

Amap - Innovation Based on the Aggregation Model

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Abstract. With the rapid growth of online car booking and the widespread adoption of the aggregation model, the momentum behind its implementation in this industry seems unstoppable. This study focuses on Autonavi Taxi, examining its business model innovation, service model innovation, and product innovation resulting from the aggregation model. By employing Porter's Five Forces analysis and SWOT analysis, its comparative advantage highlights the unique competitiveness fostered by this mode. The research emphasizes Autonavi Taxi's significant innovations and developments within the framework of the aggregation model in the online ride-hailing industry. Both its business and service models have a positive impact on regional economies, while product innovation expands its audience reach and enhances overall competitiveness. This analysis provides valuable insights into the dynamic landscape of online ride-hailing services, showcasing Autonavi Taxi as a noteworthy player with distinctive strengths in implementing an effective aggregation model paradigm. The innovative potential of the ride-hailing industry in the aggregation mode is further amplified, which has a positive impact on the development of the consumer economy.

Keywords: Polymerization mode; innovative; network about the car industry.

1. Introduction

From 2020 to 2023, Amap has actively collaborated with local authorities, industry associations, and taxi enterprise alliances in over a hundred cities nationwide to establish aggregation platforms. This collaboration aims to facilitate the digitization process, providing online traffic for company platforms to enhance both resource scheduling capabilities and the ability to meet user demands bilaterally. As a leading travel service platform, Autonavi Taxi has become the first choice for users with its innovative, convenient, safe, and cost-effective characteristics. Whether it is a daily commute or special needs, Autonavi Taxi can provide users with high-quality travel services, making travel more convenient and comfortable.

This study employs the Boston Matrix and Porter's Five Forces model to analyze Amap's strengths and potential challenges, with a particular focus on innovation. Under the aggregation model, the service and product innovations introduced by Amap Taxi are delved into, with a focus on its internal driving forces and future trends. Amap, at the forefront, is steering the development of an open, shared, and mutually beneficial ecosystem in the ride-hailing industry, fostering sustained, healthy, and high-quality growth [1].

2. Autonavi Taxi's Business Model Innovation

In 2017, Amap Taxi pioneered the aggregation model, connecting an extensive user base with a diverse array of travel service enterprises. It provided information intermediary services, realizing a "one-touch trigger, whole-network response" aggregation model to enhance supply-demand matching efficiency.

According to the National Travel Report, 55% of passengers have cultivated the habit of prioritizing the use of aggregation platforms for taxi services, with nearly 50% believing that these platforms have significantly improved their travel experiences. Data from the Ministry of Transport's

online car-hailing supervision information exchange system indicates a 20% year-on-year increase in order information, reaching 7.63 billion orders in June. Among them, aggregation platforms completed 218 million orders, gradually establishing themselves as a mainstay in the domestic travel market. Compared to July 2022, the total national order volume increased by 68 million, with aggregation platform orders growing by 65 million[2].

The emergence of aggregation platforms can be attributed to two factors: the scale growth achieved among platforms through aggressive marketing strategies, leading to users needing to download an increasing number of apps due to substantial subsidies; in the case of Didi Chuxing, the lack of online customer acquisition capability despite having organizational capabilities for drivers and vehicles offline.

According to a Deloitte research report, Amap, unlike Meituan's "pure platform" business in the aggregation platform field, takes a unique approach by acting as a "platform of platforms." Leveraging its traffic advantages with a light-asset model, it entered the online car-hailing market by connecting with nine major platforms, including Didi Chuxing and Cao Cao Chuxing[3]. This approach avoids direct competition with established car-hailing platforms, alleviates their survival concerns, and increases user app usage frequency.

Promotes traffic monetization, obtains travel big data, and links its travel scenarios with Alibaba's O2O ecosystem, including mobile payments and credit systems.

Taking Amap as an example, its travel platform is built on the foundation of Amap's maps. By integrating with online car-hailing service platforms, it provides information network interaction services for both the platforms and users. When users click "hail a ride" on the Amap platform and input or select pick-up and drop-off locations, they can view a list of online car-hailing platforms offering passenger services along with estimated prices. After users make selections, the Amap platform consolidates their travel needs into orders and sends them to multiple online car-hailing platforms. These platforms, based on their algorithm models, then send order information to drivers on their platforms. Once a driver from a platform responds and accepts the order, the Amap platform informs the user about the relevant vehicle information. Finally, the chosen online car-hailing platform completes the passenger service using its connected drivers and vehicles. After the service is completed, users pay the travel expenses according to the agreed-upon settlement method.

