

Research on the Monopoly Problem and Optimization Countermeasures of Internet Platform

Junqi Huang^{1,a,*}

¹*Jinan University Birmingham University United College, Jinan University, Guangzhou, 510632, China*

a. jxh1346@student.bham.ac.uk

**corresponding author*

Abstract: With the growth of the Internet industry, as the main body of the Internet industry - the Internet platform has also developed into an indispensable thing in people's life. However, the development and growth of the Internet have also led to the problem of monopoly in the Internet industry. Since the Internet industry has characteristics different from other traditional industries, such as network externalities, openness, high degree of data dependence, rapid technological upgrading, etc., it has become difficult for the government to supervise Internet monopoly. The Internet platform's dependence on data and information and its opacity has led to difficulties in government supervision. This paper studies the characteristics of monopoly in the Internet industry and synthesizes the cases of large Internet platforms in the real world, such as Alibaba, Taobao, and Twitter, as well as the research done by previous scholars, then provides relevant and effective suggestions on how to deal with this problem of internet platform monopoly.

Keywords: internet platform, monopoly, finance, network externality

1. Introduction

1.1. Research Background

A company with a monopoly lacks substitutes for its product in the market and faces no competition from them. Monopolies have the power to set prices and erect obstacles to entry for rival businesses. Due to the lack of competition in the market, monopolies may be unwilling to innovate the products they produce to increase profits. Especially in the market of necessary goods, monopoly will prevent people from getting high-quality and easy-to-use goods. Due to the lack of comparable alternatives, people must choose outdated, low-quality products. Furthermore, because there are few or no competitors in their industry, monopolies are free to determine their prices without interference. As a result, they could unfairly demand excessive prices for their goods. Moreover, monopolies may have inelastic demand and increase prices, giving customers few options. Antitrust regulation prohibits monopolies and ensures that one company cannot monopolize a market and use that dominance to exploit its customers to lessen monopoly's detrimental effects on society. With the emergence of the third industrial revolution in the 21st century, humankind has entered the information age, and the Internet that connects everything is the greatest achievement of this revolution's achievements. But when the Internet was invented and became a huge industry with a huge market

and benefits, monopoly also appeared in the Internet industry. The monopolistic behavior of enterprises in the traditional economic era refers to market players relying on economic advantages to exclude or restrict competition, including two forms of abusing economic advantages and jointly restricting competition. But the foundation of the formation of monopoly in the Internet economy era is technical, and the prominent feature is that the time for knowledge and technology to be replaced and transformed into real productivity is getting shorter and shorter. The monopoly position brought about by technological innovation is unstable and requires a large amount of information data to achieve a monopoly. This is because the Internet industry has many characteristics that are different from other traditional industries, such as openness, which is the Internet industry has many characteristics that are different from other traditional industries, such as openness, which is the Internet's most representative feature the Internet. It emphasizes the traits of platform interconnection and a peaceful, cooperative industrial ecological environment.

Baidu, Taobao, and other websites dominate the open, mainstream Internet platform [1]. Another characteristic of the Internet is an externality, which Robert Metcalf proposes. Network externality means that in economics or business, when a consumer chooses a certain product or service, and the utility obtained is related to "the number of other users who use the product or service", the product or service is called have network externality [2]. For example, for Taobao, an online shopping platform, stopping using Taobao is not only a change in the online shopping platform but also means that you lose all the resources of sellers and buyers that only appear on Taobao, which makes it more difficult to give up using Taobao. Network externalities also increase users' stickiness and increase the difficulty of enforcing antitrust laws. Twitter a social media platform, if users abandon Twitter, they will lose their followers. Due to the network industry's openness and network externalities, it is more difficult to judge the network industry's monopoly and find the proposed solutions to the monopoly. It is difficult for the government to judge whether a company trying to expand the market share of its Internet platform is trying to occupy a large enough market share to achieve a monopoly position or follow the concept of network externalities to improve the welfare of society. Therefore, it is very important to conduct sufficient research on the monopoly of Internet platforms and their solutions.

