

# The Leader of Sharing Travel Industry: The Operation of DiDi Company under the Epidemic and Low Carbon Policy

Shiyu Liao<sup>1, \*</sup>

<sup>1</sup>Chongqing DEPU foreign language school, Chongqing, 400000, China

\*Corresponding author. Email: [guanghua.ren@geccademy.cn](mailto:guanghua.ren@geccademy.cn)

## ABSTRACT

In the information-based modern society, the informatization and Internet of residents' clothing, food, housing and transportation are inevitable development trends under the tide of the times. Sharing economy is one of the emerging business forms under the tide of the Internet. In recent years, new business forms have been emerging, which has greatly enriched the travel modes of residents and opened up a new path for the development and progress of the shared travel industry in China. At the beginning of 2020, an epidemic broke the original market plan of almost all Chinese enterprises, including DiDi, a Chinese online car-hailing giant. DiDi provides consumers with all-round, safe, affordable and convenient travel services. Based on the situation of COVID-19 in China, this paper analyzes the operation of DiDi network car-hailing, which includes market analysis of online car-hailing industry, such as PEST analysis. This study also explores the problems DiDi encountered under the epidemic situation, and puts forward reasonable solutions. At the same time, the research also predicts the future development trend of shared travel in the online car-hailing market represented by DiDi. Especially the low-carbon economy strongly advocated by the Chinese government in 2021. Based on the judgment of the future travel mode trend, it also proposes the reliable and effective suggestions for DiDi in the future strategic layout.

**Keywords:** *Sharing economy, Online car-hailing, DiDi, PEST analysis.*

## 1. INTRODUCTION

### 1.1. Background

Although the concept of shared travel did not originate in China, after years of development, China has undoubtedly become the largest market in the field of shared travel. DiDi is the world's largest shared travel platform. Globally, DiDi has 493 million annual active users. DiDi also operates in more than 4000 cities and towns in 15 countries, including China, providing online car-hailing, taxis, free rides, shared bicycles, shared motorcycles, Valet driving, car service, freight, finance, automatic driving and other services. In 2020, COVID-19 suspended the inter city order and carpool business.

China has a huge population and many dense cities. With the economic development, the acceleration of urbanization and the progress of science and technology, mobile travel modes are enriched, and consumers' travel needs are becoming more and more diversified. The

shared travel market includes rental online car-hailing, special car, free ride and driver services, which can effectively match the demand on the demand side and expand the supply side transport capacity. At present, online car-hailing is the largest segment of the whole shared travel market.

The outbreak in China has caused a huge short-term impact on the online car-hailing industry. According to the data disclosed in DiDi's prospectus, the number of transactions in Q1 in 2020 has decreased by more than half compared with Q4 in 19, but Q3 will basically return to normal by 2020.

Benefiting from the strong policy support of the global new energy industry, the sales volume of global new energy vehicles has increased strongly in recent years and the penetration rate has gradually increased. More than one million electric vehicles, including new energy vehicles and hybrid vehicles, have been registered on DiDi platform. DiDi has launched a special electric vehicle for online car-hailing service

through the layout of the electric vehicle field, which will greatly reduce the daily operation cost of drivers and improve the driver's income, so as to further improve the platform stickiness at the driver's end.

## **1.2. Related research**

Recently, there has been a lot of negative news about DiDi company, such as the quarrel between drivers and passengers. Xing analyzed the service strategy research of DiDi Travel. It uses swot analysis method to analyze DiDi's service strategy into two aspects: internal and external. Externally, DiDi has formulated various preferential policies based on the travel hobbies of locals. While, due to the negative news from drivers and other factors has also threatened DiDi in the market competition. From an internal point of view, the advantages of DiDi are reflected in its incentive policies for drivers and preferential policies for passengers. However, although a large number of subsidies can play a role in promotion, they are faced with high costs and increased internal financial risks of the company. The author concluded that only through a large number of users and the efficient communication between drivers and passengers, they can establish their own operating platform model, which can better consider passengers while serving drivers. Only in order to make DiDi develop deeper [1]. The platform risk prevention mechanism is extremely important to DiDi. Kui discusses the formation mechanism of moral hazard taking DiDi as an example through three stages of the platform. The results show that moral hazard in shared travel has dual meanings in the fields of economics and ethics. The formation mechanism of moral hazard: in the platform bridging, the reduction of audit threshold is the source of moral hazard; the prevention mechanism of platform risk is not perfect, which makes platform guidance the main stage of moral hazard; The evaluation and screening mechanism in the collection and payment of the platform is not perfect. The platform can not and does not want to deal with problem drivers, so that the risks are still concentrated in the system, resulting in the cycle of moral hazard. Therefore, this paper puts forward some suggestions to prevent moral hazard from improving the threshold of driver audit, dredging the channels of information interaction, and screening mechanism, and strengthening the moral construction of participants [2]. For the governance of social environment, DiDi has also made some measures. For example, DiDi and BYD jointly developed an electric vehicle model specially for taxis. Jun by integrating DiDi travel order data, air quality data and climate information, this paper studies the interaction mechanism between traffic congestion and air pollution by using break-point regression model and intermediary variable analysis. The results show that the increase of online car-hailing operation scale will aggravate urban air pollution, On the other hand, air pollution will inhibit

