

Think:Act

navigating complexity



March 2017

Car-sharing in China

How to operate a successful business

THE BIG

3

45%

annual growth is expected for the Chinese car-sharing fleet until 2025.

Page 3

90%

of China's car-sharing fleet is operated by local players.

Page 6

20%

daily utilization is the breakeven point needed to make a car-sharing business profitable in China.

Page 9

Chinese car-sharing is blossoming: huge opportunities are expected in the next 5 years for car-sharing providers.

When CCclub started the first car-sharing business in China in 2010, it had a small fleet of vehicles to provide mobility services for the Alibaba business campus. In 2013, the number of shared vehicles nationwide reached 780, with 5 major companies each owning fleets of over 50 cars. Today, it consists of more than 26,000 shared vehicles especially in tier 1 and tier 2 cities (e.g. Beijing, Shanghai, Hangzhou, Shenzhen, Changsha, Wuhan etc.), operated by dozens of car-sharing operators (CSOs). Based on our assumptions, the Chinese car-sharing market is expected to continue to grow at **-45%** p.a. in terms of fleet size until 2025. → **A** This promising outlook is driven predominantly by the following factors:

GOVERNMENT POLICY AND REGULATIONS

Since 2014, to fight serious air pollution issues and to encourage the development of a sharing economy (called "Internet+" in China), the Chinese central gov-

ernment and local municipalities have issued multiple policies to encourage the growth of car-sharing. Furthermore, plate restrictions in large Chinese cities (e.g. Shanghai, Beijing, Tianjing etc.) have positively impacted the car-sharing market, offering customers alternative mobility solutions to private cars. → **B**

INSUFFICIENT PUBLIC TRANSPORT

The development of public transport networks is growing at a slower rate than urbanization in China. For example, from 2004 to 2014, the population of Beijing rose by 1.4% per year while the number of taxis in the city grew by 0.3% per year on the same period, reaching 13,334 000 and 67,500 respectively in 2014¹. The urban population is therefore being forced to seek alternatives, for example via "Intelligent Mobility" programs. Against this backdrop, car-sharing has its advantages and is positioned as one of the key alternatives to traditional public transport.

¹ Source: national bureau of statistics of china

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Car-sharing in China

CUSTOMER MOBILITY NEEDS

There continues to be a huge gap between the total number of vehicles ('car parc') and the number of driving license holders in China. Based on Roland Berger's estimate, in 2020, there will be 355 million license holders but only 195 million vehicles. Car-sharing could be a mobility solution for license holders without a private car.

SHARING ECONOMY CONCEPT

The concept of a shared economy is growing in China, penetrating various domains such as education, and medication. Shared mobility, including car-sharing, has become a resounding trend as customers (especially the younger generation) increasingly use this service rather than own cars. Roland Berger conducted a survey in 2015 of 180 participants which showed 47% of the interviewees have heard of car-sharing and 76% are interested. Another survey by Evcard (one of the leading local car-sharing companies) of its current users revealed that more than 57% of members are aged between 25 and 35 years (v.s. 4 to 18% for other ranges).

"People between 18-35 are the target for car-sharing, for instance, young white collar workers and university students."