In summary, the aggregation platform, as a novel business organization providing interactive services between internet platforms and users in the context of the digital economy, can be viewed as a "platform of platforms." As a new business model, the aggregation platform upgrades internet platforms, enlarges the market scale, increases the likelihood of successful supply-demand matching, and helps improve market efficiency. Moreover, by integrating more internet platforms and service providers, the aggregation platform not only lowers market entry barriers and strengthens market competition but also more conveniently and effectively meets the diverse needs of different levels and types of users, enhancing consumer welfare.

Amap Taxi's innovation in the aggregation model has achieved significant success in the business realm, positively impacting the development of the travel service industry. It not only provides users with more intelligent, convenient, and reliable travel options but also stimulates innovation in the industry, propelling its overall growth. The pioneering aggregation model is set to promote ecological inclusiveness for Alibaba, constructing a local life system, providing extensive information support, and bringing forth more possibilities for industry and regional economic development.

3. Autonavi Taxi service model innovation

Autonavi Taxi is a taxi-hailing platform dedicated to providing convenient and efficient travel services. The most important thing for taxi software is timeliness, safety, and cost performance. As one of the leaders in the field of mobile travel, Autonavi Taxi has carried out a number of innovations in the service model, bringing new experiences and convenience to users.

Autonavi Taxi pioneered the aggregation taxi model in China. Autonavi Taxi provides one-stop travel services for users by aggregating multiple travel service providers. This aggregation model not only expands the user scale and influence of the platform but also improves the utilization efficiency of vehicle resources and service quality. At the same time, through competition and cooperation, each travel service will pay more attention to improving service quality and user experience, and promote the progress of the entire travel service industry. At present, it has access to more than 300 network car companies and is the first to launch a comparison car, a variety of price ranges of vehicles for passengers to choose from, with the help of the aggregation model to help users choose the most suitable for their own needs of the model so that the price transparency.

Autonavi Taxi's first "real pick-up point" function, through big data analysis, Autonavi Taxi can predict the travel demand of different regions, reasonable allocation of vehicle resources, Autonavi map through the "real pick-up point" the use of AR technology to mark the pick-up point in the real map, the driver is easier to arrive, faster and more accurate rendezvous, reduce the waiting time, It greatly improves the traffic efficiency in crowded areas and optimizes the allocation of resources to improve the efficiency of vehicle use. This way of optimizing resource allocation can improve the travel efficiency and resource utilization efficiency of the whole society. Effectively guarantee the timeliness of the taxi.

Autonavi Taxi has been committed to providing convenient travel services for all walks of life. To help the elderly travel better, Autonavi Taxi has carried out activities to help the elderly, providing emergency call functions and itinerary sharing functions, so that the elderly can share their itinerary information with relatives and friends at any time, increasing people's sense of security and improving the safety of travel. Autonavi Taxi cooperated with the emergency rescue center of the Beijing Red Cross Society to launch the green channel service for medical treatment. The service aims to provide more convenient medical services for the elderly. Through the Autonavi taxi app, the elderly can directly call a car to the emergency rescue center of the Beijing Red Cross for medical treatment.

Taking social responsibility actively is the key to the development and growth of internet platforms. Secondly, providing customized services for specific user groups is an effective way to enhance user experience and loyalty. Finally, using its own technical advantages and partner resources to explore new business models and innovative service models is an important means for the sustainable development of Internet platforms.

According to the 50th Statistical Report on the Development of China's Internet released by CNNIC, as of June 2022, the number of car-hailing users in China reached 405 million, accounting for 38.5% of the total Internet users. In June this year, the overall monthly active users of the ride-hailing industry were about 121 million, and the industry penetration rate was about 19.4%. From the overall scale point of view, the network car industry still has room to rise, but in the future, with more or stock competition, with the continuous entry of new players, the market vitality of the network car industry will also be renewed [4-6].

4. Product Innovation of Autonavi Taxi

4.1. The SWOT of Autonavi Taxi

Amap uses advanced technologies, such as big data and artificial intelligence, to optimize the order distribution strategy, so that drivers can take orders more effectively. By analyzing users' travel habits, Amap can predict future demand changes, thus adjusting vehicle distribution in advance and improving transportation efficiency. The Amap business has covered major cities in China, and it is still expanding. This means that drivers have more opportunities to meet different passengers and expand their business scope. Not only that, the taxi users in Gaode are very extensive, including office workers, students, and tourists, which provides more customers for drivers. Finally, Gaode pays attention to providing quality service, which is not only reflected in the comfort and safety of vehicles but also in the professional quality of drivers. In order to improve the service quality of drivers, Amap Club will hold regular training activities to improve drivers' professional skills and service levels.

