

## Introduction

"You must step into the market earlier and try to make mistakes to learn and accumulate experience," stated Tian, Tian Ming who is chairman of Easy Rent. In recent years, the demand for young people to buy cars has gradually decreased, and the car rental market in Taiwan is relatively immature compared to European and American countries. The parking space in a city is limited and not used effectively, which not just represents a personal waste, but also a waste of the city. Car sharing can make a good use of resources for being a smart city. These are the reasons why the car rental market has high potential to enter. In addition, traditional rental methods have many restrictions, such as renting at a fixed time and place, the potential customers wouldn't be attracted due to the unfixed rental time. Therefore, in 2014, iRent launched the 24-hour self-service of car rental. Through the APP they designed, customers can rent a car and pay anytime, anywhere.

Due to the gradual-increasing environmental awareness, the "Paris Climate Agreement" issued by the United Nations in 2015, members of the UN decided to limit warming to less than 1.5°C and achieve net zero emissions by 2050 (<https://smctw.tw/3760/>), so lots of countries are gradually implementing appropriate policies to reduce carbon emission. In 2017, Taiwan's Executive Yuan proposed to prohibit selling non-electric motorbikes in 2035 and petrol-engine cars in 2040 based on air pollution issues. Under this policy, iRent has provided shared hybrid power PRIUS C and electric scooter in 2019, combining the concepts of "sharing economy" and "green energy and environmental protection" to achieve the transport vision of urban green energy transportation.

## What is the status quo short-term car rental market in Taiwan?

Taiwanese rental cars accounted for 10.3% of new cars from January to July 2017. Compared with the United States, on average, one-third of new cars sold are used for rental. U.S. rental cars are 31.1% of purchasing new cars. The Taiwanese car rental ratio is far less than in American countries.<sup>1</sup>

In the car rental market, it is divided into "lease-to-own" and "pure rent". Lease to own is until the lease term expires, the car rental company will transfer the ownership of the car to a third person (must be a third party that has nothing to do with the lease or own company). After that, a third party can continue to drive or buy and sell the car freely. The cost of regular maintenance in the future will need to be borne by the buyer. The individual lease-to-own market in Taiwan is only about 2% per year, which is low compared with 30% in the United States and 25% in Japan. It also shows that the market for car lease to own market in Taiwan has yet to be developed.<sup>2</sup>

Pure rent is relatively simple, divided into long-term, and short-term rentals. A long-term corporate rental is the most stable and main business in the car rental industry. That is, companies can rent vehicles in their name to get tax deductions and no need to pay extra expenses, such as car insurance and maintenance expenses, which would be handled through car rental companies. It can reduce the burden of buying a car regarding car loans

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<sup>1</sup> Liberty Times, 2016/09, <https://ec.ltn.com.tw/article/paper/1027428>

<sup>2</sup> Chinese Daily, 2016/08, <http://mobile.chinesedaily.com/plus/view.php?aid=155778>

and other expenses. Personal rent will have the same impact. When the car rental contract expires, customers can choose a different car model. The total rental cost may not be higher than by cash purchase originally. According to Taiwanese regulations, the long-term rental period is at least one year. After the contract period, the car rental company will take back the car, and you can choose both the rental contract and the car to renew.

In recent years, young people have changed their car consumption patterns, they tend to rent instead of buying cars. Short-term rental is flexible in rental time and price, and lets consumers share transportation costs to improve urban traffic efficiency. The related industries noticed the demand of the market, so they would change the strategic target to the short-term rental market.

According to the statistics of the short-term rental market from 2015 to 2017, they found that the car rental acceptance of young men between the ages of 25 and 34 are the highest. In addition, 60% of the consumers use rental cars in the evening which is in the non-business hours. Lastly, the majority of drivers used last for less than three hours. Therefore, self-service car rental, the service people can rent at any time and any place, can meet their needs.<sup>3</sup>

In the past, cars were regarded as private property, but if the car is only needed for daily commuting, the usage rate is only about 4%.<sup>4</sup> With the rise of the sharing economy, people have gradually reduced the value of "owning a car". In response to the current trend, the century-old automotive industry is changing, and sharing is the key to this change.

### **The scooter usage and rental market in Taiwan**

Taiwan has the highest density of scooters in Asia. With a total of nearly 14 million units, every Taiwanese on average has at least one scooter. The average number of scooters per km<sup>2</sup> is up to 378, compared to 136 per km<sup>2</sup> in Vietnam, the second highest in Asia. It takes an average of 53.8 minutes to commute per day [in Taiwan \(or Vietnam?\)](#) and the average frequency of riding is 5.1 days a week.<sup>5</sup>

There are several key reasons for the heavy reliance on scooters.

