International Business & Economics Studies
ISSN 2640-9852 (Print) ISSN 2640-9860 (Online)
Vol. 6, No. 3, 2024
www.scholink.org/ojs/index.php/ibes

Original Paper

The Characteristics, Harm and Anti-monopoly Measures of Digital Enterprise Monopolistic Behavior in Digital Economy: A Case Study of Amazon

Hongfu Liu*

[1] College of Economics, Guangxi University, Nanning, China

* Corresponding author

Received: April 29, 2024 Accepted: June 11, 2024 Online Published: June 27, 2024

doi:10.22158/ibes.v6n3p158 URL: http://dx.doi.org/10.22158/ibes.v6n3p158

Abstract

With the wave of artificial intelligence, blockchain, cloud computing, big data and other digital technologies becoming new general technologies, digital enterprises present new characteristics of industrial organization: non-contest-ability of information products, zero marginal cost of information, digital market can be absent online, and big data can replace material materials as key inputs. These new characteristics lead to some new types of monopolistic behaviors in digital enterprises. This paper selects the self-preferential behavior for detailed analysis, and takes the well-known digital enterprise Amazon platform as an example: (1) summarizes the foundation (development mode) of realizing self-preferential behavior; (2) the whole chain of self-preferential treatment behavior from pricing, product selection, procurement, after-sales and inventory; (3) It points out four kinds of behaviors that are harmful to competition, such as weakening competitors' advantages, increasing competitors' costs, reducing innovation motivation and damaging consumers' welfare. Finally, this paper provides a reference for the monopoly identification of this behavior from three aspects: expanding the identification of digital economy market, refining the standards for identifying dominant market position, and carefully identifying the abuse of dominant market position by self-preferential treatment, and further puts forward regulatory suggestions.

Keywords

digital enterprises, self-preferential treatment, anti-monopoly

1. Introduction

Digital economy refers to a series of economic activities that take data resources as the key factors of

production, modern information networks as the important carriers, and the effective use of information and communication technology as the important driving force for efficiency improvement and economic structure optimization. (Zhang, 2022) Digital economy is based on digital technology, and the scope of digital technology is very broad. Conventional technologies include modern information and communication technology, Internet technology, data collection, transmission and processing technology, computing power technology, cutting-edge technologies also include artificial intelligence, deep learning, quantum computing, virtual reality, brain-computer interface and other technologies. According to the trend that has been shown, digital technology is very likely to be the new universal technology. The upgrading of general technology has a huge driving force for economic growth, because general technology can not only be widely used in other sectors, but also has a huge space for technological breakthrough and cost reduction, and drives the emergence of new products and new businesses, thus continuously promoting economic growth. Steam power technology is the first modern general technology, which triggered the first industrial revolution. Steam power technology is the first modern general technology, which triggered the first industrial revolution; internal combustion power and electric power technology is the second modern general technology, which triggered the second industrial revolution. And digital technology, as the new universal technology, seems to be triggering the third industrial revolution characterized by informatization, and even some people believe that it is now transitioning to the fourth industrial revolution characterized by intelligence.

The application of digital technology, the new scene, new mode and new ecology of digital economy make the industrial organization of digital economy show some new characteristics, and the competitive behavior of its enterprises show some new characteristics. Specifically,it can be summarized as the following four points. The first is the non-contestability of information products. The main products in the era of digital economy are information products. The non-contestability of information products means that when a customer buys and uses them, as long as there is some infrastructure, it does not prevent another customer from buying and using them at the same time, at least it can be purchased and used by another person at the same time without increasing significant costs. From the perspective of industrial organization, the new change lies in the design of fees, that is, how to charge for information products or other similar digital products. Specifically, Embodied in how digital enterprises design business models, how to set up business relations between enterprises and users, how to use technical means to set up different charging mechanisms and how to gain competitive advantages in the market.

