

Rise of Second-hand Trading Platform Analyzed from Perspective of Microeconomics

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ABSTRACT

With the rapid development of Internet technology and the popularity of mobile devices, second-hand goods trading platform has gradually become a concerned market. The objective of this paper is to study the market structure, price decision and consumer behavior of second-hand goods trading platforms, aiming at providing reference for the development of the industry. The research takes a specific second-hand trading platform as an example and applies micro-economic theory to analyze the influence of factors such as the supply and demand relationship and price sensitivity on market competition, price strategy and consumer behavior. High-quality academic literature will also be introduced in this study to provide theoretical support for subsequent research.

KEYWORDS

Second-hand trading platform; Market structure Price decision; Consumer behavior; eBay and Xianyu.

1. INTRODUCTION

Second-hand goods trading platforms, such as eBay and Xianyu, provide consumers with a convenient trading channel, make full use of idle resources, and reduce the cost of consumers purchasing new products[Deneckere et al., 1996]. However, the development and competition of second-hand market has given rise to the attention of scholars to its market structure, price decision and consumer behavior. Based on micro-economic theory, this paper will take specific second-hand trading platform as a instance to study these issues.

2. ANALYSE OF EXISTING CIRCUMSTANCE

2.1. Background information

The second-hand trading perform in a state of long-term existence not only in China but also around the world. With 2005-2009 web stages in germination, the second-hand trade information initially appeared in classified information websites such like 58-Tongcheng and Ganji. Then, the establishment of Douban community website also played a piecemeal role in second-hand transactions. Thereafter, in the mobile terminal explosion period from 2010 up to now, a huge number of second-hand transaction flooded into the mobile terminal market, covering Xianyu, eBay, Zhuanzhuan and other apps.

2.2. Market competition

The competitive situation faced by second-hand traded products is able to on the grounds of Porter's five Forces model to analyse.

Suppliers: all online shopping consumers, second-hand recycling platform, artificial intelligence system and technical support suppliers, logistics industry.

Buyers: The young who like to experience all kinds of fresh products

Potential entrants: manufacturers, vertical category communities and e-commerce platforms.

Substitutes: e-commerce platforms, after-sales recycling agencies

Peer competition: Pinduoduo, which famous for its low price, Taobao, which seckills over the categories, Xianyu and Zhuanzhuang.

2.3. Development tendency

With the progress of the concept of Internet + circular economy, second-hand goods trading is popular increasingly. Second-hand goods are no longer just the choice of middle-aged and the elder, more and more young people also begin to pay attention to and purchase second-hand goods. Gradually younger consumer groups make second-hand goods trading market reactivated, thus opening a new chapter of idle economy.

Presently, consumer groups purchase second-hand goods not only to save money, but also to enhance a higher quality of life with the same input. People gradually use digital technology to optimize idle resources, and the trading form of idle goods has been upgraded from the flea market in the past to nowadays second-hand e-commerce platforms. For example, Douyin and Kuaishou have begun to increase the second-hand e-commerce business. Based on the relevant information, Kuaishou second-hand e-commerce business has attracted more than 1000 professional anchors to settle in more than 3 months, and Douyin has enhanced its second-hand luxury goods trading scale KPI to 5 billion yuan. It can be predicted that the penetration rate of second-hand e-commerce will further increase. In the future, the idle economy represented by second-hand e-commerce will play a significant role in the circular economy.

The rise and development of idle economy does not come out of thin air. It coincides with many new consumption concepts advocated by the new generation of young consumers, such as new frugality, experience consumption, interest consumption, sharing consumption and circle economy. Moreover, as a manifestation of the latest consumption changes, it will have a more substantial development space in the future. However, the development of the space still needs human's concerted efforts to cultivate the new consumption consumption and tendency.

3. MARKET STRUCTURE

Second-hand commodity trading platforms usually have the following characteristics: multiple product categories, asymmetric information among participants and highly sensitive prices. These characteristics make the second-hand commodity trading market show an imperfect competitive market structure [Varian, 2014]. In an imperfect competitive market, there are a large number of sellers and a certain degree of difference between products. Sellers have some bargaining power in the market, while consumers need to balance various factors, such as price, quality and reputation, to make purchase decisions.

3.1. Supply and demand in the secondary market

Supply and demand is one of the most basic concepts in economics, which describes the relationship between the supply and demand of goods or services in the market. In the second-hand market, the relationship between supply and demand is affected by various factors, such as the amount of market participants and the quality of products.