traffic congestion, and the mechanism of this phenomenon is that air pollution will reduce people's travel, From the perspective of people's mobility behavior, this paper reveals the complex relationship between urban traffic congestion and air pollution, which provides a theoretical and empirical basis for the coordinated governance of these problems [3].

Business model innovation is the main driving force for DiDi's progress. Value proposition, product, partnership and profit model. Ping analyzes the elements of business model innovation of platform enterprises and also the relationship between dynamic capabilities and business model innovation. The Internet has completely changed the business model and spawned the sharing economy. A large number of platform enterprises are developing rapidly, but there are sustainability problems. Platform enterprises must constantly innovate business models in order to obtain sustainable competitive advantage. In a complex and changeable environment, dynamic capability helps enterprises overcome core rigidity and promote business model innovation. It is considered that the elements of business model innovation include value proposition, product, partnership and profit model innovation. Dynamic capability promotes business model innovation and has different guiding effects on the cultivation of dynamic capability. An exploratory case study was conducted, using DiDi taxi as an example, and verified the theory model [4].

Xu puts forward the calculation method of capacity utilization and constructs the profit margin model of taxi service. Taking Beijing and Shanghai, China as examples, the profit margins of taxi and online taxi services are compared and analyzed by using DiDi trajectory data from December 22 to December 24, 2017. The results show that in China, the profits of different car rental services are unbalanced in time and space dimensions. The low capacity utilization of taxi and taxi Hailing services leads to the conflict between low supply and high demand. The profit margin of taxi is much higher than that of taxi service. In addition, weekend profits are higher than weekdays. Long distance orders (> 15km) and relatively short orders (< 3km) generate higher profits [5].

Based on the financial reports of DiDi and Uber from 2018 to 2020, He first introduces the business performance and financial performance of the two online car-hailing platforms, then analyzes the differences in business models and regulatory environment, which lead them to adopt different revenue recognition methods, and finally points out the difficulties and challenges brought by the differences in revenue recognition to the performance evaluation of DiDi and Uber. In addition, the unreasonable regulations on R & D expenditure and stock options in the current accounting standards lead to the serious

underestimation of the financial performance of the two online car-hailing platforms. The performance indicators of non-GAAP can better reflect the real profitability of DiDi and Uber than those of GAAP [6].

Zhang takes "DiDi travel" as the research object, analyzes the situation of its business model and studies its innovation, hoping to provide reference for the business model innovation of shared automobile enterprises. DiDi travel mainly adopts the o2o business model. Relying on the big data platform, it directly connects the driver and customers with mobile app. Both drivers and customers have the right to make a two-way choice, and the enterprise does not need to spend too much cost. One of the main reasons why DiDi is well known and used by consumers is marketing innovation. In terms of marketing mode, DiDi travel is user-centered. Secondly, DiDi travel is good at using the payment platform to carry out secondary marketing [7].

Sharing economy is the future development trend of China's social development. Taking DiDi's behavior as an example, CHEN and DAI combed in detail the development process of the enterprise since its establishment, analyzed the evolution path of innovation strategy, competitive strategy and ecological strategy in the initial stage, expansion stage and standardization stage, and constructed the ices model of the evolution path of the development strategy of enterprises with sharing economy on this basis. The research shows that the sustainable development of sharing economy is inseparable from innovation drive and coordination, and the innovation strategy of enterprises should be adjusted accordingly in different development stages [8].

Wang explained that DiDi travel platform is the online car-hailing platform with the largest market share in China. The user coverage and order market share occupy the first place with absolute advantages, the overall market scale continues to grow, and the development potential is ahead of other online car-hailing platforms. Secondly, it systematically analyzes the problems existing in the current development of DiDi travel platform, such as non-standard operation, evasion of legal supervision, insufficient innovation of platform service technology and so on. Finally, according to the existing problems, this paper puts forward practical countermeasures and suggestions to promote its standardized development. DiDi travel platform provides people with diversified travel options. This new business mode has developed rapidly due to its acceptance by the public, but generally speaking, the development time is not long, and its development inevitably has problems. The platform should actively find solutions to the existing problems and realize the standardized development of the platform [9].

