

## MOBIKE: A SMART BIKE-SHARING SERVICE PLATFORM<sup>1</sup>

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*Guojie Qi, Jiali Chen, and Zhongju (John) Zhang wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.*

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Shared and smart bicycles suddenly swept the streets of China in 2017. Mobike, a bike-sharing start-up from China, quickly became one of China's leading bike-on-demand companies, accounting for half of the market share in China. However, despite the popularity of bike sharing, the business model for it was not yet clear. When asked about the profitability of Mobike during the World Economic Forum in Dalian, China, on June 27, 2017, Mobike's founder, Weiwei Hu, said, "Mobike can be profitable now. We have all the data of every bike and trip. In addition to riding costs and advertising, Mobike has many other ways to make money. At present, we do not want to focus only on profit because we want to be more innovative and creative."<sup>2</sup>

In an attempt to compete for market share, Mobike, and other bike-sharing companies, quickly expanded to many cities in China and released a large number of bikes into the market. By July 2017, the streets of China were flooded with more than 16 million shared bikes from approximately 30 bike-sharing companies. The aggressive expansion plan raised serious challenges, including chaotic bicycle parking, faulty bikes, and even traffic issues in some cities. As a result, local governments pushed back and considered legislation to regulate bike-sharing services. In August 2017, seven cities (Shanghai, Hangzhou, Guangzhou, Shenzhen, Fuzhou, Zhengzhou, and Nanjing) announced a city "ordinance," limiting additional new sharing bikes in these cities (see Exhibit 1).<sup>3</sup>

China's bike-sharing industry had seen some consolidations. On October 24, 2017, Youon acquired Hellobike. By November 25, 2017, many other bike-sharing companies (including Bluegogo) in China had gone bankrupt. None of the bike-sharing companies had acknowledged having made a profit. With this backdrop to the bike-sharing industry, Hu had little time to start thinking about when and how to make profit.

### WHAT IS MOBIKE?

The idea of Mobike originated from traditional bike rental services. After an unpleasant personal experience renting a bicycle in Hangzhou, China, Hu founded Mobike in 2015 with an aim to simplify the cycling experience. Her vision was to create a platform by leveraging mobile networks and smart technologies so that anyone could easily and conveniently request, ride, and return a bicycle any time and anywhere in the world.

To realize Hu's vision, Mobike developed a new and smart bicycle with an embedded Global Positioning System (GPS) chip. Through a simple mobile application (app), users were able to search for available bicycles nearby, unlock a bicycle by scanning a Quick Response (QR) code, ride it, and return it to any public bicycle parking location. Manually locking the bike ended the trip, and ride costs were automatically paid through an integrated payment system.

Mobike was the world's first cashless, station-free, and online-to-offline (O2O) bike-sharing platform. It effectively solved the "last mile" connectivity problem in cities. Its mission was to enhance the efficiency of short-distance urban transportation and promote a green and environment-friendly travel solution to urban traffic.<sup>4</sup> Hu firmly believed that bike sharing was the best alternative solution for short-distance travel and public transportation transfers in cities because it would help to alleviate traffic congestion, reduce pollution, and create a more sustainable environment in a populated city.

## **THE HISTORY OF MOBIKE**

### **Start-up (January 2015–April 2016)**

At the end of 2014, Hu began to develop a new model of a bike-sharing service. After extensive research of traditional public bike programs, Hu believed that a new kind of smart bike was needed that was durable and adaptable to outdoor activities. In January 2015, Hu invited Yiping Xia, an expert in the field of intelligent car and vehicle networks, to join her entrepreneurial team; together they founded Mobike. After nearly a year's hard work, Hu and Xia designed the first mobile bicycle with solid tires (instead of traditional inflatable tires); axis rotation (instead of chain rotation); a high-strength, rust-free aluminium body; a GPS-enabled smart wheel lock; and a fashionable orange-and-silver innovative design. In the meantime, Xiaofeng (Davis) Wang, the former general manager of Uber Shanghai, joined Mobike as co-founder and chief executive officer (CEO).

By the end of 2015, Mobike had built its own plants to manufacture the custom-designed bicycles. The superior-quality requirements and customized hardware led to a high cost for the first batch of Mobike bicycles. In the next few months, Mobike began trial operations of bike sharing in the market. The price of using a Mobike bicycle was set at ¥1<sup>5</sup> per half an hour.

### **Expanding Bike-Sharing Services to More Cities (April 2016–December 2016)**

On April 22, 2016, International Earth Day, Mobike announced its official operation in the first city—Shanghai. At that time, Mobike was China's first non-government, urban bike-sharing program. On September 1, 2016, Mobike entered its second city—Beijing. In the next two months, Mobike subsequently entered Guangzhou and Shenzhen. According to the users' riding experience, Mobike bicycles were heavy and laborious to ride. In October 2016, Mobike launched a new bike model—Mobike Lite. With the exception of its solid tires and smart wheel lock, Mobike Lite adopted more standard bike modules, which made it lighter and more comfortable to ride. Additionally, Mobike Lite cost less, which helped Mobike to attract more market share with limited resources. The price for using Mobike Lite was ¥0.5 per half an hour.

