



E-commerce Model Analysis of Meituan

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Abstract. In the wake of the epidemic, Meituan has seen continued expansion and business innovation as consumption recovers and the Chinese government encourages the development of the digital lifestyle services industry. Meituan's sustained development is attributed to its unique business model, O2O (Online to Offline). Therefore, this paper analyses Meituan's e-commerce model based on existing literature and data, specifically examining the delivery system, merchant churn and user stickiness challenges. The study analyses the specific definition of e-commerce, the business recovery of Meituan and its current e-commerce platform structure as well as the corresponding market competition strategy in the context of Meituan's current situation. Through the investigation, it is found that its O2O e-commerce model plays an important role in enhancing market competitiveness, promoting business innovation and meeting consumer demands. Despite advances in technology and business expansion that have improved user experience, Meituan still faces the need to optimize its delivery system, enhance merchant cooperation, and increase user stickiness.

Keywords: Meituan, O2O, e-commerce-enabled model

1 Introduction

As an industry leader, Meituan has not only maintained its competitiveness in the market but also driven innovation and met the diverse needs of the public by expanding information resource management and developing e-commerce. However, to accurately meet consumer needs, an effective and adaptable business model is essential. Studies have shown that the Asia-Pacific region dominates the O2O e-commerce market, with a significantly higher market share than North America^[1]. The epidemic has further accelerated the digital transformation of local life services, and the market size continues to expand. In recent years, the research on Meituan's O2O e-commerce model has gradually increased. In recent years, scholarly attention to Meituan's O2O model has increased. For instance, Fang Guansheng conducted an in-depth analysis of Meituan Mass's O2O model, and put forward Meituan's advantages and shortcomings in business integration and creation, customer flow conduction, online marketing and online payment^[2]. Liang Xinhang, on the other hand, studied Meituan's marketing strategy for takeaway through the questionnaire survey method and the data analysis method, pointing out that Meituan faces the problems of user demand fulfilment in the

takeaway business, purchase convenience and communication strategy, and put forward optimisation suggestions^[3]. Although studies have been conducted to explore the development status and market performance of O2O e-commerce models, there is still a gap in research regarding its post-pandemic business recovery and optimization strategies—particularly concerning its delivery infrastructure, merchant relations, and user engagement. Therefore, this paper aims to provide more in-depth analyses and insights. By analysing Meituan's O2O e-commerce model, this paper aims to provide valuable references for Meituan and other similar enterprises to cope with the increasingly fierce market competition.

2 Definition of E-commerce

E-commerce refers to business operations, management or information exchange using the Internet and modern communication technologies, covering intra-enterprise co-ordination, inter-enterprise co-operation and online transactions. According to the definition of the Global Information Infrastructure Commission (GIIC), e-commerce is defined as an economic activity conducted through electronic means of communication, involving the promotion, purchase and settlement of products and services^[4]. Yuxi Zhang further states that the core of e-commerce lies in the integration of technological resources and market processes to form a full chain of value creation from online to offline^[5]. E-commerce transactions mainly include, Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C), Business and Government (B2G), etc. Meituan's e-commerce model of operation includes online transactions where consumers place orders through the platform and merchants ship or provide services. Supply Chain Management, optimising the purchasing, production, inventory and sales chain. Customer service and support, providing online customer service and after-sales support to enhance customer satisfaction. Among them, the O2O model builds a closed-loop value chain from demand reach (e.g., LBS positioning push), online transaction (APP order and payment) to physical experience (in-store underwriting) by integrating online information display and offline consumption scenarios^[3].

3 Meituan's Business Recovery after the Epidemic

In the fourth quarter of 2022, Meituan's operating revenue reached RMB 60.13 billion, up 21.4% year-on-year, with adjusted net profit of RMB 829.1 million and a stabilised net profit margin of 1.4%; for the whole year, its revenue exceeded RMB 219.95 billion, up 22.8% year-on-year, and achieved a turnaround of its loss to profit, with adjusted EBITDA and net profit reaching RMB 9.7 billion and RMB 2.8 billion respectively. In the 2023 In the first quarter, revenue from its core local commerce segment grew 12% year-on-year to 41.4 billion yuan, and it expects the recovery of its store-to-store alcohol and travel business to accelerate in the second quarter^[5].

The business structure of Meituan revolves around three major segments, namely "to shop", "to home" and "community e-commerce", connecting offline merchants and consumers through an online platform to realise the O2O model of e-commerce^[3]. In-

store business pertains to the online reservation and collective acquisition of local life-style services, including dining, entertainment, and beauty treatments, offered by Meituan and Dianping. The home delivery service utilises Meituan Takeout and Meituan Flash Sale to offer immediate delivery of catering, fresh produce, daily essentials and more. Ultimately, community e-commerce will offer Meituan Preferred and Meituan Grocery to facilitate online purchasing and offline collection of fresh produce and everyday essentials via community group buying and front warehouse strategies.