First, Taiwanese public transportation route is not comprehensive. It may take an hour to reach a destination via public transportation but using a scooter can reduce transit time by two-thirds and reach the same place in 20 minutes. *(A real-life example, or mention why this reduction in time, e.g. more direct routes compared to public transport?) [in taipei, the most developed city area, a scooter can reduce travel time XXXXX. Even worse in other cities, may involve transfers]*

*In a real-life example, the distance from Taipei Main Station to Taipei Zoo is about 13 kilometers. It takes 25 minutes to the zoo by scooter; however, it may take more than 40*

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<sup>3</sup> China Times, 2017/02, <https://www.chinatimes.com/newspapers/20170220000296-260114?chdtv>

<sup>4</sup> Ministry of Transportation and Communications, 2019/10, Private Sedan Usage Survey, <https://www.motc.gov.tw/ch/home.jsp?id=56&parentpath=0%2C6&mcustomize=statistics101.jsp>

<sup>5</sup> Ministry of Transportation and Communications, 2019/10, Motorcycle Usage Survey, <https://www.motc.gov.tw/ch/home.jsp?id=56&parentpath=0%2C6&mcustomize=statistics101.jsp>

minutes by bus. The reason is that the route of public transportation is fixed; it could detour to pick up more passengers. But a scooter can ride wherever people want to go.

Therefore, compared with public transportation, riding a scooter is more flexible, and there is no need to crowd with people on the bus or the MRT. It brings about that Taiwanese people generally prefer to choose scooters for commuting.

The benefits of scooters to Taiwanese extend to its cost-efficiency. The cost of public transportation for one single day may be higher than the fuel cost for scooters for a week (*Overgeneralisation – may be better to point out the calculations in a city / county as an example*). [e.g., the minimum cost of a round-trip by bus costs more than US\$1 per day] On average, it costs only US\$3.6 per week on fuel cost to the rider.<sup>6</sup>

Third, Taiwan is packed with a high population, and it's not uncommon to see heavy traffic, especially in urban areas. Scooters' higher mobility enables riders to be less affected by traffic jams. Parking spaces of scooters are also more readily available compared to that of cars in urban areas (*ratio figures or sources?*), [on hold] which altogether give rise to the leading popularity of scooters in Taiwan.

*(Need transitioning from scooters in general to shared scooters specifically – at first I thought the following part does not make sense as Taiwanese already have 1+ scooters at home – the “why renting scooters should be before how agencies reacted”)*

Share scooters, in particular, have witnessed a rise in popularity amongst Taiwanese. They act as the connection between public transportation stop and the destination, solving the “last mile” problem. Taiwanese are thereby able to utilise this rising transportation option and enjoy a more flexible commuting in the city. (*moved from paragraph above*)

*(Nevertheless missing some reasoning if people are directly using scooters > public transport in the first place as the previous paragraphs suggested)*

Before the advent of shared scooters, the scooter rental agencies near the train stations usually used per day as the unit to calculate the price. Recently, the *rising (?)* consumer need for more convenient and faster vehicle rental methods has prompted the industry to invest resources in the short-term rental segment. They choose to adopt a per-minute payment model and rent **wholly electric** (*all-electric?*) scooters, which is expected to reduce the environmental burden from traffic. ~~Shared scooters have become a new transportation option in the city, making up the last part of the journey that cannot be reached by public transportations, and giving the public more flexible mobility options.~~

iRent, Wemo and Goshare are the three main developing shared scooter **enterprises** (*market players?*) in Taiwan. The following section discusses the business models and launching strategy in these three companies.

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<sup>6</sup> Ministry of Transportation and Communications, 2019/10, Motorcycle Usage Survey , <https://www.motc.gov.tw/ch/home.jsp?id=56&parentpath=0%2C6&mcustomize=statistics101.jsp>

## Business model in two competing firms, WeMo and Goshare

One is WeMo, which uses the sharing economy or pay-as-you-go concept coupled with green vehicles on a large scale to consumers, with the aim of moving to a greener, smarter, and more convenient form of transportation. WeMo customers can conveniently register on its WeMo Scooter app and rent its scooters. By the end of October 2019, with a 200% increase compared to October in 2018 in annual active members, WeMo amassed the largest number of members, the largest number of vehicles as well as the widest reach of technology applications in Taiwan. Later, GoShare, a subsidiary of an e-scooter manufacturer Gogoro, entered the market. (GoStation and GoNetwork, edge over competitors)

The other is Goshare, the world's first end-to-end mobility sharing platform in Taiwan, a process that takes a system or service from beginning to end and delivers a complete functional solution, involving in one-stop development and operations from software design, cloud operation management to power stations. There are 400,000 members who are mainly 18-34 year-old customers in 4 months, 4,000 cars have been released, and an average of 1 rental record in 6 minutes.

