





Car-Hailing at Crossroads


Introduction

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The concept of "Internet+" has played a key role in optimizing and integrating the allocation of social resources, and has led to the evolution of economic reforms. Many vertical industries have achieved deep integrations with internet and consequently developed new business models. - It is no doubt that car-hailing service is the most eye catching one.
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From 2012 onwards, in just a few years, the business model of car-hailing service has begun to regain rationality from public curiosities and the money-burning financing activities of platforms. It has gradually developed into a relatively new yet mature model of shared mobility. In future, with the growth of macro economy and urbanization rate, the improved infrastructures and policy guidance, as well as the changes in people's travel demands and preferences, the car-hailing market in China will continue to grow.
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The announcement and implementation of the regulatory policy in 2016 has brought a turning point to the car-hailing market characterized by the concept of "sharing". Under the government's "taxi-like" management method, the total number of car-hailing vehicles is restricted. Major platforms have evolved from the past C2C business model to a hybrid model of C2C+B2C. The core competitiveness has also shifted from "traffic-oriented transportation" to a combined focus on both "traffic and regulation compliant transportation".
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Under the current "one superpower and several weak players" competition landscape with DiDi as the monopoly, many cross-border platforms, large leasing/retail dealerships and automobile manufacturers are constantly exploring and trying to enter the car-hailing market either by utilizing the naturally generated traffic from the platforms or through the accumulated capacity and operational advantages from traditional business, In the future, the 2nd-tier cities still have strong demand for the car-hailing service and the market is still yet to be reclaimed, where the regional car-hailing companies with good transport capacities and platforms will have further development opportunities.
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From the value chain perspectives, "platformization" is the future direction for the car-hailing market. In particular, the car-hailing companies that are backed by car rental/retail dealerships or vehicle manufacturers have a larger demand in investing in lightweight assets and expanding their business models based on user data. From the perspective of economy and environmental protection, the transportation capacity of car-hailing will gradually be replaced by new energy vehicles with lower energy consumption. The trend of utilizing and deploying "new energy" is a set conclusion. In addition, with the introduction and commercialization of autonomous driving technologies in the field of shared mobility, the car-hailing market will embrace disruptive innovations and revolutions. The process of turning "intelligent" is irreversible and inevitable. In the future, those who master the core technology of autonomous driving, will be able to occupy and dominate the car-hailing industry.

Market Analysis of Car-hailing Business

The overall market demand for car-hailing service has been rising continuously

With the improvement of urbanization level and sustainable development of economy and infrastructures, travelling demand of urban residents in China will continue to grow in the future.

Figure: Factors affecting overall mobility growth ¹

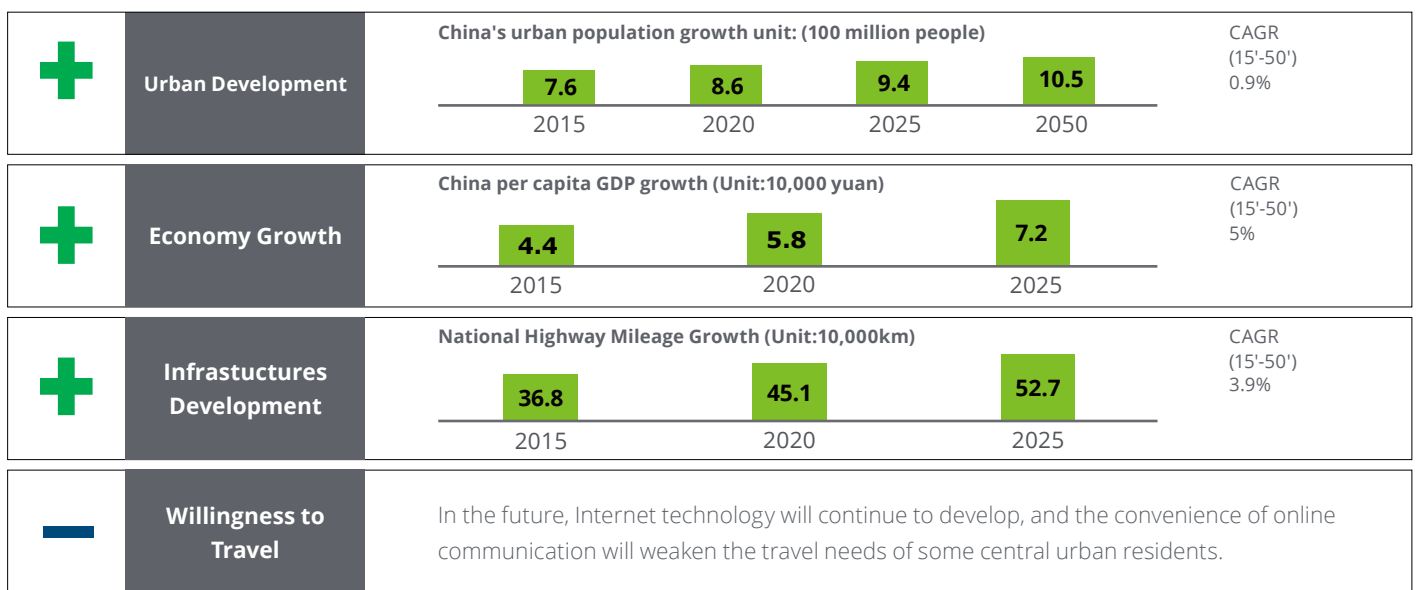
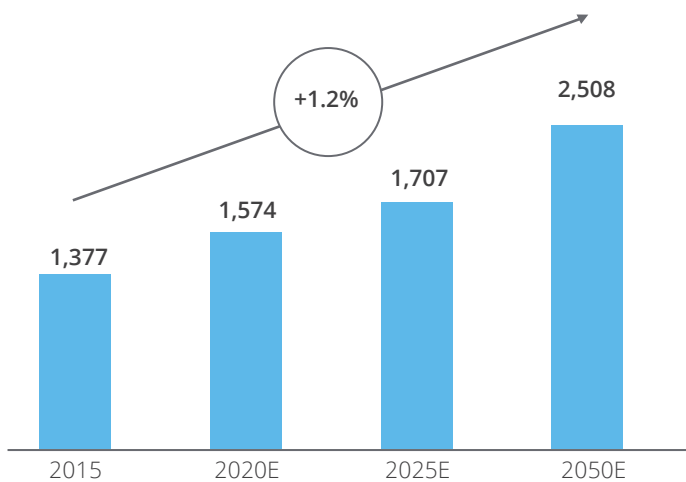


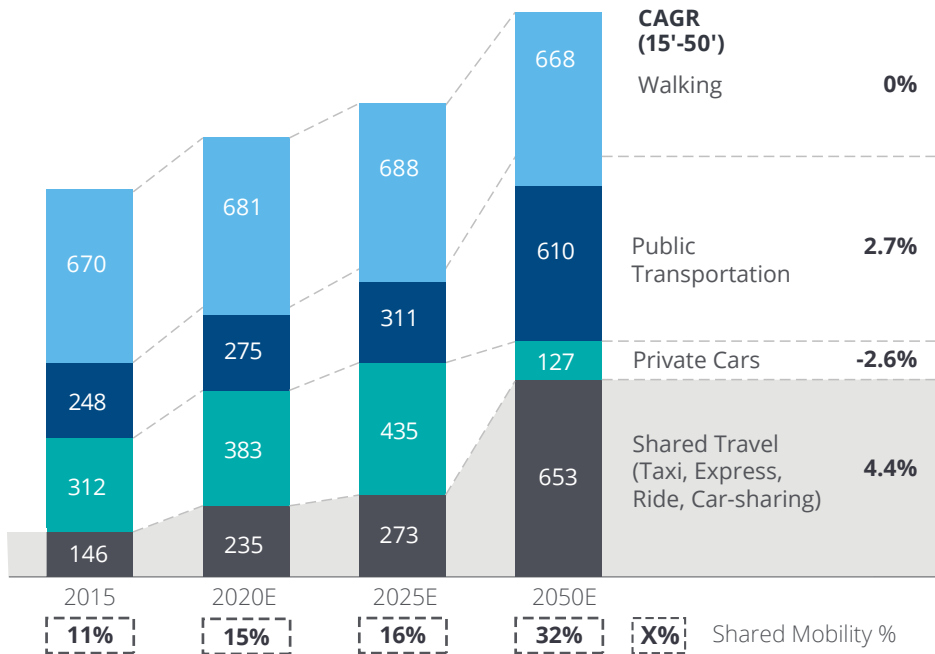
Figure: Changes in the number of urban population trips (million person/day)²



¹United Nations Population Forecast, National Bureau of Statistics, Deloitte Analysis

²United Nations Population Forecast, National Bureau of Statistics, Deloitte Analysis

Figure: Urban population mobility growth breakdown (million person times/day)³



Thanks to the government's guidance on public transportation and the growing maturity of shared mobility, public transportation and shared mobility will be more favored by consumers while the percentage of private cars continue to decrease in a growing number of cities due to purchase restriction and congestion tax, etc. In the optimistic scenario, by 2050, nearly a third of all trips will be completed by mobility, which will become the most important mobility mode besides walking.