This enables drivers to provide more professional and humanized services, thus gaining favorable comments from passengers and further improving their business volume.

Low-price competition makes drivers' income drop sharply, forcing them to work long hours under high loads, and their income does not match. At the same time, drivers are prone to fatigue and difficulty concentrating, which also brings potential safety hazards to passengers. With the rapid development of the domestic Internet and the increasing demand for travel navigation, Amap has the opportunity to further expand its user base and market share. Amap can improve the accuracy and coverage of map data and enhance the user experience through technological innovation and update iteration. Competitors such as Didi Taxi also have a certain user base and technical strength, which may cause competitive pressure on Amap. With the continuous development of technology, emerging navigation technologies and services may pose a threat to traditional navigation applications, and Amap needs timely follow-up and innovation [7].

4.2. Porter's Five Forces Model

The Porter's Five Forces model is a tool used to analyze the competitive environment of an industry by analyzing five competitive factors within the industry including rivalry among existing competitors, threat of new entrants, threat of substitute products or services, bargaining power of suppliers and bargaining power of buyers help companies assess the attractiveness and competitive intensity of their industries [8].

Examines the strategic position of Cargolux Airlines in the global air cargo supply chain. The study used Porter's Five Forces model to analyze Cargolux's competitive position, emphasizing that competition between firms affects the level of profitability in the industry; that buyers with high purchasing power may capture added value by forcing prices down; describing the bargaining power that suppliers will likely exert by raising prices or lowering quality; mentioning factors that affect the threat of substitutes such as brand name of customer loyalty, customer relationships, and the threat that new firms entering the industry may bring new capabilities and resources [9].

Because of the lack of public transportation solutions in big cities, transportation services are becoming one of the fastest-growing platforms in developing countries [10]. AutoTaxi has launched the "Quick Go" feature as a new step forward in its taxi aggregation platform. As the taxi service aggregation platform under AutoNavi, AutoNavi's unique feature is the ability to call vehicles from multiple partner online taxi platforms at the same time, allowing users to compare prices and call services from multiple platforms in one app. However, during peak travel hours such as morning and evening peaks, inclement weather, and special holidays, passenger demand surges and vehicle supply are insufficient, resulting in users not being able to successfully call the required platforms and models [4-6]. To solve this pain point, Amap launched the "Quick Go" function, which provides users with a pop-up window to select nearby free capacity willing to take orders. Users can independently choose whether to accept the recommended taxi program within 15 seconds, and then click on "use the car now" to initiate the dispatch order. This new feature uses real-time pricing to avoid temporary price increases, and users can clearly understand the model, service provider name, pick-up distance, estimated pick-up time, and estimated cost in the pop-up window to ensure that users can make a clear choice and realize explicit consumption.

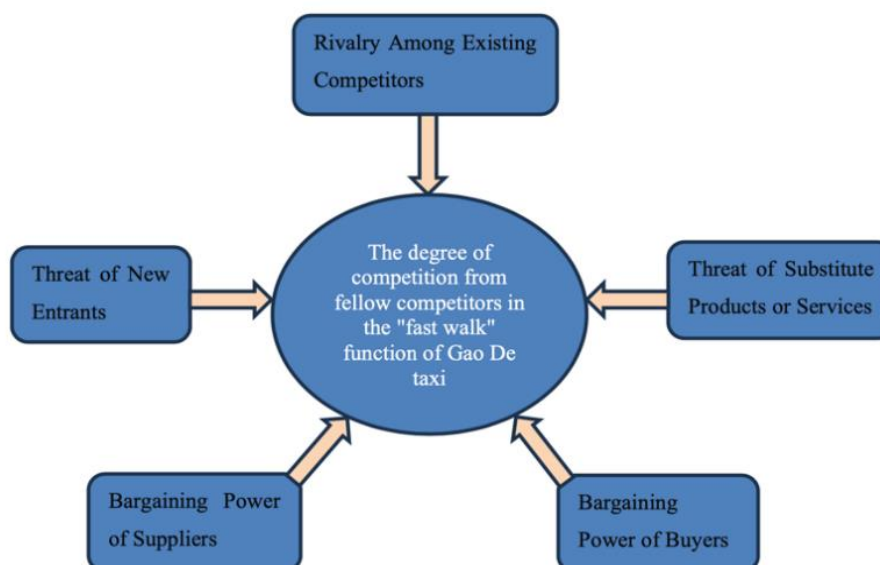


Figure. 1 Porter's Five Forces model analysis mode of Amap

Figure 1 the use of Porter's Five Forces model to analyze the degree of competition among the competitors in the "Quick Go" mode of Amap. Competition in the travel service industry is fierce, but Amap has not only improved the user experience but also consolidated its competitive position in the industry through innovations such as its aggregation model, real-time pricing, and the "Quick Go" function.