According to the operating experience of Wemo and Goshare, they not only increase prevalence to the society, but also make the acceptance of the youth much higher than before. WeMo and Goshare's operations increased the exposure of shared vehicles in Taiwan. Especially the potential market in youth they would like to target. Therefore, the industry is optimistic about the car rental market. One of the reasons is "young people are less and less interested in buying a car, and renting when needed becomes a popular concept for car use."<sup>7</sup> Many surveys have found that young people in Japan and Taiwan no longer regard buying a car and house as an indicator of success in their life. <sup>8</sup>The increasing cost of maintenance creates a large financial burden on young people. Hence, the concept of car rental has already been rooted in their mind, and it will undoubtedly increase the exposure for iRent. Altogether with the sharing concept being popular amongst the youth, this may be a favourable business opportunity for iRent. With these growing trends in the market, it is the best time for iRent to launch their unique products and invest in the shared scooter market.

## Origin of iRent

Easy Rent was established in 1999. Its service items include long-term corporate car rental, short-term car rental and professional driver pick-up. Its parent company is Hotai Motors, the leader in Taiwan's automobile industry. Funded in 1947, Hotai Motors initially focused on trading, and later successively obtained the agency rights of world-renowned brands such as Toyota, Hino Motors and Yokohama Tire. In addition to car dealerships, it also involves in car manufacturing, car rental, car insurance, car loan, second-hand car, car appliance and taxi services, integrating the upstream and downstream services to provide a richer car experience. Hotai has been deeply cultivated in Taiwan for more than 70 years, and its service points cover major cities and towns. Hotai's comprehensive auto industry resources create a strong advantage for Easy Rent in the development of unmanned car rental "iRent".

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<sup>7</sup> Business Weekly, 2019/10, <https://money.udn.com/money/story/5648/4107993>

<sup>8</sup> Business Times, 2017/12, <https://www.chinatimes.com/newspapers/20171210000073-260202?chdtv>

In 2014, iRent established its first branch in Taipei. Its services require using a smartphone and downloading a dedicated mobile app to rent the car online. Users don't need to spend extra time on physical documents with staff, also not restricted by store opening hours and can easily pay by using both an EasyCard, a smart IC card in Taiwan. In 2017, iRent upgraded its model from rent and return at the same station to any legal parking spaces, giving riders more flexibility. Hybrid vehicles were also added. In 2018, iRent started to cooperate with different industries such as convenience stores and restaurants to expand bases beyond their own spots, and to extend the service landscape to the next level in order to reach more users *(how? Reasoning / collaboration example / growth statistics)* In October of the same year, the region-wide "rental and return" service was launched in Taichung City. Users are no longer restricted to renting and returning to designated locations, providing a more convenient service model. In 2019, in addition to allowing more cities to have roadside rent-and-return services, cross-regional rent-returns between some cities have also kickstarted, allowing consumers to have more space for use, and electric vehicles will be added to the service items.

Since January 2019, iRent's revenue surpasses traditional rental stores. So far in the beginning of *(month?)* 2021, iRent reached 580,000 members and the service region has expanded to the whole Taiwan,<sup>9</sup> including outlying islands. Distributed pick-up locations can make vehicles closer to people who want to rent a car. Moreover, the speed of setting up locations is faster than that of traditional stores which lets iRent easily spread the service points and reach the customers. According to statistics *(source name)*, setting up a service point for more than one year increases the average usage rate of each vehicle by 20% per day and *(usage time reaches to about 4.8 hours per day)*.<sup>10</sup>

Leveraging the integrated system of automotive industry services of Hotai motor, iRent could reduce cost of development in its services, such as providing Hotai's Toyota car models. In the future, it plans to join Lexus *(what type of partner?)* to diversify rental car models to attract more consumers. When iRent consumers encounter problems such as malfunctions, they can seek help from Hotai's large number of maintenance centers, which are situated in Toyota service points located throughout Taiwan. Moreover, Taiwan's laws stipulates that each car must purchase relevant insurance. iRent owns Hotai property insurance, so they do not need to cooperate with external insurance companies, and Hotai can plan out the most suitable insurance content for the car rental business to protect consumer rights. These rental cars can also be sold at the second-hand market after a certain number of years. After consumers buy second-hand cars, they will be provided with a series of insurance, maintenance and other items, making the entire automobile industry into a cycle.