1.2. Literature Review

Many scholars have conducted in-depth research on this issue. J.Kennedy has analyzed the characteristics of the internet platform and whether the internet platform treats the competition and harms society's welfare [3]. McChesney carefully examines the Internet's growth within the framework of monopoly capitalism, highlighting both the existing limitations of this technology and its enormous potential [4]. Q He proposes a classification system that differs from the criteria determined by company size to help detect monopolistic activity effectively based on case studies such as the Visa case, Meituan case, JD.com case, and Alibaba decision; it follows that we should continue to concentrate on the impacts of foreclosure while identifying the kinds of behavior that require close examination [5].

1.3. Research Framework

Although many scholars have conducted in-depth research on this issue, this issue still has high research value and space. For example, there are still many potential identification methods and supervision methods for Internet monopoly behaviors. This will also be the main research direction of this paper - research on the monopoly problem and optimization countermeasures of the Internet platform. This article will first analyze the status quo of today's Internet platforms then find out the

various problems existing in today's Internet platforms, which leads to how to conduct monopoly analysis of Internet platforms and corresponding optimization countermeasures.

2. Methods

In order to achieve the research purpose of this article and give meaningful conclusions, this article studies the cases of major Internet platforms around the world and analyzes the impact of large online shopping e-commerce platforms such as Taobao and JD.com on society. And after analyzing the causes of these problems, some possible solutions are given in the paper. This paper also researches and studies many related papers and summarizes and analyzes some countermeasures against the network monopoly platform.

3. Result

As an important carrier of the digital economy, the Internet platform has reshaped traditional production and lifestyles and played an active role in improving social convenience and promoting high-quality economic development. But at the same time, due to the typical multilateral characteristics of the platform, there are also data leakage, algorithm and data abuse, and malicious exclusivity between platforms in the development process, which brings privacy security risks and fair competition damage.

3.1. Internet Development Condition

The development of the Internet platform has the following characteristics. First of all, is the rapid development of various Internet application platforms; we use China online platform data as an example, broadband access technology has become increasingly mature in China, and its coverage is getting wider and wider. At present, China's broadband has entered a period of rapid development. Recently, the number of Internet broadband access ports in China has grown rapidly. In 2021, the number of Internet broadband access ports in China will reach 1.018 billion, an increase of 72 million from 2020, a year-on-year increase of 7.59%, of which 960 million optical fiber (FTTH/O) ports accounted for 94.31% of the total number of Internet broadband access ports [6], as shown in Table 1.

Table 1: Internet usage and changes in China from 2020 to 2021.

Application category	December, 2021		December, 2020		Growth rate (%)
	User scale (10000)	Utilization rate of Internet users (%)	User scale (10000)	Utilization rate of Internet users (%)	
Instant messaging	100666	97.5	98111	99.2	2.6
Network video (including short video)	97471	94.5	92677	93.7	5.2
Online payment	90363	87.6	85434	86.4	5.8
Online shopping	84210	81.6	78241	79.1	7.6
lycos	82884	80.3	76977	77.8	7.7
Online ordering	54416	52.7	41883	42.3	29.9
Online office	46886	45.4	34560	34.9	35.7
Online car appointment	45261	43.9	36528	36.9	23.9

Table 1: (continued)

Online medical treatment	29788	28.9	21480	21.7	38.7
--------------------------	-------	------	-------	------	------

In addition, the Internet industry also has characteristics of a high degree of concentration. With the rapid development of Internet companies, Internet platform companies are showing a trend of cluster development. As of 2021, the number of Internet-listed companies in China and abroad will increase by 8 compared with 2020, and the total number will reach 155, an increase of 9.5 percentage points. The number of Internet unicorn companies will increase by 12 compared with 2020, and the total number will reach 219, an increase of 5.8 percentage points [6]. In addition, the Internet industry also has the characteristic of significant advantages of the head platform. Experts calculated the market concentration of the representative and relatively mature Internet fields and found that in the fields of instant messaging, search engines, and online shopping, the user coverage of the top enterprise has exceeded half [7]. Tencent, Baidu, and Ali, which have long been the top three industries above, have already deployed mobile Internet tracks, with user penetration rates as high as 91.3%, 94.6%, and 95.9%, respectively [8].

