

Sharing and Swapping: Cycling through the late 2010s.

The case of Mobike in Shanghai and Swapfiets in the Netherlands.



Name: Martine Liefers

Student number: s1171739

Email: m.w.liefers@umail.leidenuniv.nl

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Thesis Supervisor: Prof. dr. S.R. Landsberger

Email: s.r.landsberger@hum.leidenuniv.nl

Preface & Acknowledgements

Cycling as a means of transport has long been a personal interest. During my bachelor Chinastudies at Leiden University, I therefore wrote my thesis about cycling in Taiwan and China. Even though bike-sharing systems already existed at the time of writing (2015), there were no particular indicators predicting a sudden revival of bicycles in Taiwanese and/or on Chinese city streets and only a small section in my BA thesis was dedicated to bike-sharing. Just one year later, bicycles suddenly reappeared in public spaces in Chinese cities on a massive scale, but now in the form of shared-bikes. The developments that have taken place in this industry since 2016 called for a continuation of my study on bicycles in China.

This master thesis is written as part of the master program Asian Studies at Leiden University. Writing this thesis was a long and complicated journey with many stops before arriving at its final station. Although this thesis is my very own product, I could never have arrived at the final destination without the people around me that have helped me plan my route and have pointed me in the right direction. I would like express my sincere thanks to: my thesis supervisor Dr. prof. Landsberger, for the pleasant and funny brainstorm sessions and allowing me the freedom of travelling my own journey. Daan Loeff and Rick Schaap, for critically reading and commenting on my writings, helping me structure my thoughts and putting things in perspective. Kiki Wang, Sijing Liu and Ruoyu Liao for helping me with Chinese translations. Derk Jan Lievers, for accompanying me during the fieldwork. Xu Daoxing of the Shanghai Bicycle Industry Association, for taking the time to answer my questions. Last but not least, Swapfiets for their time and willingness to cooperate. And of course, all those whom I cannot mention here but have helped me in any other way.

Martine Lievers, January 2019

Abstract/summary

In early 2016, two different companies, Mobike in Shanghai and Swapfiets in the Netherlands introduced a new type of bike-sharing service that quickly gained popularity. In just two to three years, distinctive and easily recognizable bicycles earned their place on many city streets in China and the Netherlands. Even though these two companies introduced services that were in essence nothing new, they both managed to tweak two different concepts in a way that resulted in staggering adoption rates. No academic studies on Swapfiets have been published. Furthermore, the developments of shared-bicycle systems in China are taking place at such a rapid pace that academic studies written in the last few years and even months quickly become outdated. This study aims to address this lack of literature on Swapfiets and offers more up to date evaluation of the developments on the Chinese bike-sharing market. This study also provides insights in recent developments in the bike-sharing industry and the status quo of bike-sharing in Shanghai as of late 2018. By comparing the development of these two services this study explores the question how their development, sudden growth and popularity can be explained and evaluates to what extent Shanghai could be a viable market for Swapfiets. This is important because bike-sharing is widely promoted as a way of making personal transport more sustainable.

Keywords: Mobike, Swapfiets, China, the Netherlands, Shanghai, bike-sharing, subscription.

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1. Introduction

In 2015, the Chinese government launched Internet Plus; a strategy developed to boost the Chinese economy by integrating mobile internet services, cloud computing and the Internet of Things (IoT) with traditional industries in order to restructure the economy, improve the life of citizens and the way the Chinese state governs society.¹ The Internet of Things refers to the network of devices, vehicles and everyday items that contain electronics and software that allow these things to connect, interact and exchange data.² Becoming a more sustainable eco-city is one of main goals for the upcoming years for many Chinese cities. For example, Shanghai aims to build “a comprehensive transportation system that is safe, convenient, green, efficient and economic.”³ The latest form of bike-sharing is a good example of a service that is equipped with IoT technology and is aimed at improving people’s lives and making cities more sustainable, which perfectly fits in China’s Internet Plus plan.

In early 2016, Mobike introduced a new type of bike-sharing service to the Shanghai city streets. Mobikes are all equipped with GPS and connectivity devices. By using an app, users can locate any available Mobike in the area and ride it to their destination. Mobikes may be parked and locked wherever the user pleases – provided that no parking laws are violated – making its use much more convenient than the previous generations of shared-bicycles that required the user to return the bike to a designated docking station.⁴ This new way of bike-sharing was a major breakthrough in personal transportation and China witnessed an explosive growth in bike-sharing since its introduction in 2016.⁵ As of November 2018, Mobike is available in over 200 cities and in 19 countries.⁶

Around the time that Mobike introduced its service in Shanghai, an interesting development took place in the Netherlands. A new service called Swapfiets was launched and it quickly gained popularity across the Netherlands.⁷ Like the bike-sharing programs in Shanghai, the brightly colored and easily recognizable ‘Swapfietsen’ were popping up on Dutch streets like mushrooms. The Swapfiets (‘fiets’ is the Dutch word for bicycle) can best be described as a ‘subscription’ for bicycles.⁸ For a monthly fee, customers or ‘Swapfietsers’ receive a bicycle and Swapfiets will ensure it always works.⁹ Like Mobike, Swapfiets experienced rapid growth and now operates in 34 cities across four countries.¹⁰

Despite its popularity and massive growth, recent developments in the bike-sharing industry in China have raised concerns as well.¹¹ Controversies include aspects such as management, the implementation processes, sustainability and maintenance.¹² This paper studies the

¹ Wang, Zhu ; Chen, Chao ; Guo, Bin ; Yu, Zhiwen ; Zhou, Xingshe (2016) “Internet Plus in China.” *IT Professional*, Vol.18(3), p.5

² Xia, Feng ; Yang, Laurence T. ; Wang, Lizhe ; Vinel, Alexey (2012) “Internet of Things.” *International Journal of Communication Systems*, Vol.25(9), pp.1101-1102

³ Shanghai Municipality, “Shanghai Masterplan 2017-2015; Striving for the Excellent Global City.” 上海市城市总体规划; 迈向卓越的全球城市。 Report presented by the Shanghai Urban Planning and Land Resource Administration Bureau. *Shanghai.gov*, January 2018. www.shanghai.gov.cn/newshanghai/xgkfj/2035004.pdf

⁴ Mobike.com, *About* <https://mobike.com/cn/about/>

⁵ Ibold, Sebastian; Nedopil, Christoph “The Evolution of Free-Floating Bike-Sharing in China.” *SustainableTransport.org*, 3 August 2018. <http://www.sustainabletransport.org/archives/6278>

⁶ Mobike.com, *Cities* <https://mobike.com/cn/cities/>

⁷ Velzen, Joost van “Het fietsabonnement rukt op in de stad.” *Trouw*, 9 June 2018.

<https://www.trouw.nl/home/het-fietsabonnement-rukt-op-in-de-stad~a8d884f5/>

⁸ ‘Swapfietsen’ is the plural form of ‘Swapfiets’ in Dutch.

⁹ Duursma, Mark “Nooit meer op een barrel fietsen.” *NRC*, 05 December 2017.

<https://www.nrc.nl/nieuws/2017/12/05/nooit-meer-op-een-barrel-fietsen-a1583662>

¹⁰ Swapfiets.nl, *FAQ* <https://swapfiets.nl/faq/>

¹¹ Shi, Jian-Gang ; Si, Hongyun ; Wu, Guangdong ; Su, Yangyue ; Lan, Jing (2018), “Critical Factors to Achieve Dockless Bike-Sharing Sustainability in China: A Stakeholder-Oriented Network Perspective.” *Sustainability*, Vol.10(6), pp.2090.

¹² Qiu, Lu-Yi ; He, Ling-Yun (2018), “Bike Sharing and the Economy, the Environment, and Health-Related Externalities”. *Sustainability*, Vol.10(4), p.2

development of these two services and compares them in order to explore whether Shanghai could be a viable market for Swapfiets in the future.

1.2 Aims and objectives

This thesis is a case study of two different concepts that were introduced to the bike-sharing industry in the recent past. Two services that are currently booming in the bike-sharing industry – Mobike and Swapfiets – will be analyzed and compared with the aim of answering the following question. How can the sudden growth and popularity of Mobike in Shanghai and Swapfiets in The Netherlands be explained? Similarities and differences will be discussed in order to provide a better understanding of the basic premise of these two services, their operandi and their developmental processes. Furthermore, this study will also discuss the controversies surrounding the rise of Mobike in Shanghai and how these problems have been addressed. Additionally, this study will explore if and to what extent Shanghai could be a viable market for Swapfiets to introduce its service. In order to do so, the development as well as the status quo of bike-sharing in Shanghai as of October 2018 will be explored.

1.3 Justification

Even though bike-sharing in China has been studied extensively, few studies have focused on the similarities and differences between the different types of services that have recently emerged in the bike-sharing industry. Also, limited literature is available on the challenges bike-sharing companies have been confronted with and the different ways in which they have addressed these challenges. This study aims to fill these gaps in the current literature. Because no academic literature on Swapfiets is yet available, this study will be the first to contribute. A comparison is interesting for various reasons. Firstly, both Swapfiets and Mobike introduced their services to the bike-sharing market in 2016 and experienced massive growth ever since.¹³ Secondly, both concepts are in essence nothing new (neither bike-sharing nor bike-renting). Yet both Swapfiets and Mobike tweaked the original concept and managed to come up with a product and a service that is now experiencing high adoption rates and widespread popularity. However, besides sharing many similarities, these two services have significant differences as well. Firstly, the basic premise of both services is entirely different; Swapfietsen and Mobikes fulfill different needs and both companies have different visions and missions. Secondly, Swapfiets and Mobike operate in a different market, on a different scale, they focus on different target groups and operate in different locations. It is important to mention here that since the introduction of this new type of bike-sharing service in China, developments in the bike-sharing industry have been succeeding each other at such a rapid pace that research findings published in the past one or two years already may have become outdated or even irrelevant. Especially when it comes to analyzing data such as bike fleet sizes, number of users/customers, locations where these services are available, etc. Therefore, it is important to keep studying the topic in order to add new insights on relevant developments to, for example, help provide a starting point for future research.

1.4 Methodology

This study is based on fieldwork, academic studies and reports conducted by, amongst others, Mobike and the Shanghai Bicycle Industry Association. Furthermore, the websites of

¹³ Lan, J ; Ma, Y ; Zhu, Dj ; Mangalagiu, D ; Thornton, Tf (2017), "Enabling Value Co-Creation in the Sharing Economy: The Case of Mobike." *Sustainability*, Vol.9(9), p.2

both Mobike and Swapfiets have been consulted in order to provide additional company specific information. Since there is no available academic literature on Swapfiets, all information presented in this thesis is based on information provided by Swapfiets, interviews and media articles. Additionally, qualitative research interviews have been conducted with Zita Schimmelpenninck, Regional Manager Utrecht & Leiden at Swapfiets and Tomas Knipscheer, UX designer at the head office of Swapfiets in Amsterdam. In an attempt to provide the most up-to-date information possible about the current state of affairs, field work has been carried out in Shanghai where a number of different locations has been observed. In order to gain a better understanding of people's attitudes towards both Mobike as well as Swapfiets, a questionnaire has been distributed amongst people in Shanghai using social media platforms such as Wechat. In addition, several informal conversations with a variety of people in different age groups, different genders and different socio-economic status were conducted on the city streets in Shanghai. Even though these conversations might not have the same academic value compared to formal research interviews or questionnaires, the topics discussed and the information shared in these conversations is nevertheless interesting and relevant to this study. Last but not least, Shanghai specific information was retrieved from an informal conversation held with Xu Daoxing, chief engineer of the Shanghai Bicycle Association.

1.5 Scope

This study will focus on Mobike in Shanghai and Swapfiets in the Netherlands. Due to the large differences in company size, bike fleet size, operation area and the number of customers direct comparison between Mobike and Swapfiets is not possible. Therefore, only Swapfiets in the Netherlands and Mobike in Shanghai will be compared. Shanghai is in terms of population size more comparable to the Netherlands. Also, this study will be limited to Shanghai since it was the first city in which Mobike launched its service. Since Mobike was the first company to introduce this service and is currently the world's largest operator, this study will not include the numerous other bike-sharing operators that are (or have been) available in Shanghai.¹⁴ As for Swapfiets, all 21 cities in the Netherlands the company is currently operating in will be included. Since both the Swapfiets as well as Mobike have been introduced in 2016, 2016-2018 will be the focus of this study.

1.6 Thesis outline

Chapter 2 first presents a discussion of recent literature and aims to provide a theoretical framework. Chapter 3 presents a short historical overview of the bicycle in China and the development of bike-sharing both globally and in China. Chapter 4 and 5 present studies of Mobike in Shanghai and Swapfiets in the Netherlands. Chapter 6 will discuss bike-sharing in Shanghai into more detail. It provides both some historical background as well as up to date information on the current bike-sharing situation in Shanghai by discussing fieldwork observations and findings. In this section, questionnaire results will also be discussed. Conclusions are presented in Chapter 7.

¹⁴ Mobike.com, "How cycling changes cities - Insights on how bikesharing supports urban development", Mobike's Second White Paper, *Mobike.com*, 12 January 2018. https://data.mobike.com/data/how_cycling_changes_cities.pdf

2. Literature review

A review of recent academic literature shows that bike-sharing in China has been explored extensively by both Chinese and foreign scholars and studies include a wide variety of bike-sharing related aspects. These include historical developments, bike-share growth, usage patterns, user preferences, demographics, barriers and rebalancing strategies.

For example, in their study on Suzhou City, Karki et al. (2016) study the accessibility and convenience of the city's bike-sharing programs in an attempt to provide more insight in how the level of service quality could be improved.¹⁵ Others like Guo et al. (2017) use Ningbo City as a case study to explore which factors affect bike-sharing usage and levels of satisfaction.¹⁶ Ma (2017) explored the diffusion of bike-sharing policy in Hangzhou, and Li et al. (2018) discussed the influence of air pollution on bike-sharing choice behavior in Taiyuan China.¹⁷ Zhang et al. (2016) justly identified the lack of studies that focus on changes in users and system usage. By systematically monitoring a bike-sharing system in Zhongshan over the course of several years, Zhang et al. aimed to provide more insight in how expansion of the system influences its usage.¹⁸ Qiu et al. distinguish three different impacts or 'externalities' of bike-sharing. The first is called the 'supplement effect': the extent to which bike-sharing has the ability to solve the 'last-mile-problem' and improve connections between other forms of transport. In other words, the ability to complement existing urban traffic. Shared-bikes they help to cover the last short distances between for instance a train or metro station and one's final destination. Second, the 'substitution effect', or the extent to which bike-sharing can replace other travel modes. And third, the 'health effect', which examines the extent to which bike-sharing can help reduce emissions, thus improve air quality and benefit public health.¹⁹ Bike-sharing in relation to sustainability has become a topic that is increasingly under discussion in recent years. For instance, Zhang et al. published a study in 2015 in which they compare bike-sharing systems in different Chinese cities in order to explore bike-sharing characteristics and its influence on sustainability. Outcomes of their analysis varied largely.²⁰ Li et al. (2017) have published a paper presenting their dynamic model for operation decision-making in bicycle-sharing systems. They note that while presented as a sustainable and green alternative transport, shared-bicycle systems oftentimes are not economical for the operator nor the government. Their model is supposed to offer a in order to maximize profit. How this ability to maximize profit ties in with increased sustainability remains a bit unclear.²¹

Some scholars provide us with Shanghai specific insight on bike-sharing. For example, in 2010, Tang et al. published a study on travel behavior in Beijing, Shanghai and Hangzhou. Even though they have identified useful and important differences between different bike-sharing

¹⁵ Karki, Tej Kumar ; Tao, Liu (2016), "How Accessible and Convenient Are the Public Bicycle Sharing Programs in China? Experiences from Suzhou City." *Habitat International*, Vol.53, pp.188-94.

¹⁶ Guo, Yanyong ; Zhou, Jibiao ; Yao ,Wu ; Zhibin, Li (2017), "Identifying the factors affecting bike-sharing usage and degree of satisfaction in Ningbo, China." *PLoS ONE*, Vol.12(9), E0185100, pp.1-10.

¹⁷ Ma, Liang (2017), "Site Visits, Policy Learning, and the Diffusion of Policy Innovation: Evidence from Public Bicycle Programs in China." *Journal of Chinese Political Science*, Vol.22(4), pp.581-599; Li, Weibo ; Kamargianni, Maria (2018), "Providing quantified evidence to policy makers for promoting bike sharing in heavily air-polluted cities: A mode choice model and policy simulation for Taiyuan-China." *Transportation Research Part A*, 111, pp.277-91.

¹⁸ Zhang, Ying ; Thomas, Tom ; Brussel, M.J.G. ; Maarseveen, van, M.F.A.M. (2016), "Expanding Bicycle-Sharing Systems: Lessons Learnt from an Analysis of Usage." *PLoS ONE*, Vol.11(12), p.e0168604.

¹⁹ Qiu et al. (2018) pp.2-10.

²⁰ Zhang, Lihong ; Zhang, Jun ; Duan, Zheng-Yu ; Bryde, David (2015), "Sustainable Bike-sharing Systems: Characteristics and Commonalities across Cases in Urban China." *Journal of Cleaner Production*, Vol.97, pp.124-33.

