Research on the Protection Path of Consumers' Rights and Interests under Algorithmic Discrimination

Yuhan Xiao
Law School, Xinjiang University of Finance and Economics, Urumqi, Xinjiang, China

Abstract: In the digital economy, online platforms implement differential pricing and targeted push based on user profiles, which gives rise to algorithmic discrimination and undermines consumers' right to know, right to fair trade, and personal information rights and interests. Drawing on the Consumer Rights and Interests Protection Law, Anti-Monopoly Law and Anti-Unfair Competition Law, this paper adopts normative analysis, case study and literature research methods. Combined with relevant cases involving Meituan and Ctrip, it sorts out the infringement mechanism of algorithmic discrimination and identifies four major dilemmas: insufficient coordination among legislative provisions, difficulties in adducing evidence, fragmented supervision, and limited channels for rights relief. Most victims give up claiming rights due to algorithmic black boxes and high costs of rights protection. An algorithmic black box means that the logic of algorithmic decision-making and parameter weights are regarded as the platforms' trade secrets, and external parties cannot access the operation process of algorithms. This paper constructs a protection system from five dimensions: legislation, judicature, collaborative supervision, platform self-regulation and social co-governance. It proposes to refine legal provisions, adjust evidence rules and expand public interest litigation, so as to strike a balance between platform development and the protection of consumers' rights and interests.

Keywords: Algorithmic Discrimination; Big Data Price Discrimination; Consumer Rights and Interests; Collaborative Governance

1. Introduction

With the rapid development of the digital economy, China's online retail sales reached 15.97 trillion yuan in 2025. New business forms such as livestreaming commerce and online travel have gained widespread popularity, and algorithms have become core operational tools for platforms [1]. Platforms construct user profiles based on user data to carry out dynamic pricing and personalized recommendation, which in turn gives rise to algorithmic discrimination including big data price discrimination, filter bubbles and traffic manipulation. From 2025 to 2026, the State Administration for Market Regulation interviewed Meituan and Ctrip on multiple occasions, and differential surcharging has become a key irregularity under rectification.

China has established a regulatory system centered on the Consumer Rights and Interests Protection Law, Anti-Monopoly Law and Anti-Unfair Competition Law, supplemented by the Personal Information Protection Law. Nevertheless, traditional laws are designed for offline transactions and struggle to cope with algorithmic black boxes and data monopolies. Platforms block algorithmic data, making it difficult for consumers to obtain evidence. The boundaries of application of the three aforementioned laws remain ambiguous, regulatory powers and responsibilities are fragmented, ex ante prevention is insufficient, and the outcome of rights relief is limited [2].

Two mainstream academic viewpoints exist: price discrimination and price fraud. The price discrimination theory holds that algorithmic differential pricing is an economic practice of differentiated pricing, which requires the prerequisite of a dominant market position for regulation. The price fraud theory argues that concealing the logic of algorithmic pricing itself constitutes fraud, without requiring the element of dominant market position. Existing studies are mostly conducted from the perspective of a single sectoral law, and systematic discussions on the coordinated application and conflict resolution of the Consumer Rights and Interests Protection Law, Anti-Monopoly Law and Anti-Unfair Competition Law remain inadequate.

Copyright @ STEMM Institute Press

Most existing research starts from a single legal provision and lacks studies on the coordination of these three laws [3]. Combining judicial cases and regulatory policies, this paper analyzes the harms of infringements caused by algorithmic discrimination and institutional shortcomings, and constructs a complete protection path from five dimensions: legislation, judicature, supervision, platform self-regulation and social co-governance, so as to provide feasible legal solutions for rights protection in digital consumption. This paper adopts normative research to sort out current legal provisions, case study focusing on judicial cases of Meituan and Ctrip, and literature research to review existing academic achievements [4].