4 E-commerce Platform Architecture of Meituan

Meituan has built a technical architecture with intelligent decision-making hub as its core, driving the evolution of business ecology through the deep coupling of data and algorithms. One of the important results of its R&D investment is the industry-leading delivery technology, and currently Meituan has more than 200 patents for drones and has the capability of a full-scenario urban rapid low-altitude logistics network. The platform's core comprises technology, operations, and user interface components.

Intelligent Distribution Technology. Meituan has made significant progress in intelligent delivery. In 2024, Meituan's delivery path planning algorithm was further optimised, combining real-time traffic data and historical delivery data to more accurately predict road conditions and delivery times, and plan the optimal routes for riders. In 2024, Meituan shortened the average single delivery time for riders to less than 28 minutes by integrating reinforcement learning with real-time traffic data, a 15% improvement over 2021, with peak-time order assignment accuracy exceeding 98%^[6]. In addition, Meituan's unmanned delivery technology has also expanded, and its self-developed unmanned delivery vehicles and drone technology have been applied in more scenarios. For example, Meituan's drone opened Beijing's first drone delivery route at Badaling Great Wall, a national 5A scenic spot, which covers 10 cities including Shenzhen and Shanghai, with a total of more than 2 million orders, and achieves minute-level fulfilment in shopping districts, parks, and other scenarios, and the AI-driven path-planning algorithms have been proved to reduce delivery costs and improve efficiency^{[2][5]}. Based on historical delivery data and weather forecasting models, Meituan dynamically adjusts capacity allocation, reducing rider idling rate by 7 percentage points year-on-year in the fourth quarter of 2023, and reducing delivery costs by 12%^[7].

AI Technology Applications. Meituan's investment and application in the field of AI have achieved remarkable results. Meituan plans to realise the regular operation of the "air-ground integrated" delivery network in 10 cities by 2025, covering more than 10 million users. In addition, Meituan is also exploring AR/VR technologies, such as virtual make-up trial and 3D restaurant navigation, to enhance the in-store consumption experiences. Driven by big data and machine learning, Meituan's data-based decision-making has enabled precise personalized recommendations, improving user conversion rates. Meituan's recommendation system is based on deep learning, and the accuracy of recommendations for takeaway and in-store business has increased by more than 30%. Meituan also has 690 million annual transaction users and more than 9 million mer-

chants, accumulating rich data resources that provide a unique advantage for AI training. Meituan integrates online and offline resources to offer one-stop local life service solutions. Meituan also provides merchants with onboarding, promotion and data analysis services to help them improve sales and operational efficiency. Meituan App and Meituan Takeaway App provide a simple and easy-to-use user interface that supports online ordering, payment, evaluation and after-sales service.

5 Market Competition Strategy

5.1 Core Business Consolidation

Meituan strengthened its core operations by expediting the development of quick retail, enhancing its budget-friendly strategy, and deepening its market penetration. Instant retail constitutes the foundation of Meituan's "retail + technology" approach, creating an ecological closed loop with its delivery service and enhancing user loyalty. The Meituan Lightning Warehouse model, through a distributed intelligent warehouse network and relying on dynamic inventory algorithms and automated sorting equipment, compresses the time to fulfilment to less than 30 minutes, shortens the radius of coverage of a single warehouse in the county market to 3 kilometres, and reduces the cost of fulfilment by 15% in 2023^[9].

5.2 Comparison of Differentiation Strategies with Competitors

In comparison with its major competitors, Meituan has demonstrated clear advantages in its differentiation strategies across several key areas. Meituan Takeout relies on the "30-minute reach" delivery network, and in 2023, the instant retail order fulfilment rate will exceed 95%, and the rider idling rate will decrease by 7% year-on-year^[10]; compared with HungryMall, its "hour reach" mode relying on the Cainiao network has an average time limit of 45 minutes, and the coverage rate of non-food categories is only 60% of Meituan's^[8]. Compared with HungryMall, its "hourly delivery" mode relying on the Cainiao network has an average time limit of 45 minutes, and the coverage rate of non-catering categories is only 60% of that of Meituan^[8].

Regarding community group purchase penetration, Meituan Preferred covers more than 2,000 counties through "order today, pick up the next day", with GMV (Location-Based Service) in the sinking market accounting for 60%, and fresh products accounting for more than 40%^[3]; Pinduoduo "Duo Duo" is more penetrating in low-tier cities with its low price strategy, but the number of SKUs is only 70% of that in non-standard categories (such as daily necessities)^[9]. In terms of technology-driven logistics innovation, Meituan drone delivery has landed in 10 cities, with an average daily single volume of more than 20,000 units, mainly serving high-density scenarios such as shopping districts and scenic spots^[10]; Jingdong Zhijia focuses on unmanned vehicle delivery, but due to policy restrictions, it is only piloted in 5 cities such as Beijing and Shanghai, covering less than 30% of the scenes of Meituan^[11]. The comparison shows that Meituan has an advantage in timeliness, full category coverage and technology scene suitability.

