not clear about the purpose of the information collection.In order to continue the normal use of the vehicle, the user often delivers the data directly. At this time, the user's information is handed over to the OEMs and the big data operators of the OEMs. After the user information is collected, personal information and car data are collected in the background. After big data calculus, the user's personal tags can be painted to the user portrait. [4]Subsequently, the operators can accurately push a large number of push information and marketing content to the client to induce the user to consume. Such economic behavior changes the very nature of big data and may raise ethical questions about privacy.

While individuals need to understand and balance the benefits of privacy needs, data control, and big data analytics, they often have no idea what will happen to their data once it is captured. Many big data applications are opaque, and individuals often have no idea what data is stored about them and how it is used. Individuals are often unaware that their data is being combined from multiple sources and being sold and used second-hand for data from different companies within the big data value chain. Individuals familiar with the big data analysis process may find it difficult to entrust personal data to an organization. As big data services become ubiquitous in individuals' lives, people are anxious about the misuse of personal information by big data service providers.

2.2. Problems existing in the organization

Companies face competitive pressure in big data analytics. Big data analytics has become a new market for many traditional organizations, as well as a new business tool for emerging startups. Organizations find this new market more profitable than their main one and try to exhaust all the value before their competitors. However, many organizations have difficulty understanding, measuring, and managing data quality in a big data environment. When organizations manage internally structured data, data quality is an important issue, with moral and economic consequences. This is a more complex issue for big data, which comes from multiple data sources in different contexts, including inferences drawn from unstructured social media data. In addition, the data will be shared or sold to other

organizations, which may also share or sell the data to others and use it for a different purpose than the original data collection goal agreed upon by the individual.

3. CAUSES OF THE PROBLEM

3.1. The negative effect of big data technology is the dilemma of information ethics

Big data technology has two sides. While it promotes social development and progress, it is difficult to get rid of the negative effects caused by its inherent defects.First, the freedom, openness, concealment and other characteristics of big data technology provide carriers for the spread of false and bad information, and provide opportunities for criminals. By hiding their real identities, the information actors are active in the information space with an anonymous identity. In the absence of supervision, it is easy to ignore the ethical norms of the information space. Information sharing is a breeding ground for information privacy disclosure, Internet rumors and other information ethics issues. In addition, the openness of information technology will also cause information overload, resulting in a large amount of information garbage and waste, leading to serious information pollution. Second, while promoting the rapid processing of large amounts of information, big data technology also increases the risk of personal privacy information exposure. Some ulterior motives and lawbreakers can easily obtain users' privacy information. Thirdly, the lack of information screening function of big data technology, it cannot automatically filter useless and false information, leading to various kinds of information mixed, the authenticity, standardization and stability of the information source is difficult to be guaranteed.

3.2. The lack of regulatory power is the social root of the information ethical dilemma

The occurrence of information ethics problems is not unrelated to the lack of social supervision. The maintenance of information ethics requires strong supervision by law and society. In the absence of necessary social constraints and supervision, people can freely express their opinions in the virtual information space, and willfully obtain and violate others' privacy information regardless of the consequences, which leads to information ethics disorder more easily.

For example, the "Personal Information Security Standards" clearly stipulates that face information belongs to biometric information, also belongs to sensitive personal information, the collection of personal information should be authorized to consent to the subject of personal information.

In this era of data pervading our lives, most information is acquired through personal permission,

but this "permission" is sometimes passive, which has many irrationalities. For example, mobile payment cannot be used if you do not agree that private information can be accessed. For example, if you do not agree to use Health Kit, it is not only impossible to use the app, but also impossible to go to many places without health code. So although many of the operations themselves are legal, the rules are imperfect and seem to give users the choice to protect their privacy, but they don't.

However, in the case of "face recognition vulnerability", the face information is wantonly collected and utilized by a third party without the knowledge of the information subject. At present, face recognition technology is widely used in many domestic scenes, and face and other biometric information leakage is common, which indicates that the existing legal norms cannot play an effective legal regulation effect on information activities. In addition, in the era of big data, there are legal gaps in all processes of data life cycle, such as data development, data storage, data management and data utilization. The existing information legislation has a narrow scope, low level of effectiveness and operability to be improved, which makes it difficult to meet the requirements of information activities under the rule of law in the era of big data.The lag of the legal system makes the information ethics lack the necessary regulatory power, which leads to the problem of information pollution, which seriously damages the information ecological environment.