2 Typological Manifestations of Algorithmic Discrimination and Infringement of Rights and Interests

2.1 Classification of Algorithmic Discrimination in Digital Consumption

Price-related algorithmic discrimination, namely big data price discrimination, is the type of infringement attracting the greatest public attention. Platforms build user profiles by integrating consumption frequency, device model, geographic location, membership information and other data, and impose differential pricing on identical goods [5]. It is subdivided into price gaps between new and old users, device-based price gaps and region-based price gaps. In the Hu v. Ctrip case, hotel prices offered to VIP customers were higher than those at offline stores. In the Liu v. Meituan case, members placing orders at the same address and within the same time window were charged higher delivery fees. Platforms often disguise differential surcharges under the pretext of supply-demand fluctuations and membership benefits. Since the operational logic of algorithms is not disclosed to the public, such discrimination is highly concealed, making it hard for consumers to identify unfairness through price comparison [6].

Recommendation-based algorithmic discrimination centers on filter bubbles. Based on browsing and consumption records, platforms push similar products selectively while shielding information on competing goods, continuously narrowing consumers' scope of choices. Long-term exposure to homogeneous information prevents consumers from making comprehensive price comparisons. Platforms thereby take the opportunity to raise prices of similar goods and induce irrational consumption. This model is widely adopted by e-commerce and short-video platforms [7].

Search-ranking algorithmic discrimination constitutes improper traffic allocation. Platforms boost the display positions of self-operated and paid merchants while suppressing the exposure of high-quality small and medium-sized merchants. It violates the traffic manipulation provisions under the Anti-Unfair Competition Law, undermines fair market competition and indirectly increases consumers' shopping costs [8]. The core element of algorithmic discrimination is the imposition of unreasonable differential treatment based on users' inherent characteristics without legitimate grounds. Price differences arising from cost variations, genuine supply-demand volatility and publicly available universal preferential policies do not constitute algorithmic discrimination [9].

2.2 Infringement of Consumers' Statutory Rights by the Three Types of Algorithms

First, it infringes the right to know. Article 8 of the Consumer Rights and Interests Protection Law stipulates that consumers have the right to know pricing and service rules. The algorithmic black box conceals the core logic of data collection and pricing. Platforms only display personalized prices on the user terminal. Although seemingly complying with the requirement of clearly marked prices, they actually conceal the basis for differential pricing [10].

3. A Multi-Dimensional Collaborative Improvement Path for the Protection of Consumers' Rights and Interests against Algorithmic Discrimination

Legislative dimension: improve the coordinated rules of the three laws. The Consumer Rights and Interests Protection Law should be revised to expand the connotation of the right to know and add the obligation of algorithmic information disclosure. Platforms are required to explain the data sources and decision-making basis of pricing and recommendation algorithms in plain language, reconstruct the rules of clearly marked prices for digital scenarios, and distinguish compliant preferential policies from implicit algorithmic price surcharges. Not all undisclosed algorithms amount to fraud. Only

 Copyright @ STEMM Institute Press

where a platform intentionally conceals information and imposes differential surcharges without legitimate grounds may the concealment of pricing logic be identified as price fraud, which attracts triple punitive damages and endows consumers with the right to algorithmic explanation [9].

Judicial interpretations shall be formulated to clarify the application boundaries of the three laws. Differential treatment without just cause by large platforms shall be governed by the differential treatment provisions of the Anti-Monopoly Law; big data price discrimination by small and medium-sized platforms shall be regulated as price fraud under the Consumer Rights and Interests Protection Law; traffic manipulation shall fall within the scope of the Anti-Unfair Competition Law. In the event of concurrence of rights, consumers may independently select one cause of action to seek remedies, so as to unify judicial adjudication standards [5].

