Proceedings of the 3rd International Conference on Financial Technology and Business Analysis
DOI: 10.54254/2754-1169/2024.25070

How Do Pricing Strategies and Network Effects Influence the Competition Between Leading Food Takeout Platforms, Meituan and ELE in China?

Mofei Zhang[1*], Lecheng Xu[2], Tianru Huang[3]

[1]*University of Connecticut, Storrs, USA*
[2]*School of Economics and Management, Beijing Jiaotong University, Beijing, China*
[3]*School of Social Sciences, University of Manchester, Manchester, UK*
**Corresponding Author. Email: zhangmofei6@gmail.com*

Abstract. We analyzed the competition between China's leading food delivery platforms, Meituan and Ele.me, and focused on exploring how pricing strategies and network effects affect the competitive dynamics between platforms. Firstly, we reviewed the overall development history of the food delivery industry and elaborated on the competitive history of the two platforms. We explored the economic value of multi-platform operation in this competitive context and the role of subsidy strategies in promoting the migration of businesses and consumers between multiple platforms. Through analyzing pricing games and multi platform operation strategies, we found that both Meituan and Ele.me face the dilemma of profit compression in fierce price competition, which damages the interests of both platforms. We believe that the government should intervene through anti-monopoly regulatory measures to promote a healthier market competition environment. This study not only provides in-depth insights into the platform economy for the academic community but also provides practical references for policymakers and market participants.

Keywords: platform competition, network effects, pricing strategies, delivery market

1. Introduction

In the past century, mostly since the rise of the Internet and mobile technology in the 1910s, the takeaway industry has changed a lot, from a traditional offline business to be an indispensable part of people's daily lives using online platforms. In China, this transformation has been especially notable, with platforms like Meituan and ELE leading the rapid expansion of the market. These platforms have deeply changed the dietary habits of Chinese people.

As the Chinese takeaway market continues to expand and demand increases, the competition between the two giants, Meituan and Ele.me, has been very fierce. The former was extended to become a multifunctional service provider from a group-purchasing platform, while the latter is simply a food delivery platform. Technology-driven, both have an emphasis on investment in delivery optimization, AI recommendation systems, and payment technologies to enhance efficiency

DOI: 10.54254/2754-1169/2024.25070

for users. Aggressive marketing, including promotions and user subsidies, is another key area that the two platforms are competing in. Besides, there are impacts from the government regulation on the right of the delivery worker, food safety, and market competition. Regarding the market dynamics, contemporary scholarship in platform competition and pricing brings out the imperative contribution of network effects and strategic pricing.

The current literature has taken many critical views on the dominance of markets based on how platforms structure their prices and work with network effects. However, the existing literature often overlooks the specific interplay between pricing strategies and network effects in driving the competition among leading platforms like Meituan and Ele. This research study seeks to address this gap by researching how such elements impact market share, user behavior, and platform sustainability within China's competitive food delivery market.

This research will address how the competitive dynamics between Meituan and Ele, the two players of food delivery in China, shape the changing industry of online takeaway. This is important because the study seeks to find out the immediate and long-term impacts of pricing strategies and network effects on market share, consumer behavior, and platform sustainability in China's growing food delivery business. This Chinese market study will add value to the general field of platform economics by providing insights that would inform both academic discourse and practical business strategies. These results are of high value for platform operators, policymakers, and investors when entering or understanding related markets. Prior to moving on to the methodology and analysis, the research is going to start by analyzing different literature reviews and then move on to discussing the results and possible limitations.

2. Literature review

The literature on platform competition, pricing strategies, and network effects is voluminous and provides a comprehensive foundation for studying the dynamics of the Chinese food delivery market with a focus on Meituan and Ele. This review will proceed chronologically, covering the key studies that have informed our understanding of these concepts and their application to the competitive landscape of digital platforms.

Innovation diffusion at the level of organizations is studied by Abrahamson and Rosenkopf with the help of simulating innovations into social network structures [1]. Their work indicates dense networks allow for rapid diffusion, which may also overwhelm with 'information,' whereas sparse networks facilitate high-quality innovations resulting from broad competition. Although it provides a useful insight into the operation of network effects, its focus on simulated data means that there is only limited application to real-world platform competition, especially in investigating how social networks affect user behavior between food delivery platforms like Meituan and Ele.me.