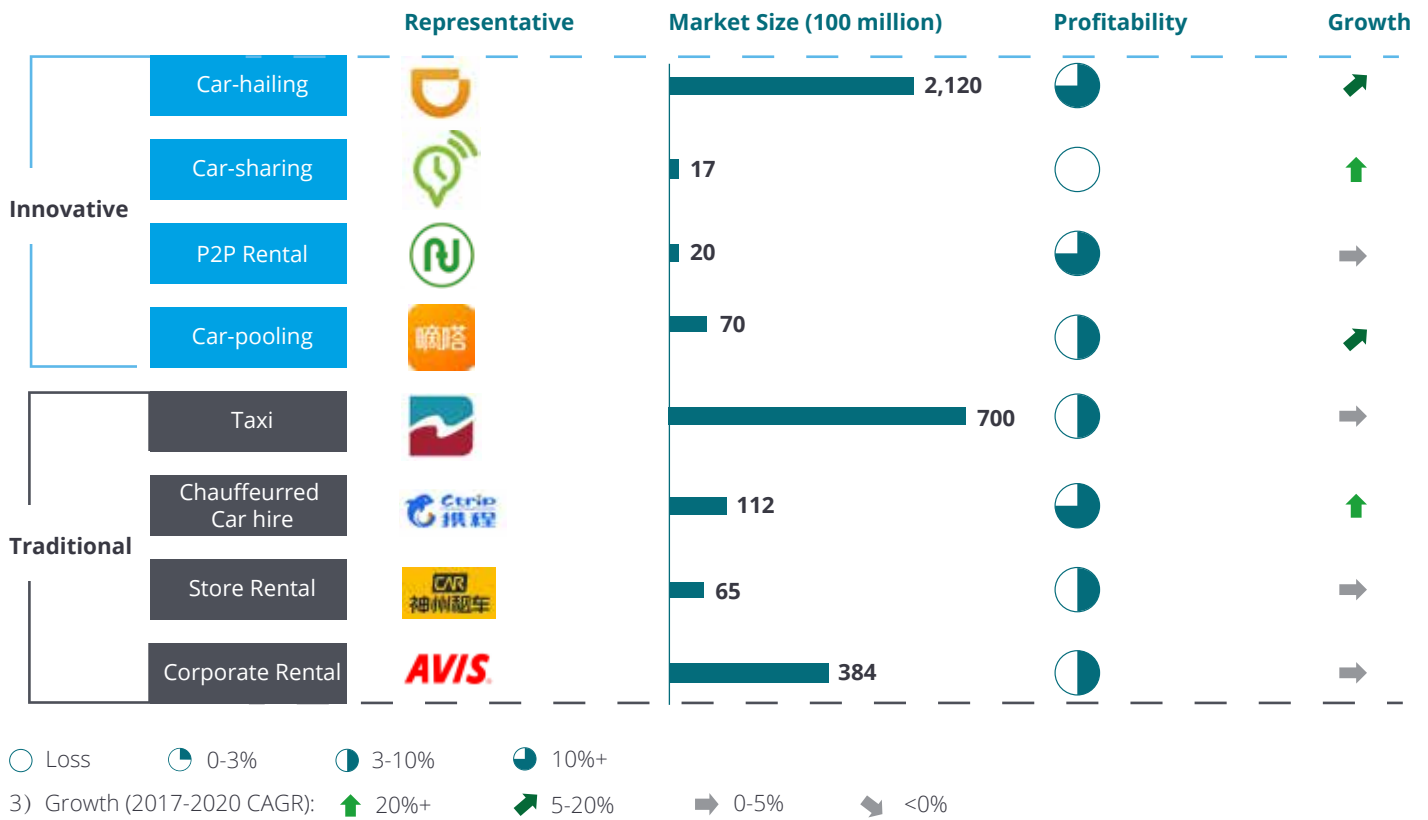
In addition to the traditional shared mobility modes, such as taxi and tourist chauffeured car hire, car-sharing business will benefit from the domestic consumption upgrading, government policy support and capital inflow in the short term, and thus achieving high-speed growth. However, the "One Heaviness and Three Difficulties"⁵ will persist in a long

period of time, which will restrict the future development of the business. Peer-to-Peer (P2P) car rental relies on the supply of personal vehicles and thus leads to the potential risks in its business compliance with government regulations. Private carpooling is only operational with private-owned vehicles. The business model depends on the driver's personal

spare time to provide transportation capacity, and the service quality and professionalism cannot be guaranteed. In 2017, the total market size of car-sharing, P2P car rental, private carpooling business was slightly over than 10 billion yuan, and the future prospects for profitability and growth are not too optimistic.

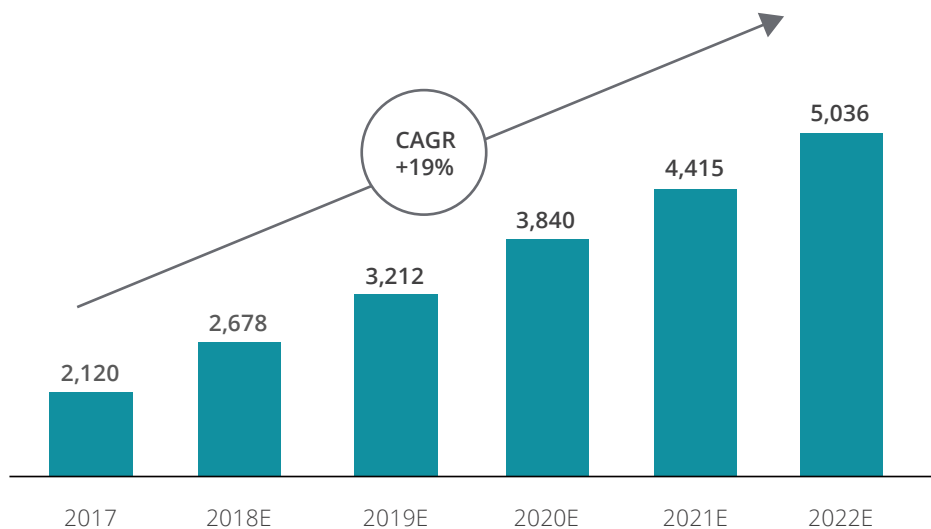
³Walking includes walking, two-wheeled tools, public transportation including bus, rail transportation
⁵One Heaviness and Three Difficulties: Heavy asset, difficult operation, difficult expansion and difficult profitability

Figure: Shared Travel Landscape⁴



In comparison, after five years of development of car-hailing market in China, the transaction volume in 2017 has exceeded 200 billion with a set overall market structure and relatively transparent future prospects. As the demand in the lower tier cities continues to grow and compliance requirements become more strict, the regionally differentiated car-hailing platforms and the transportation capacity companies will still have potential growth.

Figure: 2017-2022 Car-hailing Market Transaction Volume⁶



⁴Market size and industry average in 2017

⁶iiMedia Research, Public information, China Industrial Research Institute, Deloitte analysis

Government policy is the vital driving force behind the growth of the car-hailing market

In addition to the economic, technological and social factors, such as consumption upgrade, mobile payment popularization and change of people's travel habits, government policy is the key factor to affect the development of shared travel. Vehicle purchase and usage restricting policies has created a higher purchase threshold and lowered consumers' willingness to purchase private vehicles. At the same time, high fuel prices, daily parking fees, insurance, maintenance, repair, and other expenses also result in higher vehicle usage costs.

In addition to the general policy factors affecting each segment of the shared travel market, the specific regulatory policies for the online car-hailing

market is the key driving force behind the development of this market: car-hailing vehicles are essentially non-loitering taxis, and the overall management shall follow the principle of **"total quantity control"**.

In 2016, the Ministry of Transport announced the "Interim Measures for Managing Car-hailing Operations and Services" pointing out that car-hailing services is the product of internet sharing economy trend. However, any disordered expansion shall be restricted. Market positioning and vehicle safety of car-hailing services should be regulated under the principle of "total quantity control". After policies published by the Ministry of Transport, the regional authorities have also formulated rules for car-hailing per local conditions, specifying the requirements for vehicles, drivers and operation qualifications.

The new policy shows that the government adopts the **"taxi-wise"** management method to supervise the car-hailing service, and aims to **reduce the negative externalities caused by the disordered growth of the market**, based on the principle of "total quantity control". The announcement of the policy will turn the competition of the car-hailing market from chaos to a standardized market. However, car-hailing is not a real "vehicle sharing" business model, as it literally suggests. The current car-hailing service is essentially just internet+ taxi service. Under the promotion of policies, the localized B2C operation mode will be more advantageous in the future, while the C2C sharing mode will be adversely affected by the policy adjustment.



As of May 2018, among 338 cities in China, 200 cities have introduced the management measures of car-hailing services, and the standardized management system of car-hailing industry has been established. In the future, the supervision in 1st-tier cities and some of the 2nd-tier cities will become stricter, while remaining loose in low-tier cities.