Judicial dimension: The rule of presumption of fault shall be adopted, whereby consumers undertake the initial burden of proof and may submit evidence such as price gaps and differentiated push records to prove the existence of algorithmic infringement, while the burden then shifts to platforms to prove that price differences are justified by costs, supply and demand fluctuations or legitimate preferential policies; if a platform fails to provide complete background algorithm records, infringement is presumed to be established, and this mechanism draws on the rules of the Personal Information Protection Law to balance the evidentiary positions of both parties. A diversified remedy mechanism shall be perfected: in the long term, the Consumer Rights and Interests Protection Law can be revised to expand the eligible subjects of public interest litigation to municipal consumer associations, and given the lengthy legislative revision cycle, a transitional arrangement may be adopted in the short run, under which provincial consumer associations may entrust municipal consumer associations to collect evidence and clues and file public interest litigation in a unified manner. Internet courts shall set up special online channels for algorithm-related disputes to simplify case-filing procedures and popularize blockchain electronic evidence preservation to secure consumption evidence, and the Supreme People's Court may issue guiding cases to unify loss calculation standards, calculate price differences based on the lowest market price of homogeneous goods, and clarify that unreasonable price surcharges based on user profiling constitute price fraud so as to eliminate inconsistent adjudication standards across regions [4].

Regulatory dimension: A joint law enforcement task force led by the State Administration for Market Regulation with coordinated participation of the Cyberspace Administration, the Ministry of Industry and Information Technology and the Ministry of Culture and Tourism shall be established, a regulatory data sharing platform shall be built to exchange information on filing, complaints and penalties, and special algorithm rectification campaigns shall be regularly carried out targeting OTA, food delivery and e-commerce platforms. Tiered platform regulation shall be implemented: super-large platforms shall conduct third-party algorithm compliance audits every year, and supporting rules shall specify the qualifications of audit institutions and the scope of public disclosure of audit reports to distinguish materials submitted to regulators from publicly released information while protecting trade secrets; small and medium-sized platforms shall complete annual risk self-inspections [10]. A price anomaly early warning model based on big data shall be developed to realize ex ante early warning and in-process monitoring. The 12315 platform shall be upgraded by adding a dedicated complaint category for algorithmic discrimination and simplifying reporting procedures, and repeated violators shall be subject to credit sanctions and included in the business anomaly list [6].

Platform dimension: Platforms shall set up independent algorithm review departments to screen discriminatory parameters before product launch, publicly announce legitimate preferential policies such as new-user discounts and bulk purchase discounts, and prohibit implicit price hikes for old users and high-frequency users. In accordance with the E-Commerce Law, platforms shall specify retention periods and fully preserve algorithm adjustment records, clarify the boundary between trade secret protection and regulatory access to such records, and prevent platforms from refusing to hand over background records on that ground. Privacy agreements shall be restructured to abandon blanket authorization and adopt tiered data

Copyright @ STEMM Institute Press

authorization, granting users the rights to withdraw their data and erase user profiles. A 24-hour mediation channel shall be established to review price discrepancy complaints promptly and initiate refunds and compensation once violations are confirmed. A traceability mechanism for algorithmic transactions shall be built to keep logs, cooperate with evidence collection and implement the primary compensation obligation. Platforms shall establish independent algorithm review departments, screen discriminatory parameters prior to product launch, clearly publicize legitimate preferential policies for new users and bulk purchases, and ban hidden price increases for long-term and high-frequency consumers. They shall fully retain records of algorithm adjustments for inspection. User privacy agreements shall be revised to abandon the blanket mandatory consent model, adopt tiered authorization distinguishing basic transaction data and sensitive profiling data, grant users the right to withdraw data and erase profiles at any time, and uphold the principle of data minimization. A 24-hour rapid mediation channel shall be available to review consumers' price difference objections in a timely manner and provide voluntary refunds and compensation once algorithmic discrimination is verified. A full traceability mechanism covering transactions and algorithms shall be put in place with complete logs preserved, to cooperate with evidence access by regulators and judicial authorities and fulfill the backstop obligation of advance compensation [3].