Rochet and Tirole analyzed the bases for understanding two-sided markets through the analysis of how platforms should structure pricing to balance the needs of different user groups [2]. The importance of their theoretical models is that they help explain the pricing strategies adopted by these platforms in all industries; for instance, in this case, the food delivery industry in China. In their work, Rochet and Tirole offer a basic structure through which pricing strategies Meituan and Ele adopt can be examined on how it manages to draw both users and merchants, which would then affect market equilibrium and social welfare.

Lee furthers the debate by considering how network effects and strategic contracting lead markets to tip towards a single dominant platform or otherwise support several coexisting platforms [3]. Lee's article stresses that network effects often lead to monopolistic results yet pinpoints the conditions under which multiple platforms can coexist. This theoretical framework can find direct

DOI: 10.54254/2754-1169/2024.25070

application to the competitive dynamics between Meituan and Ele, where network effects and pricing strategies play pivotal roles in shaping market share and platform sustainability.

Altman and Tushman discussed how important it is to have strategic leadership in platform development in a paper on the relationship between platform strategy, open innovation, user innovation, and business ecosystems [4]. They held that pricing strategies were the key determinant of user growth, merchant engagement, and ecosystem dynamics. The relevance of this is felt in the competition between Meituan and Ele, where the basic idea from this piece was that pricing strategies and network effects bring out platform success. The overall theoretical framework employed in the study could thereby leave competitive dynamics in the Chinese food delivery market underrepresented, and therefore more detailed empirical research is needed.

Adner et al. talk about transformation through digital strategy for corporate competition [5]. They explain how digital platforms, using technologies, user data, and network effects, would scale exponentially and take over markets. The research has significant relevance to the competence of Meituan and Ele in using digital strategies to gain a competitive advantage. However, the general application of the study on digital transformation may not adequately capture specific behavior in the Chinese food delivery market, importantly, the nature of pricing strategies and how they drive experiences of network effects that finally shape competition.

In their study of the Chinese food delivery market, Mayila and Xueyin show how companies such as Meituan and Ele use leading logistics technology as part of strategic pricing to gain market share through user incentives [6]. The study shows the importance of continuous innovation in logistics and pricing, shedding light on how these companies sustain their competitive lead. This work directly enlightens the analysis of platform competition in China's food delivery industry by focusing on innovation in the maintenance of competitiveness.

In their work, Zhang and Deng investigate competitive dynamics within China's food delivery market, particularly with major focus on Meituan and Ele.me [7]. They investigate market structure, competitive strategies, and consumer behavior, and strongly emphasize that the issues of pricing and network effects are at play in a competitive environment. This implies their huge impact on the platforms' market shares and profit dynamics and, therefore, sets a base for further inquiry into how specific pricing strategies and variations in network effects change competition between Meituan and Ele.

Wang studies the food delivery market in the context of a two-sided platform, focusing on how pricing strategies and platform differentiation influence competition among major players [8]. Another study concludes that the pricing dynamics and the role of network externalities are important in determining market structure, with high service fees and intense price competition being the major forces shaping consumer behavior and market stability. This research is quite relevant to the present study of Meituan vs. Ele.me in terms of showing how pricing strategies and differentiation impact competition in such a dynamic market.

Yang, Milind, and Ganesh observe that the price wars for the food delivery platforms in China continue to erupt more, so this has made them exhaust some of their profits, intense competition, and difficulty in staying afloat [9]. The study identifies how the platforms are differentiating their services through loyalty programs, varied delivery times, and quality control measures. This literature body would emphasize the need to balance price competition and service quality with real-world examples drawn from the Chinese market that considerably build on the analysis of platform economics in the context of Meituan and Ele.

In summary, the literature provides a solid theoretical and empirical basis for the analysis of competition between Meituan and Ele.me in China's food delivery market. However, this particular

DOI: 10.54254/2754-1169/2024.25070

interplay between pricing strategies and network effects is less researched in the current context; hence, there is a need for further research to understand the interaction of these factors and how they affect market share, user behavior, and platform sustainability.

3. Analysis

The overall development process of China's takeaway industry:

The early 2000s: the start-up stage of the takeaway industry. In the early days, the main focus was on telephone ordering from traditional restaurants, and takeaway services were more limited.

2010: With the development of the Internet, online takeaway platforms began to appear, providing a more convenient way to order takeaway.

2013: the takeaway market grows rapidly, Internet takeaway platforms begin to introduce more restaurant merchants, and the specialization and scale of takeaway delivery services gradually emerge.