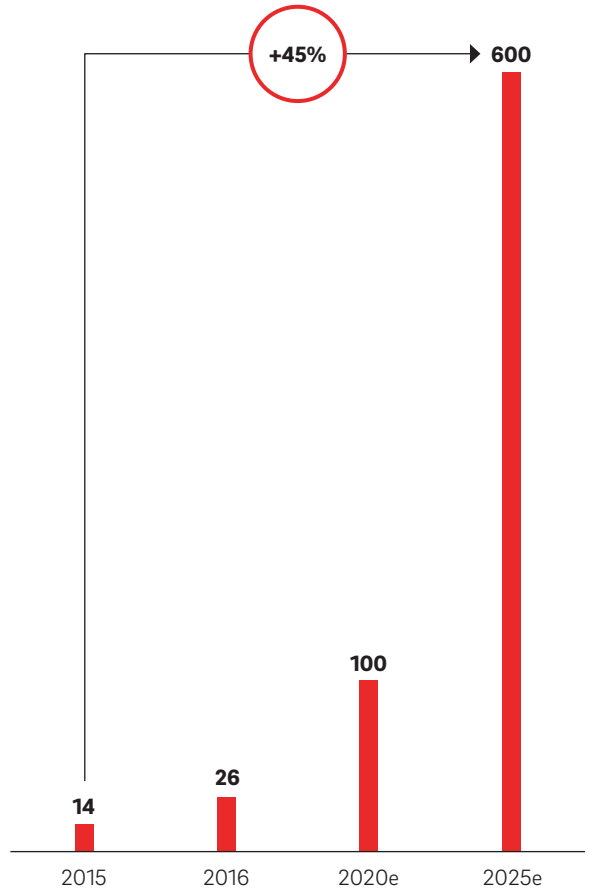
CEO of car-sharing provider

The 2015 Chinese car-sharing market represents 16% of the total fleet of car-sharing in the world, while the number of members of car-sharing programs in China (approximately 8 million members) represents 14% of the global membership population. Only 15% to 30% of these members are active users (varying from operator to operator); Nonetheless, we firmly believe that this market still has huge potential and room for new players.

A

CAR-SHARING FLEET IN CHINA IS EXPECTED TO GROW BY 45% PER YEAR UNTIL 2025

[National fleet size estimate ; '000 vehicles]



Source: Roland Berger

A BATTLE IS CLEARLY LOOMING IN THE CHINESE CAR-SHARING MARKET, WITH NO CLEAR WINNER YET.

Over the last 5 years, various players with different backgrounds have entered the Chinese market assessing operational models and establishing their own competitive advantages. International players, mostly represented by OEMs, are increasingly focusing on the establishment of new ecosystems built around their core competencies, namely car manufacturing, retailing and professional services. → C

Local players are divided into three categories: local OEM self-owned, third party backed by OEMs and third party technology companies. Most of them rely on government subsidies and their local networks; they have signed exclusive partnerships with various stakeholders to gain an initial foothold in the market before establishing a more profitable business model.

Following the early years of slower growth, since 2013 local players have picked up the pace and expanded the size of their fleets very aggressively, now holding approximately **90%** of national market share in terms of fleet size, which accounts for about 26,000 vehicles in China. Microcity only own about 10,000 vehicles, followed by EVCARD, I-GO and CCCLubs.

In this report, we focus on three main car-sharing models as practised by three major players in China: Round Trip car-sharing (Car2share), One-Way car-sharing (Evcard) and Free Floating (Car2go). → [D](#)

"We are still looking for a suitable business model for the Chinese market."

Manager from a leading international OEM which is planning to provide car-sharing services in China

B

GOVERNMENT POLICY AND REGULATIONS

Chinese governments are acting in favor of car-sharing developments both at central and local levels.