²¹ Li, Linfeng ; Shan, Miyuan ; Li, Ying ; Liang, Sheng (2017), "A Dynamic Programming Model for Operation Decision-Making in Bicycle Sharing Systems under a Sustainable Development Perspective." *Sustainability*, Vol.9(6), pp.1-21

systems in the aforementioned cities, their study is outdated.²² In 2016, Tang et al. published another study, but now focused on users' frequency of the Minhang bike-sharing system in Shanghai. This study gives us some useful insights on the development of bike-sharing in Shanghai.²³

Ma et al. (2018) recognize the role free-floating bicycle-sharing systems can play in offering sustainable affordable transport in cities and consider their development as part of a bigger movement towards a sharing economy. They emphasize that the implementation and expansion of such services oftentimes clashes with or disrupts urban governance. Ma et al. describe and study the rise of Mobike in Shanghai and argue that part of the disruptive potential of free-floating bike-sharing systems is due to a lack of collaboration and coordination between governance, businesses and user groups and propose a system of collaborative governance to iron out some of the kinks of adding and regulating new services to the sharing economy.²⁴

In general, there seems to be a consensus amongst scholars that the positive impacts of bike-sharing, such as convenience, health benefits, low emissions and cost-effectiveness are plentiful. However, many scholars also seem to agree that the academic studies on the extent to which bike-sharing actually achieve their proposed benefits, such as the extent to which bike-sharing substitutes car-use, or the extent to which bike-sharing actually improves the environment remain too limited.²⁵ Overall, Shanghai specific studies are rather limited. A drawback of the majority of studies that have been carried out in recent years, is that they do not provide any up-to-date insights on current developments in the bike-sharing industry and fail to include the new types of bike-sharing that have emerged since 2016. Shared-bicycle systems operate globally yet no one has ventured to study and compare these systems on a global scale. More systematic comparative research is needed, preferably studies that compare the impact of bike-sharing programs across a number of cities in different countries over a longer period of time in order to get a better understanding of the impact of shared-bicycle systems and their implementation across the world.

²² Tang, Yang ; Pan, Haixiao; Shen, Qing (2010), *Bike-sharing Systems in Beijing, Shanghai and Hangzhou and their Impact on Travel Behavior*. Paper presented at the Transportation Research Board Annual Meeting 2011, Washington, DC. pp.1-12

²³ Tang, Yang ; Pan, Haixiao ; Fei, Yibo (2017), "Research on Users' Frequency of Ride in Shanghai Minhang Bike-sharing System." *Transportation Research Procedia*, Vol.25, pp.4979-987.

²⁴ Ma, Yuge ; Lan, Jing ; Thornton, Thomas ; Mangalagiu, Diana ; Zhu, Dajian (2018), "Challenges of collaborative governance in the sharing economy: The case of free-floating bike sharing in Shanghai." *Journal of Cleaner Production*, Volume 197, Part 1, 2018, pp. 356-365.

²⁵ Fishman, Elliot ; Washington, Simon ; Haworth, Narelle (2013), "Bike Share: A Synthesis of the Literature." *Transport Reviews*, Vol.33(2), pp.148-65. ; Fishman, Elliot (2015), "Bikeshare: A Review of Recent Literature." *Transport Reviews*, 36(1), pp. 92-113; Ricci, Miriam (2015), "Bike sharing: A review of evidence on impacts and processes of implementation and operation." *Research in Transportation Business & Management*, Vol.15, pp.28-38.

3. Introduction to bike-sharing

3.1 The bicycle in China

Throughout history, the presence and role of the bicycle in Chinese city streets has been changing continuously. The first bicycles were introduced to China by Western adventurers and missionaries in the late 19th century and soon, bicycles became to be associated with wealth, prosperity and modernity. During the 1910s-20s, Shanghai - China's most modern, developed and international city - was the first city where imported bicycles were widely adopted. After WWII, the demand and local production for bicycles in China picked up. The bicycle only started to reign supreme in China after the collectivization of China's economy in 1955 when private automobiles ceased to exist, rickshaws had all but disappeared and pedicabs were mainly used for transporting goods.²⁶ During this time, owning a bicycle, a watch, a sewing machine and a radio became ultimate status symbols in China.²⁷ Foreign trade embargoes resulted in a booming domestic production in China during the 50s, 60s and 70s. However, this was not enough to meet domestic demand and as a result bicycles were rationed. It is during the 1980s that China became to be known as the 'kingdom of bicycles'. After China opened up to the world economy in 1978 the number of bicycle factories in China exploded and rationing ceased, prices decreased and bicycles also became much more widely available in the countryside.²⁸ However, the rapid economic growth after 1978 also resulted in heavy motorization and by the mid-nineties it led to a significant decrease in bicycle use.²⁹ That being said, Chinese citizens do have become increasingly mobile over the years. As mobility became more important in people's daily lives, travel demands grew consequently. The number of privately-owned cars in China has risen from 18.48 million in 2005 to 163.30 million in 2016. This significant rise in the number of cars on Chinese roads is imposing increasingly pressing 'externalities' on society, the economy and the environment, such as energy and fuel dependency, environmental pollution, public health issues, traffic accidents and congestions.³⁰

Among academics and other experts in the field, bike-sharing is generally considered to be a good sustainable transportation alternative because of its many associated advantages. Firstly, bicycles are considered to be economic; cost-effective, maintenance costs are relatively low and they have no additional fuel costs. Secondly, they are efficient; they are convenient for small distances since they offer a solution to the 'last-mile-problem'. Also, bicycles occupy less road space than cars and they are usually quicker and much more efficient in busy city centers compared to the metro or a taxi. Furthermore, they are also a good means to complement existing modes of transportation. Thirdly, bicycles are regarded as healthy; they are emission free and motivate people to exercise more. Besides being a convenient mode of transport for one's daily commute, cycling can also be a recreational activity.³¹ From these examples it becomes clear that the advantages, or positive 'externalities', associated with bike-sharing are plentiful.

²⁶ Rhoads, Edward J.M. (2012), "Cycles of Cathay: A History of the Bicycle in China." *Transfers*, University of Texas at Austin, Vol.2(2), pp.95-110

²⁷ Mobike Data, "Bike-sharing and the City.", Mobike's First White Paper, *Mobike.com*, 12 April 2017. https://mobike.com/global/public/Mobike%20-%20White%20Paper%202017_EN.pdf

²⁸ Rhoads (2012) pp.95-110

²⁹ Guo et al. (2017) p.2

³⁰ Qiu et al. (2018) p.1

³¹ Ali Askari et al. (2017) p.1023; Guo et al. (2017) p.1; Ibold et al. (2018) ; Karki et al. (2016) p.190; Pal et al. (2017) p.93; Qiu et al. (2018) p.2; Tang et al. (2010) p.2; Zhang et al. (2015) p.125; Zhang et al. (2016) p.1

3.2 Bike-sharing worldwide

The concept of bike-sharing (or bike-renting, bike-leasing) as such is not particularly new or innovative. Over the past 50 years, a wide variety of bike-sharing programs has been carried out all over the globe. The very first generation of shared-bicycles dates back to 1965, when the 'Witte Fietsen Plan' (White Bikes) was launched in Amsterdam. White colored bikes were left unlocked for anyone to use freely. In 1991, Denmark introduced a system that was known as 'Bicyklen'. Farsø and Grenå were the first cities and Nakskov followed in 1993. This was the first system that made use of docking stations and coin-deposits and marked the second-generation bike-sharing programs. In 1996, the third generation of shared-bicycles, also referred to as the IT-based system, was launched at Portsmouth University in England. This system made bike-sharing much more popular and convenient because it allowed the user to pay by card. In the past 20 years or so, over 850 cities worldwide have implemented one or more third-generation bike-sharing systems, most of which are government supported.³² Except for the very first 'White Bikes' in Amsterdam, all of these bike-sharing systems required the user to return the bicycle to a designated docking station. This form of bike-sharing is also described as Station-Based Bike-Sharing (SBBS).³³

3.3 Bike-sharing in China/Shanghai

In China, bike-sharing systems have been available for about a decade. The first SBBS-system was introduced in 2005 in Beijing.³⁴ This was a relatively small system in terms of bike-fleet size versus city population size. It was operated by a local private company and received no government support. Because of the many advantages associated with bike-sharing and China's aim to improve green and sustainable transport, many other Chinese cities followed suit. In 2010, about ten bike-sharing programs had developed in several cities across China.³⁵ In Shanghai, the first station-based bike-sharing service became available in Pudong district in 2008, Minhang and Zhangjiang district followed in 2009.³⁶ In 2011, Baoshan and Xuhai also launched a bike-sharing system and Zhoupu launched one in 2012. The total bike fleet accounted for about 21,000 bicycles in total. The Minhang system was by far the largest with more than 19,000 bicycles.³⁷ In early 2016, Mobike introduced a new type of bike-sharing system to Shanghai's city streets, also referred to as 'the fourth generation' of shared-bicycles.³⁸ This system allows users to park the bike anywhere they want without having to return it to a designated station. All Mobikes are equipped with GPS and can be located by using an app. Pal et al. describe this form of bike-sharing as Free-Floating Bike-Sharing (FFBS).³⁹

Before continuing on to discuss bike-sharing in Shanghai into more detail and presenting fieldwork results (Chapter 6), more information is provided on Swapfiets and Mobike in the next two chapters.

³² Lan et al. (2017) p.4; Pal et al. (2017) p.93

³³ Pal et al. (2017) p.93

³⁴ Guo et al. (2017) p.2

³⁵ Tang et al. (2010) pp. 3-4.

³⁶ Tang et al. (2010) pp. 3-4

³⁷ Tang et al. (2017) p.4981

³⁸ Lan et al. (2017) p.4

³⁹ Pal et al. (2017) p.93

4. Swapfiets in the Netherlands

4.1 The company

As mentioned before, around the same time Mobike was introduced in Shanghai, a Dutch bike-sharing service called Swapfiets also quickly gained in popularity. Swapfiets started in 2016 with three students from Delft and a few second-hand bicycles they personally refurbished.⁴⁰ The Swapfiets founders wanted to address the problem of not being able to afford a new bicycle and being forced to ride an old bicycle that regularly breaks or gets stolen.⁴¹ When the idea turned out to be very well received by the public, Swapfiets joined hands with investment company Pon and started to produce its own bicycles. The company has grown with approximately 100 new customers a day ever since and grew from 150 to 19,000 customers in one year.⁴² As of December 2018, Swapfiets has over 100,000 bicycles in its fleet, over 85,000 subscribers and over 1200 employees.⁴³ As of December 2018, Swapfiets operates in four countries; the Netherlands, Belgium, Germany and Denmark and is available in 39 cities, 21 of which are in the Netherlands.⁴⁴ When extending its service to new cities abroad, Swapfiets has a number of criteria on which they in advance select potential new locations. The first is criteria is: distance. For logistic reasons, such as the distribution and relocation of bikes and being able to transport bicycles to the new location by truck, the new location should not be too far away from the head office in the Netherlands. A second criteria would be the extent to which people in the new location are already used to cycling; whether or not there already is an existing cycling culture. A third criteria would be the size of the city. Before launching its service in large cities or a country's capital, Swapfiets first has some try outs in smaller cities. This way, it is easier to oversee and properly manage any problems they may occur.⁴⁵

Every city Swapfiets operates in has its own regional manager with its own warehouse and workshop. Every location has its own car that can fit a few bicycles on the roof that collects or redistributes bicycles. Swapfiets also distributes bicycles while riding bicycles themselves. Minor repairs such as flat tires, saddle adjustments and broken lighting can usually be fixed on the spot.⁴⁶ At Swapfiets' warehouse in Amstel Business Park, Amsterdam, a few hundred bicycles can be found. These include new bicycles, bicycles that have been retrieved from the municipal bicycle depot, bicycles with defects and bicycles that have already been repaired.⁴⁷ There are six working stations, each manned by one maintenance worker. The bicycle repairers are expected to perform nine to 18 repairs per day. So-called 'allrounders' perform supporting tasks such as pumping tires, lubricating the locks and chains and reattaching the handles.⁴⁸

According to Swapfiets there are three crucial factors that determine the company's success. Firstly, good customer service and relations are essential. Secondly, employees that are multi-

⁴⁰ Unknown Author "Swapfiets: voor 15 euro per maand een fiets." *RTL Nieuws*, 01 March 2017.

<https://www.rtlnieuws.nl/business/ondernemen/artikel/137096/swapfiets-voor-15-euro-maand-een-fiets>

⁴¹Appendix I: Interview Zita Schimmelpenninck (Region Manager Swapfiets Leiden)

⁴² Meijers, Jaap *Fietsersbond.nl*, 29 January 2018.

⁴³ Swapfiets Instagram, 31 November 2018. <https://www.instagram.com/swapfiets/?hl=nl>; Swapfiets Instagram, 01 January 2019, <https://www.instagram.com/p/BsDkARGI5F5/>; Ondernemer, de "Hoe Swapfiets uitgegroeide tot internationaal bedrijf met 1200 medewerkers." *AD*, 4 December 2018.

<https://www.ad.nl/economie/hoew-swapfiets-uitgegroeide-tot-internationaal-bedrijf-met-1200-medewerkers~ab669174/>

⁴⁴ Swapfiets.nl, *FAQ*

⁴⁵ Appendix II: Interview Tomas Knipscheer (UX Designer, Swapfiets Head Office Amsterdam)

⁴⁶ Fast Moving Targets (2017, December 14) *Steven Uitentuis (Swapfiets): "Wij bieden het eerste fietsabonnement van Nederland."* <https://www.youtube.com/watch?v=rIvOYofLxE4>

⁴⁷ In many Dutch municipalities, the local government removes old, unused, broken, abandoned or wrongly parked bicycles from the public space. This usually happens on an annual basis but this differs from municipality to municipality. The confiscated bicycles are then transferred to a central depot where their owners can go to retrieve them.

⁴⁸ Lieman, Rens 'Fietsen zonder gedoe (en dat mag wat kosten)'. *NRC*, 1 September 2018.

<https://www.nrc.nl/nieuws/2018/08/31/fietsen-zonder-gedoe-en-dat-mag-wat-kosten-a1614605>

talented and work well collectively. Thirdly, the quality of the bicycles. The less bicycles break, the less complaints and maintenance work. In a business model like Swapfiets has, there are mutual benefits for Swapfiets and their customers. Both the customer and supplier have an interest in a good product that lasts for a long time. The company claims sustainability is the main motivator for Swapfiets to continue developing and adjusting their models. The less maintenance on the bicycles is needed, the better is it for the customer, Swapfiets and the environment. Bike parts should be easily replaced; five minutes for replacing a rear tire.⁴⁹

Ten to 20% of the subscribers has environmental motivations to choose Swapfiets; it is better to use a product for a long time and let it have multiple owners. However, sustainability is not an aspect Swapfiets is actively advertising or communicating to its customers. As of October 2018, the swappers still drive gasoline powered cars, but Swapfiets aims to replace those by electrical ones or some sort of bicycle cart.⁵⁰ As of November 2018, Swapfiets introduced a so called 'Swapfiets-fiets'; an e-bicycle that delivers bicycles.⁵¹

Another potential benefit of Swapfiets service is their impact on the public space. For example, in Amsterdam, people tend to leave their bicycles behind whenever the bicycle is broken or the key is lost. According to the Municipality, 135,000 bicycles of the 900,000 that were parked in Amsterdam in August 2018 were orphaned. Swapfietsen however, are removed or replaced when they are broken. This way, Swapfiets could contribute to reducing the number of abandoned bicycles in the public space and make better use of the available parking spots.⁵²

4.2 The service

The 'Swapfiets' can best be described as a 'subscription' for bicycles. For a monthly fee, customers receive a bicycle and Swapfiets will make sure it always works.⁵³ After having subscribed to the service online, customers will receive a bicycle at a time and place that suits them best. The bicycle will remain the property of Swapfiets and is intended exclusively for personal use by the customer. Upon receipt, Swapfiets adjusts the bike according to a customer's specific needs so as to make it immediately ready for use.⁵⁴ Customers have the bicycle at their disposal for the duration of the subscription. The subscription is flexible; it can last as long as customers desire, with a minimum of one month. After this period has ended, the subscription is extended automatically and has a cancellation period of one month. Furthermore, no deposit or start-up costs are charged.⁵⁵ The price of the subscription differs per model. Swapfiets Original costs €15 per month and €12 for students. Swapfiets Deluxe costs €19 per month. Power 7 costs €72.50 per month.⁵⁶ Differences between the models will be discussed in the next sub-chapter. Whenever something breaks, users notify the company by sending an app, email, or give them a call. One of their so-called 'swappers' will come to the specified location and replace or 'swap' the bicycle and provide users with a new one. In some cases, minor repairs can be carried out on location, such as fixing a flat tire.⁵⁷ It is also possible to lock the bicycle and leave it for Swapfiets to come and retrieve it.⁵⁸ Swapfiets strives to always provide a replacement within 12 hours without additional costs. In case a bicycle gets

⁴⁹ Fast Moving Targets, *Youtube*, 14 December 2017.

⁵⁰ Lieman, Rens *NRC*, 1 September 2018. ; Duursma, Mark *NRC*, 05 December 2017

⁵¹ Swapfiets Instagram, 20 November 2018. <https://www.instagram.com/p/BqaOu6zIirv/>

⁵² Lieman, Rens *NRC*, 1 September 2018; Bakker, Kees *Fietsersbond.nl*, 29 January 2018.

⁵³ Duursma, Mark *NRC*, 05 December 2017

⁵⁴ Swapfiets.nl, *Home* <https://swapfiets.nl/>

⁵⁵ Lieman, Rens *NRC*, 1 September 2018.