2015: The takeaway industry ushers in a period of rapid development. With the popularization of mobile Internet and the rise of industry popularity, the number of users of takeaway platforms increased dramatically, and the competition among major platforms intensified.

2017: the takeaway industry enters a mature stage, and market concentration increases. Meituan Takeout and ELE gradually form a dominant position in the market, while the coverage and service quality of takeout services are also significantly improved.

2020: Affected by the new crown epidemic, takeaway demand surges and becomes an important way of life service. Takeaway platforms have begun to expand into more areas, including fresh food delivery and medicine delivery.

2023: The takeaway industry continues to grow, with diversified services and intelligent delivery becoming the trend. Platforms improve delivery efficiency through technological innovation while attempting to expand into new areas such as unmanned delivery and ready-to-eat food.

As two mainstream players in the takeaway industry, the development history of Meituan and ELE is in line with the overall development of China's takeaway market. For ELE, as the first takeaway brand to enter the public eye in first- and second-tier cities, it has the unique advantage that, if successful, it can be significantly ahead of the rest of the competitors that follow it into the market, and own the majority of the market share, but as a team with no entrepreneurial experience, this is not an easy thing to do. Shortly after ELE's entry into the market, Meituan also predicted the future of China's takeout industry and decided to enter the market on its own after a failed attempt to acquire ELE. With Meituan's entrepreneurial and internet experience, it didn't take long for Meituan to become ELE's biggest competitor.

Timeline of ELE and Meituan competition history:

2014: Meituan Takeout and ELE begin to compete in the takeout market. Both companies increase marketing efforts and subsidies to attract users and merchants, driving rapid growth in the takeaway business.

2015: Meituan and ELE compete fiercely for market share. During the year, MITUAN improved the user experience by introducing more features, such as subdividing the takeaway into food, desserts and fruits and vegetables. ELE, on the other hand, launched systematic delivery service training and improved its delivery network.

2016: As the takeout industry grows and competition for market share intensifies, Meituan and ELE engage in a prolonged subsidized price war, which allows them to compete with each other while eliminating a large portion of small, unfunded takeout platforms.

DOI: 10.54254/2754-1169/2024.25070

2017: ELE further consolidated its market position by acquiring the takeout platform Koubei. Meituan, however, chose to continue investing in takeout delivery networks and system optimization.

2018: ELE announced its merger with Alibaba's local life service platform, creating a stronger market competitiveness. Meituan Takeout, on the other hand, maintains its market leadership by continuously optimizing its services and introducing innovative technologies.

2020: Demand for takeout surges due to the New Crown epidemic, and both companies quickly adjust their strategies to cope with market changes. Both Meituan Takeout and ELE strengthened their support for no-touch delivery and hygiene and safety and made more optimizations in service coverage and delivery speed.

Through the timeline above, we can clearly recognize the different competitive strategies and directions of Meituan and ELE. Meituan is committed to developing smart delivery and improving user experience, but ELE is keen on integrating resources and acquiring companies. It's hard to tell whose strategy is more successful, but as things stand, Meituan has already overtaken ELE to become China's No. 1 delivery platform.

4. Delivery platform competition with multihoming

Multihoming is the simultaneous activity of merchants or users on multiple platforms [10]. For example, a restaurant merchant may operate on both Meituan and ELE platforms, while a consumer may choose to place an order on multiple platforms. This behavior helps merchants expand their market reach and increase sales opportunities while also providing consumers with more choices.

4.1. The “Two Choices” incident

Background: The “Choose Two” incident refers to the mandatory requirement for merchants to choose one of Meituan and ELE for cooperation, prohibiting merchants from offering takeout services on multiple takeout platforms.

4.1.1. Impact on merchants

4.1.1.1. Merchant hard to make choices

This event has directly led to a loss of interest for merchants on more platforms. Faced with the pressure of two takeaway giants, merchants have to choose between platforms, which brings them significant operational challenges. Choosing one platform may mean losing users on the other, especially for small merchants who rely on multiple platforms to generate orders.

4.1.1.2. Impact on revenue

By limiting merchants to operating on only one platform, merchants' potential revenue streams are affected. In particular, if a merchant chooses a platform that is not the dominant platform in the market, the user base it reaches will be significantly reduced. This will also force merchants to gain more exposure by negotiating with platforms and participating in platform promotions, but these measures may further compress merchants' profit margins.