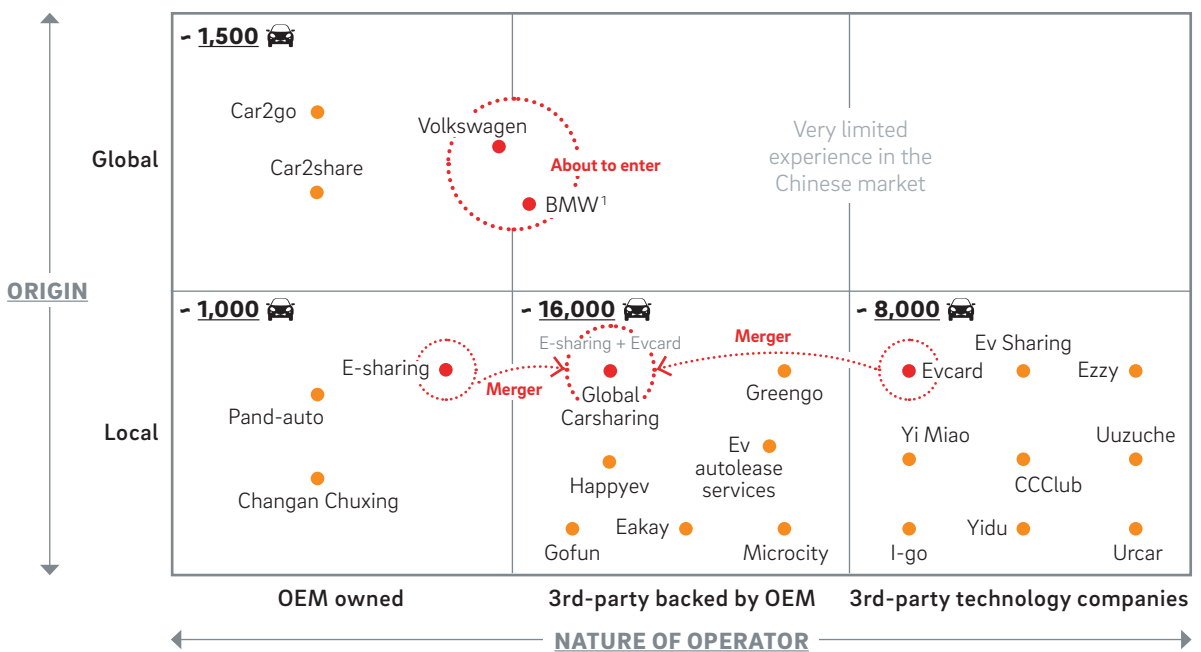
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Car-sharing in China

C

MAPPING OF CAR-SHARING PROVIDERS AND FLEET SIZE ESTIMATION

Most players in the Chinese market are local – Global players currently have very limited presence.



Source: Desk research; Roland Berger analysis

KEY CONCERNS IN THE CHINESE CAR-SHARING MARKET

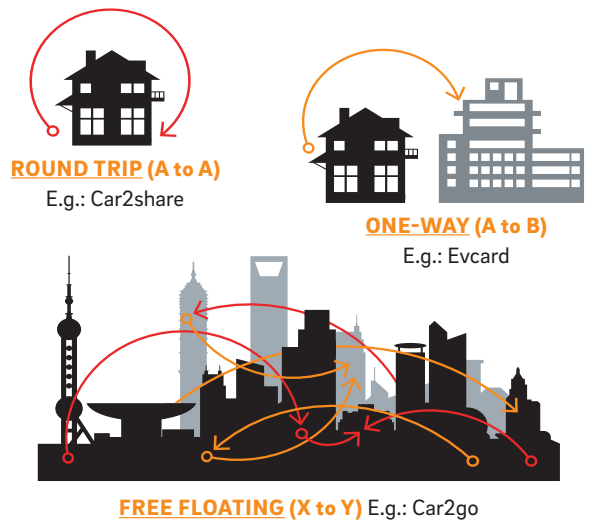
Consumers usually use car-sharing as an alternative to taxis or chauffeurs; the comparatively low taxi fares in China mean lower pricing for car-sharing.

Consumer malpractice such as incorrect parking and traffic violations cause increased management issues and operational costs.

Most of the current players rely on government subsidies and are still not running profitable and sustainable business models.

D

THE THREE MAIN CAR-SHARING MODELS AS PRACTISED BY THREE MAJOR PLAYERS IN CHINA



1 Pilot launched in Beijing in 2016

The path to achieve a profitable car-sharing business in China is long and not without obstacles.

CHALLENGE ONE

FULFILL LOCAL GOVERNMENTS' REQUIREMENTS

Car-Sharing Operators (CSOs) need to complete several initial conditions to launch their car-sharing business in China: none of these conditions are easily achieved, especially in cities with strict license plate restrictions and parking lot shortages. In this context, strong relationships with local government are essential to drive the successful set-up of car-sharing businesses in China. Win-win partnerships should also be developed with infrastructure partners to rapidly expand networks.

Acquire the necessary operating licenses and certificates

- A rental company operating license authorized by the Commerce and Industry Bureau is required in all cities
- A business certificate from the Transportation Bureau is necessary in certain cities, e.g. Beijing and Shanghai

Obtain sufficient license plates for car-sharing fleets, especially in certain cities with specific car-sharing

plates (e.g. Shanghai with "Y" plate), generally limited by a yearly quota.