Second, the marginal cost of information is approaching zero. Digital technologies bring the marginal cost of information to very low levels that approach zero. The same information can be shared over and over again by almost unlimited numbers of people once it is connected to the Internet, without the ever-increasing and obvious cost of sharing as the number of people and times increases. This endogenous feature will greatly overturn the cost-benefit relationship and competitive strategy of digital enterprises. A significant phenomenon is that all digital enterprises pursue infinite scale: to

develop a digital product recognized by the market, so that countless people can share and reuse it, and obtain infinite income. The digital economy offers great possibilities for winners to take all, and allows them to build great influence and multiplier leverage to spread that influence to other industries.

Third, digital markets can be online without being present. This is a far-reaching change. In the beginning, people used the Internet to conduct all kinds of economic activities, trade and communicate; Further, the identities of vendors, organizations and individuals can be virtualized, which will produce completely virtual activities and virtual worlds; On this basis, virtual products and even virtual currencies can emerge. Furthermore, the fusion of the virtual and thereal has also emerged, which will make the online and the physical highly integrated, so that the virtual world and the real world, the virtual identity and the real identity are both separated and combined. The "metaverse" can be seen as a realistic embodiment of this endogenous feature.

Fourth, big data replaces physical materials as key inputs. Big data has become a key input, which is inherent in the basic technologies of the digital economy, such as digital information collection, transmission and storage technology, network architecture technology, computing and learning technology, and so on. Breakthroughs in these technologies have greatly reduced the cost of big data processing and greatly stimulated the demand for big data. The value of big data comes from the association and synthesis of extremely large, diverse and rapidly changing data. Therefore, the collection and acquisition of large volume and wide range of data, as well as the subsequent storage, circulation, analysis and use, and the development of computing power have become the core links in the digital economy.

2. The New Monopolistic Behavior Of Digital Enterprises

The impact and challenge brought by these endogenous characteristics to industrial organizations are mainly reflected in the new monopoly behaviors of enterprises, which mainly include the following categories. The first is self-preferential treatment. The giant enterprises in the digital economy often have both platform and self-operation businesses, which means that on the one hand, they open their platforms to many other manufacturers, and on the other hand, they operate self-operation businesses that form a competitive relationship with other manufacturers. Therefore, self-preferential behavior becomes a prominent issue. There are many ways for platforms to self-favor, such as putting their own products in a more prominent position, arranging more priority distribution, inducing customers to give more favorable comments, or taking reverse measures against other vendors, such as search downgrade. (Li, 2023) The second is to refuse to do business. The main forms of transaction refusal in the digital economy include blocking, disconnecting, limiting flow, reducing convenience and so on. The third is the so-called killer merger and acquisition. The acquisition of a small business by a digital giant that has mastered some new technology or model that poses a threat to the incumbents of the industry has been described as a killer acquisition. The fourth is differentiated pricing and subsidies. The differentiated pricing of digital enterprises includes the so-called big data killing, and the subsidies are

often expressed in the radical way of low or even zero price. In particular, some digital enterprises implement continuous and large subsidies for product sales with the help of huge financing from the capital market.

3. The Formation and Performance of Digital Enterprises' Self-preferential Treatment and Its Harm to Competition—Take Amazon Platform As an Example

Among the above four types of behaviors, self-preferential treatment mainly reflects how digital enterprises make use of their own data advantages and gain advantages in competition with other enterprises. Take Amazon platform as an example to analyze the formation, performance and harm of self-preferential treatment to competition in detail. (SUN, 2021)

3.1 The Development Model of Amazon Platform

Amazon controls nearly half of the online sales market in the United States. Currently, more than one-third of the top 500 Internet retailers sell on Amazon. In addition, it is not only an e-commerce platform, but also a retailer, logistics provider and even extends to physical stores. The intertwined vertical integration of retail and brick-and-mortar allows Amazon to leverage cross-segment advantages in potentially anticompetitive ways, thereby creating a monopoly. Thepattern of Amazon's development can be summarized as follows.