DOI: 10.54254/2754-1169/2024.25070

4.1.1.3. Increased market dependency

As merchants are unable to diversify their risks by using multiple platforms, their dependence on a single platform has increased significantly [11]. Platforms can further control merchants by increasing commissions and reducing subsidies, weakening their bargaining power. In addition, once a merchant is "locked in" to a platform, the cost of moving to another platform increases, deepening their dependence on the platform.

4.1.2. Impact on consumers

4.1.2.1. Reduced consumer experience

Consumers are the end-users of the takeaway market, and their choices are limited under the "two choices" strategy. As merchants are forced to choose between platforms, consumers may not be able to find all their favorite restaurants on a particular platform, and they must download multiple takeaway software to ensure the diversity of their choices, which affects the overall consumer experience.

4.1.2.2. Increased consumer costs

The "choose one" strategy may also lead to a decline in consumer welfare. Consumers can originally choose the best ordering option by comparing prices across multiple platforms and obtaining preferential subsidies from different platforms. However, after merchants are restricted to operate on a single platform, competition is also reduced, and the possibility of price increases or service quality decreases increases, which may ultimately result in higher costs for consumers.

4.1.2.3. Decline in brand loyalty

The implementation of an "either/or" strategy may also lead to changes in consumer brand loyalty. Limited by the choice of merchants, consumers may have to switch to a platform they are not familiar with for ordering, which may affect their loyalty to the platform. In addition, if consumers perceive a decline in the number and quality of restaurants on a particular platform, they may switch to a competitor, causing the platform to lose users.

4.2. Meituan and ELE for customer subsidy analysis

The role of subsidy strategy in promoting multi-platform usage

The subsidy strategy attracts a large number of merchants and consumers to participate in multi-platform usage through economic incentives. Merchants usually choose to operate on multiple platforms at the same time in order to get more orders, while consumers switch between platforms and choose services that provide more favorable offers. This multi-platform usage behavior has intensified competition between Meituan and ELE, as subsidies are not just a means of attracting new users, but have become a key strategy for platforms to maintain user loyalty. Intense subsidy wars between platforms prompt users to switch platforms frequently to find the best transaction opportunities, further pushing up the intensity of subsidies.

DOI: 10.54254/2754-1169/2024.25070

4.2.1. Impact of subsidized price wars on merchants

4.2.1.1. Revenue and profit pressure on merchants

Although subsidized price wars bring more orders for merchants, they also bring pressure on profits at a later stage. Platforms attract merchants to participate in multi-platform usage by lowering commission rates or providing cash incentives. However, with the gradual tightening of subsidy policies, merchants may face the dilemma of compressed profit margins. In the early stages of subsidization, merchants can generate revenue from a large number of orders, but as platforms reduce subsidies, merchants may find that they have to bear higher operating costs.

4.2.1.2. Merchant platform dependency

Subsidized price wars also exacerbate merchants' dependence on platforms. In the midst of fierce competition, merchants may have to rely on subsidies to stay competitive in order to get more orders. However, this also makes merchants have to accept the terms and conditions of the platform in order to maintain their revenue, further weakening their bargaining power in the platform.

4.2.2. Impact of subsidized price wars on consumers

4.2.2.1. Consumer choice behavior

Subsidized price wars significantly affect consumers' choice behavior. Consumers will frequently switch between Meituan and ELE to find the best price [12]. This behavior increases consumers' price sensitivity and reduces loyalty to a single platform. The presence of subsidies makes consumers more inclined to choose the platform that offers the most benefits rather than making choices based solely on the service quality and delivery speed of the platform itself.

4.2.2.2. Long-term impact and welfare loss

Although subsidies provide benefits to consumers in the short term, the subsidy strategy is not sustainable in the long term. Once subsidies are reduced or eliminated, consumers may face higher prices and fewer choices. Subsidized price wars may also lead to the loss of players in the market, allowing a few platforms to control the market, ultimately weakening competition in the market and cutting consumer benefits.

4.2.3. Different strategic routes of meituan and ELE

ELE was born in China's first-tier cities as it started in Shanghai, where most of its users have a higher level of consumption. However, Meituan's customer base is centred in China's Tier 3 and Tier 4 cities, and due to its lower consumption level, Meituan does not need to subsidize heavily to satisfy its customers. However, for ELE's customer base, the smaller subsidy discounts could not satisfy their basic needs, so the subsidy provided by ELE was much stronger than that provided by Meituan, which resulted in the price sensitivity of ELE's users being higher than that of Meituan's users. In the late stage of the subsidized price war, with the intervention of capital and the impact of the epidemic, ELE and Meituan gradually gave up the subsidy strategy, which led to ELE's price subsidy strategy not achieving great success like Meituan.