3.2. Problems Caused by the Internet

However, the development and growth of the Internet platform have naturally led to the emergence of a monopoly. Platform builders create an "information bridge" to enable communication between providers of goods or services and customers, and then they broker negotiations to bring them to a successful conclusion. They function as intermediaries for transactions, and they manage markets. Platform companies consequently exhibit typical multilateral traits and are well-suited to act as "gatekeepers" in the markets in which they compete. When the platform develops, it is simple to cause monopoly issues and harm social and economic advancement. The specific monopolistic behavior of the Internet platform is manifested as an unfair competition based on big data and algorithms. The potential value of the Internet platform economy is directly related to user traffic, which also makes the platform use the merchants stationed to stabilize user traffic and compete for user traffic to gain market dominance. In this regard, in order to crack down on competitors, prevent docking compatibility and interconnection between platforms, and increase the switching costs of merchants, giant Internet platforms have implemented "choose one of two platforms" restrictions on transactions for merchants [9]. This kind of behavior has obvious monopolistic characteristics, and its consequence is that it infringes on the rights and interests of businesses and consumers on the platform, blocks the fair competition mechanism in the market, will also curb the development of small and medium Internet platforms, and further accelerate industry oligopoly. For example, Alibaba has been fined 18.2 billion yuan by the market supervision and management department for requiring merchants on the platform to "choose one of the two platforms" since 2015 to maintain its own market power and gain unfair competitive advantages. On the other hand, Internet platform companies have always been regarded as technology-based companies which can calculate customer needs and product selection habits through relevant algorithms, improve user experience, and increase customer stickiness. Unlike e-commerce platforms that only help merchants increase customer sales, Internet platforms can also take advantage of data dominance in community group buying, match information with algorithms, design price strategies for different consumers, and cause price abuse. The price abuse of Internet platforms is mainly manifested in predatory pricing and price discrimination. Predatory pricing refers to the pricing method in which many subsidies are used to obtain customers in the early stage of platform development and to drive out competitors with a price lower than cost. However, with the development of platform companies, their market

power is growing. Subsidies may be canceled, and a higher commission may also be imposed on platform service providers. The pricing model often used by platform companies is price discrimination. Platform companies take advantage of data, analyze user data based on big data algorithms, and charge different prices for the same goods and services to different users in order to maximize profits. "Big data killing familiarity" is the most common form of price discrimination. The form of expression seriously damages the legitimate rights and interests of consumers and disrupts the order of market competition. The Internet platform controls merchants through the "choose one" model and stabilizes customer flow through "big data precision marketing". This exclusive trading behavior deprives the same merchant of the right to simultaneously conduct business on multiple platforms. It inhibits the platform and internal merchants of the platform. Competition reduces consumers' legitimate rights and interests and is typical of Internet platform economic monopoly. In addition, data monopoly is also a specific example of Internet platform monopoly. When the Internet platform provides services to users, it seems free, but it is at the cost of data users contribute. Internet platforms obtain user data at a very low cost, track and analyze user data, characterize user behavior, provide targeted services to users, increase customer stickiness, and realize data monopoly. Internet platforms can achieve data monopoly from different dimensions. First, users are required to provide data beyond the scope of the platform's services. Many Internet platforms in our country require users to provide various types of data, especially to use the platform's market power and user stickiness to require users to provide authorized services during use. In fact, these authorized services are not related to the services obtained by users but are for the platform to tap the potential needs of users. Second, use data advantages to consolidate the market position. Internet platforms collect user data of different dimensions, give user portraits, provide targeted services to users, increase user stickiness, and consolidate the market position. Third, use data advantages to exclude market competition. Platforms can not only use data advantages to exclude other competitors from entering the field but also use the obtained data to enter other markets and disrupt orderly competition in other markets. Leading Internet companies rely on capital and technological advantages to complement each other with businesses in the market and strengthen alliances with platforms with a certain market size, build larger Internet platforms to strengthen monopoly power, and continue to squeeze out the market share of small and medium Internet platforms. Obviously, this behavior destroys the fair market competition environment and will also curb the innovation of the entire Internet platform industry.