3.3. The moral absence of the subject of information activities is the subject root of the information ethical dilemma

The subject of information activity is the subject of information ethics norms, and the moral absence of "human" as the subject of information behavior is the internal cause of information ethics dilemma. First of all, the openness and sharing of information space causes those individuals with weak sense of morality and weak self-control in real life to trample on information ethics and moral norms for personal gain, bringing the bad side of human nature to the network life. Secondly, the lack of safety awareness of information actors is the subjective reason for the ethical problems of network information. As mentioned above, big data technology has two sides. It has inherent defects and requires information activity subjects to strengthen security precautions. In the process of information activities, users lack the awareness of self-protection, which provides convenience for network illegal acts. For example, access to websites without security barriers, random disclosure of personal privacy on the Internet, long-term failure to antivirus computer systems and other behaviors will bring greater network security risks,

leading to frequent information ethics problems; Finally, the alienation and weakening of human subjects in information activities is another important reason for the frequent occurrence of information ethics problems. People are the main body of network information activities, and only "people" can endow the value attribute of information technology. However, with the development of artificial intelligence, Internet and big data technology, information has brought unprecedented impact on human development and social change, resulting in the "human" as the subject of information to blindly rely on and blindly follow information, and is dominated and enslaved by information. Especially in the era of big data, people are dealing with information all the time. In the two-way interaction between people and information, the dominant position of people is gradually weakened. In the process of indulging in the virtual world of the network, the values are distorted.

4. SOLUTIONS

4.1. Clarifying the ethical principles of information

Any technology needs to be restricted by rules and laws before it can truly provide benefits for human beings. Therefore, in the era of big data, users who use data and share information resources must be constrained by information ethics. Eliminate the information gap and avoid the inequality caused by poor information and adverse selection. As far as possible, people from different countries, different cultural backgrounds and different social strata can obtain the required information resources according to law, and ensure the openness and transparency of information.

4.2. Tightening public supervision

Effective supervision is a necessary link to ensure the healthy development of information sharing in the era of big data. We will strengthen and improve laws related to information activities. With the rapid development of big data technology, China's information legislation is relatively lagging behind and still needs to be improved. Therefore, at the present stage, the state should continue to speed up the legislation of network security and formulate more comprehensive and effective legal norms, especially in the areas of user privacy, information collection and management

Strengthen legislation on control, sensitive data protection and data quality to solve the problem of legal lag.At the same time, it is necessary to strengthen the law enforcement force of network information security, strengthen the punishment of information illegal and criminal behavior, and realize the combination of information illegal and crime prevention and

remediation. We will ensure that there are laws to abide by in online information activities and that lawbreakers will be prosecuted, so as to create a more transparent online information space.

4.3. Strengthening technological innovation

The negative impact of big data technology is partly caused by technological innovation. Therefore, to fundamentally solve the ethical problems, it is necessary to control them from the technical aspect and break the dilemma of information ethics with the help of technological means. Should step up support for the information and data security protection technology research and development efforts, using the Internet technology, information technology at the forefront of the core technology innovation development, improve the network information core technology independent research and development ability, promoting the operating system, high performance computing, quantum communications, mobile communications, such as core chip major breakthroughs were made in research and development and application, avoid disciplined by others in the world, to maintain our network sovereignty, network security and national security; On the other hand, to innovate and develop information security technology. Ensure the security of each link of information activities to meet the needs of information security in the era of big data.

5. CONCLUSION

In the era of big data, people's choice of clothing, food, housing and transportation, shopping and payment methods are more convenient than before, the operation mode and management concept of enterprises are more advanced, and social productivity is further improved. However, while enjoying the convenience and speed brought by the era of big data, we are also faced with a variety of risks, such as data leakage, data disclosure and data theft and so on. Even though people's subjective consciousness is gradually keeping pace with the development of science and technology at present, there are still some problems such as imperfect rules and regulations and weak awareness of users, which need to be further improved and coordinated.

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