The amount of market participants has a significant impact on the supply and demand relationship in the second-hand market. While the number of sellers increasing, so does the supply of goods on the market, leading to increased competition. On the contrary, if the number of sellers decreases, the supply of goods on the market decreases, and the competition is relatively weakened. Similarly, variation in the number of consumers will affect demand in the second-hand market.

The quality of products in the second-hand market has an important impact on the relationship between supply and demand as well. High quality used goods are in high demand because consumers are usually willing to pay a higher price for higher quality goods. In contrast, lower quality used goods are in lower demand and are usually sold at a lower price. In addition, changes in product quality may also influence consumers' confidence in the market and thus affect the overall demand of the market.

3.2. Imperfect competitive market structure

In the second-hand market with imperfect competition, there are multiple sellers, but each seller occupies a relatively small market share. Due to the uniqueness and differentiation of second-hand goods, sellers can influence commodity prices to some extent. This is in contrast to the price taker position in a perfectly competitive market. At the same time, the competitive strategies of sellers in the market are not only limited to price, but also include the quality, after-sales service, reputation and so on.

3.3. Information asymmetry

In the second-hand market, sellers generally have more knowledge about the condition and quality of goods, while consumers often have difficulty in accurately judging the real value of goods. This kind of information asymmetry makes the seller have a certain advantageous position in the market. In order to reduce the risk of information asymmetry, consumers need to carefully examine product information, refer to the seller's reputation and evaluation, or seek third-party professional opinions.

3.4. Market dynamics and adjustment

The second-hand market with imperfect competition has higher market activity and dynamics. With the variation of market participants, technological progress and the evolution of consumer demand, the structure of second-hand market will be adjusted accordingly. Sellers are supposed to continuously optimize their sales strategies, such as improving product quality, after-sales service and reputation, so as to maintain their competitiveness in the competition. At the same time, the government and regulators are likely to introduce policies to promote market order, protect consumers' rights and encourage environmental protection.

4. PRICE DECISION

On the second-hand commodity trading platform, the price strategy usually includes fixed price and auction. Under the fixed price strategy, the seller sets a fixed price and the buyer can purchase directly. Under the auction strategy, buyers purchase products through bidding [Bulow et al., 1999].

4.1. Market competition

In the competitive market, sellers tend to lower prices to attract more purchasers [Tirole, 1988]. As there are more sellers and alike products in the market, the sellers need to adopt more competitive pricing strategies to attract consumers. In addition, sellers need to pay attention to competitors' pricing strategies and be flexible to adjust their own prices in response to changes in the market.

4.2. Product quality

Product quality has a significant impact on price, and higher quality products usually have a higher price [Akerl of, 1970]. Sellers need to accurately assess the quality of their products and ensure that the price they set is consistent with the quality of the products. At the same time, sellers should provide consumers with particular product information so that consumers can make precise judgments about product quality during the purchase process.

4.3. Price sensitivity

Price sensitivity is the degree of consumers' response to price variation, which is vital for sellers to formulate price strategies. On the used goods platforms, consumers perhaps be more price sensitive owing to they are often looking for good deals. The theory of price elasticity of demand is useful to sellers to understand how sensitive consumers are to price changes. Price Elasticity of Demand (PED) is a measure of price sensitivity. The formula is elasticity coefficient (E) = (percent change in quantity demanded)/(percent change in price). According to the elasticity coefficient, demand can be divided into elastic demand, inelastic demand and unit elastic demand. On the second-hand commodity trading platform, sellers can formulate strategies based on the theory of price elasticity of demand. For commodities with flexible demand, lower price can increase sales volume and total revenue; For goods with inelastic demand, raising prices increases total income. At the same time, sellers should pay attention to factors such as product differentiation and brand effect to reduce the price sensitivity of consumers.

5. CONSUMER BEHAVIOR

Consumers' purchase decision-making on second-hand commodity trading platforms are influenced by many factors, such as price, product quality and reputation. Consumers perhaps choose to purchase by comparing the price, quality and reputation of products from different sellers [Houser et al., 2006]. In addition, consumer behavior is affected by psychological factors, such as loss aversion and anchoring effect [Kahneman et al., 1979]. The following is a detailed explanation of consumer behavior in the second-hand market.

5.1. Price

Price is one of the critical factors in consumers' purchase decision. In the second-hand market, consumers usually focus on the price of the goods and the relative price compared to other sellers. Consumers tend to choose products that are reasonably priced and competitive. In addition, consumers may judge the quality of products by comparing the prices of various goods, believing that the goods with higher prices may be of better quality.