Social co-governance dimension: E-commerce, tourism and food delivery industry associations shall formulate algorithm self-discipline conventions, unify industry compliance standards and conduct regular mutual evaluation among enterprises, and establish a public dishonesty blacklist to discipline non-compliant platforms through market reputation constraints. Consumer associations and regulatory authorities shall carry out legal publicity through 315 campaigns and short-video popular science to popularize rights-protection methods such as cross-account price comparison and screenshot preservation, introduce remedy channels under the three economic laws, and reduce consumers' tendency to give up claims [6]. Meanwhile, third-party audit institutions with compound expertise in law and computer science shall be cultivated; access and credit management systems for such institutions shall be established to prevent institutional capture by platforms. Entrusted by regulators and consumers, these institutions shall neutrally assess algorithmic fairness, and their assessment reports can be used as references for law enforcement and litigation, so as to make up for the technical weaknesses of supervision and form a complete governance pattern of multi-party collaborative supervision [8].

4. Conclusion

Algorithmic technologies empower the development of the digital economy, yet the discrimination behind them has become a prominent hidden danger infringing upon consumers' rights and interests. Faced with irregularities such as big data price discrimination, filter bubbles and traffic manipulation, the existing legal system still suffers from practical dilemmas including poor coordination among legal provisions, fragmented supervision and difficult access to remedies. Only by defining algorithmic obligations through legislation, optimizing evidence rules in judicial practice, establishing a collaborative regulatory mechanism across multiple authorities, promoting voluntary platform self-regulation and encouraging broad social participation, can we effectively address the governance challenges brought by algorithmic black boxes. Going forward, we should continuously balance innovative development and rights protection, ensure that algorithms operate under the rule of law, earnestly safeguard consumers' right to know, right to fair trade and personal information security, and foster a fairer, healthier and more sustainable digital consumption market.

References

[1] KAN Y Q. Research on the Legal Regulation of Infringement on Consumers' Rights and Interests by Algorithmic Price Discrimination. Jinan: Shandong University of Political Science and Law, 2026. DOI:10.27874/d.cnki.gsdzf.2026.000057.

[2] DING Y. Annual Report on the Protection of Consumers' Rights and Interests in China Released: Relevant Departments Continue to Optimize the Consumption Environment and Build a Safe and Reassuring Consumption Environment. China Quality News, 2026-06-11(006).DOI:10.28164/n.cnki.nczl

 Copyright @ STEMM Institute Press

b.2026.002633.
[3] XIN Y. Practical Dilemmas and Institutional Solutions of the Consumer Rights and Interests Protection Law in the Era of Digital Economy. Legality Vision, 2026(14):103-105.
[4] PENG X M. Strengthening the Protection of Consumers' Rights and Interests through Legislation. Rule of Law Times, 2026(6):17-18.
[5] LIU Y, LI L. Protection of Consumers' Rights and Interests under Algorithmic Discrimination in the Field of Digital Consumption. China Business & Trade, 2026, 35(11):112-115. DOI:10.19699/j.cnki.issn2096-0298.2026.11.112.
[6] LUO D Y. Research on the Protection of Consumers' Rights and Interests under Algorithmic Pricing Model. Kunming: Kunming University of Science and Technology, 2025.
[7] DING G F, SHI Y X. Legal Attributes and Regulatory Paths of Algorithmic Price Discrimination — From the Perspective of Consumer Rights Protection. Journal of Zhongzhou University, 2023, 40(3):46-50. DOI:10.13783/j.cnki.cn41-1275/g4.2023.03.007.
[8] XU H. On the Legal Regulation of Algorithmic Price Discrimination in the Context of Big Data—From the Perspective of Consumer Rights Protection. Journal of Jiangsu College of Engineering and Technology, 2021, 21(3): 109-112. DOI:10.19315/j.issn.2096-0425.2021.03.024.
[9] XIE L Y. Research on the Protection of Consumers' Rights and Interests under Algorithmic Price Discrimination. Guilin: Guangxi Normal University, 2025. DOI:10.27036/d.cnki.ggxsu.2025.000031.
[10] LIU S X, LI J W. Technical Logic, Regulatory Reflection and Path Reconstruction of Consumer Rights Protection under Algorithmic Price Discrimination. Price: Theory & Practice, 2025(3):63-67. DOI:10.19851/j.cnki.CN11-1010/F.2025.03.061.

Copyright @ STEMM Institute Press