Figure: Strictness of the car-hailing policy in different city tiers⁷

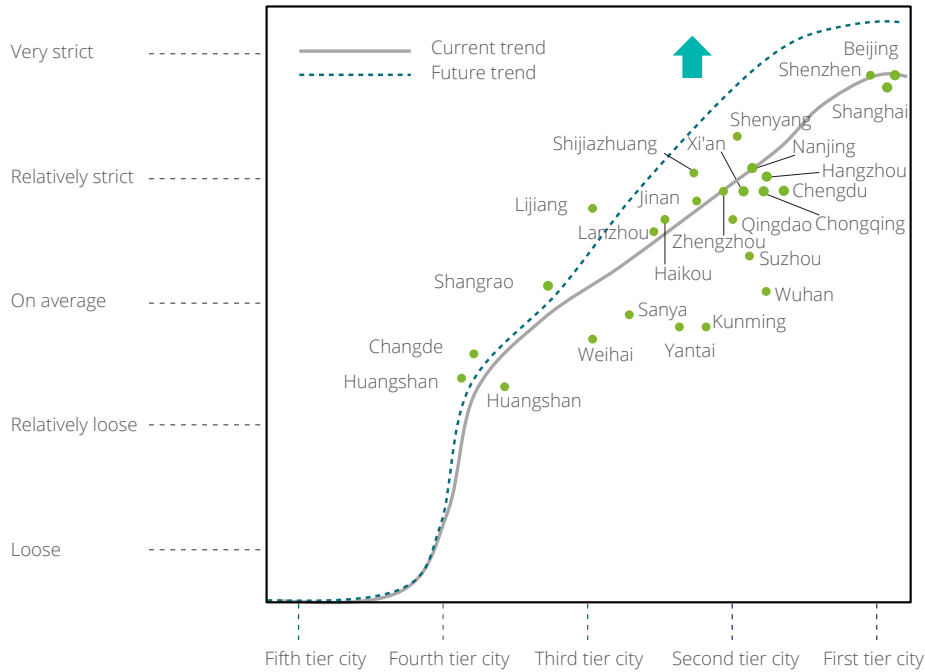
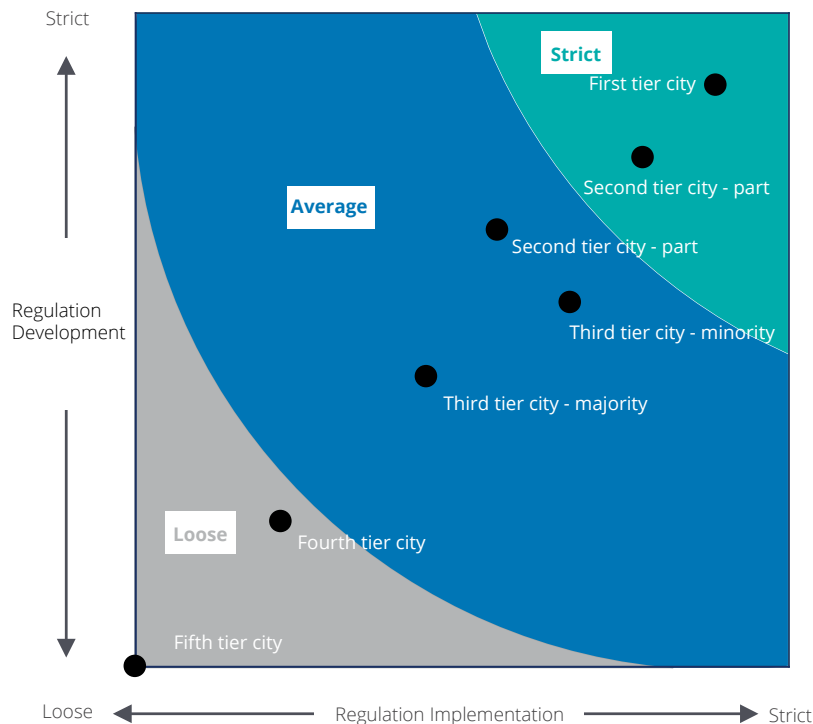


Figure: Analysis of future regulatory trends of car-hailing (by city tier)



⁷Quantitative rating based on policy implementation time (10%), platform requirements (20%), driver requirements (20%), license plate requirements (20%), and vehicle requirements (30%)

Full-time drivers tend to be more willing to comply with regulations, and their operations are relatively more stable, and thus easier to be supervised, which will lead to a greater transportation capacity compliances. Meanwhile, part-time drivers lack the motivation for compliance. Due to their high mobility, standardized supervision are more difficult to implement, therefore their transportation capacity compliance remains low. The local governments will thus keep their focus on supervising full-time drivers. In the future, 1st-tier cities and some of 2nd-tier cities⁸ will have a sizable mobility demand. This will lead to a large number of full-time drivers and more effective supervision.

Therefore, both from the policy formulation and implementation perspectives, these cities will become the key areas. From the published policies on car-hailing business, it is the most difficult for the service providers in the 1st-tier cities to comply with the policy. Shenzhen requires that only new energy vehicles can apply for car-hailing qualifications. 2nd-tier cities polarize into two segments. Some cities, such as Nanjing and Hangzhou, policies implementation are more strict, while other cities⁹, such as Wuhan, have slightly loose policies implementation. In the future, with the extensive promotion of new energy vehicles and the introduction of license restriction policies, it is expected that the regulations of car-hailing market will continue to be tightened in the 1st-tier

and some of the 2nd-tier cities. 1st-tier cities are likely to follow Shenzhen's footsteps, restricting the ICE vehicles to apply for car-hailing qualifications; some 2nd-tier cities, such as Nanjing and Xi'an may implement license restricting policies in the future, and thus making local plates more scarce resources, resulting in an increased difficulty for car-hailing services to comply with the regulations. Due to less mobility demand in the lower tier cities, there are fewer full-time drivers available and the market size is quite limited. The car-hailing market relies on part-time drivers in the non-peak hours, and thus the effectiveness of supervision is limited. The overall regulatory environment in the lower-tier cities will remain loose.



⁸Second-tier cities that have implemented plate restrictions, such as Hangzhou and Tianjin; second-tier cities with developed economy and large travel demand, such as Wuhan and Nanjing and tourist cities, such as Qingdao and Dalian

⁹ Few second-tier cities with relatively low travel demand such as Jiaxing, Shaoxing, etc.

"One Superpower and Several Weak" Players Competition Landscape Continues, Regional B2C Car-hailing Platforms will rise in Competitiveness

"One Superpower and Several Weak" Players Competition Landscape has formed with 2nd tier cities becoming the main battleground.

Started in 2012, after stages of market education/ outbreak, intra-industry integration and policy supervision, the car hailing market has gradually

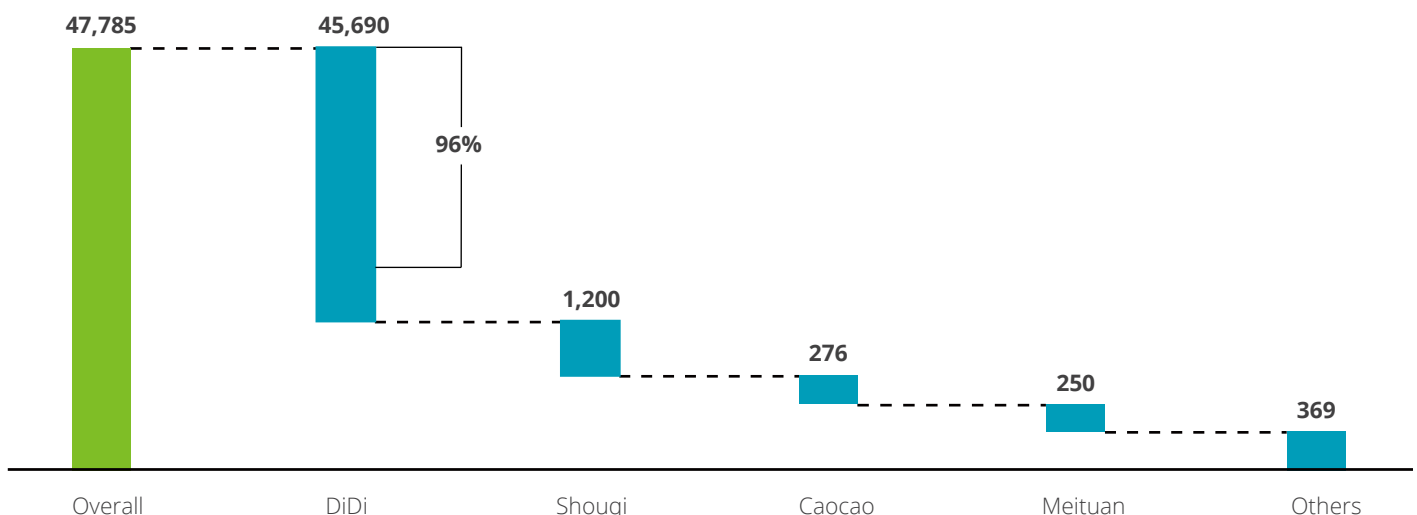
returned to its business nature and grown into the most mature segment of the shared mobility market.

"One Superpower and Several Weak" Players Competition Landscape has formed

In 2018 Q2, car-hailing platforms have a total daily transaction volume of 480

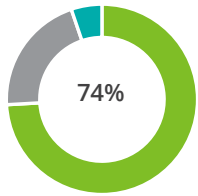
million RMB. DiDi, being the monopoly, accounts for nearly 96% of the market share, which is significantly higher than the second place Shouqi by far.

Figure: 2018 Q2 car-hailing car platform daily trading volume¹⁰ (unit: 10,000 orders)



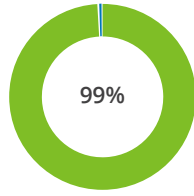
¹⁰ Public information, Deloitte analysis, expert interviews

Figure: Premium car daily order statistics in Q2 2018¹¹



- DiDi: 650,000 orders
- Shouqi: 200,000 orders
- UCar and Yidao combined fewer than 50,000 orders

Figure: Express car daily order statistics in Q2 2018



- DiDi: 18,000,000 orders
- Meituan: 250,000 orders
- Caocao: 120,000
- Wanshun and Banma combined fewer than 30,000 order

For the detailed segmentation of the market, the daily order volume of the premium car service is about 900,000, which is 5% of the regular express car service, among which, DiDi's daily order volume is about 19 million. 74% of the order volume of premium car and 99% of express car are occupied by DiDi, leaving the rest market share divided by Shouqi, UCar, Caocao and other platforms.

2nd-tier cities will become the main battleground

Figure: City development of premium and express car market ¹²

City Tier	Definition	Premium/ Express daily transaction volume (100 million)			Expert suggestion	
		Tier/nationwide%	Overall	Express Car		Premium Car
1st Tier City (Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou, Chengdu)	Cities with more than 200,000 daily orders (Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou, Chengdu)		260	230	30	"...1st-tier cities are the markets with the greatest demand, but compliance is the main problem..."
2nd Tier City (40 cities such as Chongqing and Wuhan)	Except for the 6 first tier cities, the remaining 40 cities with premium car service		140	120	20	"...This part of the region is the market with the fastest demand growth, and the future will be the market for the premium and express business..."
3rd Tier City (54 cities such as Lijiang and Jiaying)	54 cities with daily orders ranking 47th-100th in the whole country		40%	40%	NA	"...3rd tier cities only have express car business and is not the business focus..."
4th Tier City (300+ cities such as Suining and Luohe)	Around 300 cities with daily orders ranking outside of first 100th in daily orders		20%	20%	NA	"...Taxi and motors are the main transport capacity; drivers are not willing to wait for 10 minutes with such small city radius..."