Construct infrastructure networks

- Parking lot solutions from government, third party partnerships etc.
- Well-equipped charging infrastructure in the case of New Energy Vehicles.

CHALLENGE TWO

RESPECT THE ORIGINAL CUSTOMER VALUE PROPOSITION

By only focusing on initial pre-requisites and local government expectations, operators risk neglecting the original customer value proposition and consequently creating inappropriate user scenarios with low utilization rates.

A proper selection of car-sharing user scenarios is essential for CSOs to achieve sustainable business development. Ideal car-sharing user scenarios should be situation-specific and ease daily operation, encompassing features such as relatively limited presence of other alternative mobility services or alternative traffic solutions (e.g. Didi, etc.).

CHALLENGE THREE**MEET HIGH INITIAL INVESTMENT AND OPERATIONAL COSTS**

Fleet purchase, aftersales maintenance and car recycling are the major costs for a car-sharing operating model. They include high charges such as initial purchase, insurance, etc. Lack of synergies with players along the value chain drives the burden of these initial investments and operational costs for CSOs, negatively impacting cash flow.

CHALLENGE FOUR**MIRROR HIGHLY COMPETITIVE MOBILITY MARKET AND LOW TRIP RATE**

Unlike in Western countries, the availability of alternative cost efficient mobility solutions in China affects customers' price sensitivity regarding car-sharing trip rates, which further limits the profitability of the car-sharing business.

CHALLENGE FIVE**ACCOUNT FOR COSTS OF CONSUMER MALPRACTICE**

Another factor driving increased operational costs is customer malpractice, such as incorrect parking, damage to cars, key loss, traffic violations, incorrect booking, illegal rental, refused payment, etc. Measures to strengthen offline teams and technologies must be adopted, resulting again in additional costs:

- Higher material costs: Loss of keys, fuel cards, vehicle licenses, etc. which insurance cannot cover
- Higher offline operational costs: Extra cleaning, moving incorrectly parked cars, stolen car tracking and other related costs
- Higher back-office costs: Dealing with exceptional circumstances, e.g. chasing penalties for traffic violations
- Insurance costs: the average insurance fees per vehicle for a fleet is higher than for an individually owned vehicle by 50 to 100% in China, due to the lack of experience to feed insurance modelling

CHALLENGE SIX**INCREASE UTILIZATION RATE**

Based on Roland Berger's financial modelling, the

breakeven point for a CSO² is around a **20%** utilization rate³, which is largely higher than almost all CSOs at present, 12% being the industry average.

"The business hasn't reached its break-even point and we are still trying to achieve quicker payback in the Chinese market."

COO from a leading international car-sharing player in China

MIRROR HIGHLY COMPETITIVE MOBILITY MARKET AND LOW TRIP RATE

Chauffeur-based mobility service provider, Yidao, launched a marketing campaign whereby 100 RMB was rewarded for each 100 RMB a customer recharged in their pre-paid account. This gave it a competitive edge during the promotion period.



² CSO with a fleet of 200 ICE vehicles in one Chinese tier-1 city

³ Utilization refers to the percentage of time each car is in use over 24 hour period

Despite these challenges, we think a successful car-sharing business in China is attainable. But careful planning is fundamental.

Success depends on the ability to seize external opportunities that the current trends offer, but also, and most importantly, it depends on internal operational capabilities.

EXTERNAL FACTORS

PREPARE A FAVORABLE ENVIRONMENT

Two key factors are identified for setting up a more favorable environment for car-sharing services on both the Car-Sharing Operator and partner's side.

1. Set up a proper partnership

No firm can successfully operate a car-sharing business singlehandedly and partnerships are needed to acquire operational resources and share risks and costs. Thus, a pragmatic CSO will initiate negotiations with potential partners across the entire car-sharing ecosystem and try to maximize synergies from these partnerships. This will significantly drive demand for the car-sharing business and reduce operational ex-

penses. A fact that needs to be considered is that in a developing car-sharing market such as China's, these partnerships sometimes lead to exclusive contracts, which means the first mover could gain competitive advantages.