⁵⁶ Swapfiets.nl, *Den Haag* https://swapfiets.nl/offer/den_haag

⁵⁷ Swapfiets.nl, *Home*

⁵⁸ Meijer, Jaap *Fietsersbond.nl*, 29 January 2018.

stolen, customers also receive a new one. Swapfiets will report the theft to the police, together with the user. In addition, Swapfietsers pay a €40 own risk penalty, provided that the bike was locked properly.⁵⁹

On 2 October 2018, Swapfiets launched its own app. With this app, customers can schedule an appointment to get their bicycles fixed 24/7 and they can cancel an appointment free of charge within one hour before the scheduled appointment. Furthermore, the app has a 'find-my-bike' option with which customers can pin the exact location of their bike. In 20% of the cases in which bicycles are reported as stolen, the user had simply forgotten where s/he had parked it. In addition to these features, the app also provides the route to the nearest Swapfiets workshop.⁶⁰

Models, appearance and features

As of December 2018, Swapfiets offers three different models that come in different sizes and colors, but all can be recognized by their blue front tire.⁶¹ Swapfiets Original is a classic 'Dutch Bike' model (or: 'omafiets' in Dutch) with a steel frame and coaster brakes. It is provided with a double Axa lock, tires with double fused walls and automatic lights without batteries. Bicycle frames are either red, grey, black, blue or orange.⁶² Customers are assigned a random color bicycle. There is no option for the customer to choose.⁶³ Swapfiets Original comes in either a 51 cm (height: < 1.75 m) or a 56 cm (height: > 1.75 m) model.⁶⁴ Swapfiets Deluxe 7 is a more luxurious bike with seven gears, hand brakes and unlimited bike lights.⁶⁵ This model comes in three sizes. 49 cm (height: < 1.60 m), 53 cm (height: 1.60 - 1.75 m) or 57 cm (height: > 1.70). Both the Original and the Deluxe 7 model only have a load-carrier on the front of the bicycle, not on the back. This is to prevent users from taking other people on the back of their bicycles, since the racks are not built to carry the weight of a person. Swapfiets Power 7 is a luxurious e-bike and comes with all the features the other models have, but is equipped with a battery. All models come with a ring- and a push-in chain lock with one key. Swapfiets has a duplicate key for the bicycle in its possession at all times. If a customer loses a key, a new one must be requested from Swapfiets, at a cost of 15 euro per key. The customer is not allowed to have more than one key, nor make any copies of the key. This is partly due to the risk of theft.⁶⁶

Despite the variety of bicycles Swapfiets offers, their uniformity and recognizability is very important. That is why they completely designed the bicycles themselves, making use of Union's production facilities.⁶⁷ It not only saves money to buy larger numbers of the same bicycle, but the repairs are also easier. Furthermore, it helps Swapfiets to determine which parts of the bicycles have the most defects and what can be improved.⁶⁸ Every defect is registered and analyzed in a computer system so as to find any structural problems with the construction of

⁵⁹ Swapfiets.nl, *Home*

⁶⁰ Swapfiets Press release 'Swapfiets lanceert eigen app.' *Emerce.nl*, 2 October 2018. <https://www.emerce.nl/wire/swapfiets-lanceert-eigen-app>

⁶¹ Swapfiets.nl, *Home*

⁶² Swapfiets.nl, *Terms* <https://swapfiets.nl/terms/>

⁶³ Meijers, Jaap *Fietsersbond.nl*, 29 January 201.

⁶⁴ Swapfiets.nl, *Do you have different bike sizes* <https://help.swapfiets.nl/hc/en-gb/articles/360000657374-Do-you-have-different-bike-sizes->

⁶⁵ Swapfiets.nl, *What Kind of Bicycle can I Expect* <https://help.swapfiets.nl/hc/en-gb/articles/360000574494-What-kind-of-bicycle-can-i-expect->

⁶⁶ Swapfiets.nl, *Terms* ; Swapfiets.nl, *What Kind of Bicycle can I Expect*

⁶⁷ Union.nl, Union is a bicycle factory located in xxx and has been producing different types of bicycles since 1904. <https://www.union.nl/nl/over-ons/>

⁶⁸ Fast Moving Targets *Youtube*, 14 December 2017.

the bike or the quality of the parts. Besides, every bicycle that comes in undergoes preventive maintenance service, which entails tasks such as lubricating the chain and tightening the bolts.⁶⁹

Swapfiets is currently developing bikes that are equipped with a GPS tracker. There are various considerations that play a role in its implementation. Aside from customer demand, there are many operational benefits. GPS trackers allow Swapfiets to easily locate all the bicycles and thus help decrease theft. Reasons not to place GPS trackers is that it first of all requires an investment and is quite costly. Second, due to privacy regulations, it is a complicated legal procedure. As of December 2017, Swapfiets has been working on a system which only allows the user to locate his bicycle, unless s/he reports it as missing or stolen. In that case, the user gives Swapfiets explicit permission to access their personal information. An important reason for this modus operandi is that Swapfiets wants to be a reliable and transparent company.⁷⁰

4.3 The Swapfietser

When Swapfiets tested the concept, students were their initial target group. The student world turned out to be an easy market in which Swapfiets was quickly adopted and the concept easily diffused.⁷¹ The more so because students were already used to subscription models such as Spotify and Netflix. In that sense, this market is already accustomed to the transition from possession to use.⁷² However, students are not necessarily Swapfiets' one and only target group: it is for anyone who knows how to cycle.⁷³ For instance, by the end of 2017, about 40% of their new customers in Utrecht and Rotterdam were non-students.⁷⁴

The main reason why people choose Swapfiets is that they want to be assured to never have any trouble with their bicycle again. People are willing to pay for convenience and security. The concept allows customers to be care free.⁷⁵ 75% of the subscribers choose Swapfiets because 'it was the fastest and easiest way to a new bicycle.'⁷⁶ Swapfiets very much relies on the 'goodness' of their customers. Swapfiets first of all assumes users will handle the bicycles properly. Also, customers are confronted with the consequences of their own negligence directly. If they do not report any damage or necessary maintenance issues to Swapfiets, they themselves will be hindered by it. Users have no option to simply choose another bike without any damage. Swapfiets thinks this helps customers to handle bicycles more consciously. However, in order to prevent users from being more careless with a Swapfiets than they would be with their own bike, Swapfiets also has clear terms and conditions published on their website. Furthermore, Swapfiets has a very extensive database with all the reported damages and maintenance costs. If a customer causes more damage to his/her bicycle than the average user, Swapfiets might take measures such as imposing a fine.⁷⁷

⁶⁹ Lieman, Rens *NRC*, 1 September 2018.

⁷⁰ Fast Moving Targets, *Youtube*, 14 December 2017.

⁷¹ See Appendix I: Interview Zita Schimmelpenninck (Region Manager Swapfiets Leiden); Appendix II: Interview Tomas Knipscheer (UX Designer, Swapfiets Head Office Amsterdam)

⁷² Fast Moving Targets, *Youtube*, 14 December 2017.

⁷³ See Appendix I: Interview Zita Schimmelpenninck (Region Manager Swapfiets Leiden)

⁷⁴ Meijer, Jaap *Fietsersbond.nl*, 29 January 2018.

⁷⁵ Fast Moving Targets, *Youtube*, 14 December 2017.

⁷⁶ Lieman, Rens *NRC*, 1 September 2018.

⁷⁷ Fast Moving Targets, *Youtube*, 14 December 2017.

5. Mobike in Shanghai

5.1 The company

Mobike (Chinese: 摩拜单车; pinyin: móbài dānchē) was officially founded in January 2015 by Beijing Mobike Technology Co., Ltd.⁷⁸ Even though the very first bike was put on the streets in September 2015, Mobike officially launched its service in Shanghai on April 22, 2016. From October 2015 to June 2016, Mobike received multiple rounds of investments with a total worth of over \$1.2 billion, which facilitated them to grow significantly. About one year after its first introduction, Mobike expanded abroad to Singapore and within three years, Mobikes fleet grew to eight million bikes.⁷⁹ To date, more than 200 million people have found their way from A to B on a Mobike.⁸⁰ As of November 2018, Mobike is operating in over 200 cities (most of which are in China), in 19 different countries.⁸¹ Since Mobike operates in many different locations across the globe, it is very likely that their modus operandi differs per country, per city, or even per city district since there is a huge variation in rules, laws and regulations across their area of operation.

By providing a sustainable transportation alternative, Mobike aims to 'make the entire transportation network environmentally friendly', 'reduce traffic congestion, and to 'contribute to greener and smarter cities'. Mobike wants to solve cities' 'last-mile-problem', and make short distance trips 'more convenient, affordable and fun'.⁸² With these goals, the company says it aims to improve the overall quality of urban life.⁸³ Mobike opted for the bicycle because they claim it is 'the most universal and simple transport tool'.⁸⁴ Mobike widely promotes itself as a sustainable company that has the environment and the people as its main concern and particularly emphasizes the importance of sustainability and environmentally friendly practices in its business model. This message is spread through various channels, such as its website,⁸⁵ Mobike White Paper 2017 and 2018,⁸⁶ press releases,⁸⁷ Youtube channel,⁸⁸ blog⁸⁹ etc. As of December 2017, Mobike users had cycled over 18.2 billion kilometers in total. Altogether, they avoided 4.4 million tonnes of CO₂ emissions worldwide. In Shanghai, Mobike users avoided 48,272 tonnes of CO₂. This calculation is based on the assumption that 15% of the Mobikers now use shared-bikes instead of a private car or a taxi for their daily commutes.⁹⁰ Mobike also continuously redesigns and develops its bikes to make them more environmentally friendly than the previous model. Since its first introduction, various versions of Mobikes have appeared on the Shanghainese streets.⁹¹ Decreasing management and maintenance costs is also an

⁷⁸ Mobike.com, *Team* <https://mobike.com/cn/team/>

⁷⁹ WRI Ross Cities Staff "Q&A with Davis Wang: Beyond Bicycles, Financial Sustainability, and Why Mobike Is a Public Transport Company." *The City Fix*, World Resources Institute, 20 February, 2018. <http://thecityfix.com/blog/qa-with-davis-wang-beyond-bicycles-financial-sustainability-and-why-mobike-is-a-public-transport-company/>; Mobike.com, <https://mobike.com/cn/timeline/>

⁸⁰ Mobike.com, *Cities*

⁸¹ Mobike.com, *Cities*

⁸² Mobike.com, *FAQ* <https://mobike.com/global/faq>; Mobike.com, *Team*

⁸³ Mobike.com, *About*

⁸⁴ Mobike.com, *FAQ*

⁸⁵ Mobike.com, *About*

⁸⁶ Mobike Global "How Cycling Changes Cities – Mobike's Second White Paper Goes Global." Mobike.com, 12 January 2018.

<https://mobike.com/global/blog/post/cycling-changes-cities>

⁸⁷ Mobike Global "Mobike Raises Over \$600 Million in Series E Financing Led By Tencent" Mobike.com, 16 June 2017.

<https://mobike.com/global/public/Mobike%20Press%20Release-Series%20E%20Funding%20Announcement.pdf>

⁸⁸ Mobike (9 August 2018) *Mobike: Reduce Reuse Recycle*. https://www.youtube.com/watch?v=3igwVuAk_vY

⁸⁹ Mobike Global, "Mobike Joins United Nations Environment Programme 2018 Asia-Pacific Clean Air Partnership Joint Forum." Mobike.com, 22 March 2018. <https://mobike.com/global/blog/post/mobike-un-asia-pacific-joint-forum-bangkok>

⁹⁰ Unknown Author "How cycling changes cities - Insights on how bikesharing supports urban development", Mobike's Second White Paper, Mobike.com, 12 January 2018. https://data.mobike.com/data/how_cycling_changes_cities.pdf

⁹¹ Mobike (9 August 2018) *Mobike: Reduce Reuse Recycle*.

important factor in the design process of the Mobikes. Therefore, Mobikes are designed with several distinctive features to help increase durability. For example, the wheels are designed with only five spokes, that are much sturdier than the typical 32-spokes wheels that are common on standard bikes. Out of the 2 million bikes that Mobike had deployed by January 2018, less than 10 five-spoke wheels had broken.⁹² Mobike claims that both the Mobike Lite and the Mobike Classic can be used without maintenance in urban environments for a period of about 4 years.⁹³ Different models will be discussed into more detail in the next section.

5.2 The service

Mobike claims to have launched 'the world's first smart shared cycling model'. It is smart because every bike is equipped with a lock that has an integrated GPS that transmits its exact location. Additionally, bikes have communication modules that connect to the Mobike IoT Network.⁹⁴ Before being able to make use of any of Mobike's services, users are required to download the Mobike app on their smartphones and create an account. With the app, users can locate any available Mobike in their vicinity. After the preferred Mobike is selected, users have to make a reservation which will last for 15 minutes. This way, the user has some time to locate it. Whenever a bicycle is temporarily unavailable, the app will request to try another bike. After having successfully reserved a bike, it appears on a map. Users are then provided with search directions and they can request the bike to produce a sound to help locate it.⁹⁵ When a user has found the Mobike, s/he has to scan a QR code (Quick Response) on the bike and it automatically unlocks. Now, the user can cycle to their destination and leave the bike anywhere they please without having to return it to a designated station.⁹⁶ Mobike requires customers to pay a one-time refundable deposit of 299RMB (€38). Besides the deposit, customers pay 1RMB (€0.13) per half hour.⁹⁷ The timer starts as soon as a bike has been unlocked and stops once the bike has been locked again.⁹⁸ Mobikes require no use of cash, since all payments go through the users WeChat Wallet or Alipay, a feature that is integrated in the app. Besides locating the nearest available Mobike locking and unlocking the bike and automatic payments by WeChat Wallet of Alipay, the app can be used to access details about the trips that have been taken, such as the route and distances and fares.⁹⁹

Globally, Mobike's smart technology generates over 40 terabyte of data every day.¹⁰⁰ This data could be useful in providing insights into people's travel behavior and could help to maximize not only the company's efficiency and improve Mobike's product and service, but it can also help city planners and policy makers to better shape urban transportation infrastructure to facilitate cycling.¹⁰¹ Mobike even has an online open platform for big data. However, besides a few outdated reports, no other data is found on this platform.¹⁰² In January 2018, Mobike and Ofo, the two largest bike-share providers announced their ambitions to

⁹² WRI Ross Cities Staff, 20 February, 2018.

⁹³ Mobike.com, *Classic* <https://mobike.com/cn/classic/>

⁹⁴ Mobike.com, *About*

⁹⁵ Mobike.com, *FAQ*

⁹⁶ Angus "Sharing bikes in Shanghai." ProjectGus.com, 17 April 2017. <https://projectgus.com/2017/04/sharing-bikes-in-shanghai/>

⁹⁷ Lan et al. (2017) p.5

⁹⁸ XZ Palmer "[Tested]: The Mobike." *Smartshanghai.com*, 5 May 2016. <http://www.smartshanghai.com/articles/tech/tested-the-mobike>

⁹⁹ Mobike.com, *FAQ*

¹⁰⁰ Mobike Big Data Open Platform <https://data.mobike.com/#/>

¹⁰¹ Mobike, "2nd White Paper: How cycling changes cities - Insights on how bikesharing supports urban development." *Mobike.com*, 12 January 2018. https://data.mobike.com/data/how_cycling_changes_cities.pdf

¹⁰² Mobike Big Data Open Platform

cooperate with authorities and research institutions to share their big data.¹⁰³

Models, appearance and features

To date, Mobike has developed three different models. The first is the **Mobike Classic**. It comes with a silver full aluminium frame, orange five-spoke wheels and black parts. The front and rear fork are both one sided. The tires are airless and thus puncture free. These are made out of rubber with holes in it allowing to be much lighter than a solid rubber wheel and better absorb shocks. The Mobike Classic comes with an integrated handle bell and an ergo saddle that is adjustable in height. A feature that is unique to Mobikes is that they are equipped with an advanced drive transmission, rather than using a drive chain that is visible and can break easily.¹⁰⁴ Furthermore, the Mobike Classic is equipped with hand breaks and uses a disc brake system which has, according to Mobike, a 20 per cent higher braking efficiency compared to a standard bike.¹⁰⁵ In September 2017, Mobike officially introduced a new model called **Mobike Lite**.¹⁰⁶ This model is lighter than the Mobike Classic and looks much more similar to a standard bike with normal spokes, regular drive chain and drum brakes. Colors of the main body - silver, orange and black - correspond to the Classic model. Tires are still airless. Both aforementioned models are equipped with a front basket rather than a load carrier on the back.¹⁰⁷ In July 2018, Mobike introduced its latest model, the **Mobike E-bike**. The Mobike E-bike looks very similar to the Mobike Classic, but is equipped with a battery that is built into the frame. The top speed is 20km/h.¹⁰⁸

5.3 The Mobiker

Mobike aims to service the largest target market possible. In order to achieve this goal and be able to compete with other bike-sharing firms their profit margins are kept very low.¹⁰⁹ During my fieldwork in Shanghai, a young gentleman expresses to me in an informal conversation that he likes shared-bicycles very much and uses them nearly every day. He preferred to use Mobike over other brands because they are heavier than other bicycles, which made him feel safer. Another interesting observation in the field was that some users' brand choice is influenced by availability of (properly working) bikes and the ease of locating them. In order to increase their chances of finding a shared-bike and be assured of a ride that brings them to their destination some users have various different bike-sharing apps installed on their smartphones. Depending on these factors, users might either choose to ride a Mobike, or any other available bike.

¹⁰³ Unknown Author "Bike firms to share their data." *Shanghai.gov*, 18 January 2018.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai88442.html>

¹⁰⁴ Mobike.com, *Blogpost Rotterdam* <https://mobike.com/nl/blog/post/mobike-rotterdam>

¹⁰⁵ Mobike.com, *Classic*

¹⁰⁶ Mobike.com, *Timeline*

¹⁰⁷ Mobike.com, *Lite* <https://mobike.com/cn/lite/>

¹⁰⁸ Mobike (27 July 2018) *Mobike E-bike*. <https://www.youtube.com/watch?v=K1bhW82o-us>

¹⁰⁹ WRI Ross Cities Staff, 20 February, 2018.