¹¹At present, DiDi operates in 10 cities with more than 200,000 daily orders. According to DiDi's internal division of city tiers, only the first 6 are selected as the first tier
¹²Currently DiDi operates in 10 cities with more than 200,000 daily orders but according to its internal classification, only the first 6 cities are classified as first tier cities

Based on the city tier definition of DiDi, the 46 1st and 2nd tier cities contribute 87% of the revenue. The 1st tier cities include Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou, and Chengdu, with a daily transaction volume of 26 billion yuan, accounting for 57% of the country's total, among which, the regular express car business generates 23 billion yuan, taking up 88% of the total business volume. Besides the 1st tier cities, the 2nd tier cities are the remaining 40 cities, which also have the premium car service in operation. The daily transaction volume of the second tier cities is about half of that of the first tier, and it is also mainly contributed by the regular express car service. While 3rd and 4th tier cities account for only 13% of the company's total revenue, with only providing regular express car service.

The 2nd tier cities have many common problems, such as high vehicle operating costs, large demands and great demand potential for full-time

transportation capacity. These cities are the key rapid growing areas in the future, and they will also be the market focus for both premium and express car services.

License restriction policies and congestive road conditions reduce customers' willingness to purchase vehicles.

Among the 40 second tier cities, 3 cities have already implemented the policy to restrict issuing new vehicle plates. Most of these cities use the lottery method to generate qualifications for new plates, and the winning rate is as low as 0.44%¹³. In addition, 16 of the top 20 cities (80%) with the worst peak traffic jam problems in the country are also 2nd tier cities; more users claim that traffic jam is one of the reasons why they are no longer willing to purchase vehicles.

Population growth and urban travel radius expansion further stimulate demands.

Population growth leads to an increase in order volume, and the expansion of urban travel radius leads to an increase in average prices per order. Out of the 20 major cities with the positive population growth rate of permanent residents in 2017, the 2nd tier cities accounted for 80%, while some of the 1st tier cities have already experienced negative population growth rates, such as Beijing with - 0.1% and Shanghai with - 0.06%. Currently, 24 out of the 40 2nd tier cities have an average commuting radius of 12 km, which is very close to that of the 1st tier cities (15 km).

Becoming full-time drivers is becoming more attractive.

Taking Xi'an as an example, the monthly income of full-time express car drivers is about 4,870 RMB, slightly higher than the average city income level of 4,203 RMB. The flexible and profitable nature of this job will attract more full-time drivers to join the car-hailing industry.



¹³Take Tianjin as an example

“One Superpower”: DiDi

Premium car service in 1st tier cities and express car service in both 1st and 2nd tier cities are DiDi's future development priorities

Figure: DiDi Business Development Priorities ¹⁴

	Premium Car	Express Car
1st Tier City (Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou, Chengdu)	1 Accounting for 6.4% of DiDi's total transaction volume <ul style="list-style-type: none"> • Obvious leading effect; order response rate less than 70% • Very strict compliance control; compliance is the main challenge Key market for deep development and transport capacity	Accounting for 50.7% of DiDi's total transaction volume <ul style="list-style-type: none"> • Great demand potential for express car; major express car market • Not enough compliant transport capacity
2nd Tier City (40 cities such as Chongqing and Wuhan)	2 Accounting for 3.0% of DiDi's total transaction volume <ul style="list-style-type: none"> • Certain high-end travel needs scenarios exist • The premium space for local high-end quality travel is limited, and users are more inclined to travel economically Compliant operation and steady development	Accounting for 26.9% of DiDi's total transaction volume <ul style="list-style-type: none"> • Express car is one of the main choices for local travel with high user acceptance and high demand potential • Less full-time capacity, inconvenient for capacity
3rd Tier City (54 cities such as Lijiang and Jiaxing)	3 Limited market potential with no business layout	4 Accounting for 9.5% of DiDi's total transaction volume <ul style="list-style-type: none"> • Limited user demand and local transport capacity structure is disadvantageous for car-hailing business expansion Regional market to be maintained
4th Tier City (300+ cities such as Suining and Luohe)		Accounting for 3.5% of DiDi's total transaction volume <ul style="list-style-type: none"> • Inactive market demand and low user acceptance

From the perspective of urban development and business segment, the future development focus will be placed on the premium car service in 1st tier cities and express car service in both the 1st and 2nd tier cities. In 1st tier cities, the market is mature and educated, users have a

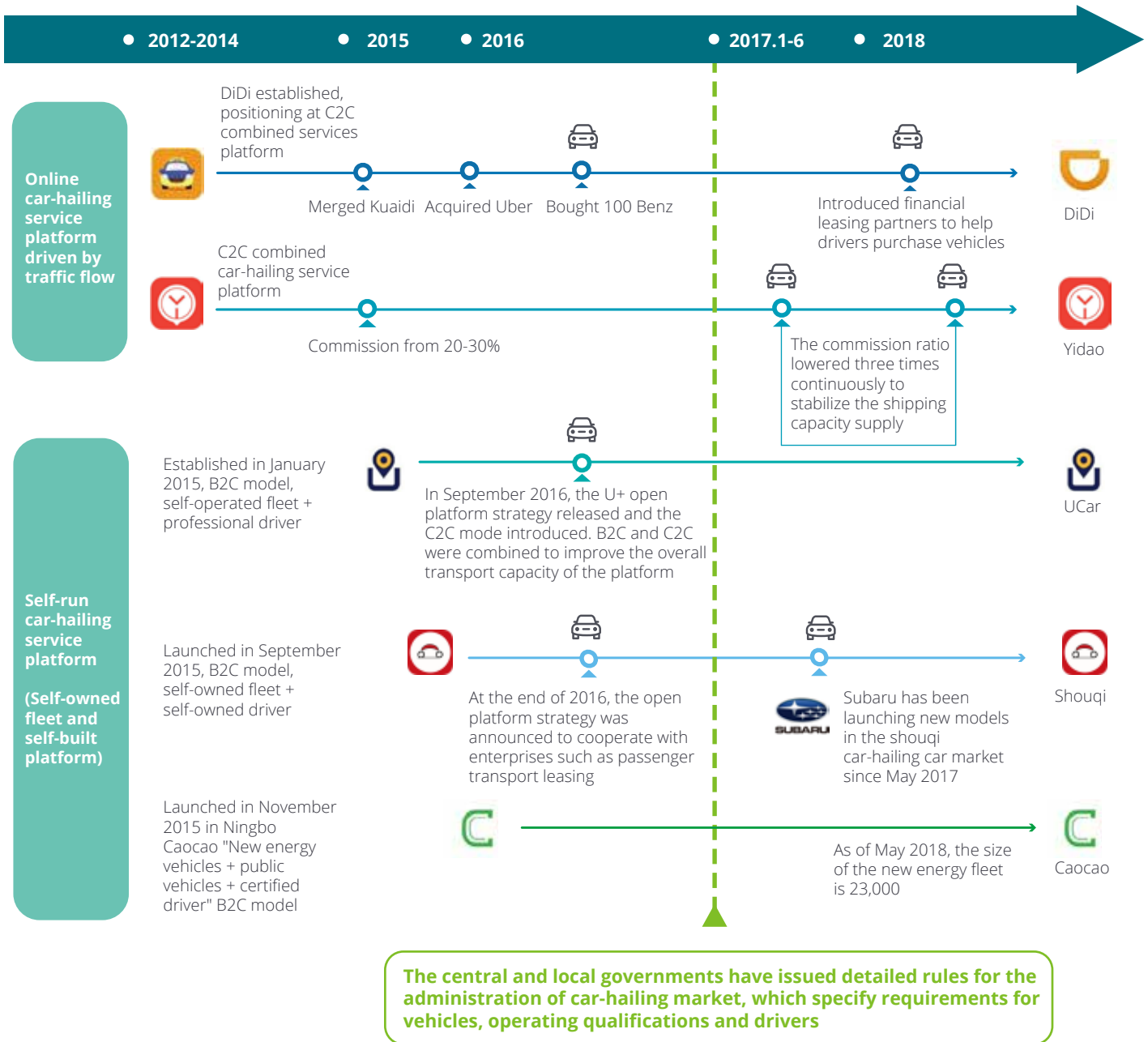
high acceptance and the demand for car-hailing services is growing rapidly. More compliant and full-time transport capacity expansion is the primary objective in these regions. Due to price sensitivity, the demand and growing space for premium car service in 2nd tier cities are temporarily limited. DiDi

plans to improve its compliance and lay the foundation for any potential future growth. Car-hailing demand in 3rd and 4th tier cities is still limited, which make it less attractive for drivers to become fulltime transport capacity. Hence, further large investment remains unnecessary at this stage.

¹⁴Public information, Deloitte analysis, expert interviews

Strengthening compliant transport capacity is the key focus of DiDi

Figure: The development history of various car-hailing service platform¹⁵



¹⁵Public information and Deloitte analysis

DiDi is in a monopoly position in terms of traffic flow. At present, it has more than 13 million DAU, and the traffic volume of car-hailing users accounts for 95%, covering more than 400 cities across the country. In comparison, the small-scale traffic platforms have less than 160,000 DAU, covering only 52 cities.

