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Research on Legal Issues of Big Data Discriminatory Pricing

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Abstract: With the rapid development of the Internet and the widespread application of big data technology, the phenomenon of big data discriminatory pricing has gradually emerged and attracted widespread attention. In fact, the use of big data can have many beneficial effects, especially reducing transaction costs and providing convenience to consumers. However, big data discriminatory pricing harms the rights of consumers, not only violates consumers' rights to personal information, right to know, and right to fair trade, but also affects people's trust in the development of new technologies, which is not conducive to the development of the big data industry. This article analyzes the concepts, characteristics, properties, current legal regulations and regulatory dilemmas of big data discriminatory pricing, and proposes scientific and rational ways to improve supervision, complaint mechanisms, relevant laws and regulations and other methods to safeguard consumer rights. It is hoped that it can help standardize the current big data discriminatory pricing and provide guidance for future legislation.

Keywords: big data discriminatory pricing, algorithm power, regulation, protect the rights of consumers

1. Introduction

With the rapid development of mobile Internet, big data technology is increasingly used in the business. The emergence of big data analysis technology enables companies to more accurately understand consumer needs and habits, and then provide personalized pricing for consumers. However, due to the motivation to pursue high profits in personalized pricing, operators often use big data technology to implement familiarity strategies and treat the prices of the same products differently, thus damaging the rights of consumers. Big data marketing refers to the behavior of operators using users' personal data to analyze factors such as consumers' purchase intention and demand elasticity in big data applications, and to conduct personalized pricing or service adjustments for specific users. The phenomenon of big data discriminatory pricing has had a great negative impact on consumer rights. On the one hand, big data discriminatory pricing causes consumers to face unfair transactions when purchasing the same products. On the other hand, the maturity of big data will also lead to information asymmetry, making it difficult for consumers to obtain product pricing and discount information, reducing consumers' freedom of choice.

As for the nature of big data discriminatory pricing, there are currently opinions such as price fraud theory, price discrimination theory, and algorithmic power abuse theory. At present, the academic community has not yet formed a unified view. Current relevant research emphasizes that regulating

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big data discriminatory pricing can effectively protect consumer rights, but the suggestions on how to regulate it are not yet completed. Therefore, based on an in-depth analysis of the concept and characteristics of big data discriminatory pricing, this article studies the regulatory status and dilemma of big data discriminatory pricing, and then proposes effective countermeasures to protect consumer rights, and achieve balanced development of reasonable pricing and consumer rights.

2. Overview of big data discriminatory pricing

2.1. The concept of predatory pricing behavior

The phenomenon of big data discriminatory pricing can be traced back to Amazon’s differential pricing experiment in 2000. At that time, some users discovered that the price of the "Titus" disc to regular customers was US$26.24, but after deleting the cookie, they found that the price had changed to US$22.74. The exposure of this incident has caused Amazon to face a flood of doubts and condemnation from consumers[1]. In March 2018, the term "big data discriminatory pricing" began to enter the Chinese public's horizons.

big data discriminatory pricing refers to the behavior of companies or platforms using user's personal data to analyze and mine consumers' purchase intention, demand elasticity and other factors in big data applications, and conduct personalized pricing or service adjustments for specific users. This kind of behavior currently occurs mostly on the Internet and usually manifests itself as offering higher prices to regular or new users, which is considered an unfair pricing strategy.

2.2. Characteristics of big data discriminatory pricing behavior

2.2.1. Personalized pricing and accuracy

The core feature of big data discriminatory pricing behavior is personalized pricing. By collecting consumers' behavior, preferences, price sensitivity and other information, enterprises can accurately judge the consumption power and demand of each user, making the price difference between different users of the same product or service and more likely to choose a specific option when purchasing the product or service. For example, for the same product or service, a company may increase the price for users with high price sensitivity.

2.2.2. Concealment

This behavior is achieved through big data technology and pricing strategies based on implicit data. big data discriminatory pricing behavior is priced by analyzing users' hidden data, such as browsing records, search behaviors, etc., And these hidden data are often not noticed by users. Secondly, the data analysis algorithms used in big data discriminatory pricing are often developed or introduced by merchants themselves, and merchants rarely disclose their pricing strategies and algorithm logic. This makes it difficult for users to understand the specific reasons and logic of their being priced. In the long run, consumers' information is analyzed and processed by operators through data, and consumers' options become less and less, and the frequency of contact with purchased information becomes less and less, finally forming an "information cocoon", and the situation of operators using consumers' surplus value becomes more and more intense[2].

2.2.3. Negative effects can easily spread

In the Internet age, information spreads extremely fast. When big data discriminatory pricing behavior is discovered by the media or users, they are likely to share it through social networks or other channels, thus attracting the attention of more users. The power of public opinion can spread rapidly,

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causing negative effects to spread. And due to the increasing awareness of consumer rights protection, users' protests against unfair pricing practices have also increased accordingly. They will express their dissatisfaction through complaints, rights protection, and other means, which will attract more users to participate in rights protection actions, making negative effects more likely to spread.