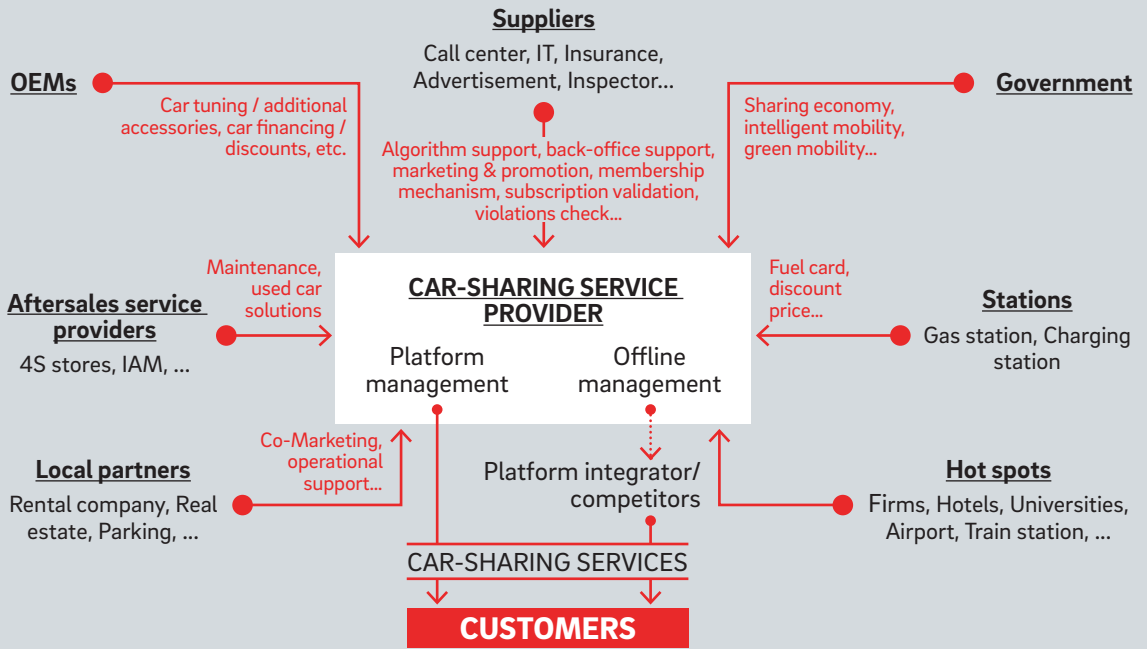
Partnerships should also be set up to acquire customers. For example, office buildings or corporations could promote and offer car-sharing services to employees, which in return could be beneficial to their overall overhead costs.

In our study, we examined various scenarios based on three areas: 1) customer base, including user preference, population density, etc.; 2) environmental factors, including partnership willingness and possible government support; 3) potential competition. And as a result we identified four major partner categories in China, each bringing different resources to the car-sharing business. We recommend starting with industrial parks/corporate campuses and hotel partners, employing suitable negotiation strategies. → E

E

CAR-SHARING ECOSYSTEM

Negotiations for a future partnership should consider the entire car-sharing ecosystem to maximize the possible synergies.



CATEGORY	PARTNERSHIP	RESOURCE OFFERINGS		
		Customer base	Parking lots	Joint marketing
Central Business District	Corporates in CBD with large numbers of staff as potential customers	●		●
	Property management officer in CBD, in charge of parking lots and related services		●	
Industrial Park / Corporate Campus	Corporates with corporate campuses or with a strong presence in industrial parks	●	●	●
	Industrial park management officer, with interest in building up 'smart mobility' solutions		●	
Hotels	Large premium hotel groups, with national network coverage	●	●	●
Universities	Universities with large area coverage and large number of students and staff	●	●	●

2. Benefit from local government subsidies

Continuous government support for car-sharing eases the overall setup and operation of car-sharing businesses, e.g. financial incentives for vehicle purchase and parking lot resources.