### **Rapid Expansion (January 2017–October 2017)**

On January 23, 2017, Mobike announced that it had reached a strategic partnership with Foxconn Technology Group (Foxconn), the world's largest contract electronics manufacturing company. Foxconn

opened a special production line for Mobike, with an expected annual capacity of 5.6 million bikes. Crucial for Mobike's rapid expansion, the alliance with Foxconn greatly increased Mobike's productivity and reduced its production cost.

Mobike adopted a marketing strategy of initially expanding to Tier 1 cities (such as Beijing, Shanghai, Guangzhou, and Shenzhen) followed by Tier 2 and Tier 3 cities. At the same time, Mobike attempted to attract more users and increase customer loyalty by using social media marketing, its alliance with WeChat Software (WeChat), promotions (free riding, riding coupons), and cross-border marketing. By March 22, 2017, Mobike operated more than 1 million bikes in more than 30 cities in China. Mobike then gradually expanded to the international market. On March 21, 2017, Mobike landed in Singapore, its first overseas city. By September 1, 2017, Mobike was operating in more than 170 cities across five countries, with more than 7 million shared bikes. It had raised more than US\$1 billion in funding (see Exhibit 2). The number of registered users was over 100 million. It handled over 25 million trips per day on its service.<sup>6</sup> Mobike's goal was to expand its bike-sharing services to 200 cities by the end of 2017.

## **BIKE MANAGEMENT AND CONTROL SYSTEM**

A bike management and control system was the key to Mobike's bike-sharing service. The system was patented in China<sup>7</sup> and in consideration for an international patent.<sup>8</sup> The system allowed users to communicate with bikes through their smart phones, making the ride easy and convenient.

### **System Structure**

The bike management and control system comprised four interconnected components: (1) the mobile device (e.g., a smart phone); (2) the cloud server; (3) the operation centre; and (4) the bike (see Exhibit 3). The operation centre managed all bikes via the cloud server. The mobile device and the bike were connected with the cloud server in both directions via mobile communication networks (e.g., General Packet Radio Services, third and fourth generations of wireless mobile telecommunications technology, and Wireless Local Area Networks). The smart wheel lock was the key for supporting the network communication and the bike's intelligence. It included a communication interface, a control module, a GPS positioning module, a sensor device, an anti-theft device (i.e., a switch lock module), and a power device. A user could operate (e.g., search, reserve, unlock, and return) a bike using an app on the smart phone. At the same time, each bike automatically sent its state to the cloud server, including its unlock/lock state, location, power, user riding time, distance, and speed.

### **Process Map of Bike-Sharing Service**

A user needed to download the free Mobike app, register, and pay a deposit of ¥299 before using the service. The complete process of Mobike's bike-sharing service included login, reservation of a bike, navigation to locate a bike, picking up a bike, use of a bike, bike return, and payment (see Exhibit 4). Bike reservation was not required but helped to prevent multiple users from locating and using the same bike.

### **MAJOR RIVAL—OFO**

Ofo Company (ofo) was another bicycle-sharing company in China, and a major competitor of Mobike. Together Mobike and ofo accounted for more than 85 per cent of the total market share of bike-sharing

services in China (see Exhibit 5). By September 2017, ofo had raised more than US\$1 billion in funding and had expanded to more than 150 cities with more than 100 million registered users.

Ofo was founded in 2015 by several students from Peking University. Its investors included Alibaba Group Holding Limited, Ant Financial Services Group, Didi Dache (Didi), Jinshajiang Venture Capital Co. Ltd., Matrix Partners China, and the U.S. hedge fund Coatue Management.<sup>9</sup> Ofo partnered with traditional bicycle manufacturers, including Flying Pigeon, Tianjin Fujitec Bicycle Co., Ltd., and Phoenix Bicycle for the research, development, and production of ofo bikes. These strategic partnerships helped to transform the traditional bicycle manufacturing industry in China.

Ofo went through two phases of rapid growth: operations on university campuses and expansion to cities. In September 2015, ofo placed its first 2,000 dock-free bikes at Peking University. The bikes were usable only on campus, and the concept of shared bicycles was welcomed by university professors and students. Similar to Mobike, ofo users also needed to download a mobile app (or follow ofo's official WeChat account). But the process of riding an ofo bike (see Exhibit 6) was different from that of Mobike. The user needed to enter the bicycle number into the app to retrieve a password, and then manually unlock the bike using the password. At the end of the trip, the user needed to manually lock the bike and press the "end trip" button in the ofo app. Finally, payment for the trip was settled online.

One of ofo's primary investors, Didi, believed ofo's bike sharing was complementary to its car-sharing services. Didi strongly supported ofo's development and appointed Yanqi Zhang (the former general manager of Uber China in the northwest region) as ofo's chief operating officer in November 2016. On November 18, 2016 (i.e., approximately half a year after Mobike's city operations), ofo announced its expansion to Beijing, Shanghai, Guangzhou, and Shenzhen. To cope with city operations, ofo upgraded the bicycle hardware, improved safety and durability, and reduced maintenance costs. Furthermore, ofo increased the research and development of its smart lock and bike service system, and gradually launched new ofo bikes with smart locks and a satellite positioning function.<sup>10</sup> Because of its success in more than 200 Chinese universities with over 3 million users, ofo became Mobike's major rival.