Operation and management is a problem that enterprises can not ignore. DiDi also has to experience such a problem. Taking DiDi express as the research

object, WANG discusses the profit model and profit growth bottleneck of DiDi express under the background of sharing economy. To sum up, DiDi 's profit model is a profit model based on o2o, user-oriented and mainly in the form of "per order bonus + advertising business". At the same time, the safety problems of customers and car owners, the services to be improved, the high service cost and the highly competitive market all constitute the bottleneck of DiDi Express's profit growth. Therefore, providing high-quality services, strengthening safety supervision, strengthening talent team construction and reducing service costs are necessary measures to break the profit bottleneck. The research of this paper has certain reference significance for the operation and management of similar enterprises [10].

### **1.3. Objective**

This study conducts the PEST analysis on DiDi company and explores the problems faced under the epidemic situation, so as to analyze and summarize the operation of DiDi company under the changing environment in China. Including changes in policy conditions and external uncontrollable risks. At the same time, this paper also attempts to predict the future development trend of shared travel (mainly online car-hailing) represented by DiDi company and CaoCao company in China. Based on the judgment of the future travel mode trend, it also puts forward reliable and effective suggestions for DiDi in the future strategic layout.

## **2. PEST ANALYSIS**

Booking a taxi online is a new business model developed all over the world. It is a service mode that uses the Internet platform to provide a point-to-point service to meet the diversified travel needs of customers. Travel is a major event in people's daily needs. With the improvement of people's living standards, online car-hailing has gradually become a more common way of travel. The development of online car-hailing industry has also driven the transformation of traditional automobile manufacturers to the service market, and traditional automobile manufacturers have also joined the online car-hailing market. After several years of fierce competition and development, major manufacturers have actively arranged the travel service market. By using PEST model, it can logically analyze the macro environment of China's online car rental market. Macro environment is the climate of industrial development and the environment for enterprise growth. It is the external factor affecting enterprise strategic planning and management. The pest model proposed by Professor Michael Porter of Harvard University provides a basic framework for macro environmental analysis. The "PEST" model includes four major

external environmental factors: political, economic, social and technological. The key of PEST analysis is to determine the specific factors affecting the strategy and operation of the enterprise under the four dimensions.

**2.1. Policy**

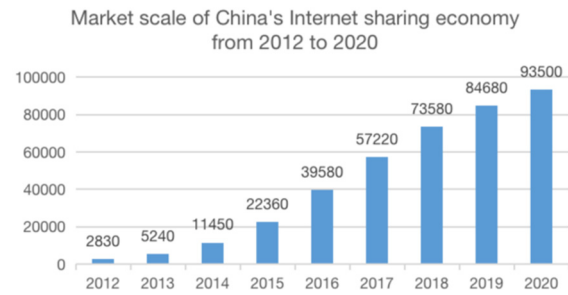
The reform of official vehicles implemented by the Chinese government in 2014 released market space for online car-hailing services. China has abolished the use of vehicles for leading cadres below the Deputy ministerial level, abolished the use of vehicles for general official business, socialized the use of vehicles for general official business travel, and appropriately distributed official transportation subsidies. At present, the reform has been fully completed.

The policy in 2016 release to promote the standardization of online car-hailing service platform. Standardize the online taxi Hailing platform, drivers and vehicles, and require to obtain the corresponding certificates for online taxi booking. Start to strictly investigate illegal vehicles, so that online car-hailing has received legal supervision.

With the development of online car-hailing industry, employees call cars through the Internet, pay the fare in advance and then reimburse the company, so as to improve the flexibility of car use. In recent years, with the emergence of the enterprise travel service platform, employees do not need to pay in advance after calling and using cars through the network, and the enterprise makes unified settlement and payment. The enterprise travel data management and cost control are also more convenient and efficient, so the enterprise travel service industry has entered a new era.

**2.2. Economic**

As shown in Table 1, China's opening of the sharing economy has led to a substantial increase in the scale of the online car-hailing market. In 2019, the transaction scale of China's sharing economy market was about 3282.8 billion yuan, and the sharing economy has played a role in stabilizing employment. In 2019, the proportion of online car-hailing passenger volume in the total taxi passenger volume will reach 37.1%, accounting for the highest proportion in all types of sharing economy.