After the introduction of the management rules for car-hailing market in 2016, the importance of the platform's compliant capacity and offline operating capacity had gradually become more prominent. The response rate was less than 70%, and the capacity shortage was serious. In terms of stabilizing the

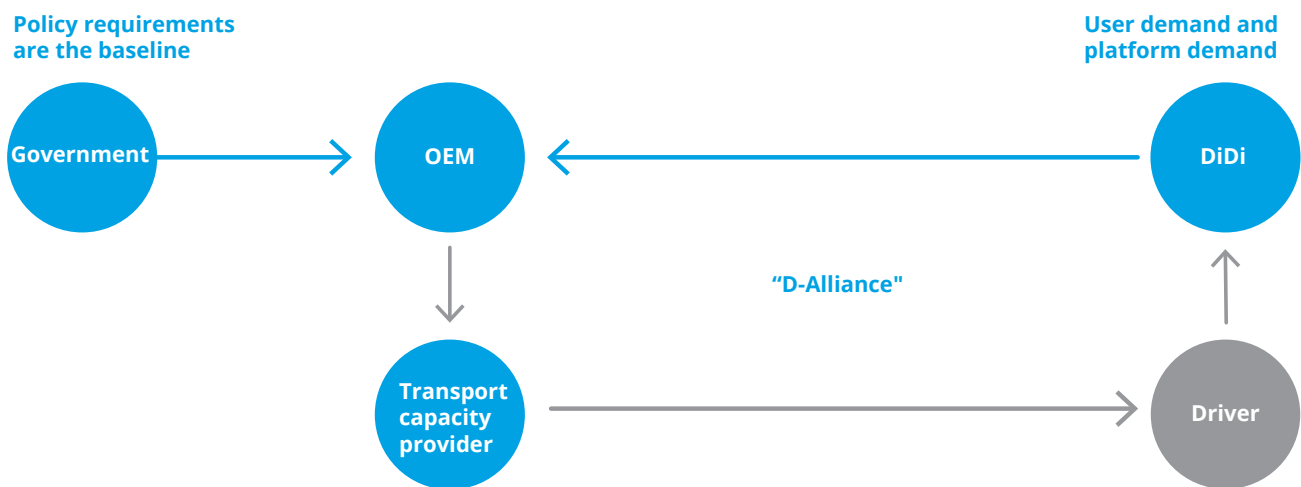
compliant capacity and alleviating the shortage of capacity, DiDi mainly made two attempts:

Operational vehicle optimization

It is working with OEMs to promote the new energy. At the beginning of March 2018, DiDi signed a strategic cooperation agreement with BAIC Group And they will cooperate in the fields of new energy vehicle operation, big data application, mobility service, customized car and charging and replacing. At the end of March, DiDi and CHJ Automotive reached a strategic cooperation to customize the production of intelligent electric vehicles for shared mobility scenarios.

DiDi and CHJ will customize the production of smart electric vehicles for shared mobility scenarios. By the end of April, DiDi launched the "D-Alliance", which unites industry associations and OEMs to optimize design and standard formulation of shared new energy vehicles, jointly develops a new generation of vehicles designed for sharing, and promotes large-scale operation. So far, a large number of OEMs have joined. In early May, news broke that Volkswagen and DiDi were under negotiations to form a new joint venture in which Volkswagen would help develop vehicles designed specifically for DiDi's business.

Figure: The operational mechanism of DiDi "D-Alliance"¹⁶



Increase the proportion of full-time transport capacity

Work with leasing companies to get full-time drivers. On the one hand, leasing companies provide drivers with compliant vehicles, exempt drivers from the purchase cost of operating car-hailing vehicles, and avoid the risk of non-compliance. At the same time, leasing companies provide systematic

and professional training for full-time drivers, and output qualified full-time transport capacity to car-hailing service platforms. On the other hand, DiDi connects with leasing companies to provide drivers with a more stable source of orders. For example, "Wuhan Dachu Automobile Service Company" is DiDi's national strategic partner. It recruits full-time drivers in Wuhan and

provides "0 down payment, 0 deposit and low rental rate" car rental solutions for drivers; meanwhile, Dachu can help drivers connect with the dual-direction platforms of DiDi express car and premium car service, and carry out full-time car-hailing operation by means of public certification.

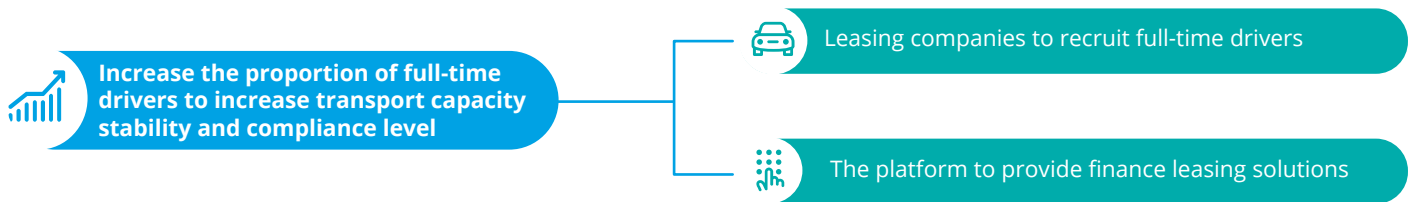
¹⁶"D-Alliance" was co-founded by DiDi and 31 automobile industry enterprises. Its first members include players from areas such as automobile manufacturing, spare parts manufacturing, new energy, digital map and Internet of vehicles.

Cooperate with OEM to provide vehicles to drivers in the form of "finance leasing" or "rent for sale" to provide the platform with transport capacity. By signing the service agreement, the service hours provided by drivers on the platform is guaranteed and the binding relationship between the platform and drivers is strengthened. At the

same time, drivers use their income earned from the platform to repay their monthly vehicle mortgages, fully activating their motivation. For example, DiDi cooperates with FAW group to provide the financial leasing service of Corolla hybrid model, attracting full-time car-hailing drivers to join on relatively favorable terms. According to the terms of the service,

after successful registration to join DiDi, drivers can rent the Corolla Hybrid model to provide express car service. The specific rental price is a down payment of 20,000 RMB with a monthly repayment of 4,300 RMB. After three years, with a final payment of 50,000 RMB, the driver will own the vehicle.

Figure: Two measures to boost full - time transport capacity¹⁷



"Several weak players": the "platform + capacity" mode rooted in the urban base squeezing the share of "One superpower"

"Platform + capacity" Mode

In addition to DiDi's "pure platform" business model, the major participants in car-hailing market have two business models of "pure capacity" and "platform + capacity". At present, the "platform mode" has formed a high entry barrier, and the "platform + capacity" mode still has space for entry.

Figure: The business model of car-hailing service

Business Types		Vehicles (Major models)		Operational experiences	Capital sources	Capital market valuation basis	Business Model
Platform	Capacity	Brand	Power				
Yes	No	Organize and provides transport capacity with specific requirements for vehicle models		Online	Financing	Platform related Platform license, users and data, etc	Pure platform model
Yes	Yes	Self-owned brand Market procurement	New energy vehicle Fuel vehicle	Online+offline	Financing	Vehicle related+platform related	Platform + capacity model
No	Yes	Self-owned brand Market procurement	Fuel vehicle	Offline	Self-finance	Vehicle related Vehicle, plate, car hailing license	Pure capacity model

¹⁷Public information and Deloitte analysis

The pure platform model is typically with light asset, the prospect of users and data monetization is foreseeable, and has the characteristics of high traffic barriers and obvious head effect. At present, DiDi has occupied the dominant place of pure platform model. Without disruptive technology and extreme political factors, it is very difficult to see new companies with threats. However, due to the government's strict supervision and compliance pressure on platforms, the shortage of transportation capacity will continue to plague platform companies in the short term. In terms of pure transport

capacity model, companies choose heavy assets to operate online car-hailing business, which means large scale of investment, high depreciation and negative margin. Although there is a large demand for compliant capacity in the short-term car-hailing market, it is difficult to increase the supply in large quantities due to the limited compliance plates resources in 1st and 2nd-tier cities with high demand, which are subject to the total quantity control principle set by the government. Compared to the pure platform model and the pure capacity model, the "platform + capacity" model still has space for

further development. "Platform + capacity" car-hailing companies rely on leasing companies and OEMs with regional advantages, which are encouraged by the local government and have a high degree of compliance. Although it is not profitable yet, compared to the pure capacity model, the "platform + capacity" model requires less investment and seeks a balance between profitability and capacity guarantee. In this segment of the market, there is no monopoly like DiDi. Therefore, regional large companies still have the opportunity to enter the market.



**Cross border traffic platforms:
Meituan direct attack, AutoNavi
roundabout layout**

Meituan

Meituan's car-hailing business is positioned as "the connection of other daily life services". As a platform with "eat, drink and be merry" nature, "mobility" is a naturally added business. With the support of consumer business such as "eat, drink and be merry", the travel business of Meituan has its own traffic flow and is more scenario-oriented. However, compared with

the more specific and high-frequency mobility scenarios such as commuting, pick-up, and business purposes, the mobility demand generated during the entertainment consumption process is relatively vague, low-frequency and concentrated. When the subsidy stops and the demand fades, the idea of accessing mobility services for entertainment consumption scenarios may be difficult to support the development of its car-hailing business.

In February 2017, Meituan conducted a trial operation of the express car business in Nanjing. After one year of preparation, Meituan's car-hailing business landed in Shanghai in March 2018, and won one third market share of Shanghai in one week. However, after the local regulatory authorities ordered the rectification, Meituan terminated the subsidy and cleared more than 30,000 vehicles that were not in compliance. DAU dropped sharply from both the passenger and the driver's side. Meituan's car-hailing

business fell into loneliness soon after a temporary boom. According to the Q3 report released by Meituan, the acquisition of Mobike and car-hailing business pilot were the key reasons for the loss. At present, Meituan is retreating its car-hailing business. Based on the market conditions of car-hailing business in Nanjing and Shanghai, it is not expected to further expand car-hailing service.