From the beginning, ofo and Mobike fought over the market share of bike sharing in Chinese cities. Ofo bikes cost less and were lighter and easier to ride, which helped ofo to quickly seize market share. However, ofo bikes had many operational issues due to inferior technology, which significantly increased ofo's operating costs. In 2017, to attract customers, ofo adopted a similar marketing strategy as Mobike, including social media marketing, integration with Didi's app, promotions (e.g., free riding, discounts), and customized bikes (e.g., the yellow mini ofo bikes). At the same time, ofo gradually expanded its service to international markets, including Singapore, Silicon Valley, and London. Its goal was to operate in 200 cities by the end of 2017. Ofo's founder Wei Dai predicted that ofo would break even in 2017 and would make a profit in 2018.<sup>11</sup>

## MOBIKE'S STRATEGIC CHOICE

### Leading in Bicycle Hardware and Smart Technology

Mobike had always been serious about the quality and the intelligence capabilities of its bikes. It considered a long lifespan and low maintenance costs as the important objectives of bicycle design. Two versions of bicycles were developed: Mobike and Mobike Lite. Both bikes had significantly higher-quality hardware than traditional bicycles. Mobike Lite was closer to traditional bicycles (e.g., in terms of its frame, chain rotation, and basket) and was more comfortable to ride (see Exhibit 7).

Mobike adopted a solid, puncture-proof, low-maintenance foam tire that did not need to be inflated. The foam tires were directly mounted onto a magnesium alloy wheel rim, which was lighter yet provided great strength. The number of bike spokes was reduced from 32 to five, and these were securely fastened to the alloy rim. To match well with the wheel, Mobike adopted a single-arm frame. Tire changing was easy and took only 20–30 seconds. Another major innovation was that Mobike completely bid farewell to the traditional chain rotation. Instead, it used shaft rotation and numerous gears to move the bicycle forward. Finally, Mobike designed a power mechanism that took advantage of bike riding to self-charge its smart lock.<sup>12</sup> This design drastically reduced the occurrence of faulty bikes because of the smart lock running out of power.

Mobike was also a leader in information technology and bike intelligence. It was the first company to develop a smart lock that automatically unlocked itself with a scan of a QR code. The payment was automatically settled once the bicycle was locked. Since every bicycle was fitted with a GPS tracker, Mobike became the world's first bike-sharing network on a big data platform. Mobike constantly optimized the application of Internet of Things technology to improve its competitive advantage. It supported three satellite-positioning technologies (i.e., Beidou Navigation Satellite System, GPS, and Global Navigation Satellite System) with sub-metre bike location accuracy.<sup>13</sup> At the same time, Mobike partnered with China Mobile, Vodafone Group plc (Vodafone), Qualcomm, Ericsson, and Huawei Technologies Co. Ltd. to develop a seamless global bike-sharing mobile network. Its goal was to connect all smart locks to this global network and lay the foundation for Mobike's international expansion.<sup>14</sup>

### **Seeking Government Recognition and Co-operation**

Mobike had a strong interest in public transportation service. Its CEO, Wang, believed that "bike sharing was first a social issue. Its commercial value came second. Only after the social issue was resolved, could Mobike's business value be fully realized."<sup>15</sup> Therefore, Mobike worked closely with municipal governments to develop a smart bike-sharing operation model and management standard.

The government-enterprise co-operation model between Mobike and city governments (Guangzhou, Shenzhen, Chengdu, Beijing, Shanghai, and Jinan) was highly appreciated by local regulatory authorities. For example, the city government of Jinan welcomed the bike-sharing service, but also wanted proper supervision of its operations. Before Mobike started the service in Jinan, it communicated directly with the city government to understand the city's needs and offer customized services, including the use of GPS trackers, deposit management, a credit-scoring system, and an exit mechanism. In addition, Mobike collaborated with Jinan's Traffic Management Office to decide on the parking areas, the number of bikes, and details about bike operation management. The city government designated special areas for shared bicycle parking. Mobike, on the other hand, was responsible for bicycles and subsequent maintenance. The first phase included 11,000 bicycles at 605 parking areas, primarily in the vicinity of public transportation hubs, large commercial complexes, heavy traffic roads, and 50 roads that were not for motor vehicle parking. Based on the operational outcomes, the city and Mobike would determine an additional 4,000 parking areas and release additional 40,000 bicycles to the market.

### **"Mobike +" Alliances**

In January 2017, Mobike developed a "mini bike-sharing app" on the WeChat platform, where WeChat users could easily search the mini app and request bike-sharing services without downloading the Mobike app. The mini app was further integrated with the WeChat Wallet in March 2017, making it more convenient for WeChat users to request Mobike service. The alliance with WeChat allowed Mobike to grow its user base in a short period of time, and more than 50 per cent of its new daily users came from

the mini app on WeChat. The new registered users of Mobike's mini app more than doubled each week. In April 2017 alone, Mobike added 24 million new users, more than twice the total number of active users in the previous month.<sup>16</sup>

On May 19, 2017, Mobike opened its platform to the public. Through open technology, open service, and open interface, Mobike was committed to building a "Mobike+" ecosystem that was seamlessly integrated with people's daily life. Mobike reached agreements with numerous brands to achieve a win-win situation, allowing its service be added to other mobile apps. Mobike CEO Wang indicated that the "Mobike+" ecosystem marks a new chapter. Mobike was not just a new way of travel. It represented a new lifestyle."