DOI: 10.54254/2754-1169/2024.25070

5. The price game between meituan and ELE

According to Armstrong's definition, for a platform, a market consisting of a platform and users that generally meets the following conditions is called a two-sided market: the platform connects two types of users [13]. There is a positive cross-network externality between the two types of users on the platform. The platform is a necessary carrier for interaction between users, but it does not directly intervene in the relationships between users.

Taking Meituan as an example, the food delivery platform has a very typical two-sided market structure: the food delivery platform attracts two different types of customers, namely catering merchants and customers, while the food delivery platform provides orders for merchants and suitable merchants for customers, which helps both sides of the platform make choices. Obviously, if there are more customers, more merchants can be attracted, and the more merchants, the more customers can be attracted. Similar to Raizonville's research, cross-network externalities are formed in such platforms [14]. Specifically, the market size of one user will affect the utility of the other user joining the platform. In addition, taking Meituan as an example, food delivery platforms do not directly participate in communication between merchants and customers, but only serve as a medium for communication between the two.

According to Kong's research, there are still the following characteristics of food delivery industry platforms: from scratch, with good development prospects, but they need to rely on themselves to explore the market [15]. Products have homogeneity, and product services are relatively easy to replicate; The cost of entering the market is relatively low and cannot form a natural monopoly. Due to the low cost of new entrants and the ease of breaking the monopoly, monopolistic firms often use price wars to prevent their entry.

Taking Ele.me as an example, the company used to have a monopoly on food delivery platforms, but with the addition of Meituan, the company had to choose to engage in a price war. Below, we refer to Kong's model to construct a static prisoner's dilemma game (see Table 1):

Table 1. The static game between Meituan and ELE

		Meituan	
		Price reduction	No Price reduction
ELE	Price reduction	（3,3）	（6,1）
	No Price reduction	（1,6）	（5,5）

In order to avoid being at a disadvantage, both parties will choose a price reduction strategy, but this will lead to a decrease in both parties' profits, arriving at Nash Equilibrium (3,3).

We found that the continuous price competition between the two parties has damaged the interests of the food delivery platform. But as long as there is still economic profit in entering the platform, as a rational person, the platform will choose to enter the industry.

But obviously, such model settings cannot reflect the significant network effects of food delivery platforms. To better reflect this point, we will approach this issue from the perspective of merchants. There are only two merchants, A and B, in the market. They can choose between Meituan or ELE to enter or not enter. For each merchant who enters, Meituan charges 100 yuan as the entry fee, while ELE charges 100 yuan as the entry fee. When A and B enter the platform at the same time, it is considered that there is a cross-network externality, and a large number of consumers will choose to enter the platform. A and B will receive a profit of 200 yuan. When only one merchant chooses to enter a platform, it is considered that the externalities of the cross network are not obvious.

DOI: 10.54254/2754-1169/2024.25070

Merchants who enter can only earn 50 yuan in revenue, while those who do not enter receive 0 yuan in revenue. When no merchant chooses to enter, all merchants receive a profit of 0 yuan. The game formed is shown in the following Table 2:

Table 2. The static game between A and B

		B		
		Meituan	ELE	None
A	Meituan	（100,100）	（-50,-50）	(-50,0)
	ELE	（-50,-50）	（100,100）	(-50,0)
	None	（0,-50）	（0,-50）	(0,0)

There are three pure strategy Nash equilibria in this game, namely, both parties choose to enter Meituan, both parties choose to enter ELE, or neither party chooses to enter. In order to achieve Pareto optimality, if there is prior communication, it can ensure that the game that everyone chooses to enter is an efficient equilibrium.

However, in reality, we cannot be clear about the beliefs of each merchant. If both merchants are pessimistic about the entry of others, they will choose not to enter, ushering in an inefficient Nash equilibrium. In the case of the same admission fee, A and B cannot determine which delivery platform to choose.