Meituan's positive attack on the "pure platform" car-hailing business model was defeated, which reflected that it was difficult to see new giants in the case of "pure platform" mode when there was compliance pressure.

AutoNavi

AutoNavi took a new approach to enter the car-hailing market from the "platform of platforms". In July 2018, AutoNavi launched the AutoNavi car-hailing business. At present, it has been connected to nine major car-hailing platforms, including DiDi, Shouqi, Caocao, UCar, Dida, Yidao, Ctrip, Tongcheng and AA car-hailing. It has become a "Tmall" that can be triggered by one point and responded by the whole network. AutoNavi participated in the car-hailing market in this roundabout way mainly for two reasons:

Strategic transformation from functional tools to scenarized services

As a map provider, AutoNavi used to rely on selling data as its main business. Last year (2017), AutoNavi released the "four-wheel drive strategy" to fully empower the automobile industry in four areas: product, technology, mobility and service. Laying out car-hailing business and empowering the accumulated user traffic of AutoNavi map to the platform is significant to the small

car-hailing platforms, which is in line with the strategic requirements of the service transformation of AutoNavi.

Develop another big data field for Ali Great Ecosystem

The car-hailing scene is linked with Ali's mobile payment, credit system, travel and other O2O ecosystems. As a platform of the platforms, in theory, AutoNavi can obtain mobility data of all car-hailing users, such as travel radius, time and frequent places etc. These data are of great significance to the improvement of the Ali's O2O ecosystem.

Entering car-hailing market as the "platform of the platforms" does not require a vehicle or a driver, which can minimize the investment; as a supplement to the car-hailing business, AutoNavi obtains the big data while avoiding the intense competition with DiDi.

Leasing enterprises enter the market: pay equal attention to service and price, deeply explore high-end travel demand

UCar

UCar is a car-hailing brand launched by CAR, a car rental company, in early 2015. Different from the pure platform car-hailing companies such as DiDi, UCar adopts the "rental-wise" B2C mode to provide car-hailing service to the market. It is a typical "platform + capacity" car hailing company. At the beginning, relying on their traditional car rental business, the vehicles of the UCar originated from the car rental of the major shareholder CAR or the centralized procurement of the company. The drivers were all full-time drivers. The initial transport capacity was regulation compliant already. UCar is aiming at business travel and mid to high-end consumer groups, and has made trade-offs between

market scope and service quality. At the beginning, UCar accounted for 5.3% of the private car market share. By 2017Q2, the market share was reduced to 3.1%¹⁸, mainly focused in the high-end business travel field.

Shouqi

Coincidentally, Shouqi car is also relying on the traditional car rental business and entered the car-hailing market in the "platform + capacity" mode; it is an Internet transformation attempt of a state-owned enterprises that started with taxi service and have been deeply involved in the travel market for more than 60 years. Shouqi operates in the B2C mode of "own vehicle + full-time driver". The drivers are all registered in Beijing. The vehicle is also a Beijing B-plate cars with the same operational qualification as the taxi. Compared with DiDi's national and popular car-hailing platform, Shouqi relies on its regional advantages in Beijing, targeting high-end mobility demand, cutting into the car segment market with standardized services, and creating a small and beautiful high-end car-hailing platform.

In general, both UCar and Shouqi car-hailing services are backed by their parent company, relying on regional advantages to operate in the "platform + capacity" mode. Their cars are self-owned or rented from the group, and the drivers have been professionally trained and hired. Compared with the pure platform C2C business model, the regulation risks are low. Especially after the new policies released, the advantages of this heavy investment model gradually emerge. At the same time, the accumulated experience in fleet operation and driver management in traditional car leasing business can also be copied to the car-hailing business, with higher operational efficiency. However, there is a relatively

¹⁸ Source: iResearch, Tianfeng Securities Research Institute

small demand for this kind of high-priced and service-quality premium car service, which will be an important segment of the car-hailing market to exist in the long run.

OEM transformation: build higher walls, and collect more gains with obvious advantage in the second half game

Geely

Responding to changes in the market and policies, and rooting in its own strategic positioning, the traditional domestic car brand Geely entered the car-hailing market. In 2013, Geely Group's joint partners launched a car-sharing business, but they were trapped in the "One Heaviness and Three Difficulties" problem. In 2016, the car-sharing business was terminated. In 2015, Geely launched its car-hailing business through its self-built Internet + new energy travel service platform, and it was promoted as a key development business unit of Geely Group. Geely provided lots of resources to support the car-hailing business, such as NEV models, funds, platforms, licenses, charging pillar stations, etc., mainly because car-hailing business is highly compatible with Geely's group strategy and the transformation needs. Specifically, Geely is committed to transforming

from a traditional auto company to a new energy auto enterprise, from OEM to a mobility service provider, and the new energy car-hailing business is the most important strategic move.

The operation strategy of Caocao can be summarized in three areas:

Closely follow national NEV subsidy policy

Caocao closely follows the national new energy subsidy policy in model selection, from 2015 to 2017. Emgrand EV250 was selected as the main model. With the transformation of national subsidy policy to high-endurance mileage model in 2018, Geely group supported the rapid transformation and upgraded to Emgrand EV450.

Adopt the strategy of "2nd tier to 1st tier, then to 2nd and 3rd-tier cities" for urban layout

At the beginning of launch of Caocao, it avoided direct confrontation with DiDi in the 1st-tier cities, relied on the base camp advantage in Ningbo to utilize unique relationship with local government, and accumulated experience in car-hailing operation in the 2nd-tier cities. After that, Caocao leveraged the advertisement effect of the 1st-tier cities to enhance

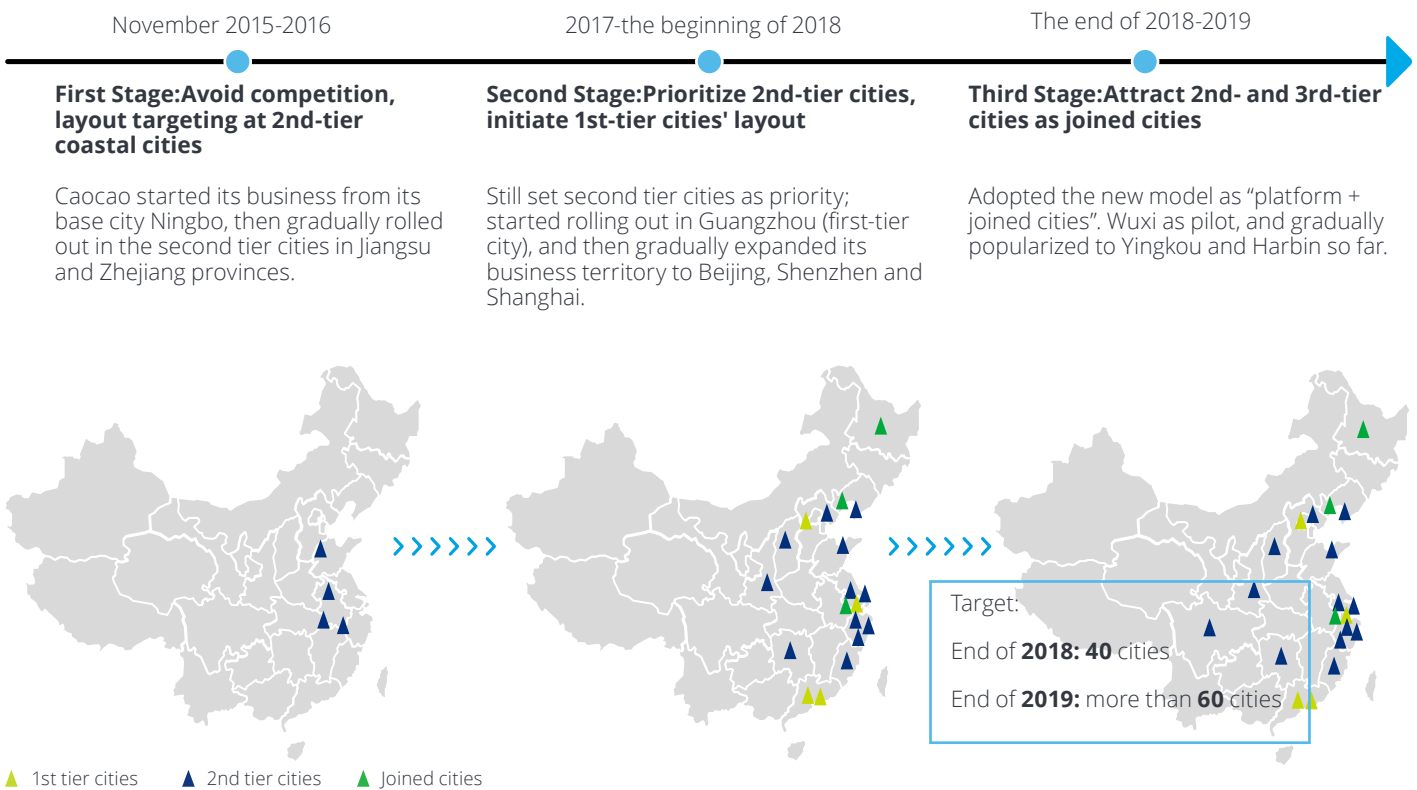
the market awareness. After the combination of operational experience and brand effect, Caocao's operation was copied to the low-tier cities through the "city joining" strategy to achieve scale expansion.