The open innovation and alliance strategy attracted many leading brands from various industries, including travel, sports fitness, finance, telecommunications, and hotels. For example, both Baidu Maps and Gaode Maps, two major mapping service providers in China, added the Mobike option in their "walk" and "bicycle" modules. In sports and fitness, Mobike partnered with two major fitness social platforms in China, Codoon Inc. and 51Yund, which added Mobike's interface to their apps and could record the Mobike riding data of a user's friends for cycling competitions and other meaningful activities. Additionally, the feature of scanning a QR code to unlock Mobike bicycles was included in the apps of many businesses, including China Unicom Network Communications Group Co., Ltd.; UnionPay Wallet; China Merchants Bank; Huazhu Hotel Group Ltd.; Shenzhou Zhanche; and R&F Properties. These partnerships represented tremendous business opportunities for Mobike.

Beginning in June 2017, Mobike launched "Treasure Bike," joining hands with major e-commerce retailers to promote cross-selling. For example, it partnered with JD.com Inc. (JD) (a popular business-to-consumer e-commerce platform in China) and ran a marketing campaign to "ride Mobike bicycle, get JD surprises." During the campaign period, Mobike users could select any "Treasure Bike" that had the JD logo and win JD surprises by riding the bicycle for more than 10 minutes. At the end of the campaign, JD offered ¥2 billion in JD coupons and ¥200 million in Lucky Red Envelope cash prizes to Mobike riders. Mobike held similar marketing campaigns with VIP.com, Pizza Hut, and Nike, Inc.

### **Big Data Analytics and Application**

Mobike generated about 20 terabytes of data every day.<sup>17</sup> From its very beginning, Mobike had believed in the "data + product" strategy and hoped to take advantage of its data set to develop better products. In collaboration with some world-renowned technology companies (e.g., Qualcomm; Vodafone; AT&T Inc.; Cisco Systems, Inc; and Ericsson), Mobike built an Internet of Things big data platform named "Magic Cube." The data platform played an important role for Mobike in developing analytical models on bicycle demand and supply forecasting, ride simulations, parking area predictions, and geographical fencing.

In March 2017, Mobike applied big data and artificial intelligence techniques to motivate users to participate in its operations. This approach could provide a potential solution to the so-called "tidal effect," whereby a large number of shared bicycles amassed around subway stations in the morning, but ended up in residential areas during evening rush hours. Mobike also proposed a "Red Envelope Bicycle" strategy to improve a bicycle's utilization rate. If a bicycle was idle for more than 48 hours, Mobike would automatically attach to that bicycle a "red envelope" (with a cash prize). Anyone who chose to ride the "red envelope" bicycle for more than 10 minutes would receive the cash prize. Mobike claimed that this strategy improved the bike operating efficiency by 1.6 times.

On April 12, 2017, Mobike collaborated with 11 research institutes and universities in China<sup>18</sup> to establish a City Transportation Research Institute, aiming to apply big data analytics to city planning, management, and operations. Mobike had worked with city governments on several projects based on its magic cube data platform. For example, in Beijing, Mobike data was used to help city planners make decisions on the planning of lanes for pedestrians and cyclists, assisted parking lanes, and parking locations. These decision choices were critical in Beijing's construction of a 3,200-kilometre cycling route during its 13th five-year plan and helped the government to develop public policies to make everyone's travel greener.<sup>19</sup> Additionally, Mobike shared its riders' credit records with Shanghai Putuo District credit collection system, which helped the government to expand information collection efforts and improve the credit rating system.<sup>20</sup>

### Funding and Profitability

As a start-up, Mobike had raised more than US\$1 billion in venture capital from Tencent Holdings Limited; Sequoia Capital; Temasek Holdings Private Limited, in Singapore; and Warburg Pincus, LLC.<sup>21</sup> Some of the funds were used to manufacture new bicycles and expand its market. Others were used for technology innovation and the development of Mobike's big data platform. Currently, Mobike had not made a profit. Mobike's major source of income was its bike rental revenue. It charged a rider based on the amount of time the bike was used (¥1 per half hour for Mobike and ¥0.5 per half hour for Mobike Lite). In addition, a user needed to pay a deposit of ¥299 before using the Mobike service. It was estimated that Mobike's pool of deposit money totalled ¥10 billion.

In July 2017, Mobike launched "Mobike lifestyle" derivative products, including "Mobiker" T-shirts and raincoats. However, the raincoat was expensive, and consumers were daunted by its high price (¥268). Xia, one of Mobike's co-founders, said that in the future, Mobike would develop new businesses and expand to areas such as courier services, e-commerce, and providing data solutions for enterprises.<sup>22</sup>

### CHALLENGES

Bike sharing had been one of the hottest trends in China over the past year, but it had also faced many challenges, including vandalism to the bicycles (e.g., destroyed QR codes, illegal ads attached to the bike bodies, stolen cushions, damaged tires, and pried bike locks) and improper and chaotic parking (e.g., in office buildings in the city centre, by the entrances and exits of subway stations, and on the sidewalks and at pedestrian crosswalks). Some users also took the shared bicycle as their "own" (e.g., locking it with a private lock, and parking it outside—or even inside—a private home). Additionally, bike-sharing companies lacked a standard of operations (e.g., for the management of the user's deposit, and security of data and information), and many bicycles were poorly maintained (e.g., dirty bikes and faulty or damaged bikes that were left on the streets).