Assuming that Meituan and Ele.me engage in a price war to attract merchants and adjust their admission prices, the following game matrix is obtained (see Table 3):

Table 3. The adjusted static game between A and B

		B		
		Meituan	ELE	None
A	Meituan	（a,a）	（a-150,b-150）	(a-150,0)
	ELE	（b-150,a-150）	（b,b）	(b-150,0)
	None	（0,a-150）	（0,b-150）	(0,0)

The admission fee set by Meituan is 200-a, and the admission fee set by ELE is 200-b.When a is not equal to b, we find that when a and b are in the range of 0-200, the delivery platform with the lowest admission price is in a Pareto optimal Nash equilibrium for the merchant. Therefore, we return to the traditional Bertrand model, where two delivery platforms continuously lower their prices to attract users until their revenue reaches 0.

Therefore, if one of the two platforms has a first mover advantage (which is a very common situation in online platform competition) and the cost is lower, the first mover advantage will engage in vicious competition by continuously reducing costs until the other party exits the market. This conclusion is also consistent with the competition between Meituan and ELE in the previous analysis.

6. Results

After analysis, we found that competition among food delivery platforms is still a problem worth considering at present. In China, Meituan and Ele.me have formed a duopoly monopoly competition pattern since 2017. In this situation, its behavioral strategy and overall market nature play a crucial

DOI: 10.54254/2754-1169/2024.25070

role in social efficiency as well as the platform, merchants, and consumers. This article analyzes the impact of the food delivery market and platform behavior strategies from two dimensions: competition cases and game analysis between the two parties.

The bilateral market has established the overall tone of the food delivery market. As an important carrier for interaction between platform users and merchants, it reduces the two-way cost between users and merchants through the agglomeration effect and enhances the overall market efficiency. On the other hand, bilateral markets will capture the total profit of the market society to improve efficiency. In the competition case analysis section, we analyzed multiple competition cases between Meituan and ELE and found that both sides had a lot of friction in order to obtain more benefits, resulting in losses for both sides. Through a simple prisoner's dilemma game, this article finds that the duopoly monopoly in the market brings about vicious price competition. By constructing a choice game model with merchants as the main body and introducing cross-network externalities, we find that in this model, two food delivery platforms also engage in price games over admission fees, returning to the Bertrand model of the duopoly. At present, the market share of food delivery in China is mainly occupied by Ele.me and Meituan, and the conclusions drawn from the model are consistent with the previous case analysis.

7. Discussion

7.1. Limitations

In terms of defects, the model only considers two merchants (A and B) and two platforms (Meituan and Ele.me), which oversimplifies the complex situation in the real market. In the actual market, there are hundreds or thousands of merchants and small platforms outside of the main food delivery platforms, making the decision-making of merchants and the choices of consumers more complex.

In addition, the food delivery platform is actually a multilateral platform, and it is more reasonable to introduce multiple aspects, such as customers and delivery personnel, into the model. Neglecting the network externalities of these other groups may lead to misjudgments of market equilibrium and platform strategy. For example, increasing the number of consumers may incentivize more merchants to join and vice versa, but these dynamics are not fully reflected in the model.

Finally, our model is a static game model that ignores the long-term competition and strategic evolution between platforms. The pricing strategy and entry/exit decisions of the platform are dynamic in terms of time rather than one-time. Not considering the possibility of dynamic games leading to misjudgments of long-term market outcomes. The platform may adopt a low-price strategy in the short term to attract users but will adjust prices in the long term to maximize profits. Whether this situation will occur requires further observation of real data.

7.2. Future agenda

In terms of future agendas, we may expand existing static game models into dynamic game models to analyze long-term competitive behavior and strategic evolution between platforms. For example, study how the platform adjusts prices, service strategies and merchant subsidies in multiple time periods. Future research can be expanded to consider a wider range of network externalities, including network effects between consumers and merchants, as well as the mutual influence between platforms and riders.

DOI: 10.54254/2754-1169/2024.25070

Empirical data can also be used to validate and expand the model. Future research can use actual market data to analyze the impact of different platform strategies on market structure and consumer behavior, such as the effect of price changes on market share and the effectiveness of different subsidy strategies.

In terms of regulation, further research can also be conducted on government policies to determine how anti-monopoly regulations, data privacy protection, labor rights protection and other policies affect the competitive strategy and market behavior of food delivery platforms, and to explore how effective regulatory measures can promote the healthy development of platforms.