Adhere to the self-built platform to grasp the traffic flow entrance

Compared with many other car companies which purely provide vehicle resources to the major car-hailing platforms, Geely saw the value of mobility data from the very beginning, refused to become a vassal of the big platforms, and insisted on building its own platform and grasping the traffic entrance. At present, Caocao is also trying various commercial channels for user traffic. For example, in addition to the car-hailing business, Caocao has launched derivative products and services such as Caocao's help, low-carbon U-product mall, green business and carbon bank. User traffic and travel data further extends the value chain. At present, as the first car-hailing brand with OEM background that has begun to take shape, Caocao has more than 20 million registered users, 23,000 operating vehicles, and an average 450,000 daily orders covering 25 cities.



Figure: City Strategy of Caocao¹⁹



SAIC

SAIC Group put forward the development strategy of "four modernizations", in which sharing is the ultimate goal, and electrification, intelligence and connectivity are subordinated to the goal of sharing. Under the guidance of the shared strategic goal, SAIC launched its car-sharing business in 2013. After several years of development, SAIC's car-sharing brand EVCARD has become the leading company in China's car-sharing market. At present, SAIC's car-sharing business has 32,000 vehicles operating in 62 cities nationwide, and has accumulated rich experience in online fleet management operations

and online platform operations. In April 2018, SAIC Group established "SAIC Mobility" to prepare for the scenes of business vehicles and airport transfers. On November 12, 2018, SAIC officially launched the car-hailing brand "SAIC Mobility" and started trial operation in Shanghai on the 18th.

Similar to the car-hailing platforms with OEM background, SAIC Mobility currently also uses the "platform + capacity" mode to provide car-hailing service. At present, all the drivers on the platform are drivers with Shanghai and all the vehicles are SAIC's independent or joint venture brand.

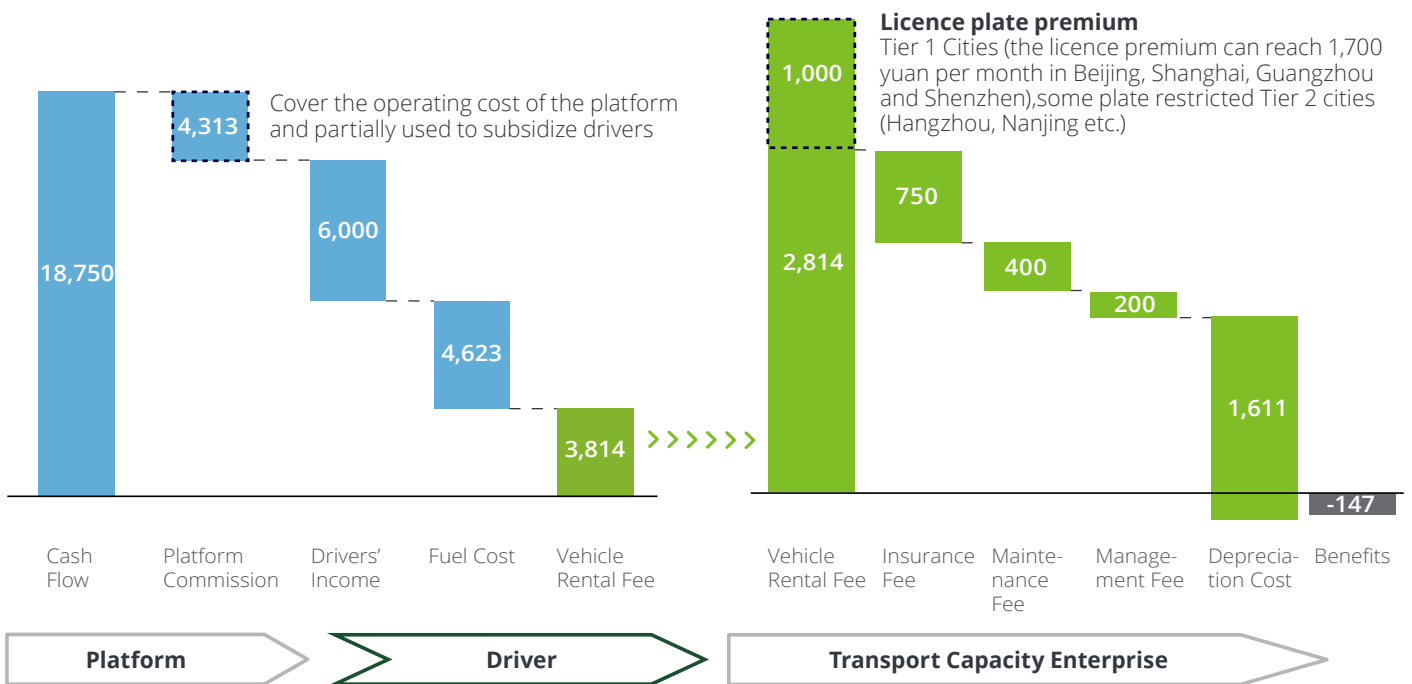
On the whole, companies with OEM background can provide supports for their car-hailing platform, which has synergy effect and reduce the new energy vehicles costs. The extended car-hailing business of OEMs can also improve the efficiency of resource utilization, enrich the business model, and further enhance brand and customer loyalties. It is foreseeable that in the future, there will be more car-hailing platforms relying on the regional advantages, capital advantages, and traditional business advantages from OEMs.

¹⁹Public information, expert interviews, Deloitte analysis

Development Trends of Car-hailing Market

Platformization

Figure: Value chain analysis of car-hailing services ²⁰(unit: RMB per month)



From the perspective of marginal cost, the platform has the characteristics of light assets and easy model duplication. As the scale expansion marginal cost drops rapidly and tends to zero, once a certain flow scale is formed, it is easier to achieve break even. In addition, the platform-based model can aggregate user traffic

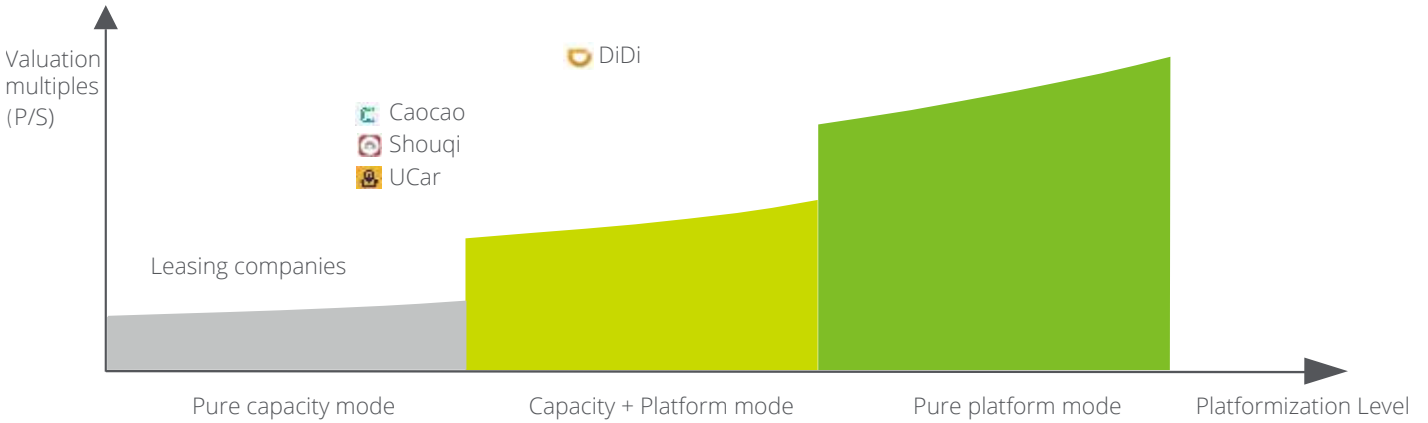
and data, and has various ways of realization and has higher user value.

From the perspective of valuation, comparing the market valuation multiples of various models of car-hailing companies, it can be drawn that with the increase of the degree of platformization, the value of car-

hailing companies is greater. This is because the transport capacity enterprises in the 1st-tier cities and some restricted 2nd-tier cities need to pay higher plates-rental fees, coupled with depreciation of vehicles and high operating costs, which makes it difficult to make profits.

²⁰P20Take the express car business in plate restricted second-tier city (such as Hangzhou) as an example

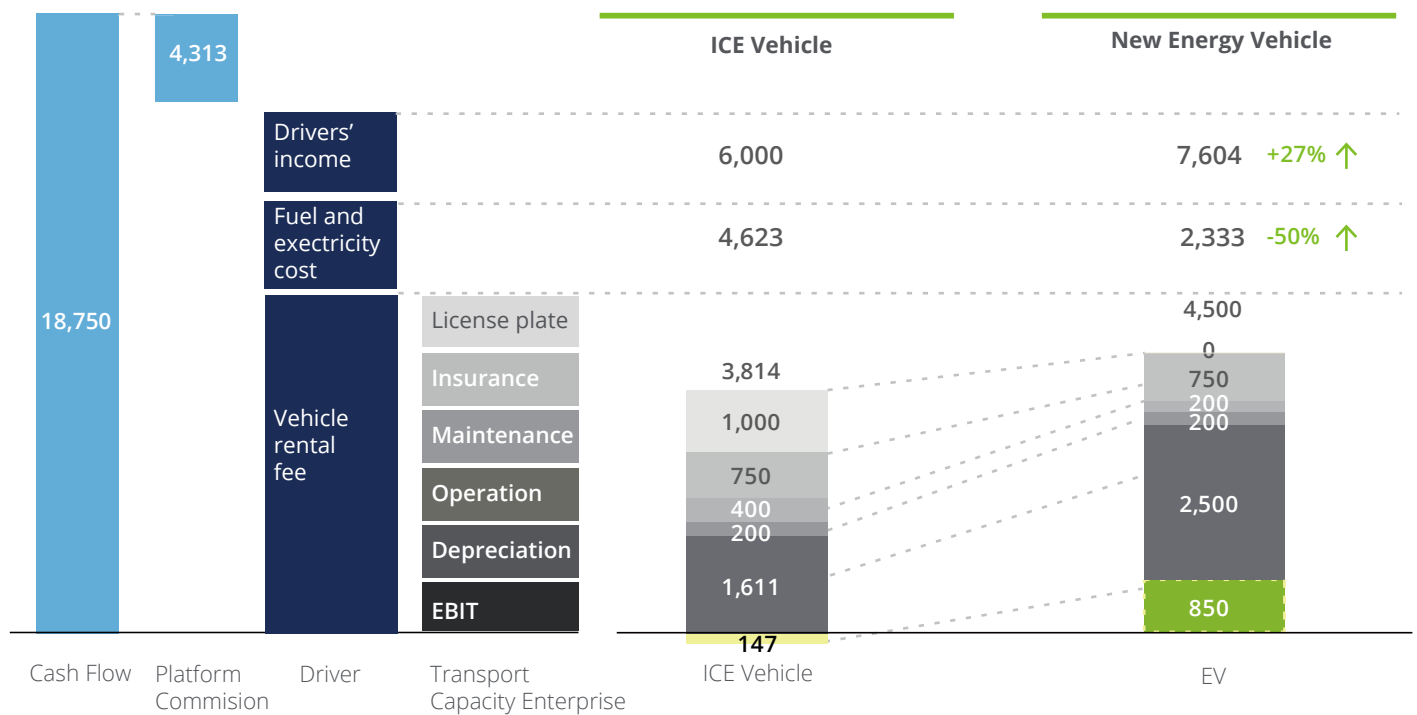
Figure: Relationship between the degree of platformization and valuation multiples (take car-hailing as an example)²¹