6. Bike-sharing in Shanghai 2016-2018

From 2016-18, hundreds of millions of dollars in capital investments allowed several bike-sharing companies to quickly gain popularity across China. Besides Mobike, a large number of start-ups entered the bike-sharing market since 2016, such as Ofo, Bluegogo, Coolqi, Xiaoming, Xiangqi, Hellobike and JiuJiu. Some of these have already collapsed.¹¹⁰ About ten months after the first Mobikes appeared on the city streets, it was estimated that over 30 bike-sharing companies were operating in Shanghai, with a total bike fleet of over 450,000 and 4.5 million users.¹¹¹ As of July 2017, the number had already risen to 1 million.¹¹² Besides the free-floating shared-bicycles deployed by private companies such as Mobike, the Shanghai municipal government also still runs its own public bike-sharing program. As of March 2017, it had approximately 80,000 bicycles and 210,000 registered users.¹¹³ Nationwide, approximately 70 domestic companies were fiercely competing for market share and new customers by mid-2017. By the end of 2017, an estimated 16 million shared-bikes were 'floating' around China, bringing 130 million users from A to B.¹¹⁴ Bike-sharing as a form of transport has become booming business. In China, these new bike-sharing services have been praised for their associated benefits and raised high expectations of reviving China's status as the 'kingdom of bicycles'.¹¹⁵ Overall, bicycles seem to have made a huge comeback in the Chinese city streets. Consequently, the question rises whether explosive growth of these services should not only be understood as a globalized move towards a more inclusive economy with a heavy focus on sharing and pay-as-you go subscriptions but can also be regarded as a move towards a more technologically interconnected society where the state and private companies gain unprecedented access and insight into our private lives and behavior.

6.1 Challenges and Solutions

A quick scan of both Chinese and foreign media reporting of 2016-2018 indicates that besides their many advantages, bike-sharing programs seem to raise many controversies and are a hot topic in the public debate as well. Shared-bicycles seem to have been flooding the streets to such an extent that many reports in the media address concerns over excesses that are occurring due to the 'explosion' of bike-sharing programs, such as bicycle graveyards, piles of abandoned and broken bicycles, illegal parking, vandalism, bicycle theft etc.¹¹⁶ Additionally, a large number of

¹¹⁰ Wang, Serenitie "Why bicycles are piling up in a Shanghai parking lot", *CNN*, 26 June 2017.

<https://edition.cnn.com/travel/article/china-shanghai-bikes/index.html>

¹¹¹ Unknown Author "City mulls rules as bike-sharing market is overheated." *Shanghai.gov*, 17 March 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai85705.html>

¹¹² Unknown Author "Bike-sharing complaints surging." *Shanghai.gov*, 21 July 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai86931.html>

¹¹³ Unknown Author "City to rein in explosive bike-sharing industry." *Shanghai.gov*, 2 March 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai85556.html>

¹¹⁴ An "Spotlight: China's 'four great new inventions' in modern times." *Xinhua*, 8 August 2017.

http://www.xinhuanet.com/english/2017-08/08/c_136507975_4.htm

¹¹⁵ Ibold et al. (2018)

¹¹⁶ He, Huifeng "Chinese prosecutors tell bike-sharing firms: clean up your game or we will act." *South China Morning Post*, 18

November, 2017. <http://www.scmp.com/news/china/society/article/2120509/prosecutors-tell-chinese-bike-sharing-firms-tackle-problems-your>; McNeice, Angus "Vandalism a bump in road for bike-sharing." *China Daily*, 17 April 2018.

<http://www.chinadaily.com.cn/a/201804/17/WS5ad538c0a3105cdcf6518a09.html>; Taylor, Alan "The Bike-Share Oversupply in

China: Huge Piles of Abandoned and Broken Bicycles" *The Atlantic*, 22 March 2018.

<https://www.theatlantic.com/photo/2018/03/bike-share-oversupply-in-china-huge-piles-of-abandoned-and-broken-bicycles/556268/>; Sudworth, John "The problem of China's huge bike graveyards", *BBC video report*, 11 May 2018.

<https://www.bbc.com/news/av/world-asia-china-43999482/the-problem-of-china-s-huge-bike-graveyards>;

Yang, Yingzhi ; Yang, Yuan "China's booming bike-sharing sector beset by theft." *The Financial Times*, 26 June 2017.

<https://www.ft.com/content/1b0e3486-57c2-11e7-9fed-c19e2700005f>; Nakamura, Yu, "China cracks down on bike-sharing in 8

cities." *Nikkei Asian Review*, 10 August 2017. <https://asia.nikkei.com/Economy/China-cracks-down-on-bike-sharing-in-8-cities>;

blogs and vlogs discuss the bike-sharing situation that seems to have exploded.¹¹⁷ Ibold et al. describe the development of China's bike-sharing market as 'a roller-coaster ride rather than a smooth bike-ride'.¹¹⁸ Large capital investments in the bike-sharing industry allowed unprecedented fast growth and resulted in fierce competition between about a dozen bike-share operators fighting to dominate market share in Shanghai. Furthermore, a lack of any government regulations and proper industry guidelines that specified the number of bike-share companies that were allowed to operate in a specific area, nor any limits to the number of bikes that were allowed to be released into the public space, resulted in uncontrolled deployment and a huge oversupply of bikes in the public space up until 2017. In Shanghai, this explosive growth resulted in clogged sidewalks, increased traffic violations and illegal parking. By the end of July 2017, Shanghai's Consumer Right Protection Commission received over 3,700 complaints concerning bike-sharing companies. This number increased 15-fold in one year. Amongst the most mentioned problems were issues with deposit returns, poor customer service, technical or mechanical problems and dubious fares.¹¹⁹ Despite various efforts to regulate and limit the number of shared-bicycles in Shanghai, the number of bikes continued to grow excessively. Guo Jianrong, general secretary at the Shanghai Bicycle Industry Association (SBA) said: "The number of bicycles put onto the streets of Shanghai has far exceeded capacity. It is estimated that as of August 2017, there were at least 1.5 million bicycles to be found in the Shanghainese streets, while the city could only sufficiently manage up to 600,000 shared-bicycles."¹²⁰ According to statistics, the total number of shared-bikes in Shanghai greatly exceeded previous estimates of relevant institutions and experts and is believed to have grown to 1.7 million units.¹²¹ Due to the rapid growth in the number of Mobikes, the company failed to properly manage its bike fleet size. Adequate distribution of bikes across the city and taking care of maintenances issues in a timely manner have presented real challenges to Mobike. Rebalancing, (re)distribution and allocating are aspects of bike-sharing that are considered to be major expense drivers.¹²² The extent to which bike-sharing systems are successful very much depends on their ability to ensure a sufficient number of bicycles is available at the right place at the right time.¹²³ At the end of 2017, the rapid growth in the bike-sharing industry suddenly halted when Bluegogo - the third largest competitor at the time - went bankrupt. Since then, many other players followed suit. According to Ibold et al., the 'fierce price war, increased

Unknown Author "Cycling boom creates a parking headache." *Shanghai.gov*, 03 February 2017;

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai85558.html>; Unknown Author "The unwanted side of bike sharing." *Shanghai.gov*, 17 January 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai85207.html>; Al Jazeera English (21 January 2018) *Chinese seek to put brakes on bike-sharing*. <https://www.youtube.com/watch?v=21CbXA1WEUs>; South China Morning Post (2018, Augustus 28) *Drone footage shows thousands of bicycles abandoned in China as bike sharing reaches saturation*.

<https://www.youtube.com/watch?v=Xlms-8zEcCg>; Time (2018, April 2) *'Bicycle Kingdom': China's Bike Sharing Programs May Have Hit Peak Supply In Major Cities* | TIME. <https://www.youtube.com/watch?v=chExzkWc-7c>; Wall Street Journal (3 April 2017) *When Bike Sharing Goes Wrong*. https://www.youtube.com/watch?v=ihg9twret_o

¹¹⁷ Angus "Sharing bikes in Shanghai." *ProjectGus.com*, 17 April 2017. <https://projectgus.com/2017/04/sharing-bikes-in-shanghai/>; Borak, Masha "Mobike co-founder and CEO Davis Wang resigns, Hu Weiwei takes the handlebars." *Technode.com*, 28 April 2018.

<https://technode.com/2018/04/28/mobike-davis-wang-resignation/>; Ibold et al (2018) ; Philipp Hundertmark (12 June 2018) *How to get around in Shanghai! Bike Sharing Guide China*. <https://www.youtube.com/watch?v=bYETisGqQ14>; Serpentza (26 October 2017) *HUGE bike GRAVEYARDS a symbol of China's EXCESS*. <https://www.youtube.com/watch?v=1lYu4wzv9Lw>; Xiaomify (17 May 2017) *China's Bike-Sharing madness! (OFO vs. MoBike & many others)*. https://www.youtube.com/watch?v=M7_Dq7ayiEA

¹¹⁸ Ibold et al. (2018)

¹¹⁹ Unknown Author, "Bike-sharing complaints surging." *Shanghai.gov*, 21 July 2017.

¹²⁰ Jing, Shi "Shanghai Tries to Limit Shared Bikes." *ChinaDaily.com*, 22 August 2018.

http://www.chinadaily.com.cn/china/2017-08/22/content_30944519.htm

¹²¹ Unknown Author. "市区"堆成山"郊区"吃不饱"崇明成上海共享单车最少地区。" *Shanghai.gov*, 8 September 2017.

<http://www.shanghai.gov.cn/nw2/nw2314/nw32419/nw42619/nw42622/u21aw1268304.html>

¹²² Schuijbroek, J. ; Hampshire, R.C. ; Van Hoes, W.-J. (2017), "Inventory Rebalancing and Vehicle Routing in Bike Sharing Systems." *European Journal of Operational Research*, Vol.257(3), pp.992-1004.

¹²³ Pal, Aritra ; Zhang, Yu (2017), "Free-floating Bike Sharing: Solving Real-life Large-scale Static Rebalancing Problems." *Transportation Research Part C, Issue 80*, p.92

governmental regulations and lack of innovation and funding supply' are factors that have led to the downfall of many.¹²⁴

In Shanghai, The Shanghai Municipal Government has been and still is taking measures in an attempt to limit the excessive number of shared-bikes. For instance, in March 2017, the Shanghai Transportation Commission reportedly requested six major bike-sharing firms to temporarily stop deploying more bikes in the city streets in order to manage and control an 'overheated' bike-sharing market.¹²⁵ That same month, the Huangpu District removed four thousand bikes – most of which were Mobikes - from the streets and placed them in a city depot.¹²⁶ In July 2017, the SBA and the Tianjin E-bike Industry Association released three detailed reports containing standards for the bike-sharing industry.¹²⁷ These standards set a minimum age standard of 16 years and stipulate that all bikes have to be replaced after three years.¹²⁸ As of January 2018, there was one Mobike employee responsible for about 3,000 bikes in Shanghai.¹²⁹ According to Guo Jianrong, one of main problems bike-sharing companies are dealing with is a lack of staff to manage the number of bikes.¹³⁰ Therefore, the new standards required every 200 bikes to have one person responsible. According to Shanghai Municipal Government, these standards were officially adopted and implemented and bike-sharing firms were expected to comply to these standards within a period of three months.¹³¹ Interestingly enough, in another article, the SBA said these standards are guidelines rather than mandatory requirements.¹³² Furthermore, a branch of the SBA was established in which all the bike-sharing companies operating in Shanghai take part, in an attempt to improve proper distribution of bikes across the city. It is said to be 'the country's first self-disciplinary organization of bike-sharing companies'.¹³³

In Shanghai, Mobike employs maintenance workers who are responsible for managing the bicycles in the public space. For example, a Mobike maintenance worker comes to (amongst other places) the Nanjing East Rd. Metro Station on a daily basis to sort out all the bicycles and put them back in order. Bikes that have defects are photographed and numbered, and then put aside to be picked up by a truck at a later moment. There is a central depot in Hongkou District where all bikes with defects are collected and repaired to be redistributed afterwards. According to Mr. Xu Daoxing, chief engineer of the SBA, the Shanghai municipal government had confiscated more than 500.000 bicycles by October 2018.¹³⁴ A Mobike maintenance worker I interviewed in Shanghai, confirms that the number of shared-bikes in the public space has dramatically decreased and as a consequence, a large number of Mobike employees had been fired in the spring of 2018. Due to the confiscation of many bikes, the need for managers also

¹²⁴ Ibold et al. (2018)

¹²⁵ Unknown Author "City mulls rules as bike-sharing market is overheated." *Shanghai.gov*, 17 March 2017.

¹²⁶ Unknown Author "Cycling boom creates a parking headache." *Shanghai.gov*, 2 March 2017.

¹²⁷ Xu, Daoxing et al. "共享自行车服务规范" (Bicycle-sharing service specification),

上海市自行车行业协会与天津市自行车电动车行业协会 (Shanghai Bicycle Industry Association and Tianjin E-bike Industry Association), 1 July 2017. ; Chen, Haiming et al. "共享自行车，第一部分：自行车" (Shared bicycles, Part 1: Bicycles), 上海市自行车行业协会与天津市自行车电动车行业协会 (Shanghai Bicycle Industry Association and Tianjin E-bike Industry Association), 1 July 2017. ; Shi, Hongyang et al. "共享自行车，第二部分：电助力自行车" (Shared bicycles, Part 2: Electrically power assisted bicycles), 上海市自行车行业协会与天津市自行车电动车行业协会 (Shanghai Bicycle Industry Association and Tianjin E-bike Industry Association), 1 July 2017.

¹²⁸ Unknown Author "Standards made to regulate bike-sharing business." *Shanghai.gov*, 7 July 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai86798.html>

¹²⁹ WRI Ross Cities Staff, 20 February, 2018.

¹³⁰ Unknown Author "Cycling boom creates a parking headache." *Shanghai.gov*, 2 March 2017.

¹³¹ Unknown Author "Standards made to regulate bike-sharing business." *Shanghai.gov*, 7 July 2017.

¹³² Unknown Author "Standards on bike sharing." *Shanghai.gov*, 2 June 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai86409.html>

¹³³ Unknown Author "Fewer bikes downtown, more in the outskirts." *Shanghai.gov*, 6 September 2017.

<http://www.shanghai.gov.cn/shanghai/node27118/node27818/u22ai87357.html>

¹³⁴ Informal conversation Mr. Xu, Shanghai Bicycle Industry Association, 6 October 2018.

disappeared largely. However, no exact numbers on employment rates at Mobike this could be found to verify this claim.

In response to problems with vandalism, theft and illegal parking, Mobike has taken various measures to encourage their users to contribute to a 'healthier bikeshare community' by properly and responsibly making use of their bikes. One of these incentives is the implementation of an extensive scoring system (the Mobike Score) that tracks and scores user behavior.¹³⁵ The scoring system works on the basic principle that good behavior is rewarded and bad behavior is punished. Examples of behavior that may lead to bonus points are: obeying traffic rules; participating in traffic in a safe and orderly manner; parking the bike considerately and treating it with respect; reporting a broken, privately locked or an inaccessibly parked bike in the app.¹³⁶ Also, a users' score may go up if s/he regularly uses the platform.¹³⁷ Examples of behavior that may lead to a reduced score are: participating in traffic in an unsafe manner; reckless riding; ignoring traffic rules and obstructing others; wrongly parking or vandalizing the bike. Users can access all their personal data through the Mobike App. The score is divided into five levels: Outstanding (1000-701), Excellent (700-601), Good (600-501), Fair (500-301), Poor (300-0). Every customer starts with a default score of 550 that is updated every month. In the future, fares will also be affected by a customer's score and will be calculated accordingly. With a score of 100 or lower, a customer's account may be suspended. Furthermore, customers can expect financial penalties for improper behavior or special privileges for exceptionally high scores.¹³⁸ The cities social credit system is reportedly expected to be integrated with the Mobike Score. However, it remains unclear how and when users will be affected by their scores and how possible penalties may be imposed.

¹³⁵ Mobike.com, *FAQ*

¹³⁶ Mobike.com, *Mobike Score* <https://mobike.com/global/blog/post/mobike-score>

¹³⁷ Mobike.com, *FAQ*

¹³⁸ Mobike.com, *Mobike Score*

6.2 Field work and Questionnaire results

In an attempt to provide up-to-date information concerning the current bike-sharing situation in Shanghai field work was carried out. Over the course of three weeks, in the month of October 2018, 25 different types of locations have been visited, observed and checked (Figure 1). Nine out of these 25 locations have been observed three times, at different days of the week (both week and weekend days), at different hours of the day. The time frames that have been determined for carrying out the observations are: morning 9:00-11:00, afternoon 12:00-14:00, rush hour 17:00-19:00, evening 21:00-23:00. These nine locations are marked with a green icon. In order to get a better understanding of the extent to which fieldwork findings are representative for the status quo of bike-sharing in different parts of Shanghai, 16 additional locations were visited once. These are marked with an orange icon. Please see Appendix IV for a complete and detailed list of all the locations that are included in this study.