4. Discussions

4.1. Difficulties in the Monopoly Supervision of Internet Platforms

Because the Internet monopoly will cause a waste of social resources and reduce the overall welfare of society, government supervision and legal restrictions are needed to prevent the occurrence of monopoly behavior. However, there are still considerable difficulties in judging Internet platform monopoly.

First, it is difficult to identify platform economic monopoly behavior in international operations. The Internet platform economy is characterized by various fields (including e-commerce, community group buying, finance, etc.), and a more stable flow. This makes it difficult for the platform economy to determine whether it has abused its dominant market position or is selling far below the market price and other monopolistic behaviors when promoting activities or adjusting some business [10]. The platform economy mainly uses the number of active users and the number of clicks as indicators to determine market share, but whether these figures are effective and reasonable (some consumers may pay attention to multiple platforms simultaneously) remains to be studied. It is the law of the Internet platform that the platform economy is getting bigger and bigger and con-

stantly concentrated. This is related to the launch time of the platform, market promotion, consumer experience, etc., but a "big" platform is not necessarily a "monopoly" platform. A platform with a high market share does not necessarily have a market dominance that restricts competition, and one cannot impose "one size fits all" anti-monopoly regulations on a platform just because of its high market share, otherwise many excellent companies will easily be identified as having a market dominance. It can be seen that the network effect, winner-take-all, multilateral market, big data matching effect, and other characteristics of the platform economy make the actual operation of anti-monopoly more difficult. In addition, the technical constraints of the regulatory authorities and the difficulty of real-time monitoring are also a problem in preventing the monopoly. Most Internet platforms are among China's top Internet technology companies. These companies have a large number of Internet technical talents. They can design various intelligent algorithms to support new businesses and new ecology, thereby generating new types of market monopoly behavior and disrupting the order of market competition. For example, Internet platforms block competitors through digital technology, attack competitors through search weight settings, or set sales models such as pop-up windows at different periods. Different from the materiality, transparency, and symmetry of the traditional regulatory model, the characteristics of the Internet platform, such as opacity, virtualization, and high technical complexity, make monopolistic behavior more concealed.

4.2. Method to Effectively Supervise and Prevent Network Platform Monopoly

Firstly, improving and refining the anti-monopoly legal system and framework as soon as possible is necessary. At present, the anti-monopoly laws and regulations for the Internet field are still relatively general, and the operability is not strong in many aspects. The work of "revision, abolishment, and release" of relevant supporting regulations and normative documents have not yet fully caught up. Therefore, it is necessary to speed up the revision process of the anti-monopoly law to provide a sufficient and feasible legal basis for supervision. The adjustment and improvement of laws indeed require a process, and proper and scientific supervision is still required. When encountering difficulties in the application of laws or lack of legal basis in the supervision process, we should pay attention to the development status, development laws, and characteristics of the Internet market and always take the basic purpose of the anti-monopoly law as the benchmark instead of staying in behavior or form. It is necessary to follow the principle of case analysis, analyze according to the specific field, specific enterprise, and specific behavior to determine whether the enterprise has a dominant market position in the relevant market, and then analyze whether the behavior has anti-competitive effects, and at the same time clarify whether there are reasons for defense. In addition, it is necessary to strengthen the construction of anti-monopoly law enforcement agencies and teams. The Internet field involves a wide range of highly technical and professional, which puts forward very high requirements on the anti-monopoly law enforcement department and its personnel. For example, the abuse of market dominance by Internet platforms requires law enforcement officers to carefully determine the abuse of market position and a comprehensive analysis of it rather than just making a final judgment based on appearances. The anti-monopoly of Internet platforms is a long process. During this process, more attention should be paid to training professional personnel to support the orderly and healthy development of the Internet platform industry. It is necessary to optimize the setting of anti-monopoly law enforcement agencies, increase professional staff, rationally allocate anti-monopoly law enforcement powers within regulatory agencies, and take practical measures to strengthen anti-monopoly law enforcement capacity building. Finally, on the premise of adhering to the basic principle of inclusiveness and prudence, "strong supervision" should be scientifically and effectively realized. Tolerance and prudential supervision are not contradictory to "strong supervision", and the two complement each other to promote the simultaneous progress of support and supervision. Although inclusiveness and prudence can help prevent exces-