In future, as the competition landscape of the car-hailing market tends to be stable and the business of the major car-hailing companies is mature, need to make positive profit for car-hailing companies will appear. Some car-hailing companies, which started from the traditional car rental business or OEMs, will pay more attention to developing the platform, independently grasping the traffic portal, and reducing the weight of the overall operation.

New Energization

Figure: Comparison of fuel economy between new energy vehicles and fuel vehicles



²¹Public information, IT Orange, Deloitte analysis

Compared with ICE vehicles, new energy vehicles have the advantages of unrestricted and procurement subsidies, and unrestricted plates. From the perspective of value chain, new energy vehicles are obviously appealing: for drivers, renting new energy vehicles can reduce fuel cost and increase income; for transport capacity companies, rental will increase, license/plates premium increased, maintenance cost reduced, larger space for depreciation cost reduction²² is an inevitable choice for future car-hailing business. With the active promotion from the government, platform companies and OEMs, more and more new energy vehicles will join the car-hailing operation.

At the government level, most cities directly promote the new energization of car-hailing vehicles through the car-hailing policies

Some cities have explicitly required that new registered vehicles must be pure electric vehicles. Most provinces and cities have clearly expressed their encouragement to apply for new energy vehicles. Some cities indirectly encourage new energy vehicles through the restrictions. For example, Hainan Province and Hangzhou City

have indirectly encouraged new energy vehicles by restricting the application of ICE cars plates; the Shenzhen Municipal Government plans to realize electrification for all car-hailing vehicles by 2020; in the first half of 2018, special numbered plate will be fully implemented nationwide for all new energy vehicles which will not be banned in peak hours, which indirectly encourages the new energy of car-hailing market. In addition, the government is also actively strengthening the construction of infrastructure. It is estimated that by 2020, the number of charging pillars in China will reach 4.8 million, and the ratio of electric vehicles to charging pillars will be close to the standard ratio of 1:1. The convenience of charging for car-hailing drivers will be greatly improved.

At the platform level, large platforms are working with OEMs to increase the launch of new energy vehicles for car-hailing business

For example, the “D-Alliance” initiated by DiDi is discussing the design and standardization of shared new energy vehicles with industry associations and enterprises and

jointly developing a new generation of vehicles designed for sharing, and promoting large-scale operations.

At the OEM level, the new energization is an important direction of the company's development strategy

Under the influence of the national due-point policy and the new energy subsidy policy, the OEMs will increase the supply of new energy vehicles. The promotion and application of new energy vehicles is an inevitable trend. It is estimated that by 2025, the output of new energy vehicles will reach 7 million, accounting for more than 20%. The research and development of battery technology will greatly enhance the cruising range of electric vehicles and reduce the concern of car-hailing drivers about endurance mileage. In the future, with the further improvement of supporting infrastructure such as charging, more new energy transport capacity will enter car-hailing market and will become the main body of transportation.



²²At present, the residual value of used cars of pure electric vehicles has no fair value. However, according to the industry experience, the depreciation of new energy vehicles operated for three years mainly lies in the battery (accounting for about 50% of the total cost, with a certain residual value). With the development of technology, the battery cost will also drop sharply

Intelligence

"Intelligence" is one of the major trends in the development of the automobile industry. Mobility is one of the important scenarios for the commercialization of intelligent cars. The depth and breadth of the data accumulated from single autonomous pilot driving is insufficient. However, data can be quickly accumulated from the connected autonomous driving, which provides a large number of inputs for training AI algorithms to adapt to multiple scenarios, and accelerate the maturity of autonomous driving technologies.

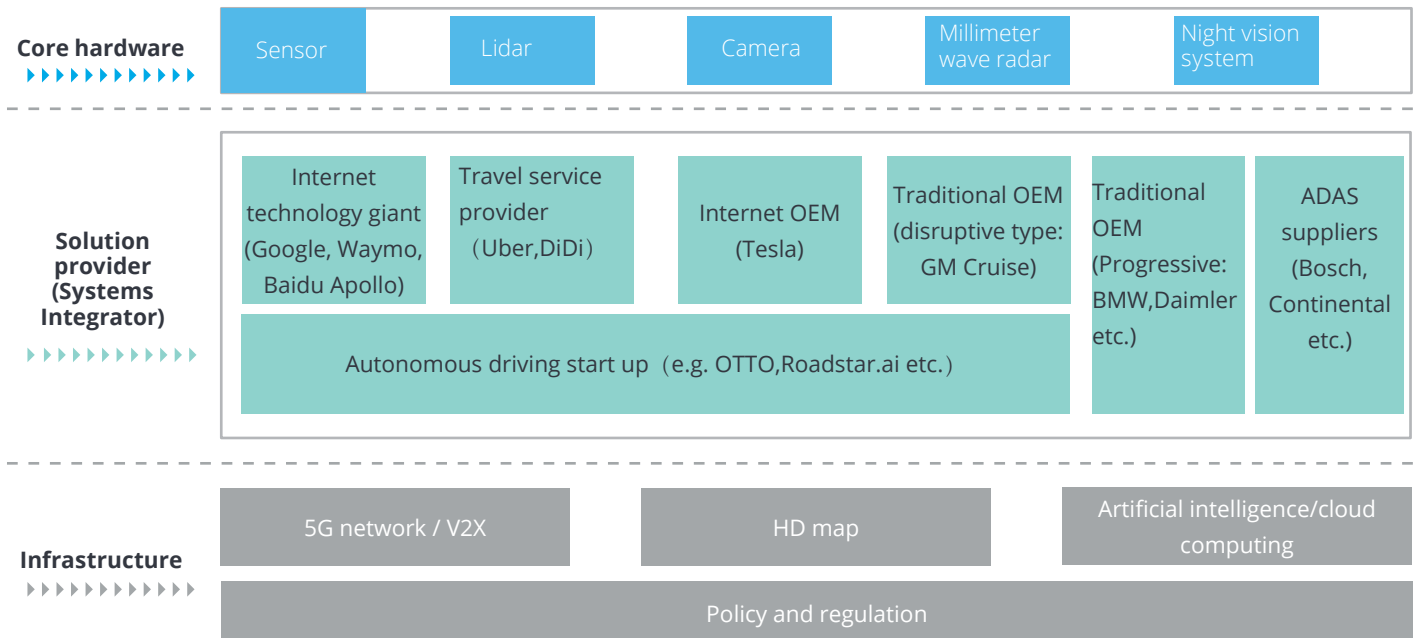
With the maturity of autonomous driving technology, once it is applied on a large scale, it will destructively promote the development of mobility:

full-time drivers are going to be replaced, mobility (autonomous driving style) costs reduced, and penetration rate increased. Users tend to use more mobility services instead of owning a private vehicle to fulfill their mobility demand. Uber and DiDi's existing traffic flow and business model are no longer competitive. The Internet technology giant which has the core technology in autonomous driving, and the OEMs which have vehicle control and manufacture will rely on autonomous driving technology to reshape mobility competition landscape.

Faced with competition from both high-tech companies and OEMs with autonomous driving as a sword the car-hailing service platforms are under

huge pressure and making investment in R&D of intelligence vehicles. In 2015, Uber began to deploy autonomous driving technology, set up independent autonomous driving department, acquired map companies, recruited a large number of autonomous driving related talents and started road testing already. Similarly, DiDi's autonomous driving is currently still in the preliminary stage. At the beginning of 2017, DiDi began invest in advanced technology areas such as AI. In November 2017, it established a company called "Ditu Technology" dedicated to the research and development of high and advanced map technology for mobility and expected to join in the battle field of autonomous driving.

Figure:Autonomous driving industry chain



Conclusion

The car-hailing market has gradually formed. The cost-effective express car market, which meets the daily commuting travel demand, and the high priced premium car market, which meets the high-end business travel demand, have attracted a number of car-hailing companies. In the future, there will be big and comprehensive companies such as DiDi and as well as small and beautiful platforms to compete in car-hailing market and the "one superpower and several weak" players competition landscape will continue to exist.

Car-hailing is the snapshot of the development of overall auto and mobility market. Platformization, new energization and intelligence are the three important directions for the future development of car-hailing market. With the mature core technology, infrastructure readiness and sustainable business model, the car-hailing market will enter a new era with great opportunities.



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