The travel service industry is already relatively mature, and the "fast walking" mode of Amap has established a strong partner network by aggregating multiple platforms to provide services, which has established a certain market position and formed a certain resistance to new entrants, and the existing competitors and market scale have limited the threat of new entrants, which is also an insurmountable gap for new entrants.

The alternatives in the travel service industry include private cars, public transportation, and bike sharing. The threat of alternatives is high, but in some special circumstances, such as bad weather, the demand for taxi travel services in emergency travel is still very high. Innovative features such as the "fast walk" mode introduced by AutoNavi have also reduced the attractiveness of alternatives. The "Express" model of Amap is operated through cooperation with multiple online taxi platforms, which have certain bargaining power over the service conditions and share ratios, but the bargaining power of the suppliers is relatively low due to the diversification of the suppliers and the large number of suppliers. At the same time, the "Quick Go" mode of Amap provides more order opportunities for nearby drivers who are willing to take orders, which also enhances the cooperation between the Company and its suppliers.

Passengers have a high bargaining power over taxi services, which can be influenced by comparing prices and choosing a platform. Passengers may face an oversupply of rides during peak hours and in emergencies, but the "Go" feature provides users with more choices of rides, increasing their bargaining power in terms of service and price. Amap needs to maintain price competitiveness to provide a good user experience.

Overall, through innovation and the establishment of a strong partner network, Amap has effectively responded to potential competition and market changes and maintained its competitive edge in the field of travel services. The advantage of this innovation is not only that it improves the convenience of users in using the car during peak hours, but also provides more order opportunities for nearby drivers who are willing to take orders, further broadening their source of income. Through activities such as the summer commission-free welfare season, the company ensured a balance between supply and demand, directly realizing a win-win situation between passengers and drivers, this innovation not only enhanced the user experience but also created a good balance between supply and demand, injecting new impetus into the development of the entire industry [10].

5. Conclusion

As a leading travel service platform, Autonavi Dache has brought unprecedented convenience and experience to users with its innovative models and functions. It breaks the boundaries of traditional travel services through business model innovation, product innovation, and service model innovation, and provides users with more choices, higher cost performance, and more accurate travel services. The introduction of these innovative models has not only improved users' satisfaction with travel services but also promoted the development and innovation of the entire industry. At the same time, Autonavi Taxi actively fulfills its corporate social responsibility and promotes the sustainable development of society through initiatives such as helping the elderly and environmental protection initiatives. Internet platform companies should learn from the successful practice of Autonavi Dache, pay attention to user needs and experience, use technological innovation to promote development, achieve diversified income sources, strengthen security, and continue to innovate and improve, in order to adapt to the changing market environment, provide quality services and experience, and win the trust and loyalty of users. Thus in the fierce market competition to obtain greater advantages and market share. Autonavi Taxi's innovative model is not only a business strategy but also reflects the core of corporate values and mission. Continuous technological innovation and adoption of advice to provide users with a more intelligent and convenient way to travel. Taking Autonavi Taxi as an example, the important role of Internet platform companies in innovative strategies. The success of Autonavi Taxi lies not only in its technical advantages and efficient operation mode but also in its insistence on the concept of user-centered, continuous optimization of user experience and enhancement of brand influence.

As an internet platform company, the core of Autonavi Taxi's innovation strategy is to use advanced technologies, such as artificial intelligence, big data, etc., to achieve efficient, convenient, and safe ride-hailing services. The application of these technologies not only improves the operational efficiency of the company but also enhances the user's ride-hailing experience. In the network car industry for the first time to use the aggregation model, through cross-border cooperation, and cooperation with enterprises in other industries, to open up a new business model.

However, internet platform companies also face some challenges in the implementation of innovation strategies. Such as policy risks, technical bottlenecks, market competition, and so on. To meet these challenges, Autonavi Taxi needs to further strengthen technology research and development and application, enhance user experience and brand influence, while strengthening interaction with users and feedback collection, and constantly optimize products and services.

In general, taking Autonavi Taxi as an example, the advantages and challenges of Internet platform companies in terms of innovative strategies. In the future, with the continuous development of Internet technology, Internet platform companies will usher in more opportunities and challenges.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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