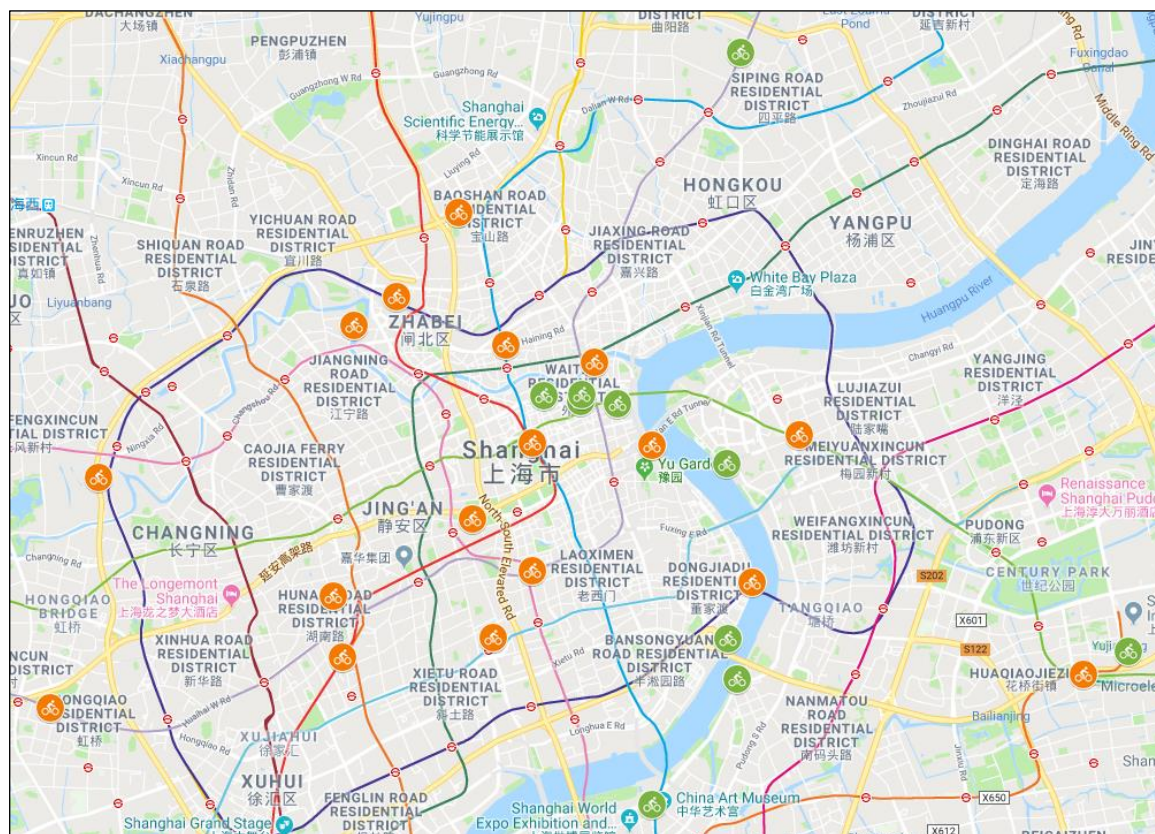


Figure 1 - Overview of the locations in Shanghai that have been visited.¹³⁹

Additionally, a questionnaire was spread amongst a number of people currently residing in Shanghai. In order to get a better understanding of the extent to which Shanghai could be a viable market for Swapfiets to launch its service, people's attitudes towards bike-sharing in Shanghai in general, but also their attitudes towards the Swapfiets concept were explored.¹⁴⁰ The questionnaire was designed using the platform SurveyMonkey and was spread mainly by Wechat.¹⁴¹ Since Shanghai is an international city and the target group was not limited to Chinese speaking citizens, the questions were formulated in both Mandarin Chinese and English. The questionnaire has a total of 27 questions, divided into single choice, multiple choice

¹³⁹ All maps are created with Google My Maps.

¹⁴⁰ Please see Appendix III for the complete questionnaire.

¹⁴¹ SurveyMonkey.com, <https://www.surveymonkey.com/>

and star rating questions. The questions marked with an asterisk (*) are derived from or based on a questionnaire created by Zou Linghong in her 2014 thesis: *Addressing declining bike use in China: Factors associated with bike ownership and use*. However, the questions have been adapted to better fit the research topic. Due to the limited timeframe for this thesis, the survey is limited in scope. Important to mention here is that public polling in China is very difficult due to censorship and online restrictions, about one week after its launch, the survey started to have issues with its accessibility. In some cases, the survey did open but only after a 10-minute wait. In most cases however, the survey failed to open at all. From that moment, incoming responses almost completely ceased (*Figure 2*). Some respondents managed to get through, but this number remains very limited. Nevertheless, the survey collected a total of 65 respondents. Despite being rather limited in numbers, it could still give us some indications for further research.

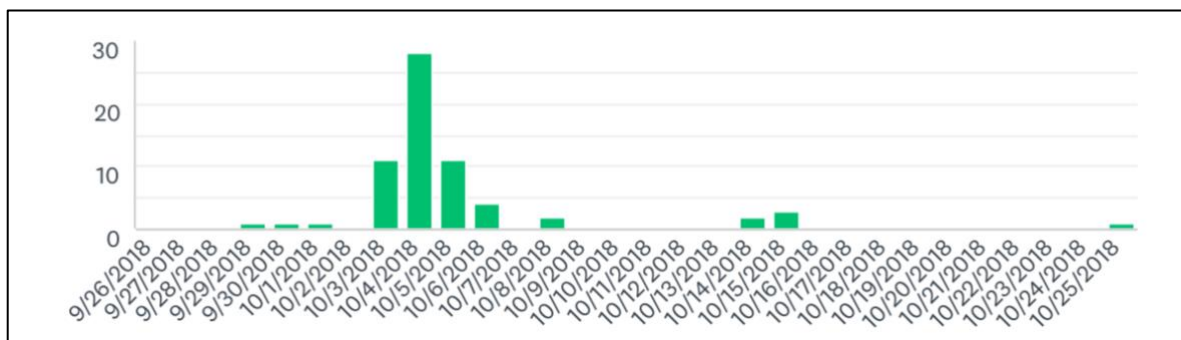


Figure 2 - Responses Volume

Despite extensive research, the exact number of bike-sharing companies that is currently operating in Shanghai remains unclear, but it is estimated to be around fifteen. During the field research, twelve different brands have been encountered. These include: Mobike, Ofo, Hellobike, JiuJiu, Xiangqi, Xiaoming, U-Bicycle, Kuqi, Tiantianqi, Yichu, 100-Bike and Youon (Appendix V). The latter has reportedly merged with Hellobike in November 2017.¹⁴² In all locations, except for the China Art Museum, Mobike was the largest supplier and Ofo was second largest supplier. The number of shared-bikes provided by other companies was rather limited. Questionnaire results indicate that Mobike is also the most *used* bike-share provider. Ofo came second. All of the other brands were used significantly less. The reason for this probably lies in the fact that Mobike and Ofo are the two largest providers and have most bikes available on the Shanghai city streets (*Figure 3*).

¹⁴² Ibold et al. (2018)

Q11: What providers do you make use of? (Multiple answers possible)

您使用哪些供应商？（多选）

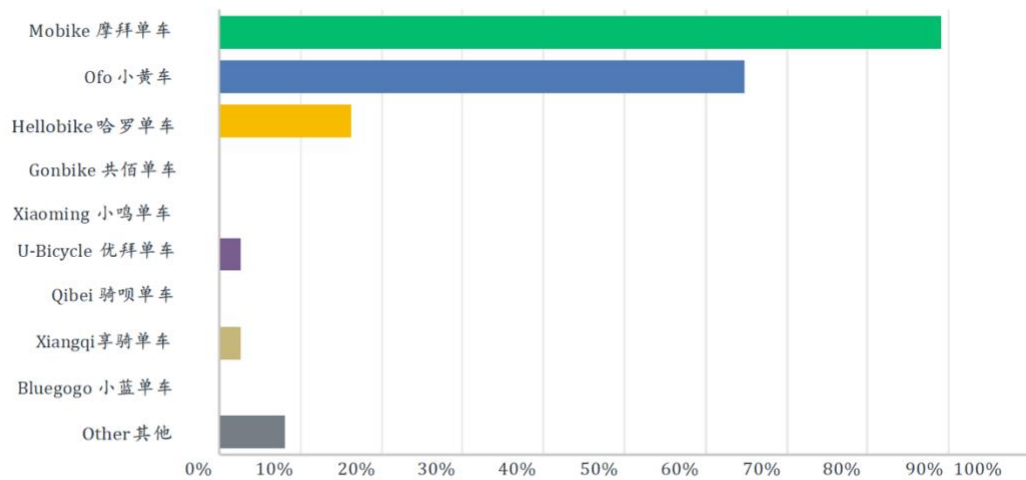


Figure 3 - Q11: What providers do you make use of? (Multiple answers possible)

Perceptions on current state of bike-sharing in Shanghai amongst respondents seems to be divided and are certainly not black-and-white (Figure 4). 46% indicated to disagree or strongly disagree with the statement that shared-bikes in Shanghai are sufficiently regulated and managed. 34% was neutral on the matter and 20% agreed or strongly agreed.

Q18: Shared bikes in Shanghai are sufficiently regulated/managed.

上海市内公共场所共享单车受足够管制/管理。

| ★ 1 | ★ 2 | ★ 3 | ★ 4 | ★ 5 | TOTAL | WEIGHTED AVERAGE |
|--------|--------|--------|--------|-------|-------|------------------|
| 16.00% | 30.00% | 34.00% | 12.00% | 8.00% | | 2.66 |
| 8 | 15 | 17 | 6 | 4 | 50 | |

Figure 4 - Q18: Shared-bikes in Shanghai are sufficiently regulated/managed

East Nanjing Rd. Metro Station

Since Mobike’s mission is to solve the ‘last-mile-problem’ in cities, a metro station in the city centre of Shanghai should be one of the locations where one could expect to find a wide

availability of shared-bicycles.

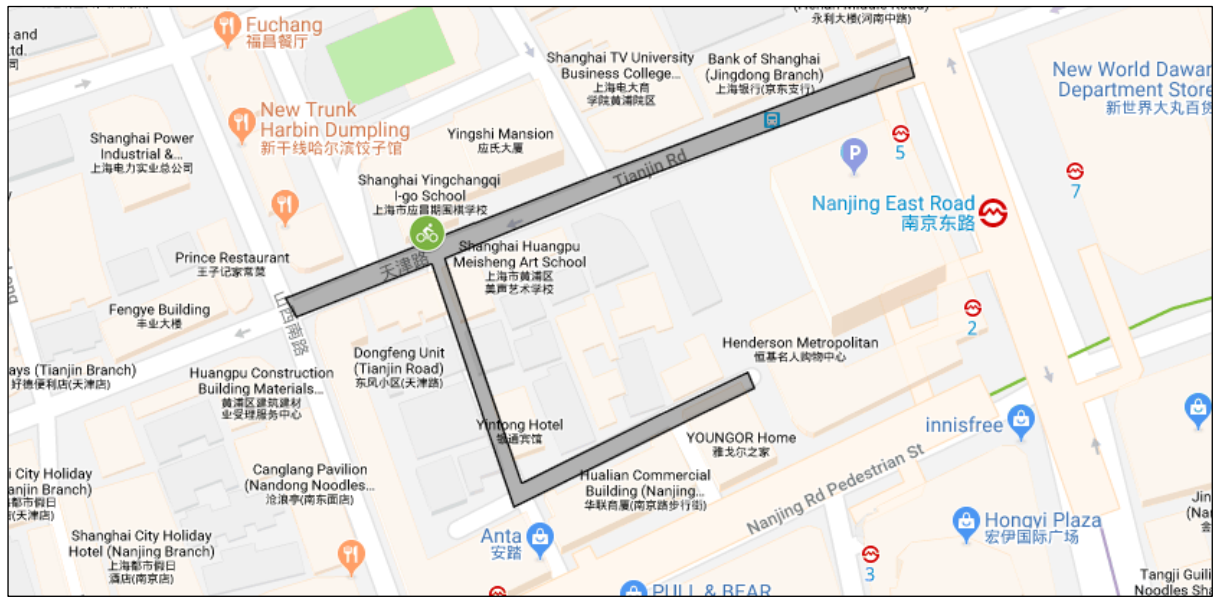


Figure 5 shows the area around East Nanjing Rd. Metro Station that has been included in the study. The number of shared-bikes was heavily fluctuating in the testing area. As shown in

| | Mobike | Ofo | Hellobike | Xiangqi | Jiujiu | Xiaoming | U-Bicycle | Kuqi | Tiantianqi | Youon | Yichu | 100-Bike | Total Shared | Total Private |
|---------------|--------|-----|-----------|---------|--------|----------|-----------|------|------------|-------|-------|----------|--------------|---------------|
| 04.10 noon | 54 | 27 | 2 | 7 | 4 | - | - | - | - | - | - | - | 94 | 92 |
| 04.10 evening | 3 | 7 | - | 5 | 3 | - | - | - | - | - | - | - | 18 | 59 |
| 05.10 morning | 47 | 22 | 1 | 5 | 2 | - | - | - | - | - | - | - | 77 | 71 |

Table 1, the number of available Mobikes dropped sharply from 54 units in the afternoon to three units that same evening and back to 47 units the next morning. There are two possible explanations for this difference; either all the bikes have been used by commuters to go home after work or the bikes have been relocated by maintenance workers. Either way, no abandoned or piles up bicycles were encountered. Also, available parking spaces in this area seemed to be more than sufficient; no bicycles parked outside of designated parking areas were spotted.



Figure 5 - East Nanjing Rd. Metro Station (南京东路地铁站) - 31.23803, 121.48251

| | Mobike | Ofo | Hellobike | Xiangqi | Jiuju | Xiaoming | U-Bicycle | Kuqi | Tiantianqi | Youon | Yichu | 100-Bike | Total Shared | Total Private |
|---------------|--------|-----|-----------|---------|-------|----------|-----------|------|------------|-------|-------|----------|--------------|---------------|
| 04.10 noon | 54 | 27 | 2 | 7 | 4 | - | - | - | - | - | - | - | 94 | 92 |
| 04.10 evening | 3 | 7 | - | 5 | 3 | - | - | - | - | - | - | - | 18 | 59 |
| 05.10 morning | 47 | 22 | 1 | 5 | 2 | - | - | - | - | - | - | - | 77 | 71 |

Table 1 - Bike counting East Nanjing Rd. Metro Station

Questionnaire results show that solving the ‘last-mile-problem’ is the most chosen reason amongst respondents to use shared-bicycles. In that sense, Mobike indeed fulfills this demand with its ‘dockless’ bicycles. However, “more convenient than my own bike (no investment needed, no worries about maintenance or theft, no responsibility)” is marked as the second largest motivator for people to use shared-bicycles (*Figure 6*). Furthermore, “too many bikes have defects” is by far the main reason for people *not* to use shared-bicycles (*Figure 7*). In this regard, Swapfiets could also be a good service for people to choose since the company’s main focus is addressing these issues.

| ANSWER CHOICES | RESPONSES | |
|---|-----------|----|
| More convenient than my own bike (no investment needed, no worries about maintenance or theft, no responsibility) 共享单车比自己的自行车更便利 (不需要投资、不需自己修理、对共享单车没有责任) | 67.57% | 25 |
| Cheaper than other forms of transport 共享单车比其他交通方式更便宜 | 32.43% | 12 |
| Faster than other forms of transport/ to avoid traffic jams 共享单车比其他交通方式更快, 避免堵车 | 56.76% | 21 |
| Improve connections /solves “the-last-mile-problem” 共享单车为您提供其他交通方式之间更好的连结/解决了最后一英里的问题 | 75.68% | 28 |
| More beneficial to one’s health 共享单车对身体更健康 | 29.73% | 11 |
| Better for the environment 共享单车对环境好得多 | 37.84% | 14 |
| leisure activities/recreational purposes 娱乐休闲 | 21.62% | 8 |
| Other 其他 | 2.70% | 1 |
| ⇒ ? | | |
| Total Respondents: 37 | | |

Figure 6 - Q10: I use shared-bikes because

Q13: *I do NOT use shared bikes because: (Multiple answers possible)

我不使用共享单车出行因为：（多选）

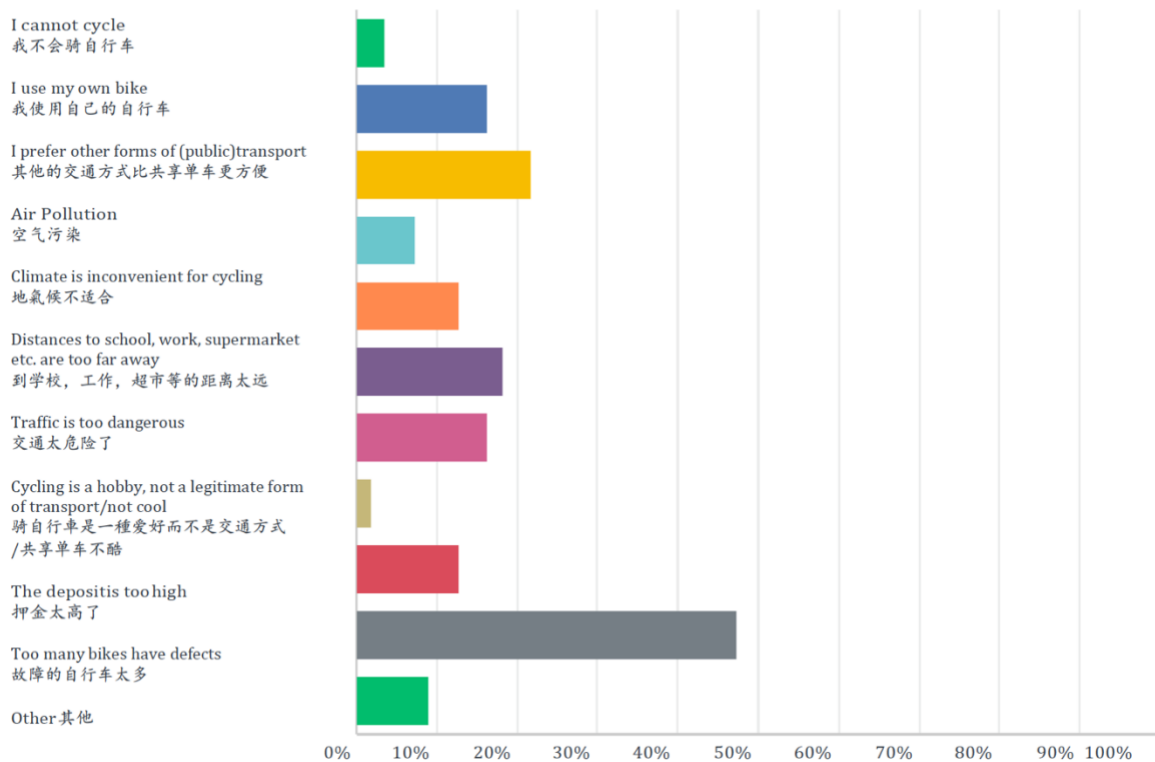


Figure 7 - Q13: I do NOT use shared-bikes because

Ferry from Lujiabang Ferry Terminal to Nanpu Bridge Ferry Terminal

This ferry allows passengers to take their vehicle (scooters, motor cycles, bicycles etc.) on board for a small fee depending on the vehicle (*Figure 8*). Research findings indicate that people in Shanghai are generally not very keen on taking their shared-bike on the ferry. They seem to rather leave the bike at the terminal, then take the ferry, and find another shared-bike on the other side. Out of the three times the ferry has been checked, only one person has been counted who took his shared-bike (an electric Xiangqi bike) on the ferry (see Appendix V). These circumstances are perhaps less favorable for Swapfiets, since Swapfietsers generally would not leave their bicycle behind, but rather take it with them on the ferry. The fact that a small fee is charged for taking a vehicle on the ferry might be one of the reasons that people are discouraged to take a bicycle along.