In a large number of cities, local governments have initiated car-sharing or shared mobility programs which offer relevant incentives and resources. For instance, the Beijing local government plans to replace official government sector vehicles with several pilot programs. Leading CSOs have also received subsidies from local governments for vehicle purchases, especially for EV models.

INTERNAL CAPABILITIES

OPTIMIZE BUSINESS FOR CHINESE CAR-SHARING OPERATIONS

1. Map a clear vision of target customers and bespoke product offerings

CSOs should first gain a clear vision of target customer groups, and then develop bespoke product offerings to attract potential customer groups.

For leading CSOs in China, younger generations are the clear target customers. According to public surveys, younger generations are more interested in car-sharing services due to their awareness of the concept of sharing and of the limited nature of private vehicle ownership. They also have more frequent mobility needs, e.g. for social events, weekend outings or for daily journeys within the city.

These targets use online platforms, which create lower costs for operators. They are also highly reactive to other marketing strategies such as:

- Free trials to increase product awareness
- Discounts or coupons to address budget concerns of the younger generation
- Free social event tickets provided to attract target customers

2. Be innovative and think beyond cars

In order to set up user scenarios, CSOs must also generate innovative ideas to promote car-sharing, such as considering car-sharing as a complete customer journey rather than a simple mobility solution. The journey could include other ways customers use cars – shopping, hotels, tourism and sight-seeing etc. For example, Feezu established in Hainan an integrated

car-sharing network covering the main mobility scenarios, connecting hotels, shopping centers and tourist attractions. Such integrated services not only improve the user experience, but also bring added value to all stakeholders with additional customers for shopping centers, tourist attractions, etc, and more choice and special prices for tourists. → **F**

3. Define an appropriate pricing strategy adapted to the Chinese market

For Chinese customers, car-sharing should be priced more cheaply than chauffeur-based mobility services or taxis because the cars are self-driven. Furthermore, taxi fares in China are relatively low, which makes pricing highly competitive for CSOs.

In the case of ICE vehicles, car-sharing pricing consists of two factors –time-dependent pricing and distance-dependent pricing. Based on our analysis, CSOs' pricing strategy is intrinsically linked to target customers and user scenarios.

In Beijing, for example, a CSO named "EZZY" mainly provides premium car-sharing services (BMW i3) to young female white collar workers. As this target customer group is not overly price sensitive, EZZY charges a relatively higher membership fee with more exclusive and higher quality services.

For user scenarios, we conducted a comparative analysis on practical user scenario cases in Shanghai. In the A-A station based operating model, stops are highly likely during a trip, resulting in a lower time-dependent price to avoid customers overpaying for idle time. As the case shows, even with a 20 minute stop, A-A operators, such as car2share and Togo, still have a comparative advantage over free-floating X-X player such as Car2go in China. → **G**

4. Improve operational performance

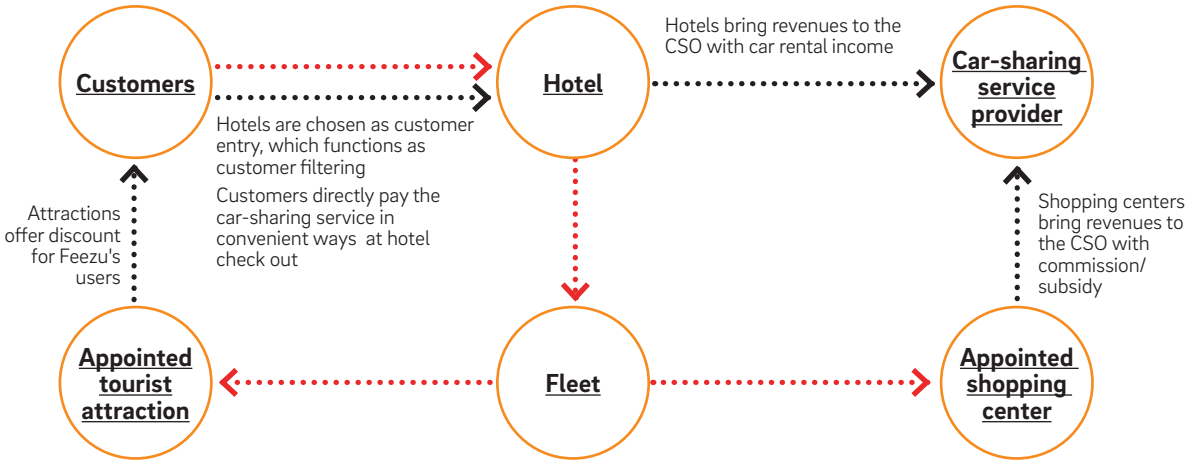
Key operational questions to ask before starting up:

- How to set a deposit or membership fee to balance risk control and user experience?
- Should platforms offer advanced booking options as well as special packages? If so, how?
- Should platforms encourage users to fill or recharge the cars themselves? If so, how?
- How to deal with user traffic violations and related maintenance so as not to affect utilization rates?

F

TOURISM MODEL IN HAINAN

Taking advantage of Hainan's tourism market, Feezu setup an integrated car sharing network covering the main mobility scenarios



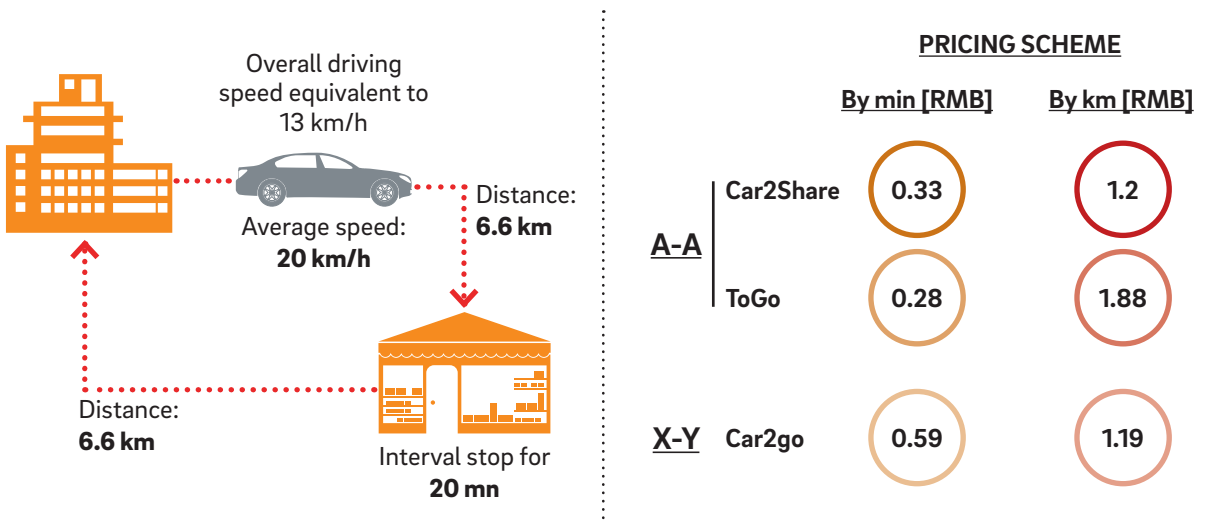
■ Payment flow ■ Customer flow

Source: Desk research; Roland Berger analysis

G

IMPACT OF USER SCENARIOS ON PRICING SCHEME

CSOs' pricing strategy is intrinsically linked to target customers and user scenarios



Source: Desk research; Roland Berger analysis

Operational performance is key in such a competitive market: any slight improvement will accelerate the rate at which positive profitability can be achieved. Therefore, a successful CSO needs to identify operational issue areas and examine all possible solutions. By evaluating all these possibilities against criteria such as user experience, cost control and risk control, the best solutions can be chosen and implemented.