5.2. Product quality

Product quality is an element of great concern to consumers when buying second-hand goods. Consumers will evaluate the quality of products according to the actual condition, degree of use, damage situation and other information. In the second-hand market with asymmetric information,

consumers may judge the quality of goods by relying on the information provided by sellers such as product description, pictures and evaluation.

5.3. Reputation

In the second-hand market, the reputation of the seller has a significant influence on the purchasing decision of the consumer. Consumers often choose reputable sellers for transactions to reduce the risk of buying. The reputation of sellers can be apprehended through the evaluation system on the platform, transaction records, customer feedback and other channels.

5.4. Psychological Factors

The purchasing behavior of consumers is influenced by many psychological factors, such as loss aversion and anchoring effect. Loss aversion means that consumers' aversion to loss is higher than their fondness for the same gain [Kahneman et al., 1979]. In the second-hand market, consumers may be inclined to choose commodities with lower prices due to loss aversion, so as to reduce potential losses. Anchoring effect refers to the fact that consumers are influenced by prior information in their decision-making process, thus creating definite expectations about prices [Tversky et al., 1974]. In a second-hand market, a consumer may evaluate whether the present price of an item is reasonable based on previously known price information.

5.5. Consumer price differences

Due to the sustained development of artificial intelligence and big data, the phenomenon of consumer price difference is relatively common in the second-hand market. According to the survey, usually the group with high consumption level purchases second-hand goods at a higher price than the group with low consumption level. The phenomenon of big data killing also exists in the group that often searches for a certain item, while the price of related products is higher than the group that searches for the object less times. Actually, it is an economic phenomenon of price discrimination, and the cause of this economic phenomenon is due to market failure. Therefore, this part will analyze the economic phenomenon of consumer price difference in the second-hand market from the two aspects of price discrimination and market failure.

5.6. Price discrimination

discrimination under various markets, and consumer price difference belongs to the third level price discrimination.

According to the Robinson-Patman Act, the application of the prohibition of price discrimination must meet two requirements. One is that the enterprise sells the same goods at distinct prices to different customers; The other is that it is reasonable to think that competition will be harmed. Although the meaning of price discrimination is derogatory, it has two sides in essence, which can be reflected from the buyers and sellers respectively.

As for purchasers, price discrimination is naturally not a constructive phenomenon. Take consumer price differences as an example. Different consumer groups buy products at different prices, resulting in the inability to realize their consumption intentions. For a fraction, price discrimination can eliminate other buyers and reduce the number of competitors in the market, so as to obtain the goods they need more expediently.

On the other hand, price discrimination naturally has disadvantages for sellers. When price discrimination is applied to a commodity, the high price will cause multiple buyers to leave the commodity market. If the appropriate quantity is not grasped, the price of a single commodity can hardly fill the vacancy of the number of buyers who quit, thus resulting in the reduction of profits.

But for some goods, price discrimination can help sellers select buyers and let the goods flow into the hands of genuine buyers, such as antiques, famous paintings and other rare collectibles.

In general, although price discrimination has dual character, it is not a normal price phenomenon after all. It is a price rise caused by sellers seeking profits under special circumstances, which essentially reflects the drawbacks of the free market and the hysteresis of free market regulation. Short-term price discrimination can temporarily benefit some sellers, but if unchecked, it will only shrink the overall economy, lead to economic downturn and affect the normal operation of the economy.

5.7. Market failure

Since the emergence of the second-hand trading market, the information deviation of big data has led to the price discrimination in the second-hand trading market, which requires the government to intervene. When markets fail, governments can alter market outcomes to promote equity. Tax or welfare policies can change the way the economic pie is distributed if the market does not distribute it optimally. This is beneficial to deal with the second-hand market for different consumers price deviation problem.

6. SPECIFIC ANALYSIS OF EBAY AND XIANYU

6.1. eBay

eBay (American e-commerce company) is a global online auction and shopping website founded in 1995. As the global leading second-hand goods trading platform, eBay provides consumers with an online channel to purchase and sell goods.

Market structure: The market structure of eBay is characterized by incomplete competition, a large number of sellers on the platform and a wide variety of products. In addition, owing to information asymmetry among participants, consumers need to consider factors such as the reputation of sellers and product quality during the purchase process. There is no unified price setting among sellers in this market structure, so prices are relatively dispersed. Due to the fierce competition in the market, sellers are constantly innovating to satisfy the needs of consumers.

Price decision: The price strategy on eBay platform includes fixed price and auction. Sellers can make appropriate pricing strategies according to market competition, product quality and consumer price sensitivity. Under an auction institution, sellers can set a starting price and consumers compete with each other, with the highest bidder getting the item. This system helps goods to reach their true value in the market.