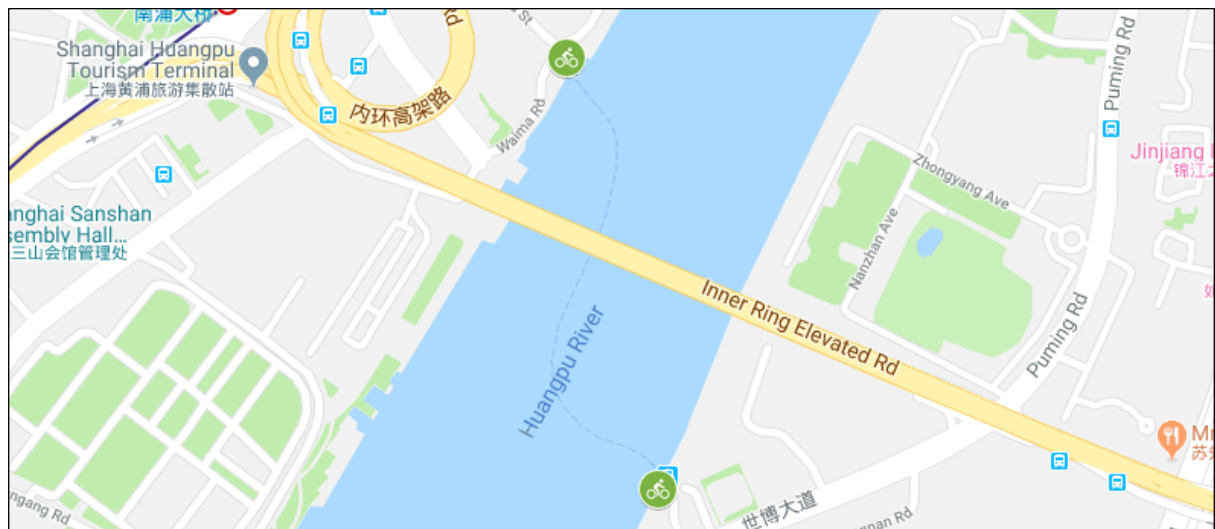


Figure 8 - Ferry from Lujiabang Ferry Terminal (陆家浜渡口) - 31.20784, 121.5045 to Nanpu Bridge Ferry Terminal (南浦大桥渡口) - 31.20265, 121.50579

Dongchang Rd. Ferry Terminal

Dongchang Rd. Ferry Terminal (Figure 9) proved to be a very difficult location to count. The number of shared-bikes in this location varied heavily almost every 5-10 minutes. The one moment, there were several dozen shared-bikes available, mostly when a ferry had just departed and people had just parked their bike. Whenever a ferry had just arrived, passengers hastily went on to get one of the available bikes and the next minute almost all of them were gone again. This observation indicates that all the bicycles in the area are actually being used, which explains why the number is fluctuating heavily (Appendix V).



Figure 9 - Dongchang Rd. Ferry Terminal (东昌路渡口) - 31.23011, 121.50436

Residential areas and gated communities

In a large number of locations in Huangpu District, a number of different kinds of signs were encountered specifically prohibiting shared-bikes from entering the gated communities. An employee of the Waitan Community Culture Activity Community Center in Huangpu District explained that the signs are a result of a mutual agreement between the compounds rather than a specific government regulation. The main reason for these signs is because the bicycles are for

sharing purposes. In the past, many people took shared-bicycles into their own compounds or buildings, which are generally closed off during the night and cannot be entered by anyone who is not authorized. This caused problems with safety and accessibility of the compounds which usually consist of many narrow alleyways. Also, this excludes others from having access to those bikes. It becomes a bike for personal use rather than a shared-bike. According to a security guard of a gated residential alleyway at Ningbo Road, shared-bikes are not permitted within gated neighborhoods/communities, because there are simply too many shared-bicycles and alleyways are too narrow and would be clogged in no time. The signs have been instated about 6 months to 1 year ago. A police officer on duty confirmed this explanation. Only the main roads are accessible for shared-bicycles and they are not permitted to enter or be parked in residential areas and small alleyways. Tianzifang (Figure 10), is an example of such gated communities.



Figure 10 - Tianzifang (田子坊) - 31.208, 121.46949

In this warren of narrow alleyways, shared-bicycles are also not permitted to enter. Here and there, someone managed to sneak in a shared-bike, but still the total number of counted bikes in the whole area remained very limited (four shared-bikes). This situation corresponds to the situation in gated communities and compounds located in other districts of Shanghai like Huangpu. Swapfiets might offer a solution here. Swapfiets is intended to be used exclusively by one customer and thus should be regarded as private property. Theoretically, users should therefore be free to use their Swapfiets in and around compounds and gated communities as long as they adhere to the traffic rules and regulations within said premises and provided they store their bike within their own home. A lack of space in Shanghai's public space, residential compounds and within people's homes might pose a problem here so Swapfiets might consider a foldable Swapfiets to deal with these spatial confinements. However, regardless the fact that shared-bikes are extensively used in Shanghai, still about half (47,8%) of the respondents indicated to have one or more bicycles in their household (**Error! Reference source not found.**).

Q6: *Do you or your household own a bike? 你或你家是否拥有一辆自行车?

| ANSWER CHOICES | RESPONSES | |
|----------------------------|-----------|----|
| Yes 是 | 32.26% | 20 |
| Yes, more than one 是, 不止一辆 | 14.52% | 9 |
| No 否 | 53.23% | 33 |
| TOTAL | | 62 |

Figure 11 - Q6: Do you or your household own a bike?

The parking instructions that Mobike provides to its users support the regulations in gated compounds in Huangpu district. According to the Mobike guidelines, it is prohibited to park your Mobike in/on: private bicycle parks; inside a compound or gated community; inside a building or in an underground parking space; a location where it might obstruct free passage, such as entrances or a location where it could impact other means of transportation such as roads, cycling paths and sidewalks.¹⁴³ Mobikers are encouraged to park at a so-called MPL (Mobike Preferred Location). These are designated bike-parking areas that can be recognized by the (colorful) lines painted on the ground and can usually be found on sidewalks or at other 'open' publicly accessible locations. In the event that there is no MPL available anywhere near or the MPLs are already fully used, Mobikers can park at any publicly accessible location. Designated bike-parking facilities have been encountered many times during the field observations in Shanghai. Most of these parking spots had plenty of space for more bicycles. Overall, the number of available parking spots versus the number of bikes seemed to be more than sufficient in Shanghai. Amongst respondents, opinions on available and convenient bike-parking facilities in Shanghai varied. 38% disagreed or strongly disagreed, 32% was neutral on the matter and 30% agreed or strongly agreed (Figure 12).

Q19: *Bike parking facilities in Shanghai are available and convenient.

上海有足够的共享单车停车设施且使用便捷。

| ★ 1 | ★ 2 | ★ 3 | ★ 4 | ★ 5 | TOTAL | WEIGHTED AVERAGE |
|--------|--------|--------|--------|--------|-------|------------------|
| 14.00% | 24.00% | 32.00% | 20.00% | 10.00% | 50 | 2.88 |
| 7 | 12 | 16 | 10 | 5 | | |

Figure 12 - Q19: Bike parking facilities in Shanghai are available and convenient.

Tongji University Campus

Generally, a university campus is considered to be a bike-share users' hotspot. In order to gain a better understanding of the bike-sharing situation at a university campus in Shanghai, Tongji University campus was visited and both privately owned and shared-bikes were counted. Due to the limited scope and time limitations, only a specific area was counted (see Figure 13).

¹⁴³ Mobike.com, FAQ



Figure 13 - Tongji University Campus (同济大学校园) - 31.28248, 121.50637

Overall, shared-bikes seem to be widely available at the Tongji campus. In total, 11 different bike-sharing brands were counted. During the first round of counting, a total of 1,090 bicycles were counted. 24.1 % of those bicycles (263 units) were shared-bikes. The rest, 75.9% (827 units) were privately owned. From this number, one might conclude that the number of people that uses a privately-owned bicycle far exceeds the number of shared-bicycle users. However, it is impossible to verify the extent to which these privately-owned bikes are actually in use or abandoned. All that can be concluded from the observations is that at least 240 privately owned bikes had been used between the first round of counting in the afternoon and the last round of counting the next morning (see *Table 2*). Seen in this light, the number of shared-bicycles found in this part of the campus almost equals the number of actively used privately owned bicycles.

| | Mobike | Ofo | Hellobike | Xiangqi | Jiujiu | Xiaomimg | U-Bicycle | Kuqi | Tiantianqi | Youon | Yichu | 100-Bike | Total Shared | Total Private |
|----------------------|--------|-----|-----------|---------|--------|----------|-----------|------|------------|-------|-------|----------|--------------|---------------|
| 05.10 noon | 178 | 40 | 4 | 6 | 10 | 12 | 5 | 5 | 1 | 1 | 1 | - | 263 | 827 |
| 05.10 evening | 89 | 23 | 5 | 4 | 9 | 11 | 5 | 5 | 1 | 1 | 1 | - | 154 | 631 |
| 06.10 morning | 55 | 24 | 5 | 4 | 10 | 11 | 5 | 5 | 1 | 1 | 1 | - | 122 | 587 |

Table 2 - Bike counting Tongji University Campus

Questionnaire findings indicate that bike-sharing in Shanghai, like Swapfiets in the Netherlands, is very popular amongst students. Results show that 81.8% of the respondents that are students makes use of shared-bicycles. Among non-students, this percentage is 62.8% (*Figure 14*). Since the Chinese campus is at the heart of Chinese university life and bikes are used extensively, it could be a suitable testing ground for a service like Swapfiets. Leasing a bike might be a better option for many students because they do not have to deal with the hassle of disposing of their bike once they graduate. It could result in a decline in the number of abandoned bikes on university campuses and help make better use of the available bicycle parking spots.

Q7: *Do you make use of shared bikes in Shanghai? vs. Q5: Are you currently a student?

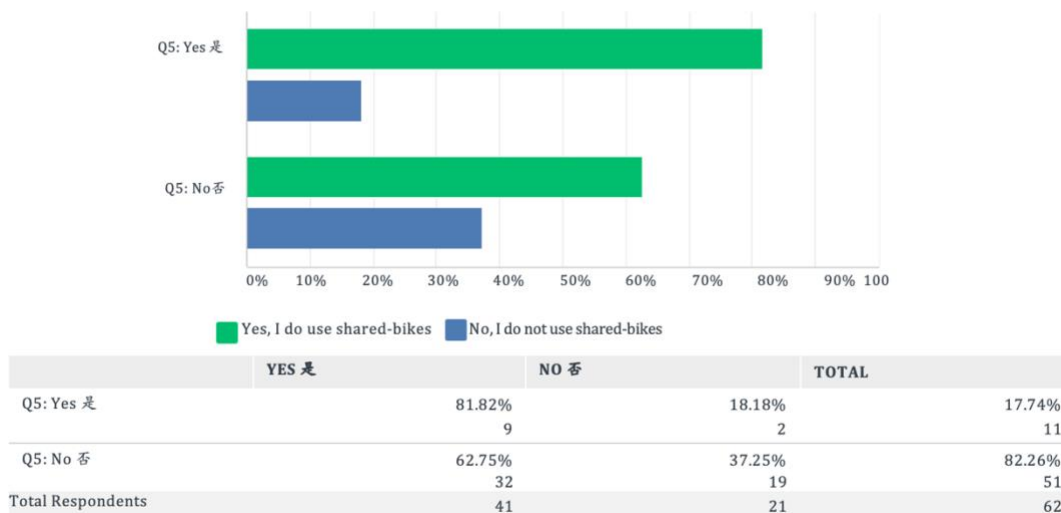


Figure 14 - Q7: *Do you make use of shared-bikes in Shanghai? vs. Q5: Are you currently a student?

Public perceptions of Swapfiets

The survey indicates that after a short introduction, the Swapfiets concept appealed to most respondents. The majority of respondents generally believed it to be a good idea. 72.3% of the respondents agreed or strongly agreed to the statement: “Swapfiets is a good idea.” (Figure 15).

Q21: Swapfiets is a good idea. Swapfiets的概念是一个好主意。

| ★ 1 | ★ 2 | ★ 3 | ★ 4 | ★ 5 | TOTAL | WEIGHTED AVERAGE |
|-------|-------|--------|--------|--------|-------|------------------|
| 8.51% | 8.51% | 10.64% | 42.55% | 29.79% | | 3.77 |
| 4 | 4 | 5 | 20 | 14 | 47 | |

Figure 15 - Q21: Swapfiets is a good idea.

The extent to which respondents are also willing to adopt a service like Swapfiets varied. Exact reasons for this remain unknown. In order get a better understanding of exact motivations for people to choose Swapfiets, further research is needed. However, more than half (53.2%) of the respondents agreed or strongly agreed to the statement: “I am willing to adopt a service like Swapfiets.” (Figure 16). In summary it can be concluded that most respondents were welcoming to the idea of Swapfiets as a concept and were also willing to adopt such a service.

Q22: I am willing to adopt a service like Swapfiets.

我愿意采用像 Swapfiets 这样的服务。

| ★ 1 | ★ 2 | 3★ | ★ 4 | 5★ | TOTAL | WEIGHTED AVERAGE |
|--------|--------|--------|--------|-------|-------|------------------|
| 12.77% | 14.89% | 19.15% | 27.66% | 25.53 | | 3.38 |
| 6 | 7 | 9 | 13 | 12 | 47 | |

Figure 16 - I am willing to adopt a service like Swapfiets

There were however some doubts over whether or not such a service could be viable in Shanghai. In that sense the data is a bit contradictory. It would be interesting to conduct further research in order to be able to explain this disparity (Figure 17).

Q23: This type of service could be viable in Shanghai. 在上海,这种服务可行。

| ★ 1 | ★ 29 | ★ 3 | ★ 4 | ★ 5 | TOTAL | WEIGHTED AVERAGE |
|--------|--------|--------|--------|--------|-------|------------------|
| 19.15% | 23.40% | 27.66% | 19.19% | 10.64% | | 2.79 |
| 9 | 11 | 13 | 9 | 5 | 47 | |

Figure 17 - Q23: This type of service could be viable in Shanghai.

7. Conclusions

7.1 Swapfiets and Mobike

Mobike and Swapfiets both launched a service in the bike-sharing industry in early 2016. Both companies 'reinvented' existing services and managed to tweak the original concepts in such a way that they became innovative. Both experienced massive growth and high adoption rates in a relatively short period of time. In a matter of two to three years, the easily recognizable blue tires of Swapfiets in the Netherlands and the silver and orange Mobikes in Shanghai with their distinctive appearance earned their place in the public space. After their initial success, both companies received large capital investments in order to facilitate rapid growth and to enable them to expand abroad to multiple other countries. For both companies, this fast growth and widespread availability seems to have been a crucial success factor. Unlike Mobike however, Swapfiets was not affected by cut-throat competition and fierce price wars during its start-up phase. This allowed Swapfiets to take more time to fix any operational issues that occurred during the developmental phase. For Mobike, its development and implementation seems to be much more of a fly-by-night operation, focused on data gathering and design and green washing rather than engendering real sustainability.

This paper argues that the unprecedented growth of bike-sharing services in China such as Mobike should be understood within the context of China's Internet Plus strategy in which generating and sharing big data plays a crucial role for future city governance. Even though Mobike claims to share its big data, it remains unclear what kind of data is shared, with who, and how this data is (or will be) used in practice. For example, it remains unknown whether or not the Mobike Score is already integrated into the national social credit score and if so, how Chinese citizens will be affected by these scores. Also, I would like to point out that official and/or up-to-date statistics on Mobike, its customer base, bike fleet size, available locations etc. have proved difficult to find and/or verify. During the writing of this thesis, information provided on Mobike's website has been changing continuously. Transparency and customer relations are two aspects that might represent one of the most important differences between the two companies. Mobike did not respond at all to any requests for information (even though they claim to be open, transparent and willing to share data), while Swapfiets was more than willing to cooperate and give openness about their business. They even invited me to their head office in Amsterdam and took time for interviews.