5. Invest in strong digitalization capabilities

Digitalization capabilities are essential for making the interaction between cars, customers, providers and offline teams faster, stronger and smarter. Digitalization capabilities include a solid IT system that can collect third-party data through car users' phones, On Board Diagnostic Systems and other systems, then analyze it

and support the application of this to real case scenarios. Roland Berger has categorized the four main uses of car-sharing data which can improve operational efficiency. Valuable data collected from On Board Diagnostic (OBD) systems and other information systems, when properly leveraged, can help improve operations by: → **H**

- Triggering offline maintenance actions and partially replacing manual checks
- Supporting back-office status checking at car return and billing
- Setting up a membership rating system
- Providing evidence in case of traffic violations or accidents

H

ENHANCE DIGITALIZATION CAPABILITIES

Using smart digitization capabilities, car-sharing operational efficiency can be greatly improved

COLLECT VALUABLE DATA

IMPROVE OPERATIONS BY LEVERAGING DATA

		Maintenance	Return / Payment	Membership evaluation	Duty judgment
OBD	Car location	●	●		●
	Driving behavior				
	Driving time		●	●	
	Driving mileage	●	●	●	
	Driving speed			●	●
	Braking behavior			●	●
	Car condition				
	Fuel amount	●	●	●	
	Battery voltage	●			
	Fault information (code)	●			●
	On/Off status		●		
	Door status		●		
Charging status		●			
EXTERNAL	Key status		●		
	Violation information / history		●	●	●
	User information			●	●

Whether it be for an OEM or for a third party operator, car-sharing will be an interesting revenue or profit pool in the near future.

Compared to mature markets, car-sharing is a relatively new business model in China and is still in its early stages. Nevertheless, as seen with the new car sales market 20 to 30 years ago, the car-sharing market has a promising future in China, in particular as a result of the significant customer potential, the rapid increase in fleet size and the increasingly intense competition created by players with varying backgrounds.

Due to the nature of the business model and several issues specific to China, few car-sharing operators are currently succeeding from a financial perspective, which is mainly explained by the large cost base and lower than expected revenues.

However we have faith in the potential of the Chinese car-sharing market, and we believe that players could reach profitability if they are able to optimize the promising levers available. With a clear vision of target customers and innovative user scenarios, improved and optimized operational capabilities, and strong partner-

ships across the value chain, they could profit from the future potential of this market.

Furthermore, China is home to a particularly favorable external environment, with customers fully aware and welcoming car-sharing, strong support from the government both financial and through the development of programs to promote car-sharing ("Intelligent Mobility"), and the entry of multiple third parties on the market.

The automotive industry is changing from a purely manufacturing industry to a more customer-oriented service industry, with China being no exception. The first-movers in the Chinese car-sharing market will doubtless capture the greatest market share, as seen ~30 years ago when VW knocked at the door and entered the Chinese automotive market. ♦

ABOUT US

Roland Berger, founded in 1967, is the only leading global consultancy of German heritage and European origin. With 2,400 employees working from 34 countries, we have successful operations in all major international markets. Our 50 offices are located in the key global business hubs. The consultancy is an independent partnership owned exclusively by 220 Partners.

Navigating Complexity

For the past 50 years, Roland Berger has helped its clients manage change. Looking at the coming 50 years, we are committed to supporting our clients conquer the next frontier. To us, this means facilitating navigating the complexities that define our times by providing clients with the responsive strategies essential to success that lasts.

FURTHER READING



TRANSFORMATION OF THE CAR INDUSTRY

Who will capture most of the future profit pools?

In this issue of Automotive Insights, our exclusive publication targeting issues at the heart of the industry, we investigate the topics that automotive players need to understand to succeed in this new world. The goal is to give stakeholders the advanced knowledge of likely changes in the automotive ecosystem they needed to make empowered choices in their strategic investments.



SERVING THE LAST MILE

The van-Reincarnation of an urban warrior?

How can vehicle manufacturers leave their mark on the urban delivery business? Modern commercial vehicles are supposed to be quiet and emission-free, reliable, flexible, fast and with low maintenance costs: in a nutshell, genuine all-rounders. The latest issue of THINK ACT Automotive Insights "SERVING THE LAST MILE", leads with a new vision of the van of the future.

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