sive intervention from affecting the healthy development of the Internet market, it is still necessary for regulators to pay more attention to the actual harm and potential risks of the Internet market, so that they can identify and regulate the Internet market earlier, faster and more accurately. Anti-competitive behaviors that threaten the market competition order and consumer rights improve the effectiveness of supervision and avoid the absence of supervision due to "inclusiveness". In this process, it is not only necessary for regulatory agencies to maintain a positive attitude towards competitive behavior in the Internet market but also to constantly update regulatory concepts, regulatory ideas, and regulatory methods, actively carry out market research activities and take the initiative to understand new behaviors and new applications in the Internet market. The actual effect and potential impact of the new model on the market competition order, and avoid passively waiting for the damaging effect to occur before carrying out post-regulation.

5. Conclusion

Due to network effects, lock-in effects, and platform effects, the Internet economy has the characteristics of a natural monopoly, and a situation of monopoly by Internet companies has rapidly formed. The problems caused by Internet monopoly at this stage mainly include the following aspects: public Internet service functions are separated from government control, monopoly reduces market competition, and consumers can only receive low-quality services. Monopoly platforms abuse market power to harm the interests of consumers. The probability of investigation and punishment of Internet companies' monopolistic behavior is too low, and the difficulty is too great. Internet monopoly platforms abuse user data, and algorithms threaten personal privacy and information security. In response to these problems, this paper proposes to improve the anti-Internet monopoly law to improve social welfare, ensure that consumers can receive high-quality services, and strengthen data governance for Internet platforms to prevent data and algorithm abuse from compromising information security and leakage of personal privacy. In addition, it is necessary to train professionals in Internet monopoly identification to enhance the ability to identify Internet monopolies to reduce the possibility of Internet monopoly occurring as much as possible and reduce the damage of Internet monopoly to social welfare.

References

- [1] Lin, H., Feng, X., Wu, D., Ji, F., & Li, X. *Legal Governance of Internet Platform Monopoly Based on Big Data Analysis: A Review of Alibaba Case*. *Mobile Information Systems*, 2022.
- [2] Katz, M. L., & Shapiro, C. *Network externalities, competition, and compatibility*. *The American economic review*, 1985, 75(3), 424-440.
- [3] Kennedy, J. *Monopoly Myths: Do Internet Platforms Threaten Competition?*. *Information Technology and Innovation Foundation*, 2020.
- [4] AuERBACH, D. A. N. I. E. L., & Clark, B. *The Internet and Monopoly Capitalism*. *Monthly Review*, 2016, 68(5), 45.
- [5] He, Q. *Rethinking the legal regulation of Internet platform monopoly in China*. *Policy & Internet*, 2022, 14(2), 284-303.
- [6] Office of the Central Cyberspace, Affairs Commission http://www.cac.gov.cn/2021-02/03/c_1613923423079314.htm last accessed 2023/3/1
- [7] Su, Z., Jing, W. J., Sun, B. W.: "Layered Monopolistic Competition: Research on the Market Structure Characteristics of the Internet Industry—Based on the Analysis of Internet Platform Enterprises", "Management World", Issue 4, 2018.
- [8] Quest Mobile Research Institute: "2020 China Mobile Internet Annual Report (Part 1)", <https://www.afenxi.com/82391.html> last accessed 2023/3/1
- [9] Li, H. Y., Bi, Y. B.: "The Difficulties, Significance and Enlightenment of my country's Internet Platform Anti-monopoly", "New Finance", Issue 4, 2021
- [10] Wang, C. Y., Chen, H. M., Yang, Y. P.: "Research and Supervision Suggestions on Platform Economy Monopoly in the Digital Economy Era", "E-Commerce" Issue 5, 2021