In response to those challenges, the Chinese governments had introduced policies and regulations aiming to strengthen the management of bike-sharing services. The Chinese Ministry of Transportation and the Ministry of Communication jointly issued a "Guidance on Regulating the Development of Bike-Sharing Companies," emphasizing that the city government was the governing body of bike-sharing services. Bike-sharing companies needed to refine their business operations and behaviours, and develop a unified standard of services in China.<sup>23</sup> On July 6, 2017, the Bike Industry Association of China released its first standard of "Bike-Sharing Services Specification," which were implemented on October 1, 2017.<sup>24</sup> The "Bike-Sharing Services Specification" provided product quality and safety guidelines, and clearly specified that shared bicycles must be equipped with GPS-enabled smart locks. In addition, the

specifications included stipulations on bike maintenance requirements, deposit management, complaint handling, and injury compensation. Furthermore, bike-sharing companies needed to hire a team of maintenance and scheduling personnel, equivalent to at least 0.5 per cent of the total number of shared bicycles. Mobike, ofo, and many other bike-sharing companies had signed agreements, committing to abide by these standards.

With the increasingly strict government regulations, the industry of bike sharing entered into a shuffling period. From June 2017 to August 2017, three bike-sharing companies had closed. According to Beijing News, bike-sharing companies could not rely just on releasing a large number of bicycles to seize market share. Instead, the success of bike-sharing services would depend on the capabilities of fine operations and diversified services.<sup>25</sup>

## FUTURE

On July 29, 2017, Germany's *Economic Weekly* published a commentary about the rise of bike-sharing services in China, noting that the business model of bike sharing was an "idiot economy" and its prospects, worrying.<sup>26</sup> The *Economic Weekly* quoted experts as saying that the shared prosperity of bike sharing could eventually burst, despite its rapid development in China and plans to enter the European market.<sup>27</sup> Tim Culpan, a Bloomberg columnist, was also pessimistic about the future of bike sharing, writing, "Bike startups hadn't yet found a new future. Some of them were tapping into advertising, which was more a short-term survival tactic to leverage the inventory they owned than a long-term plan."<sup>28</sup> On the contrary, Britain-based *The Guardian* spoke highly of Mobike, calling it even better than London's "Boris bike."<sup>29</sup> *The Financial Times* reported that Mobike and ofo could follow the strategy of Didi and Uber China by merging to enjoy an undisputed pricing power to achieve profitability.<sup>30</sup> Rodolf Kyle, an economist at Germany's University of Cologne, argued that even though Mobike was still losing money, the consumer data it collected was priceless.<sup>31</sup> For Mobike, the important question was still when and how to make profit.

**EXHIBIT 1: POPULATION AND NUMBER OF SHARING BIKES IN MAJOR CHINESE CITIES**

City	Population in 2016 (in thousands)	Number of Sharing Bikes in August 2017 (in thousands)	Number of Sharing Bike Users (in thousands)
Beijing	24,197.0	2,350.0	11,000.0
Shanghai	21,729.0	1,500.0	7,872.1
Guangzhou	14,043.5	800.0	5,964.5
Shenzhen	11,908.4	890.0	4,936.8
Zhengzhou	9,724.0	390.0	1,137.2
Wuhan	9,188.0	700.0	4,852.1
Hangzhou	9,188.0	418.0	2,084.6
Nanjing	8,270.0	450.0	2,192.5
Fuzhou	7,570.0	200.0	2,059.1