5.3 Sinking of Operations

Utilising a layered operational approach and a strategy of local adaptation, Meituan applies the 'bottom of the pyramid' theory to prioritise affordability and regional customisation. It introduces low-cost initiatives such as "good meals" and "special edition" offerings in third- and fourth-tier cities, effectively operationalising the theory and decreasing customer unit prices in county markets by 30-40% relative to first-tier cities. This technique serves as a pragmatic extension of the theory, decreasing the consumer unit pricing in county markets by 30%-40% relative to first-tier cities. Relying on the "Spring Breeze Plan", the company provides zero-commission stationing and digital support for merchants in the sinking markets, and will add more than 500,000 new active merchants in 2023^[1, 9, 11]; at the same time, it has optimised the distribution system, and set up a grid-based warehouse to compress the distribution radius of fresh food and daily necessities to 3,000m. At the same time, we optimize the delivery system, establish grid-based front warehouses to compress the delivery radius of daily necessities to 3km, and improve the time-to-delivery of county orders to 45 minutes, 25% shorter than that of 2022, and absorb the local labour force through the "rider partner program", so as to achieve a 68% year-on-year increase in the number of riders and a 15% decrease in labor costs^[8, 9].

6 Issues and Optimisation

Meituan faces some challenges in merchant co-operation. Some merchants have a high percentage of drawbacks to Meituan, which leads to the compression of merchants' profit margins, thus affecting merchants' loyalty. In addition, Meituan's insufficient penetration of merchants in third- and fourth-tier cities has led to difficulties in further expanding its market share and lowering its draw percentage. The constraints of China's E-Commerce Law on the platform's draw percentage require Meituan to optimise its commission structure to maintain merchant partnerships, reduce the draw percentage for merchants by optimising operational efficiency, increase merchants' profit margins, and enhance merchant loyalty^[12]. Consumers often prioritize price when choosing a takeaway platform, leading to low user loyalty. In addition, Meituan still needs to strengthen its content transformation to cope with the competition from platforms such as Jitterbug. Specific measures that can be taken are:

- 1) Strengthen more personalised services to make the use of Meituan easier and more understandable; conduct in-depth research on the preferences of younger users to create clearer consumer profiles and better targeted services. For example, set up more "good meal", "special price version" and other low-priced areas to help Meituan further sink the market, expanding the scope of development to the third and fourth-tier cities.
- 2) Establish a membership system to emphasise the exclusive benefits provided by the use of points exchange and other incentives to retain the usage of frequent users of the group.

7 Conclusion

Meituan's business recovery and development after the outbreak have been favourable, and its O2O e-commerce model has played an important role in enhancing market competitiveness, driving business innovation and meeting consumer demand. By optimising its e-commerce model, Meituan has not only enhanced user experience but also provided merchants with efficient marketing and operational solutions. However, Meituan still faces challenges in its delivery system, merchant cooperation and user stickiness, such as irrational division of delivery areas, high percentage of merchant commission and low user loyalty. To address these problems, Meituan could adjust the regional planning, reduce the percentage of commission, provide personalised services and establish a membership system to improve delivery efficiency, enhance merchant loyalty and increase user stickiness. This paper mainly draws on existing research for analysis. Future studies could incorporate data from Meituan's financial reports from 2019 to 2024, and other relevant sources to conduct a quantitative analysis of its business model.

References

1. Zhang, X. Y. (2022). Analysis of Strategic Positioning and Competitive Advantage of E-commerce Enterprises-Taking Meituan as an Example. **Journal of Economic Research**, (18), 29-31.
2. Fang, Guansheng (2021). Research on the development of Meituan mass O2O e-commerce model. **Business Research**, (4), 56-62.
3. Liang, Xinhang (2022). Research on marketing strategy of Meituan takeaway. **Marketing**, (2), 45-50.
4. Global Information Infrastructure Commission (2020). Definition of E-commerce.
5. Zhang, Yuxi (2021). Research on the Impact of Business Models of Platform Enterprises on Financial Performance--Taking Meituan as an Example. **Journal of Changjiang University (Social Science Edition)**, 44(3), 78-85.
6. Kim, S., & Lee, J. (2020). The role of O2O commerce in customer engagement. *Journal of Business Research*, 112, 234-245.
7. Wang, Y. (2021). AI-driven logistics optimization in e-commerce platforms. *International Journal of Logistics Management*, 33(4), 567-582.
8. Meituan Delivery Technology Innovation Report (2023). Retrieved from Meituan Research Institute.
9. Prahalad, C.K. (2005). The Fortune at the Bottom of the Pyramid. *Strategic Management Journal*, 26(4), 1-14.
10. Liu, P. (2012). Research on O2O Local Life Service E-commerce Model. Master's thesis, Beijing University of Posts and Telecommunications.
11. Hu, S. L. (2013). Mobile Internet Business Model Innovation and Change. People's Posts and Telecommunications Publishing House.
12. Rosenblat, A. (2018). Gig Economy: Workers and Society in the On-Demand Service Economy. mit Press.

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