That having said, there are several important differences between Swapfiets and Mobike. For example, the basic premise of the two services. Both companies are trying to fulfil a different need and are aimed at solving different kinds of problems. Mobike is focused on solving the 'last-mile-problem', providing a more sustainable transport alternative and thus making the city more livable. Swapfiets' aim is to make sure people can conveniently get from A to B without having to worry about the maintenance of their bicycle. Swapfiets very much focusses on selling customer service and a good experience. Rather than paying for 'just a bicycle' for a fixed fee per month, customers pay for convenience, mobility and a feeling of security. Also, Swapfiets aims at people that are very much reliant on their bicycle as their main mode of transportation. This supports the need for having a reliable vehicle. Mobike aims at commuters who generally use different means of transportation in their daily lives such as train, bus or metro. These people use a Mobike as an additional transport mode to cover the last short distances between for example the metro station and their final destination. Important to mention here is that in the Netherlands, overall cycling distances are relatively short. Excellent interconnectedness of cycling paths, high safety levels and perceived convenience are factors that motivate people

choose the bicycle as their main mode of transport rather than use it for solving the 'last-mile-problem'.

Furthermore, Mobike actively promotes itself as being a company that strives to promote and increase sustainability within the transport sector. This is not the case for Swapfiets. Being sustainable could be considered a side effect of their business model rather than being a goal on its own. The company certainly does not promote itself as a sustainable business to its clients and potential client base. However, both Swapfiets and Mobike launched a service in which both customer and company benefit from having a durable product and both companies are making efforts to minimize maintenance.

The relation Swapfietsers and Mobikers have with the bikes and the way in which the bikes are used is another difference. Mobike aims to service as many users as possible per bicycle per day. Swapfiets however, provides bicycles to users for their sole and exclusive use. For the duration of their subscription users always have access to one and the same bicycle for which only they have the key and are thus responsible for. Whereas Swapfiets still very much relies on the goodness and responsibility level of their customers in order to achieve successful business, Mobike implemented an extensive scoring system - rewarding good behavior and punishing bad behavior - to motivate responsible use. Whenever something breaks, the Swapfietser him/herself initiates the repair, either by dropping by at a service station or making an appointment for Swapfiets to come over to fix it. In Mobike's case, it is up to the company to locate the bike and make sure it gets retrieved, repaired and redistributed. An important point here is the difference in subscriber vs. bike-fleet size ratio in the public space. In the case of Swapfiets, the number of Swapfietsen always corresponds to the number of users. Whenever a user ends his/her subscription, Swapfiets comes to retrieve the bike and assigns it to the next Swapfietser. An advantage of this approach is that it avoids having excess numbers of bicycles that are not used by anyone and thus reduces the number of broken and or abandoned bicycles in the public space. Additionally, Swapfiets does not have to be concerned with (re)distribution and relocating bicycles like Mobike does. As for Mobike, employees are always busy making sure an adequate number of bikes is available at the right place at the right time.

7.2 Bike-sharing in 2018 in Shanghai

In Shanghai, many different parties have been and still are involved with addressing issues associated with bike-sharing. These parties include but are not limited to the municipal government, city districts, Shanghai Transportation Commission the Shanghai Bicycle Industry Association, Tianjin E-bike Industry Association Shanghai Huangpu District Vehicle Parking Management Company and several bike-sharing companies.¹⁴⁴ The various measures undertaken by aforementioned parties - most importantly the restrictions put in the number of allowed shared-bikes and the large number of confiscated bikes – seem to have been crucial in addressing the problems with shared-bicycles excesses. Fieldwork findings show that the excesses with bike-sharing in Shanghai that were extensively reported on in various media

¹⁴⁴ Unknown Author "City mulls rules as bike-sharing market is overheated." *Shanghai.gov*, 17 March 2017. ; Xu, Daoxing et al. "共享自行车服务规范" (Bicycle-sharing service specification), 上海市自行车行业协会与天津市自行车电动车行业协会 (Shanghai Bicycle Industry Association and Tianjin E-bike Industry Association), 1 July 2017. ; Chen, Haiming et al. "共享自行车，第一部分：自行车" (Shared bicycles, Part 1: Bicycles), 上海市自行车行业协会与天津市自行车电动车行业协会 (Shanghai Bicycle Industry Association and Tianjin E-bike Industry Association), 1 July 2017. ; Shi, Hongyang et al. "共享自行车，第二部分：电力助力自行车" (Shared bicycles, Part 2: Electrically power assisted bicycles), 上海市自行车行业协会与天津市自行车电动车行业协会 (Shanghai Bicycle Industry Association and Tianjin E-bike Industry Association), 1 July 2017; Unknown Author "Cycling boom creates a parking headache." *Shanghai.gov*, 2 March 2017.

outlets, such as vandalism, illegally parked or dumped bicycles and huge piles of broken and abandoned bikes are currently not an issue (anymore) in any of the locations that were visited and observed. Observations indicate that the current number of shared-bikes in Shanghai has been spread out rather evenly over the city and the supply and demand seem to match quite well. Generally, large numbers shared-bicycles can still be found in basically any of the locations that have been visited. Overall, we can conclude that bicycles are widely available in Shanghai and there is definitely a thriving cycling culture in place.

Contrary to recent media reports, in none of the field work locations excessive numbers of bicycles were encountered. Here we define 'an excessive number' as an oversupply of bicycles that lead to large numbers of unused and abandoned bicycles. Overall, the number of shared-bikes that was wrongly parked, dumped or vandalized was virtually negligible. Bluegogo went bankrupt in late 2017. No Bluegogo bicycles were found in any of the locations included in this study. Of the companies that are currently not officially in operation anymore, Youon had failed to retrieve all of its bicycles from the public space. However, the number of left behind bicycles was very limited. It must be mentioned however that it remains unclear how many bikes there are exactly stored at the municipal depot in Hongkou district and what exactly happens with these bikes after storage in a depot.

Based on my research it is safe to say that shared-bicycles in Shanghai have indeed regained its place on the Shanghainese city streets. Important to mention here is the fact that Shanghai as a modern metropolis plays a leading role in China in urban development and innovation. However, this also means that the situation in Shanghai cannot be regarded as representative for China as a whole. If anything, it should be regarded as a testing ground on the forefront of mobility, IoT integration and modern urban development in China and perhaps the world.

7.3 Swapfiets in Shanghai?

This study shows that there are many indicators that Shanghai could be a viable market for Swapfiets. History shows that Shanghai has been a leader in adopting bicycles on different occasions. Shanghai took the lead in adopting bicycles when they were first introduced at the end of the 19th century and again with the introduction of the fourth generation of shared-bikes like Mobike. Swapfiets indicates that, in a potential new location, there should ideally already be an existing cycling culture. In that sense, Shanghai definitely fulfills this requirement. Also, the service could definitely contribute to Shanghai's aims to become a more sustainable city with a green transportation network. However, it would be recommendable to follow the strategy Swapfiets currently already applies when rolling out to new cities abroad. Preferably, the operating area should not be too large in order to minimize risk, keep investment costs manageable and avoid having to start with a bike fleet that is too large to properly manage. Swapfiets learned from experience that places with many students, their service was easily adopted and spread. In this respect, a university campus could be one of such locations to be taken into consideration.

A major downside of Shanghai as a potential new market for Swapfiets is the fact that Shanghai is not very close to its head office in Amsterdam. Continuing to make use of Union's production facilities and then ship the bicycles to China seems logistically impossible or too costly. Therefore, Swapfiets would be required to find a new production facility in China in order to be able to supply the domestic market. In the event Swapfiets would consider to launch its service in Shanghai, there are several important factors that should be taken into consideration. First, this study is not a market research; a more extensive study and a more systematic field research on a potential location needs to be conducted before making any business decisions. Second, more extensive research is needed on aspects such as local

legislation and required investments.

Overall, we can conclude that although Mobike and Swapfiets share many similarities, both companies provide entirely different services and serve different needs and that Swapfiets and Mobike are more likely to complement each other rather than being in direct competition. Consequently, there is definitely room for Swapfietsen on Shanghainese cycling paths, the road for Swapfiets is clear.

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9. Appendices

Appendix I: Interview Zita Schimmelpenninck

Appendix II: Interview Tomas Knipscheer

Appendix III: Questionnaire shared-bikes in Shanghai 共享单车在上海 vs. Swapfiets

Appendix IV: Fieldwork Locations & Maps

Appendix V: Table bicycle counting

9. Appendices

Appendix I: Interview Zita Schimmelpenninck (Region Manager Swapfiets Leiden)

Conducted on: 25.09.2018, in Leiden.

Time: 14:00

Location: Swapfiets Store Leiden, 2e Binnenvestgracht 14, 2312 BZ Leiden

Interviewer: Martine Lievers, MA student East Asian Studies.

Interviewee: Zita Schimmelpenninck, Regional Manager Swapfiets Utrecht & Leiden.

Note: In order to improve the readability of this interview, in some cases, accidental repetitions, lapsus linguae, words like 'eh' and pauzes have been corrected. The content of the interview has not been modified.

- start of the interview -

[Martine]: Oke, dan moet ik eerst officieel eventjes de tijd en de plaats noemen. Mijn naam is Martine Lievers. Ik ben hier met Zita Schimmelpenninck en Marloes...

[Marloes]: Deelen

[Martine]: ... van Swapfiets van Swapfiets. Zita is regiomanager van de regio Utrecht en Leiden. Correct?

[Zita]: Helemaal goed.

[Martine]: En ik ben hier bij de vestiging aan de 2e Binnenvestgracht in Leiden. Nou, Zita, Ja, super bedankt voor je tijd, in ieder geval!

[Zita]: Geen probleem.

[Martine]: Kan je misschien als eerst iets meer over jezelf vertellen? Wat doe je? Wat is je functie hier? Hoelang werk je hier al?

[Zita]: Nou, ik ben in augustus 2017 begonnen met werken voor Swapfiets, dus ik ben voor Swapfiets termen al wel oud, want iedereen is hier heel erg nieuw en het groeit ook heel erg hard. Ik ben begonnen als regiomanager van Utrecht, toen waren de verantwoordelijkheden eh, toen hield het vooral in dat je de hele operatie draaide.

Dus toen waren we in Utrecht nog heel klein, met 300 klanten, dat zijn er nu een jaar later 7000.

[Martine]: Zo!

[Zita]: Maar toen was het vooral roosters maken, mensen aannemen, uren registreren en er voor zorgen dat het concept wordt uitgevoerd in die stad. Inmiddels is het zo dat de dagelijkse operatie taken heb ik eigenlijk uit handen gegeven aan de city lead, dat zijn andere jongens die dat dan doen en ik zelf houd me meer bezig met controle op dat de operatie uit wordt gevoerd en bedenken wat gaat er mis, hoe kunnen we dat beter doen, eh, we zoeken winkels, loodsen, en ik denk mee op het hoofdkantoor over allerlei processen. Bijvoorbeeld met de manier waarop loodsen en winkels worden gevonden, dat dat meer moet worden samengevoegd. Ja, vanalles en nogwat. Ja, dus iets minder operatie.

[Martine]: Ja, ja, dus iets minder operationeel

[Zita]: Ja ja, maar het is nog steeds elke dag anders.

[Martine]: Ja, ik kan me voorstellen dat jou functie misschien ook met het bedrijf groeit en mee verandert.

[Zita]: Zeker, ja. Het is eigenlijk nog nooit hetzelfde geweest een maand lang ofzo. En daarnaast heb ik ook in april de regio Leiden erbij mogen pakken. Leiden bestaat natuurlijk al twee jaar, dat is de oudste stad na Delft.

[Martine]: Ja, ik wilde het net zeggen inderdaad.

[Zita]: En dat is ook weer een hele andere stad natuurlijk, dus. Dus ja, er is altijd heel veel te doen.

[Martine]: Is Leiden dan ook de grootste?

[Zita]: Nee! Nee, Leiden is vrij klein zelfs.

[Martine]: Oh!

[Zita]: In Leiden hebben we 3,5 duizend klanten. Wat heel veel is, maar toch.

[Martine]: Ja, ja.

[Zita]: Maar het is hier nog heel erg geconcentreerd op de studenten doelgroep, terwijl eigenlijk willen we dat Swapfiets gewoon door iedereen wordt gebruikt die kan fietsen en dan gebruik kan maken van de service. Maar tot nu toe zijn het vooral studenten geweest, maar we werken eraan om dat wat meer te kunnen uitbreiden.

[Martine]: Ja, precies. Dat was wel jullie initiële doelgroep toen jullie het concept wilden uitrollen? Als zijnde testgroep.

[Zita]: Ja. Als testgroep en omdat het makkelijk is als je in een nieuwe stad komt, en je komt binnen bij de studentenwereld dan verspreid het zich heel snel dus het is makkelijk om daar mee te beginnen, en dan kun je rustig aan verder door naar andere doelgroepen.

[Martine]: Dus het was in die zin wil een bewuste keuze om het onder studenten te testen. Zeker.

[Martine]: Ik las ook iets over bijvoorbeeld die eh abonnementsmodellen, dat studenten daar al wat meer aan gewend zijn zoals Spotify en Netflix en dergelijke, dus dat dat ook wellicht mee speelt. Is dat iets wat jullie van tevoren hebben nagedacht over: ah, die zijn eraan gewend, of is dat meer een mooie bijkomstigheid is.

[Zita]: Ik denk dat het meer een mooie bijkomstigheid is. Maar studenten zijn natuurlijk niet de enige die Spotify en Netflix gebruiken maar je ziet wel dat steeds meer mensen een abonnement nemen ergens op. Je kunt zelf tegenwoordig een abonnement nemen op kleren, he? Een auto kun je ook leasen. Maar wat die jongens [de oprichters] hebben bedacht toen ze het [Swapfiets] oprichten, ze waren zelf student. Ze zijn het gestart uit frustratie toen zij student waren, en dat je eigenlijk geen geld hebt voor een fiets, maar studenten zijn de grootste gebruikers van fietsen, dus rijd je altijd op een barrel en als ie kapot gaat wordt je opgelicht waar je bijstaat bij de fietsmaker, of hij wordt gejat. Waarom kunnen we dat niet in een klap oplossen. Dus op die manier zijn ze op het idee gekomen. Dus ze waren zelf studenten en zijn het aan hun medestudenten gaan verkopen, en dat ging heel goed, Dus zo zijn ze er toen mee doorgegaan.

[Martine]: Ja dus dat ze eigenlijk meerdere problemen hebben, waar eigenlijk een oplossing voor is gekomen. Het feit dat je als student gewoon niet zoveel te makken hebt, dat je service ervoor krijgt, dat je niet hoeft te investeren, dat het op de openbare ruimte positieve invloed heeft. Wat ik me afvroeg, daar kon ik niet zo heel veel over vinden; Heeft Swapfiets een hele duidelijk missie, die jullie meekrijgen?

[Zita]: Ja, dat is inderdaad. Die krijgen we vooral intern veel mee, maar dat is: Een blauwe band in elk fietsenrek, overal. En inmiddels zitten we natuurlijk in meerdere landen dus nu is het: A blue tire in every bicyclerack, everywhere. Dus dat is ons doel waar we naar toewerken.

[Martine]: Dus dat is uiteindelijk jullie toekomstdroom?

[Zita]: Hopelijk ja.

[Martine]: Als jullie gaan onderzoeken in welke nieuwe potentiële stad de dienst zouden willen

uitrollen, heb je enig idee hoe dat in z'n werk gaat? Waar moet een stad aan voldoen bijvoorbeeld, om interessant te zijn.

[Zita]: Nou, we hebben business developers die op pad gaan. Ik heb nu bijvoorbeeld een boel meegekregen dat we in het buitenland gingen beginnen. Bijvoorbeeld toen in Duitsland hadden ze een paar steden bedacht waar we dan zouden kunnen gaan beginnen. Dan worden de developers er naar toegestuurd, en toen kwamen ze erachter dat er in een van die steden nauwelijks gefietst wordt, dus toen hebben we dat niet gedaan. Niet als eerste stad. Je wilt natuurlijk beginnen in een stad waar veel wordt gefietst en waar studenten zijn, want dat is een toegankelijke doelgroep. En daarom zijn ze begonnen in de steden waar ze begonnen zijn. Daarna gaan ze eigenlijk kijken naar grote steden. Je probeert eigenlijk eerst de grote steden te pakken en dan kun je vanuit daaruit uitbreiden naar kleinere stadjes eromheen. Het liefst willen we ook in elk dorp te vinden zijn, maar dat is voor in de verre toekomst.

[Martine]: Precies, dus belangrijk is dat het in ieder geval een stad is waar al veel gefietst wordt, en misschien ook waar misschien ook waar de ruimte het toelaat om te fietsen? Dat het bijvoorbeeld niet te heuvelachtig is? Dat soort dingen? Of speelt dat niet zo mee.

[Zita]: Ja, het liefst wel. Maar we hebben nu wel, daarom zijn we in het buitenland ook begonnen met alleen het uitgeven van de Deluxe fietsen, dus met handremmen en versnellingen, omdat een Hollandse fietst werkt daar gewoon niet. En ze hebben ook hele andere regels, wetgeving op het gebied van, waar de fiets allemaal moet voldoen, qua eisen. Qua verlichting, dat moet allemaal worden aangepast.

[Martine]: Ja, precies. Van reflectoren aan de banden tot aan....whatever toe.

[Zita]: Ja. Dus we zijn nu begonnen in de landen waar we nu zitten. We kijken ook naar andere landen in Europa. We willen overal komen maar we beginnen in landen waar al veel gefietst wordt.

[Zita]: Steden waar veel gefietst wordt. Zodat we in andere landen ook makkelijk kunnen beginnen.

[Martine]: Ja, dat je een beetje een voet aan de grond krijgt en het dan ook makkelijk kan. Weet je of er wellicht ook al gekeken wordt naar de Aziatische markt.

[Zita]: Eh, weet ik niet. Ik denk dat ze dat wel doen, want uiteindelijk willen ze over de hele wereld beginnen. Maar Azie is gewoon heel veel weg, dat is zo'n andere wereld. Ook om in te werken zelf en te handelen, daar zijn denk ik nog geen stappen in gezet, of ik weet het niet. Maar nee.

[Martine]: Maar in principe wel interessant, zou een interessante markt kunnen zijn, maar daar is nog geen concreet plan voor dat je weet.