8. Conclusion

According to the conclusion analyzed earlier, the government should strengthen anti-monopoly supervision of the foreign sales platform market, prevent one or two platforms from forming market monopolies through mergers and acquisitions or unfair competition, and restrict the entry of new platforms. The application of anti-monopoly laws can prohibit platforms with market dominance from abusing their position to implement exclusive agreements, and restrict competition and other behaviors. We need to prevent excessive market concentration, protect market competition, and ensure that consumers and businesses have the right to choose between different platforms.

In addition, beyond price competition, the government can encourage platform innovation through policies such as technological upgrades, optimizing delivery processes, and improving platform service quality, rather than relying solely on price competition to compete for market share. The government can provide technological research and development support or tax reduction policies to encourage platforms to invest in improving service efficiency and user experience. By improving service quality and innovation capabilities, food delivery platforms can gain advantages in higher-level competition, rather than relying solely on price strategies. This helps to create a healthier market competition environment. We believe that implementing a series of relevant measures can greatly reduce the trend of vicious price competition among food delivery platforms and promote the harmonious development of food delivery platforms.

Acknowledgement

Mofei zhang, Lecheng Xu, and Tianru Huang contributed equally to this work and should be considered co-first authors.

References

[1] E. Rosenkopf et al., "Social Network Effects on the Extent of Innovation Diffusion: A Computer Simulation, " Organization Science, vol. 8, no. 3, pp. 289–309, 1997.
[2] J.-C. Rochet and J. Tirole, "Platform Competition in Two-Sided Markets, " Journal of the European Economic Association, vol. 1, no. 4, pp. 990–1029, 2003.
[3] R. S. Lee, "Competing platforms, " Journal of Economics & Management Strategy, vol. 23, no. 3, pp. 507-526, 2014.
[4] E. J. Altman and M. Tushman, "Platforms, Open/User Innovation, and Ecosystems: A Strategic Leadership Perspective, " SSRN Electronic Journal, 2017, doi: 10.2139/ssrn.2915213.
[5] R. Adner et al., "What Is Different about Digital Strategy? From Quantitative to Qualitative Change, " Strategy Science, vol. 4, no. 4, pp. 253–261, Dec. 2019.
[6] M. Maimaiti et al., "How We Eat Determines What We Become: Opportunities and Challenges Brought by Food Delivery Industry in a Changing World in China, " European Journal of Clinical Nutrition, vol. 72, no. 9, pp. 1282–1286, Sept. 2018.

DOI: 10.54254/2754-1169/2024.25070

[7] Y. Zhang and X. Deng, "Analysis of Food Delivery Market in China: A Case Study of Meituan, " ResearchGate, 2021. [Online]. Available: www.researchgate.net/publication/353927655_Analysis_of_Food_Delivery_Market_in_China_A_Case_Study_of_Meituan.
[8] M. Chen, M. Hu, and J. Wang, "Food delivery service and restaurant: Friend or foe?, " Management Science, vol. 68, no. 9, pp. 6539-6551, 2022.
[9] Y. Bo et al., "Food-Delivery Platforms: A Near-Optimal Policy for Capacity Sizing, Order Batching, and Spatial Routing, " SSRN Electronic Journal, 2023. doi: 10.2139/ssrn.4483564.
[10] Y. Bakos and H. Halaburda, "Platform competition with multihoming on both sides: Subsidize or not?, " Management Science, vol. 66, no. 12, pp. 5599-5607, 2020.
[11] J. B. Schor et al., "Dependence and Precarity in the Platform Economy, " Theory and Society, vol. 49, Aug. 2020. doi: 10.1007/s11186-020-09408-y.
[12] Z. Lan, “Analysis and strategy of take-out industry based on Porter’s Five Forces model -- taking Meituan Take-out as an example, ” Highlights in Business, Economics and Management, vol. 17, pp. 191–196, Aug. 2023, doi: https: //doi.org/10.54097/hbem.v17i.11176.
[13] M. Armstrong, Human Resource Management Theory and Practice, London Bath Press Ltd., 2004. Available: https: //www.scirp.org/reference/referencespapers?referenceid=2875635.
[14] A. Raizonville, "Platform Coopetition in Two-Sided Markets, " Revue d’Économie Industrielle, vol. 172, no. 4, pp. 19–53, 2020. Available: https: //ideas.repec.org/a/cai/reidbu/rei_172_0019.html.
[15] J. Kong, "Research on Price War of E-commerce Enterprises Based on Game Theory——Take Meituan as an Example, " Logistics Engineering and Management, vol. 43, no. 8, pp. 105-108, 2021.