### Government policies in Taiwan

Air pollution is one of the serious environmental issues in Taiwan, it is mostly derived from sources of domestic combustion, primarily the burning of fossil fuels. For example, greenhouse gas emissions of transportation sectors accounted for about 12.8% of the total emissions in 2019, and it was the fourth largest sector in terms of emissions. Road Transport

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<sup>9</sup> Anue, 2021/01 <https://news.cnyes.com/news/id/4564008>

<sup>10</sup> CommonWealth Magazine, 2019/05, <https://www.cw.com.tw/article/5095039?template=transformers>

contributed 96.76% of total emissions of transportation sectors, and private vehicles accounted for the highest emissions in the road system.<sup>1112</sup>

Due to this situation, the government implemented "Air Pollution Prevention Plan" in 2017, several specific policies related to electric vehicles were proposed, including public transport buses, to electric by 2030; then banning the sale of new non-electric motorbikes by 2035; and eventually banning sales of new petrol-engine cars by 2040. The government hoped that it would accelerate the development of the electric vehicles industry in Taiwan.

In the Air Pollution Prevention Plan, the Taiwanese government first amended the Air Pollution Control Act to ask people to replace old models in 2018. However, it stirred a strong backlash in society because most people believe that the main source of air pollution is the factories rather than individual drivers. Also, the restrictions are too strict for those over ten years old vehicles. For example, the government wants to set up air quality maintenance areas that prohibit the entry or use of high-polluting vehicles in the future. In other words, this situation forces drivers to spend additional expenses changing or renewing a new scooter or car. Unfortunately, not every family can afford the ever-increasing price of them.

### **The interaction between the government and the vehicle sharing industry**

The world is suffering from global warming now, so some environmental groups are committed to raising awareness of this environmental issue. Owing to this situation, most countries are inspired to launch different policies to reduce total carbon emissions, and this action also accelerated the development of some industries. In Taiwan, the sharing economy is one of the eco-friendly trends that have become popular, and it brings about various companies, such as iRent, to offer related services.

When iRent was operating, the biggest problem was the "parking space"; regulations did not allow private operators to rent fixed parking spaces or on-street parking spaces in public parking lots. However, since 2018, the company has cooperated with local city governments to rent and return on the roadside. This means that cars borrowed in legal parking spaces can be returned to other legal parking spaces in the city. Some local governments also use other methods to support the car sharing industry. Take Taipei city as an example: the city government had built several EV charging points in public parking lots to promote electric car-sharing service and build a friendly environment for electric vehicles.

In recent years, the Taiwanese Ministry of Transportation and Communications has cooperated with shared scooter companies to apply Vehicle-to-everything to campuses; it wants to not only drive the development of the industry but also promote transportation technology to improve traffic safety in campuses. This project analyzes scooter driving

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<sup>11</sup> Environmental Protection Administration Executive Yuan, R.O.C. (Taiwan), 2018/10, [https://ghgrule.epa.gov.tw/action/action\\_doc\\_page/58](https://ghgrule.epa.gov.tw/action/action_doc_page/58)

<sup>12</sup> Transportation Research Special Report, 2020/12  
<https://www.iot.gov.tw/dl-17290-b065feb3d2b84cfa52b9aab19cf969f.html>

behavior and evaluation through the establishment of scooter driving big data, and it has reduced school scooter accidents by more than 30%.<sup>13</sup>

In September 2019, the Taiwanese Executive Yuan stated that it would postpone the goal of banning the sale of new non-electric motorbikes in 2035, and pointed out that in the future, the government will take into account the development of petrol motorbikes and electric motorbikes simultaneously. On the one hand, motorbike manufacturers are encouraged to develop high-quality and low-polluting petrol motorbikes and electric motorbikes. Moreover, the Executive Yuan also provides basic training and financial subsidy for traditional motorbike shops for their technological upgrading and store renewal of electric vehicle repairs.

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<sup>13</sup> Ministry of Transportation and Communications R.O.C, 2020/11, [https://www.motc.gov.tw/ch/home.jsp?aplistdn=ou=data,ou=news,ou=chinese,ou=ap\\_root,o=motc,c=tw&dataserno=202011240004&id=14&imgfolder=img%2Fstandard&mcustomize=news\\_view.jsp&parentpath=0&toolsflag=Y](https://www.motc.gov.tw/ch/home.jsp?aplistdn=ou=data,ou=news,ou=chinese,ou=ap_root,o=motc,c=tw&dataserno=202011240004&id=14&imgfolder=img%2Fstandard&mcustomize=news_view.jsp&parentpath=0&toolsflag=Y)