**Figure 1** Market scale of China's Internet sharing economy from 2012 to 2020

**2.3. Social**

In the supply side, China's car ownership and the number of drivers is increasing year by year. The penetration rate of new energy electric vehicles is expanding in China. The use cost of pure electric vehicles is much lower than that of fuel vehicles, which is very suitable for online car-hailing. As for the demand field, COVID-19 has been properly handled in China, and the demand for social travel has increased. The share of shared travel has also increased year by year.

**2.4. Technical**

With the development of Internet technology, the scale of Internet users continues to expand. The popularity of mobile phones has been increasing in China, creating a huge market for online car-hailing.

High precision positioning and traffic monitoring technology make the network car-hailing software rely on reliable information data to serve drivers and passengers. More importantly, the safety of passengers can be better guaranteed.

Based on the judgment of the trend of future travel mode, DiDi has carried out four strategic layouts, including shared travel, car service network, electric vehicle and automatic driving. In the long run, the long-term implementation of automatic driving and electric vehicles will alleviate the cost pressure and further improve the platform stickiness at the driver's end.

**3. PROBLEM OF ONLINE CAR-HAILING UNDER EPIDEMIC SITUATION**

**3.1. Contract Termination Risk**

During the epidemic, drivers are easily exposed to the virus, and drivers are likely to be exposed to positive cases carrying the virus if they work in high-risk areas. The driver is easily required by the government to be isolated for 14 days. During this period, the driver cannot continue to work. There is a mode of cooperation

between the driver and the online car-hailing operation company: the leasing mode, that is, the online car-hailing operation company lends the online car-hailing to the driver through the leasing contract, and the driver pays the use cost of the car during the contract period, including rent, oil or electricity, car tolls, rental deposit, etc. Therefore, when the driver cannot work normally due to external force, they will choose to breach the contract. If they don't, they will face high car rental fees every day.

If a large-scale and large-scale epidemic infectious event occurs in the area where the online car-hailing operation company is located, the probability of contract breach will increase. As a result, online car-hailing operation companies will have greater operating costs.

### **3.2. Business Volume**

Even under the influence of severe epidemic, the urban system still has the travel demand of online car-hailing. Compared with before the epidemic, the demand for recreational travel to commercial centers has been greatly reduced, while the proportion of travel demand to high-speed railway stations, hospitals and residential areas has increased significantly, and even the demand for airports is more than before the epidemic.

During the primary response control period of the epidemic, the public travel demand decreases, and the online car-hailing business volume decreases. The online car-hailing driver makes a decision to stop the train according to the market demand. Affected by the epidemic, the travel demand of online car-hailing users has decreased sharply, and the living pressure of drivers and the operation cost of the platform have increased. Under the pressure of life, online taxi drivers have to convince themselves to play down their fear of the epidemic. Now they are more worried about not making money than the epidemic.

### **3.3. Inadequate Disinfection and Protective Measures**

In summer, when the air conditioner in the car is turned on, a sealed interior environment will be formed, and the virus is easy to breed in the car and difficult to discharge. An online taxi receives about 50 different guests on average every day. Guests come from different departure places to different destinations, which has a great passenger flow exchange rate. Vehicles that go to the online car-hailing operation company for business must be strictly eliminated and registered as required. Vehicles operating on the road every day shall be reported to each operating company. The company shall register and urge and require operating vehicles to consciously go to the disinfection point for disinfection.

In such a severe situation, the online car-hailing platform has also taken many countermeasures, such as daily disinfection of vehicles, marking epidemic prevention stickers in vehicles, etc. This also brings many enlightenment to the online car-hailing platforms: the improvement of service quality is not achieved overnight, but comes from persistent improvement. These experiences accumulated in a special period should be transformed into standardized service processes and continue in the long run.

### **3.4. Inefficiency**

For the online car-hailing platform, this problem focuses on "efficiency". The online car-hailing platform needs to make the vehicle status transparent and update the vehicle information to users in time.

Sometimes the software shows that there are vehicles around passengers, but there is no nearby driver to answer the bill when sending the bill. Instead, the order is received by a driver farther away from the passengers, resulting in longer pick-up time and wasting more time.

Research shows that app shows that there is a car nearby, but you can't get a car; After hitting the car, more than 50% of the vehicles actually arrived 10 minutes later than the estimated time or even more. When the surrounding vehicle information is inconsistent with the actual time, or the expected arrival time of the vehicle is later than the actual time, it will greatly consume the user's good impression of the brand.

## **4. SOLUTIONS**

Since the outbreak of the epidemic, DiDi has taken many measures and carried out anti epidemic actions with drivers. DiDi travel announced to invest 100 million yuan in a special fund to install protective films for millions of DiDi network taxi Hailing vehicles that stick to their services during the epidemic, so as to prevent the spread of droplets as much as possible. The official statement is that after consulting medical staff and professionals, it is feasible to install front and rear plastic isolation films in the car, which can form a simple safety cabin in the car and prevent the spread of droplets to a certain extent. According to the announcement, DiDi will bear all the costs of installing the protective film.