Build scale advantage and promote multi-industry layout. The development of Amazon's platform is built on its huge scale advantage accumulated in the early stage. Amazon did not make profits in the early development process of multi-industry layout and cross-sector integration, but formed a huge loss, but still attracted a large number of investors, which made it become a dominant online retailer and Internet infrastructure provider.

We will strengthen core advantages and build supporting infrastructure. By integrating specific business areas, Amazon has created an integrated Internet economic infrastructure. By making itself an integral part of the e-commerce ecosystem, Amazon can learn what its competitors are doing and then use that information to gain an advantage over its competitors, further cementing its dominance in all areas. Taking the development of FBA service as an example, Amazon gained great bargaining power with the delivery industry by dominating the online retailers of FBA service, and then used this advantage to obtain favorable terms from third-party delivery companies, which in turn enabled Amazon to expand its dominance over other retailers by creating its own logistics and delivery service system. As a result, those independent third-party sellers who do not choose FBA service have to accept the following two choices: one is to compete with Amazon at an absolute disadvantage, the other is to rely on Amazon's delivery and logistics system. In addition, sellers who use FBA are more likely to rank higher in Amazon search results than those who don't, resulting in more traffic and more deals. The more extensive the e-commerce infrastructure Amazon controls, the more it will be able to continuously expand and grow its new businesses.

Entrenching existing users and handing out subsidies across markets. Amazon takes advantage of its

multi-industry development to attract and retain customers. Take the e-book market as an example. In order to sell more e-readers and e-books, Amazon set the price of best sellers very low in the early stage of development, limited the types of devices that could be compatible with certain e-book formats through “digital rights management”, lured readers to buy Kindles through cheap e-books and cemented them. So that readers would only buy e-books from Amazon in the future. In addition, by collecting readers’ purchase information and browsing records of e-books, Amazon can analyze readers’ reading habits and preferences, and then push corresponding e-books to increase the transaction volume. Due to the lock-in effect of technology design and value, Amazon's early lead has actually gradually turned into long- term dominance.

3.2 Self-favoritism on Amazon Platform

The following section mainly analyzes Amazon's behavior of strengthening the advantages of self-operated enterprises through self-preferential treatment on its retail platform. First, according to the results of data analysis, the quotation of self-operated enterprises' goods or services should be adjusted to gain competitive advantages in price. Amazon's processing of sensitive data can strengthen its market matching ability of commodity prices, especially the analysis of related data such as consumer visits, commodity turnover, and the ratio of visits to turnover (conversion rate). It is helpful for Amazon to identify the price range that is easily favored by consumers in the same or similar type of goods and the pricing strategies of competitors (mainly non-proprietary enterprises on the platform), so as to judge the impact of price changes on consumers' consumption behavior and dynamically adjust the price to the most attractive range.

Second, based on the results of data analysis, copy and launch best-selling goods or services to gain competitive advantages in categories. Based on the results of data analysis of other sellers on the platform, Amazon can identify specific categories of products that are popular with consumers in the marketplace, so it can decide which products to copy in its own business, which features to add or subtractfrom existing products, or whether to preset new products to enter a market segment. In addition, Amazon can use the data analysis results to reverse restore the production process, cost structure, marketing strategy and other information of the best-selling products, so as to speed up the replication of the best-selling products.

Third, based on the results of data analysis, Amazon can seize the cooperative suppliers of third-party sellers and gain competitive advantages in procurement channels. After knowing the supply channels of best-selling products, Amazon can choose to establish contacts with suppliers that cooperate with third-party sellers and purchase finished products from them for sale in its own stores. In this case, the specific goods sold by the platform are the same as those of the third- party sellers, and the strong strength of the platform often enables it to obtain exclusive advantages from the suppliers through the "most Favored nation clause" and other ways. This move breaks the long- standing efforts of the third-party sellers to build a supply chain, and is likely to eliminate the third-party sellers from the original supply chain.