Consumer behavior: When purchasing goods on eBay, consumers usually consult the price, quality and reputation of sellers. In addition, psychological factors such as loss aversion and anchoring effect also affect consumers' purchase decisions. Loss aversion means that consumers' aversion to loss is greater than their preference for income, so consumers tend to pay more attention to avoiding loss during the purchase process.

6.2. Xianyu

Xianyu (a Chinese e-commerce company), a second-hand goods trading platform under Alibaba Group, was established in 2013. Xianyu provides consumers with a convenient online trading channel to sell idle items or buy second-hand goods.

6.2.1. 6.2.1 Market structure

The market structure of Xianyu also appears imperfect competition. A large number of sellers on the platform offer a variety of second-hand goods, making the intense market competition. Meanwhile,

information asymmetry also exists in Xianyu platform, consumers need to consider the reputation of sellers and product quality and other factors. In this kind of market structure, the sellers cannot form a unified price, the price is relatively dispersed. In order to be outstanding in the rivalry, the seller have to enhance their own service and product quality constantly.

6.2.2. 6.2.2 Price decision

The price strategy on Xianyu platform is mainly fixed price. Sellers can set the appropriate price according to market competition, product quality and consumer price sensitivity. In some situations, buyers and sellers can negotiate a deal. This price strategy is beneficial to reduce transaction costs and enhance transaction efficiency.

6.2.3. 6.2.3 Consumer behavior

When buying goods on Xianyu platform, consumers will balance factors such as product price, quality and seller reputation. In addition, consumers' purchase decisions may also be influenced by psychological factors (such as loss aversion, anchoring effect, etc.). For example, consumers perhaps use a historical price as a reference to influence their judgment of the current price of a product. In addition, consumers may be affected by the psychological implication of "buying more expensive than a cheaper one" during the purchase process, means they believe that the goods with higher prices are of better quality.

7. COMPARISON AND ENLIGHTENMEN

7.1. Comparison between eBay and Xianyu

As well-known second-hand commodity trading platforms, both of them are different in market positioning, operation mode and user groups, but at the micro-economic level, they reflect the basic principles of supply and demand, price mechanism and market competition.

7.1.1. Market positioning

eBay has a global market positioning, covering various countries and regions, so it is faced with a more complex supply-demand relationship. Xianyu is mainly targeted at the Chinese market, and the supply and demand relationship is relatively single.

7.1.2. Operation mode

eBay focuses on two sales modes, auction and fixed price, reflecting the role of price mechanism in the market, while Xianyu mainly adopts fixed price strategy, and some commodities can be traded through price negotiation, showing the function of price in market competition.

7.1.3. User group

eBay has an extensive user generation, including individuals and enterprises, which shows the diversity of market competition. While the users of Xianyu are mainly individuals, enterprise users are relatively few, and the market competition is comparatively concentrated.

7.2. Enlightenment

As for second-hand commodity trading platforms, if they hope to succeed in the competitive market, they can start from the following aspects to better reflect the knowledge of microeconomics: Improve information transparency: To reduce the problem of information asymmetry, consumers can better comprehend the quality of products and the reputation of sellers by strengthening the platform's audit of sellers and commodity information and improving the evaluation system. It reflects the concept of "information economics", and solving the problem of information asymmetry is useful to improve market efficiency.

7.2.1. Optimize pricing strategies

The platform can provide price advice or guidance to sellers to help them develop appropriate pricing strategies based on market competition, product quality and consumer price sensitivity. This reflects the principle of "price mechanism", which enables price to play a critical role in resource allocation.

7.2.2. Tap consumer demand

By deeply understanding consumer demand, the platform can launch products and services that are closer to user demand, thus attracting more consumers to participate in the transaction. This reflects the theory of "consumer behavior". Satisfying consumer needs is the core goal of market operation.

7.2.3. Innovative business model

According to market demand and competition, the platform can attempt different business models, such as auction, fixed price, bargaining, etc., to satisfy the needs of different types of consumers. This reflects the concept of "market structure and market competition", and innovative business models help to stand out from the competition.

8. CONCLUSION

Based on micro-economic theory, this paper studies market structure, price decision and consumer behavior by taking specific second-hand trading platform as an example. The research shows that second-hand commodity trading platform has imperfect competition market structure, price strategy is affected by market competition, product quality and price sensitivity, and consumer behavior is affected by price, product quality, reputation and psychological factors. The study is of great significance for comprehending the market operation mechanism of second-hand commodity trading platform, and provides a useful reference for policy makers and industry practitioners.

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