2.3. Nature of big data discriminatory pricing behavior

At present, there are three understandings in the academic community about the familiar nature of big data. One type is price fraud. This viewpoint believes that big data discriminatory pricing behavior is subjectively fraudulent intent[3]. The big data discriminatory pricing behavior deprives consumers of their right to choose and violates the obligation of "clearly marking prices"[4]. It is also a disregard for moral principles[3]. The second view is that big data discriminatory pricing behavior is a form of price discrimination[5], which believes that the formation and implementation of big data discriminatory pricing behavior relies on algorithmic technology. Operators use algorithmic technology to accurately position consumers, thereby setting different prices for each consumer to obtain more surplus benefits[6].

This article believes that big data discriminatory pricing is one of price discrimination, specifically algorithmic discrimination. Algorithms only reflect the personal will and rights of algorithm operators[7]. Operators who control algorithm power use the monopoly position brought by search recommendation algorithms to abuse their market dominance, and then implement differential pricing on consumers and users to obtain excess profits.

3. The regulatory status and challenges of big data discriminatory pricing

3.1. The regulatory status of China's big data discriminatory pricing behavior

At present, there are no clear provisions in China's laws specifically targeting big data discriminatory pricing behavior, and only certain provisions in relevant laws can be interpreted and applied to big data discriminatory pricing through legal interpretation.

3.1.1. Provisions of the Electronic Commerce Law

Article 18 of the E-commerce Law stipulates that if an e-commerce operator provides search results for goods or services to a consumer based on their interests, habits, and other characteristics, they shall also provide the consumer with options that do not target their personal characteristics, and respect and equally protect the legitimate rights of consumer. At present, this is the most direct provision in China's legal system that prohibits big data discriminatory pricing. However, the behavior of this regulation seems to be closer to "precision marketing" or "personalized recommendation", and there is a certain difference from "big data discriminatory pricing" behavior. And this article does not make a clear judgment on whether platform operators have provided non personalized recommendations to consumers[8]. Moreover, unlike the draft of the third review of the E-commerce Law, which stipulates that "e-commerce operators promote goods or services to consumers based on their interests, habits, and other characteristics", the officially passed law changes "promoting goods or services" to "providing search results for goods or services", and whether big data discriminatory pricing behavior such as differentiated prices can be referred to as "search results" remains to be discussed. If it can be called, there is also controversy over whether the price displayed through search results can be changed or how long it can be changed[9].

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3.1.2. Provisions of the Consumer Rights Protection Law

There is no direct provision in the Consumer Rights Protection Law regarding the act of big data discriminatory pricing behavior, but its rights to consumers and obligations to operators are explicitly stipulated. In some judicial cases, it may be expanded and applied. Articles 8 to 11 of this law stipulate the right of consumers to be informed, to make independent choices, to engage in fair transactions, and to seek compensation in accordance with the law. Article 14 stipulates the right to personal information protection. Article 25 also stipulates the consumer's right to withdraw. Article 18, 19, 20, 23, and 26 stipulate that operators have the obligation to disclose information and provide explanations. In addition, Article 20 also stipulates that operators have an obligation to clearly mark prices. Article 29 stipulates that operators shall not infringe upon the personal information of consumers. Simultaneously impose punitive legal liability provisions on operators.

3.1.3. Price Law

Article 14 of the Price Law stipulates that price fraud refers to the use of false or misleading pricing methods by operators to lure consumers or other operators into engaging in transactions. If big data discriminatory pricing is classified as price fraud, the provisions of this principle may apply. However, when regulating under the Price Law, it is difficult for consumers to prove that merchants use false or misleading pricing methods. Article 14, item 5 stipulates price discrimination, but it pertains to discriminatory behavior among operators and does not apply to behavior aimed at consumers.

3.2. Regulatory dilemmas of China's big data discriminatory pricing behavior

3.2.1. Difficulties in the application of current laws

As mentioned earlier, although there are some provisions in the current law that can be applied to big data discriminatory pricing behavior, most of them are not directly stipulated and need to be explained and applied in precedents. Secondly, currently, both academia and law have not clearly defined and targeted the nature of big data discriminatory pricing behavior. Even if big data discriminatory pricing behavior is identified as a certain type of behavior, due to the conflict between the legal provisions for this type of behavior, there are different understandings of the constituent elements of the behavior, leading to difficulties in application. For example, different laws have different understandings of the concept and constituent elements of price fraud behavior, the main differences are reflected in: firstly, whether the constituent elements of price fraud include the subjective intention of the operator. The second is whether price fraud is based on direct damage suffered[10]. For example, Article 184 of the Civil Code stipulates that the perpetrator fraud must have subjective intent. However, Article 14 of the Price Law and the Regulations on Clearly Marking Prices and Prohibiting Price Fraud both believe that as long as the perpetrator engages in fraudulent behavior, it can be considered fraudulent, which is inconsistent with the provisions of the Civil Code.