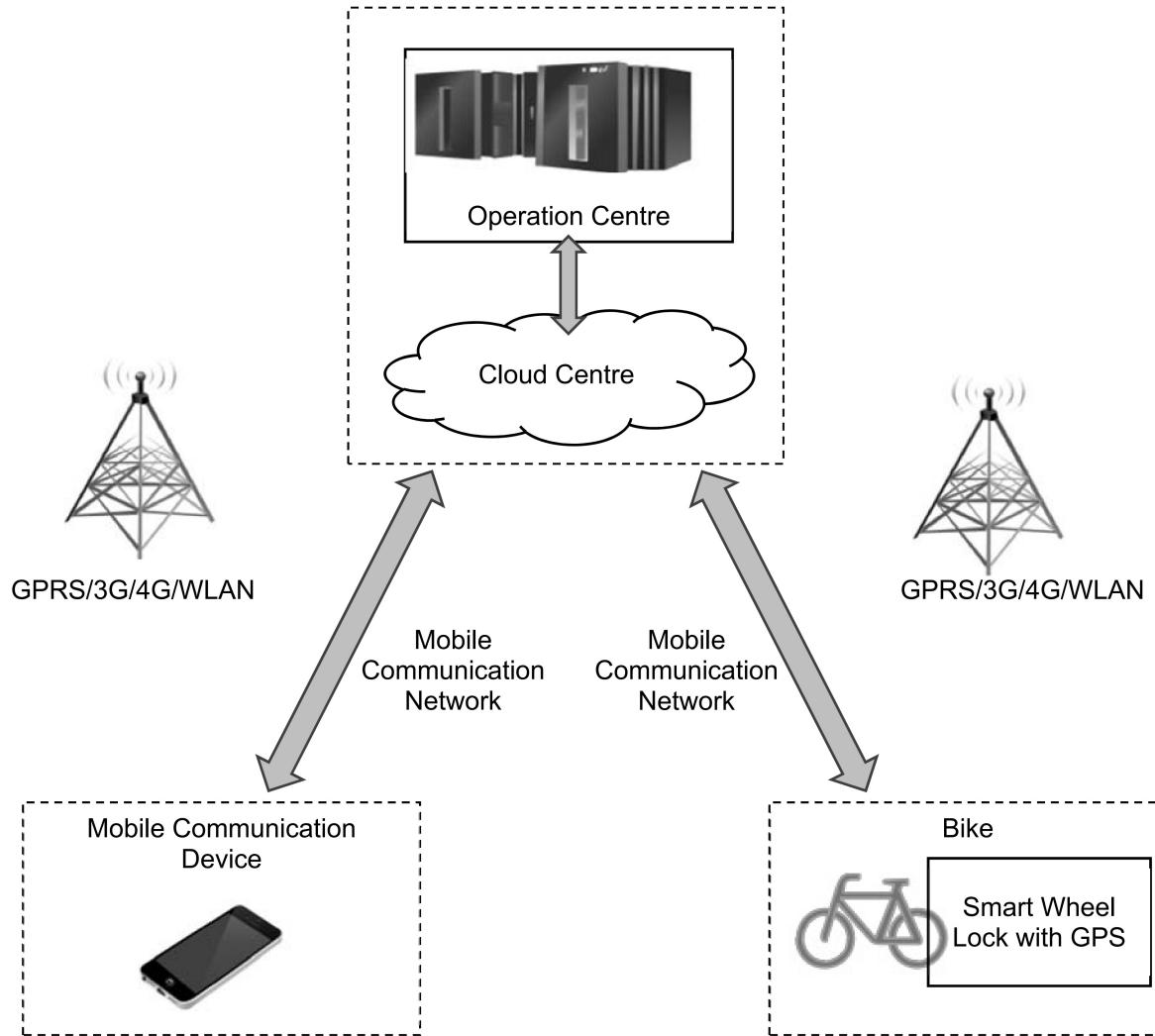
Note: The population data were collected from "2016 City Statistical Communique on National Economic and Social Development" announced publicly on the government websites of Beijing, Shanghai, Guangzhou, Shenzhen, Zhengzhou, Wuhan, Hangzhou, Nanjing, and Fuzhou.

Source: Wang Feng, "'Ordinance' from Eight Cities Identified the Initial Sharing Bikes Market Pattern, and Zhengzhou, Nanjing, Shenzhen Were the Most Saturated Cities, [in Chinese]" 21 Century Economic Research, September 7, 2017, accessed November 28, 2017, <http://m.21jingji.com/article/20170907/d93468b4f434d5fc642d6ac704275aaf.html>.

### EXHIBIT 2: MOBIKE'S FUNDING AND INVESTORS

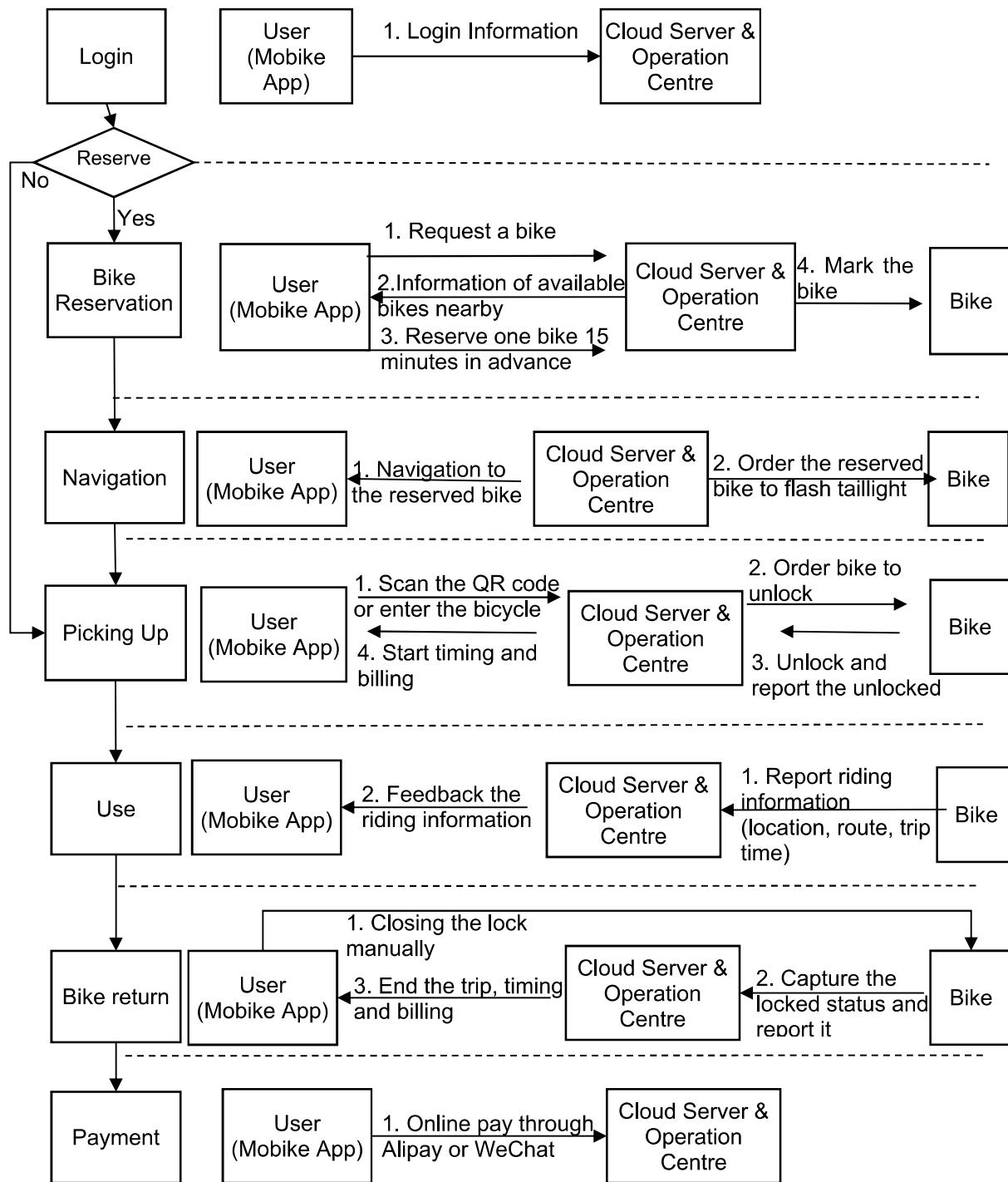
Funding Round	Announced Date	Money Raised (in US\$)	Investors
Series A Round	Oct. 30, 2015	3,000,000	Joy Capital
Series B Round	Aug. 19, 2016	10,000,000	Panda Capital (lead investor), Joy Capital, Sinovation Ventures
Series B+ Round	Aug. 30, 2016	not disclosed	Vertex Ventures (lead investor), Sinovation Ventures
Series C Round	Sep. 30, 2016	100,000,000	Hillhouse Capital Group, Warburg Pincus (lead investors), Tencent Holdings, Sinovation Ventures, Sequoia Capital, Qiming Venture, Bertelsmann Asia Investments, Joy Capital, Panda Capital
Series D Round	Jan. 4, 2017	215,000,000	Tencent Holdings (lead investor), Warburg Pincus, Tencent Holdings, Sinovation Ventures, Sequoia Capital, Qiming Venture, MSA, Hillhouse Capital Group
Strategy Funding	Jan. 23, 2017	not disclosed	Foxconn Technology Group
Series D+ Round	Feb. 20, 2017	not disclosed	Temasek Holdings (lead investor), Hillhouse Capital Group
Series E Round	Jun. 15, 2017	600,000,000	Tencent Holdings (lead investor), TPG, Sinovation Ventures, Sequoia Capital, ICBC International, Hillhouse Capital Group, Farallon Capital Management, BOCOM International