DiDi has set up driver epidemic prevention service stations in 106 cities across the country to distribute free epidemic prevention materials such as masks and disinfectants to drivers who stick to the front line of service, and help everyone disinfect vehicles.

During the anti epidemic period, DiDi care fund provides humanitarian assistance to drivers whose families are in difficulties due to major diseases,

accidents, disasters and other factors, so as to reduce the family pressure of poor driver families in the special period of the epidemic as much as possible. At the same time, DiDi positive energy on the road public welfare plan also rewards DiDi drivers who have the courage to lend a helping hand to passengers and passers-by during the epidemic.

According to the judgment of the development trend of travel mode in the future, the paper believes that there are four strategic layouts: shared travel, automobile service network, electric vehicle and automatic driving. DiDi believes that the four development trends of shared travel in the future are: (1) travel sharing (2) travel electrification (3) travel automation (4) integrated networking of personal transportation.

Electrification is an important development direction of the automobile industry in the next stage, and the electric vehicle sales market and electric vehicle charging market will usher in rapid growth. Electric vehicles and shared travel are partners, which can greatly reduce the cost of shared travel. DiDi has launched a special electric vehicle for online car-hailing service through the layout of the electric vehicle field, which will greatly reduce the daily operation cost of drivers and improve the driver's income, so as to further improve the platform stickiness at the driver's end. From the development trend of the industry, automatic driving is the key to travel in the future, which can significantly improve travel safety, improve vehicle utilization and reduce transportation costs. At present, DiDi has an autopilot team of more than 500 members to develop L4 autopilot technology and operating system. By giving full play to the massive traffic database accumulated by its travel platform, high-definition map technology developed by enterprises and other scientific and technological support.

## 5. CONCLUSION

According to the DiDi's operation mode and business status, this study analyzed the problems faced by DiDi under the epidemic situation, summarized DiDi's countermeasures and gave our suggestions. In the process of DiDi's development, it faces many uncertain factors and risks, including changes in policy conditions and external uncontrollable risks. At the same time, the future development trend, improvement and upgrading of shared travel in the online car rental market represented by DiDi are also predicted. Especially under the low-carbon economy strongly advocated by the Chinese government in 2021, electrification has become one of the development trends of Internet car-hailing.

Besides the first time, automatic driving may also be a potential technology DiDi wants to vigorously develop. It has made a prediction on the future strategic layout. Based on the judgment of the future travel mode trend, this paper puts forward reliable and effective suggestions for DiDi's future strategic layout.

## REFERENCES

- [1] Ping,L. et al. (2020). Dynamic Capabilities and Business Model Innovation of Platform Enterprise: A Case Study of DiDi Taxi. *Scientific Programming*.7/17/2020, p1-12. 12p. 2 Diagrams, 4 Charts.
- [2] Xujun,M.(2019). Imbalanced Profit Margins of Urban Online Car-hailing Services: A Case from DiDi Service Platform of China. *Technical Gazette*. 2019, Vol. 26 Issue 4, p1136-1144. 9p.
- [3] Shizhong,H.(2021) Performance evaluation dilemma of DiDi and Uber. *Finance and Accounting Monthly*.13(2021).13-17.
- [4] Zhiqiang,Z,(2021) Analysis on business model innovation of "DiDi travel", *Modern Business Trade Industry*,11(2021),61-62
- [5] Qiang.C ,Shuai,D,(2020) Research on the Evolution Path of Sharing Economy Enterprise Development Strategy: A Case Study Based on DiDi, *Scientific Decision Making*,11(2020),42-69.
- [6] Wei,W,(2020), Countermeasure analysis on standardized development of DiDi travel platform, *Modern Business Trade Industry*,6(2020),77-78.
- [7] Wei,W,(2020), Analysis on the profit model of DiDi Express, *China Business & Trade*,19(2020),17-19.
- [8] Xingyue,Z.(2015).Research on the Strategic Development of Taxi Software-Taking DiDi Taxi as an Example.*SME Management and Technology*,18(2015),200-220.
- [9] Jun,Y.(2020).Study on the interaction mechanism between urban traffic congestion and air pollution - big data analysis based on DiDi travel.*Journal of management science*,2(2020),1007-9807.
- [10] Kuiran,S.(2020).The Formation Mechanism of Moral Hazard in Travel Sharing:A Case Study Based on DiDi.*Journal of Management Case Studies*,13(2020),523-537.