Fourthly, according to the results of data analysis, optimize the after-sales service of goods to gain competitive advantages at the after-sales end. Amazon's use of undisclosed data from third-party sellers is also manifested in the after-sales stage, such as product returns and exchanges, consumer claims, the probability of consumer complaints, and so on. Through the analysis of product after-sales data, Amazon can not only master the information of products that are easy to be complained, with high frequency of return and exchange, and with many after-sales problems, but also clearly improve the customer satisfaction of after-sales service information, so as to promote the platform to ensure the sales of products, maintain the consumer's favorability of the platform's self-operated products, and avoid reducing consumer stickness due to low-quality after-sales service.

Fifth, according to the results of data analysis, adjust the inventory of goods to gain a competitive advantage in inventory. According to the results of data analysis, Amazon can control the sales of a variety of goods in the middle and long term, judge the sales changes under the influence of time, season, temperature and other factors, and adjust the production and purchase quantity of self- operated enterprises in different scenarios accordingly, so as to avoid the situation of overstocking or no goods to sell.

3.3 Damage to Competition Caused by Self-preferential Behavior

First, it weakens the competitive advantage of competitors. Self-preferential treatment is often accompanied by a relatively direct "one rise, one fall" effect, that is, the platform will reduce the competitive strength of its competitors while using improper means to enhance its own competitive advantage. The platform's "snooping" on third-party sellers' data exposes the details of sellers' business actions to the algorithm analysis, and then the platform can adjust the price of goods, copy and launch best-selling goods, seize procurement channels, optimize after-sales service and other actions. This is actually the looting of all aspects of competitive advantages that third-party sellers have accumulated for a long time.

Second, it increases the cost of competitors. One is that platforms are able to raise their competitors' distribution costs by controlling the most efficient distribution channels in the market. Because the dominant platform controls a large amount of user traffic, it becomes the most important distribution channel for third-party sellers. Platform data self-preferential behavior annihilates the most important distribution channel of third-party sellers: if they continue to operate in the platform, they need to bear higher sales costs; If they withdraw from the distribution channel, they will lose the cost of establishing and maintaining the sales channel in the dominant platform, and also bear the additional cost of expanding the new channel. Secondly, the platform can significantly increase the investment cost of third-party sellers by obtaining their initial investment results. The creation of any best-selling commodity or service requires the seller to invest a lot of money and take certain risks in the early stage. After successfully establishing advantages, the seller will be plunder by the self-preferential behavior of the platform. If third-party sellers want to restore their competitiveness, they need to pay some additional costs, including finding supply channels again, developing new functions and products,

finding new customers, and promoting. Third, it is necessary to increase the cost of acquiring customers for third-party sellers. For example, Amazon launched the "golden shopping cart" function, which gives priority to the display and delivery of goods, while its self-operated goods automatically join this function. In order to achieve the same sub- service as self-operated goods, third-party sellers can only bid for display space, use platform delivery services, and pay more customer acquisition costs. Third, reduce the motivation for innovation. Self-preferential behavior reduces the returns to innovation of third-party sellers in goods and services, and potentially weakens the innovation motivation of third-party sellers. When the platform makes improper use of the non-public data analysis results, the business strategies and innovation achievements of third-party sellers may be used by the platform. The innovation returns that should have been obtained by the third-party sellers are improperly channeled to the platform's proprietary service office, and the third-party sellers cannot obtain the same profits as the platform's proprietary business line for the innovation results on the platform. The return on innovation is an important incentive factor for innovation, and the damage of platform anti-competitive behavior on the return on innovation of third-party sellers reduces their enthusiasm for innovation.

Fourthly, it damages the interests of consumers. The flow of data concerns the interests of consumers, and improper use of data to favor their own goods or services may have a negative impact on consumers. Due to the improper collection of personal information, platform self- preferential behavior affects consumers' choice opportunities, reduces service quality, and damages consumers' welfare.