Source: Mobike, "Funding and Investors [in Chinese]," Mobike website, accessed November 28, 2017, <https://mobike.com/cn/investors/>; Mobike, "Funding and Investors," Crunchbase, accessed November 28, 2017, <https://www.crunchbase.com/organization/mobike>.

**EXHIBIT 3: BIKE MANAGEMENT AND CONTROL SYSTEM OF MOBIKE**


Note: GPRS = General Packet Radio Service; 3G = third generation of wireless mobile telecommunications technology; 4G = fourth generation of wireless mobile telecommunications technology; WLAN = wireless local area network; GPS = Global Positioning System

Source: Created by the case authors, adopted from Beijing Mobike Technology Inc., "Bike Management System and Control Apparatus Therefor," Patent number: 2015204013161, China Patent Database, accessed September 1, 2017. <http://www.pss-system.gov.cn>

**EXHIBIT 4: MOBIKE'S BIKE-SHARING SERVICE PROCESS**


Note: QR = quick response

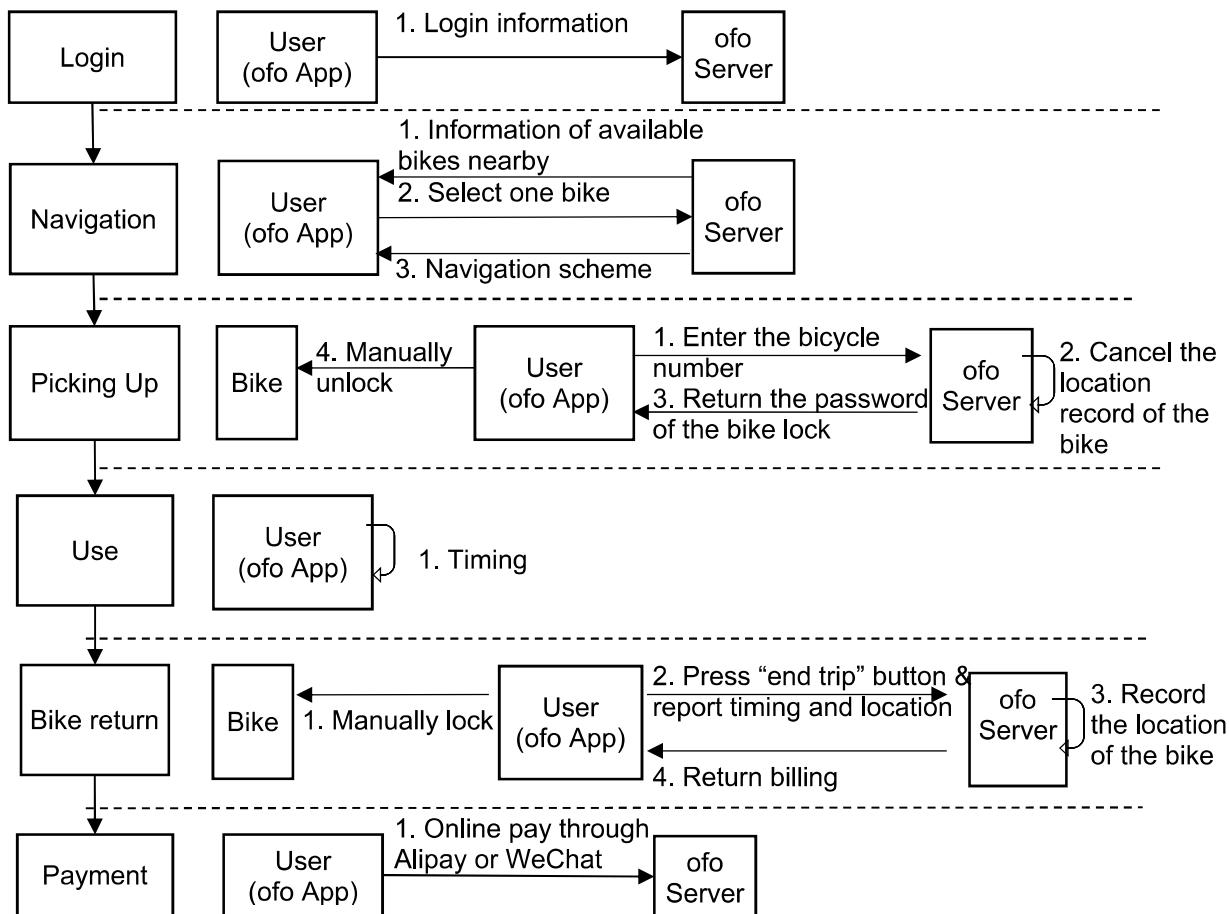
Source: Created by case writer, adapted from the Mobike app.

### EXHIBIT 5: MARKET SHARE OF BIKE-SHARING SERVICES IN CHINA

Major Bike-Sharing Companies in China	Market Share (%)
Mobike	56.56
ofo	29.77
Hellobike	8.66
Bluegogo	2.71
Coolqi	1.35
Unibike	0.95

Note: Market share was calculated by the numbers of daily rides, orders, users, bikes, and by market geographic scale.  
Source: Sootoo Institute, "The First Quarter of 2017 Research Report of China Bike-Sharing Service Market [in Chinese]," April 27, 2017, accessed September 1, 2017, [www.sootoo.com/content/670814.shtml](http://www.sootoo.com/content/670814.shtml).

### EXHIBIT 6: OFO'S BIKE-SHARING SERVICE PROCESS



Source: Created by case writer, adapted from the ofo app.

**EXHIBIT 7: COMPARISON OF SPECIFICS OF BICYCLES FROM MOBIKE AND OFO**

	<b>Mobike</b>	<b>Mobike Lite</b>	<b>ofo Bike (campus operation phase)</b>	<b>ofo Bike (city operation phase)</b>
<b>Launching Time</b>	December 2015	October 2016	September 2015	November 2016
<b>Manufacturing Cost</b>	High	Medium	Low	Medium
<b>Firmness</b>	High	Medium	Low	Medium
<b>Deposit</b>	¥299	¥299	¥99	*¥99 or ¥199
<b>Riding Price</b>	¥1/half hour	¥0.5/half hour	¥0.01/minute or ¥0.04/kg (charge up to ¥2)	¥1/ hour
<b>Driving</b>	Shaft driving	Chain driving	Chain driving	Chain driving
<b>Tire</b>	Solid puncture-proof tire (hollow)	Solid puncture-proof tire (hollow)	Inflatable tire	Solid puncture-proof tire or inflatable tire
<b>Rim and Spoke</b>	Magnesium alloy wheel instead of ordinary rime and spoke	Strong rime and spoke	Ordinary rime and spoke	Strong rime and spoke
<b>Charging Mechanism</b>	Human riding	Solar power	None	None
<b>Frame</b>	Self-designed one side arm	Ordinary frame	Ordinary frame	Ordinary frame
<b>Weight</b>	Around 22 kg	Around 15 kg	Same with ordinary bike	Around 16 kg
<b>Wheel Lock</b>	GPS smart lock	GPS smart lock	Mechanical lock	**Mechanical lock or smart lock

Note: \* ¥99, before June 20, 2017; ¥199, after June 20, 2017; \*\* Mechanical lock, before January 16, 2017; Smart lock, after January 16, 2017; ¥ = CHY = Chinese Yuan; ¥1 = US\$0.15 on March 30, 2017; GPS = Global Positioning System; kg = kilogram

Source: iResearch, "2017 China Bike-sharing Service Research Report [in Chinese]," March 22, 2017, accessed September 1, 2017, [www.iresearch.com.cn/report/2961.html](http://www.iresearch.com.cn/report/2961.html).

## ENDNOTES

- <sup>1</sup> This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this case are not necessarily those of Mobike or any of its employees.
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- <sup>5</sup> ¥ = CHY = Chinese yuan; all currency amounts are in ¥ unless otherwise specified; ¥1 = US\$0.15 on March 30, 2017.
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- <sup>12</sup> Mobike Lite used a solar panel at the bottom of the bike basket to charge its smart lock.
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