3.2.2. Imperfect regulatory mechanisms

The supervision of big data discriminatory pricing behavior requires collaborative efforts from multiple departments, including industry and commerce, pricing, and the information industry. However, the regulatory mechanisms among these departments are not yet perfect, and there is a lack of effective information sharing and collaborative work mechanisms. The regulatory authorities have relatively weak crackdowns on big data discriminatory pricing behavior, lacking effective punishment measures and making it difficult to form effective deterrence. In addition, big data discriminatory pricing behavior often involves complex algorithms and technical means, making it

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difficult for regulatory authorities to fully grasp and identify this behavior technically. Although the rapid development of big data technology can accelerate the government's "cloud" regulatory process, the current regulatory methods are generally far behind the development level of big data technology, and there are problems with low discovery rate, difficulty in obtaining evidence, and high investigation costs for platform regulatory methods[11].

3.2.3. Weak awareness of consumer rights protection

For some people, especially those from rural areas or older consumers, it is difficult to understand the concept of "big data discriminatory pricing" as an emerging product of the Internet. Some people, such as the elderly and children, have weak discernment abilities. Even if their rights are damaged, they do not know which departments to seek complaints and protect their rights from, or they encounter many difficulties in the process of protecting their rights and ultimately give up, resulting in these consumers being left to be slaughtered.

4. Suggestions for strengthening consumer rights protection in the context of big data discriminatory pricing

Against the backdrop of big data, consumer rights protection is facing unprecedented challenges. In order to address these challenges, it is necessary to take a series of measures to strengthen consumer rights protection.

4.1. Complaint mechanism

The first is to establish a sound complaint channel. Establishing a sound complaint channel is the key to strengthening consumer rights protection. Consumers can file complaints through various means such as phone, email, and online complaint platforms. At the same time, the government and relevant institutions should also strengthen the supervision of complaint channels to ensure smooth and timely response to consumer complaints.

The second is to establish a complaint and reporting the reward system to encourage consumers to actively participate in rights protection actions. Strengthen consumer education and publicity work, enhance consumer awareness and ability to protect their rights. By conducting various forms of promotional activities and training courses, popularize relevant laws, regulations, and knowledge of rights protection to consumers, and guide them to use Internet platforms correctly for consumption.

4.2. Improving National Laws

Big data discriminatory pricing behavior is a form of price discrimination, and the scope of price discrimination subjects should be expanded in the Anti Monopoly Law, and the subject of price discrimination should be re identified based on the characteristics of big data application. The Consumer Rights Protection Law should expand the extension of consumers' right to know, reduce the degree of information asymmetry, and increase protection clauses for consumer personal information. Add regulatory provisions in the E-commerce Law on "big data discriminatory pricing" behavior, clarify that Internet platforms implementing differential pricing behavior through technological means is a new type of contract fraud, and effectively regulate it. For the Personal Information Protection Law, it is clear that platform operators should take their full knowledge and consent to information processing as a prerequisite for collecting and processing personal information. To further protect users' personal information from excessive collection, the implementation of informed consent rules should be strengthened. Article 24 of the Personal Information Protection Law and Article 21 of the Regulations on the Recommendation and Management of Internet Information

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Service Algorithms should provide clear provisions on "significant impact" and "unreasonable differential treatment". Whether it is "significant impact" or "unreasonable", the algorithm results should be analyzed from the perspective of a general rational person to determine whether they have a serious impact on the user's original rights[12].

4.3. Strengthen Supervision

On the one hand, strengthen the supervision of algorithms. The government should strengthen the supervision of algorithms to ensure their fairness and transparency. This includes requiring internet companies to disclose key information such as algorithm models, data sources, and calculation processes for public and regulatory oversight.

On the other hand, strengthening collaboration and cooperation among regulatory authorities to form a regulatory synergy. The relevant departments of industry and commerce, pricing, and commerce should strengthen communication and coordination, as well as the construction of information sharing mechanisms; Strengthen joint law enforcement actions; Strengthen the construction of mechanisms for connecting administrative law enforcement and criminal justice, and increase efforts to investigate and punish big data discriminatory pricing behaviors.

5. Conclusion

Big data is a double-edged sword. On the one hand, it reduces the operating costs of Internet platforms and facilitates people's lives. However, on the other hand, with the accumulation of databases and the refinement of algorithms, it is becoming increasingly common for platforms to abuse algorithm power and consumer personal information to obtain more benefits from consumers. The research on the legal regulation of big data discriminatory pricing behavior is only a small step to compete with big data technology. In the future, greater efforts are needed to guide operators to use technology correctly for trading activities. At the same time, in order to effectively regulate this behavior, comprehensive measures need to be taken from various aspects such as legislation, law enforcement, judiciary, and compliance, forming a comprehensive and multi-level legal regulatory system. All parts should work together to strengthen supervision, increase punishment, enhance public awareness and education, and take multiple measures in order to achieve the goal of protecting the legitimate rights of consumers and promoting the orderly development of the big data industry.

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