4. Monopoly Identification and Anti-monopoly Regulation of Self-preferential Treatment on Digital Platforms

The China's Anti-Monopoly Law does not define the concept of monopoly behavior, but classifies monopoly behavior into four types: monopoly agreement, abuse of dominant market position, concentration of business operators and administrative monopoly, which are stipulated in the form of enumeration. (Huang & Yang, 2021) The basic feature of "self-preferential treatment" behavior is that the target enterprise takes advantage of its multiple identities to occupy a monopoly position in the competition with other operators. Therefore, it can be included in the exclusionary abuse behavior of abusing dominant market position and should be regulated accordingly. For the regulation of "self-preferential treatment" behavior of digital economic platforms, we can start from the following aspects:

First, expand the scope of identification of digital economy market. Platform enterprises can compete across markets and transmit competitive advantages in one relevant market to other unrelated markets or future markets. In the era of digital economy, mastering the data traffic entrance is the core of platform competition. The development of digital economy platform can be regarded as a new type of cartel based on traffic data. In judicial practice, we should break through the static structure analysis framework of relevant market definition, focus on dynamic behavior and the actual harmful consequences of excluding and restricting competition, and then regulate its monopolistic behavior.

Considering the development model of Amazon and the important role of data and traffic in the digital economy market, we should re-examine the definition method of relevant market. We can consider the new method of defining the digital economy market based on the payment of data and traffic consideration. (Chen, 2022)

Second, we should refine the criteria for identifying dominant market positions. When judging whether a platform enterprise has a dominant market position, the traditional "market share" index has been weakened. The subsequent anti-monopoly guidelines have expanded the factors that should be considered in determining whether an operator has a dominant market position in the platform economy, including but not limited to transaction amount, click rate, data acquisition cost, user habits, etc., and provided new reference opinions. However, at the same time, there are no quantifiable standards for various identification factors, which makes the implementation of the law quite uncertain, and it is difficult for platform enterprises to predict their own behaviors. Regulators have a large scope of discretion, so they need to be careful of the excessive application of various factors and the emergence of on-demand explanation. Regulatory authorities need to refine the criteria for identifying market dominance in practice, release clear regulatory signals by issuing typical cases, issuing relevant interpretation opinions and other measures, so as to guide the healthy and sustainable development of digital economy platforms. (Conference review of “Frontier Forum on Future Development of Competition Policy in Digital Economy”, 2022)

Third, it is necessary to carefully identify that “self- preferential treatment” constitutes the abuse of dominant market position. It is difficult to prove that “self-preferential treatment” by platform operators to platform enterprises constitutes abuse of dominant market position. To determine that “self-preferential treatment” constitutes abuse of dominant market position, it is necessary to investigate other operators in the platform. Specifically, it can investigate the damage suffered by competitors in the market in the face of “self-preferential treatment” by platform enterprises and their dependence on platform enterprises. China's Anti-Monopoly Guidelines on Platform Economy stipulates that operators are not allowed to restrict transactions through punitive measures such as shielding stores, reducing search rights, restricting traffic, technical barriers, and deducting margin, which also has a certain regulatory effect on the “self-preferential” behavior of platform enterprises.

Finally, it is necessary to regulate platform enterprises after determining that “self-preferential treatment” constitutes monopoly. The structural separation of platform enterprises is an important means to deal with the monopolistic behaviors of platform enterprises,including requiring that the business of platform enterprises be separated from their ownership, or that a single operating entity engage in other businesses according to the designated organizational form, so as to eliminate the possible conflicts of interest between platform enterprises and their competitors using the platform. However, in the context of the rapid development of China's Internet economy, using structural separation to deal with "self-preferential" behavior is likely to destroy the existing Internet ecology and cause serious negative impact on the Internet market. Based on this, structural unwinding can be used

as the final "killer mace" to regulate platform enterprises, rather than a general measure. The regulatory authorities need to carefully consider how to regulate platform enterprises.

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