[Zita]: Ja, als je in zo'n stad in China zou moeten beginnen en je moet meteen 2 miljoen swapfietsen moet uit geven, dat gaat natuurlijk niet....., dat is best veel.

[Martine]: Ja, haha.

[Zita]: Haha.

[Martine]: Zeker als je het allemaal in een keer wil doen.

[Zita]: Ja, dat zou echt iets zijn voor de verre toekomst.

[Martine]: Wie binnen jullie bedrijf, developers zei je? Wie houdt zich daar mee bezig?

[Zita]: Developers worden erop uit gestuurd. Maar je hebt mensen die verantwoordelijk zijn voor de groei van Swapfiets bijvoorbeeld. Onder andere de directie besluit altijd mee, de oprichters zijn dat nog steeds, de investeerders denken mee en dan heb je bijvoorbeeld Onno, en Onno is de man, die wordt vooral Captain G, Captain Groei genoemd en die is heel goed in het bedenken van strategieën. Waar gaan we beginnen, waarom, waar kunnen we hierna naartoe? En daar is hij eigenlijk heel goed in. En hij heeft dan een heel team groei onder zich en die stuurt

hij eropuit om onderzoek te doen, om het daadwerkelijk uit te gaan rollen. Maar hij denkt daar vooral over na.

[Martine]: Ah, dat is dus wellicht interessant om hem nog even te spreken. Ook of hij tips heeft voor wat ik kan uitzoeken eventueel.

[Zita]: Ja, ik weet niet of dat kan.

[Martine]: Ja, allicht interessant om te weten of er ook specifieke dingen zijn die jullie interessant vinden om te weten. Kijk, mijn onderzoek is geen heel uitgebreid marktonderzoek, maar het schijnt een eerste licht op de berg ontwikkelingen die fietsen heten in China. Dat kan allicht interessant zijn.

[Zita]: Ja, en de opties die er liggen.

[Martine]: Ja, ja precies. Even kijken, wat betreft cijfers over jullie bedrijf. Ik kan me voorstellen dat niet alles vergeven mag worden. Of dat je misschien niet alles weet, maar voor mij eventueel wel interessant zou zijn om te weten zijn cijfers over diefstal en vermissing.

[Zita]: Ja.

[Martine]: Omdat die direct invloed hebben op de openbare ruimte.

[few seconds of private chatting]

[Zita]: Maar cijfers over diefstal eh, ik heb daar geen exacte cijfers van. Maar het effect op de openbare ruimte. Je bedoelt misschien dat we een samenwerking hebben met de politie?

[Martine]: Ja bijvoorbeeld.

[Zita]: En met de gemeente.

[Martine]: Ja.

[Zita]: Wat er gebeurd is, het grootste probleem dat we hebben, of waar mensen met fietsen überhaupt last van hebben is het fiets depot. Veel meer dan diefstal. Dus er worden massaal fietsen verkeerd geparkeerd en die worden allemaal weggehaald door het depot. En al die klanten hebben, vooral de internationale klanten, die niet bekend zijn daarmee, en die komen dan: "ahhh mijn fiets is gestolen, paniek". Ah, hij ligt gewoon..., hij staat gewoon heel waarschijnlijk op het depot.

[Martine]: Ja bij de gemeente.

[Zita]: Ja, bij de gemeente. Maar wij hebben dus een samenwerking met de gemeente, die bellen ons elke twee weken hoeveel swapfietsen staan er, en ze houden ze apart.

Wat er meestal gebeurt dat fietsen die niet worden opgehaald van het depot, die verkopen zij. Maar dat mag natuurlijk niet gebeuren want onze fietsen mogen niet verkocht worden. Dus voor ons is het winnen dat we die fiets terugkrijgen en dat ze niet worden verkocht. Maar voor hun is het ook winnen omdat zij ook gewoon een heel groot deel van hun fietsen elke twee weken gewoon op komen halen en betalen zodat zij er dus geen omkijken meer naar hebben.

[Martine]: Ja, want, tenminste ik weet hoe het hier is maar in Den Haag betaal geloof ik 60 euro om je fiets terug te krijgen.

[Zita]: Echt?

[Martine]: Ja. Als de gemeente hem 'jat' van je, haha.

[Zita]: Oh!

[Martine]: Ik weet niet hoe dat in Leiden is?

[Zita]: Ik geloof 20 euro. Nou, het is wel zo dat als je..., we geven de klant twee weken de tijd om zijn of haar fiets op te halen op het depot, en alleen die 20 euro te betalen. Maar als wij het ophalen betaal je 40 euro toeslag. En de 20 die wij hebben voorgeschoten en 20 euro servicekosten, van 'onterechte swap'. Maar dat is ook om te motiveren dat ze zelf gaan kijken,

want dat scheelt ze uiteindelijk dus wel de helft. Nou goed, dus dat is dus een probleem dat veel voorkomt. En heel veel klanten die denken dat hun fiets is gejat komen bij het depot terecht. Maar de gemeente is er dus lij mee dat wij het dus kennen. En er worden fietsen gestolen, maar wij hebben er heel vele controle op omdat het super herkenbare fietsen zijn. Dus ook als ze overgespoten zijn dan herken ik ze in ieder geval uit duizenden, het is een uniek model. We hebben al met de samenwerking met de politie heel veel gestolen fietsen teruggevonden.

[Martine]: Ik neem aan dat iedere fiets een apart serie nummer heeft?

[Zita]: Ja, ze hebben allemaal een eigen frame nummer, en een eigen serie nummer. En ze hebben geen trackers, daar werken we wel aan, maar dat is heel moeilijk met de wetgeving.

[Martine]: Daar heb ik iets over gelezen inderdaad, dat de privacywetgeving.

[Zita]: Precies.

[Martine]: Dat het [de trackers] voorsnog niet aan de orde is.

[Zita]: Nee, maar wat we nu wel hebben is de app, dus je kan nu je eigen fiets pinnen.

[Martine]: Ohja.

[Zita]: Dus sls je je fiets parkeert zet je een pin in de app, en dan kun je gewoon weg en weet je nog waar die stond ongeveer. [inaudible words] Qua diefstal, als een fiets te koop wordt aangeboden wordt op marktplaats, dan weet je dat ie gejat is.

Want Swapfiets kan niet worden verkocht. Er zijn mensen die dat nog steeds niet weten, die kunnen we dus heel makkelijk oppakken met de politie.

[Martine]: Ja, die vallen meteen door de mand.

[Zita]: Ja, je ziet gewoon dat ze steeds minder worden gejat. Ik weet niet de exacte cijfers, maar ik weet dat ze minder worden gestolen dan normale fietsen.

[Martine]: Dus dat heeft wel te maken inderdaad het feit dat de fietsen zo opvallen.

[Zita]: Ja.

[Martine]: Dat ze allemaal geregistreerd zijn per klant.

[Zita]: Iedereen is bekend ja. Het is nu zo dat, inmiddels is het zo dat de politie ook heel relaxed vindt. Zij bellen mij van: Hey, we hebben gisteren iemand aangehouden die een fiets probeerde te verkopen van jullie, kom hem ophalen. Dus zij hebben er ook geen omkijken naar. Dat scheelt de politie ook super veel werk.

[Martine]: Dan kun je het meteen afhandelen.

[Zita]: Ja.

[Martine]: En jullie hebben je fiets terug.

[Zita]: Ja.

[Martine]: Op zich is dat een mooi vangnet. Ik las iets over dat Vanmoof nu ook bezig is met abonnementsfietsen die volgens mij wel, voor zover ik heb begrepen echt trackers op de fietsen hebben. Maar inderdaad met privacy is dat lastig.

[Zita]: Ja, maar het is ook wel weer makkelijk, want als je er als klant mee begint en akkoord gaat met de voorwaarden is het in principe al opgelost, maar mensen kunnen er ook bewust voor kiezen dat ze dat liever niet hebben. Vanmoof is ook wel een heel ander type.

[Martine]: Ja, een heel ander type bedrijf ook. Nou is dat natuurlijk bij die deelfietsen in China, wat je heel erg zag zeker in het begin van die ontwikkeling, dat die bedrijven die verdienen eigenlijk....,dat kan eigenlijk haast niet uit. Waar ze eigenlijk het meest aan verdienen is het verzamelen van zoveel mogelijk gebruikersdata en dat verkopen. Daar heb je natuurlijk..., iedereen gebruikt WeChat, de Chinese Whatsapp. En betalingen gaan via WeChat. Nouja, je wordt overal op alles, letterlijk alles wat je doet wordt geregistreerd en die data is natuurlijk goud waard. Dus dat is ook een hele andere insteek zeg maar. Hun motto is niet van: We helpen iedereen aan een fiets, of we zijn goed voor de wereld of ik noem maar iets. We gaan iets aan dit

probleem doen. Dus dat vind ik een heel interessant verschil eigenlijk.

[Zita]: Ja, dat is puur een verdien model. Gewoon fietsen neer knallen en zien of het wat wordt.
[inaudible part]

[Martine]: Ja, in de hoop dat mensen die dingen wel eh, ja er wel iets mee doen. Maarja, het gaat nog niet helemaal zoals het zou moeten.

[Zita]: Ja, in Amsterdam is het ook gebeurd he? Daar hebben ze dus die deelfietsen ook gewoon de stad in geknald, en die lagen daar overal te roesten in de fietsenrekken. En als ze dan kapot gingen was het van niemand en werd het ook gewoon niet gebruikt. Daar werd niks mee gedaan. Daarom is het vervolgens verboden in Amsterdam. Dus nu komen er wel strenge reglementen zodat ze wel weer toegelaten kunnen worden.

[Martine]: Lukt het jullie altijd om meteen die fietsen die achter gelaten zijn ergens, of iemand die zijn abonnement opzegt, om dat meteen op te halen? Of kan dat ook wel eens een tijdje duren?

[Zita]: Nouja, als iemand zijn abonnement opzegt dan maken we sowieso een afspraak om hem op te komen halen, of de klant komt hem hier inleveren. Als de klant dat niet doet dan betaalt hij gewoon door per maand dus dat maakt voor ons ook niet zoveel uit. Maar voor zo'n klant wel dus die wordt wel gemotiveerd om die fiets terug te brengen. Dat is ook wel hoe het werkt. Soms heb je zwerffietsen, dus bijvoorbeeld een fiets die gestolen is en weer gebruikt. Maar die herken je, omdat er zit bijvoorbeeld een anders slot omheen, met zo'n kabel of whatever.

[Martine]: Ja, niet meer het originele slot.

[Zita]: In onze groepswhatsapp van de teams in Leiden en Utrecht wordt wel eens een foto geplaatst van: "Jo, deze fiets heeft geen serienummer meer, die is eraf gekrabbt, en weet ik het wat. Die halen we dan ook op. En af en toe gaan we met teams de stad in, en dan gaan ze gewoon alle swapfietsen die ze tegenkomen, als er reparatie nodig en ze kunnen dat doen dan doen ze die. Dan sturen ze de klanten een berichtje: "Ik heb je fiets gefixt".

[Martine]: Dat is chill!

[Zita]: Ja, ze checken ook alle fietsen en als ze dan een fiets tegenkomen die op vermissing staat nemen ze die ook mee. Die knippen we weg.

[Martine]: Ja, precies. Ik kan me voorstellen dat als mensen hun fiets kwijt zijn, nemen mensen dat eerst met jullie contact op?

[Zita]: Ja.

[Martine]: Dus je hebt niet allemaal onnodige aangiftes bij de politie van fietsen die gewoon ergens liggen.

[Zita]: Nee, als er een fiets wordt gejat komen ze naar ons toe en doen we samen aangifte, ze hoeven dan ook niet meer zelf naar de politie te gaan. Ze vertellen aan ons wat er is gebeurd en alle informatie die de politie nodig heeft en als binnen drie weken geloof ik die fiets niet wordt gevonden dan wordt die aangifte automatisch verzonden naar de politie.

[Martine]: Ah, ja. Dat is wel een goed systeem. Komt dat vaak voor?

[Zita]: Dat fietsen worden gestolen?

[Martine]: Ja.

[Zita]: Ja, er worden sowieso heel veel fietsen gestolen, Swapfietsen minder wordt gezegd. Ik weet niet wat de cijfers zijn nogmaals, maar je hebt elke dag wel dat er wat mis is.

[Martine]: Ja, dat houd je toch wel waar veel fietsen gebruikt worden. Ik was ook benieuwd naar of er bijvoorbeeld verschil in zit, tussen bepaalde steden. Of er in Amsterdam veel meer gejat wordt, of in Ede bijvoorbeeld.

[Zita]: Ja. Ik weet..., ik heb ooit de cijfers gezien gewoon van Nederland van fietsen überhaupt, fietsdiefstal. En ik weet dat er in Utrecht gemiddeld de meeste fietsen worden gestolen. Maar in

totaal worden er in Amsterdam de meeste fietsen gestolen, dat is ook gewoon een grote stad. Maar in Utrecht worden er que percentage meer fietsen gejat.

[Martine]: Grappig. Enig idee hoe dat komt?

[Zita]: Nee, dat vraag ik me heel erg af. Echt geen flauw idee. Want het zijn ook allemaal verschillende mensen die jatten. Ik nu al een paar keer zo'n dief opgepakt. En de ene keer was het dan een dakloze.

[Martine]: En de andere keer een huisvrouw?

[Zita]: En de andere keer was het een heel jong jochie van 13 van Marokkaanse afkomst uit een buitenwijk, een andere keer was het een oudere meneer die geen idee had. Die had het overgekocht van een groothandel. En die groothandel had die fiets gejat, dat was een hele organisatie. Dus het is elke keer een ander verhaal geweest.

[Martine]: Er is niet echt een systematische Swapfietsdief.

[Zita]: Nee, haha helaas.

[Martine]: Zou, makkelijk zijn... Dus jullie dienst is nou dus ook sinds kost ook in Denemarken, klopt? Drie steden?

[Zita]: Ja. Aarhus, Kopenhagen en eh hoe heet die andere nou.....Odensa.

[Martine]: Zien jullie verschillen hoe mensen hun fietsen gebruiken binnen die verschillende landen?

[Zita]: Euhm.

[Martine]: Dus bijvoorbeeld de redenen waarom mensen voor jullie dienst kiezen?

[Zita]: Nog niet, want ik heb zelf alleen maar ervaring met Nederlandse steden. Ik zie wel bijvoorbeeld dat de fietsen in Amsterdam, de kapotte fietsen. We halen wel eens kapotte fietsen op uit Amsterdam, omdat daar heel veel kapotte fietsen staan. Als die hier binnenkomen denk je echt van: Wat doen die mensen daarmee? Die zijn zo kapot. Hier komen mensen vaak voor kleine dingetjes. In het buitenland weet ik niet. Ik weet dat Duitsers over het algemeen veel nettere mensen zijn dan Nederlanders. Dus waarschijnlijk wordt daar ook beter met die fietsen omgegaan. In Kopenhagen is het hip. Dus heel veel mensen nemen Swapfiets omdat het cool is, heb ik gehoord. Maar verder qua gebruik... Dat zal nog moeten blijken.

[Martine]: Ja. Interessant! Of de mentaliteit van de fietsgebruiker..., dat is toch ook een beetje waar ik uiteindelijk bij de Chinezen probeer achter de komen hoe die mentaliteit in elkaar zit. Nou, ik weet bijvoorbeeld wel, ik Kopenhagen hadden ze al heel veel deelfiets systemen. En het is eigenlijk voor het eerst dat we daar mee te maken hebben dat er dus actief in zo'n grote stad zijn begonnen met Swapfiets. Wat best wel spannend is omdat heel veel mensen al gewend waren aan dat deelfietsen systeem. En dan nu op Swapfiets overgaan, dat toch wel echt iets anders is. En het groeit megahard.

[Martine]: Ja. Ik had gelezen echt al 6000 duizend mensen ofzo, inmiddels?

[Zita]: Ja, ik weet het niet. Maar veel. Maar dus blijkbaar werkt het wel. Dat risico durven we nu te nemen officieel.

[Martine]: Het zal vermoed ik de komende gewoon blijven doorgroeien?

[Zita]: Dat denk ik ook wel ja.

[Martine]: Ohja, werken jullie..., je had het net al even over de samenwerking met de gemeente en de politie. Zijn er ook andere bedrijven waar jullie mee samenwerken, zoals fietsmakers of andere verhuurbedrijven of...

[Zita]: Nou, het verschilt heel erg per regio. Bijvoorbeeld hier in Leiden werken we echt met ons zelfs samen alleen. En we delen een loodsopslagruimte met Swapfiets Delft bijvoorbeeld. Maar in Utrecht werken we samen met de sociale werkplaats, dus die komen bij ons terecht. Dat zijn wel gewoon hele goeie fietsmakers, maar die hebben wat afstand tot de arbeidsmarkt om een

andere reden, end ie kunnen dan bij ons aan de slag. En de mensen van het depot, daar werken ook mensen met een afstand tot de arbeidsmarkt, en fietsenmakers die soms niks te doen hebben. En we gaan binnenkort toevallig, daar zijn we nu daarmee in gesprek. Die worden nu ook ingezet bij ons op de loods. Daar hebben we nog meer samenwerking met de gemeente eigenlijk. Verder eigenlijk niet zoveel. We doen alles zelf. Misschien nog een vervoerbedrijf ooit.

[Zita]: Ja, inderdaad.

[Martine]: Zou je kunnen zeggen, komt dat toch ook een beetje voor uit die maatschappelijke verantwoordelijkheid die het bedrijf probeert uit te dragen.

[Zita]: Absoluut. Ik denk het wel. Het is natuurlijk een duurzaam project in de zin van, de fietsen worden zo goed mogelijk ingezet. Als de fietsen kapotgaan is er controle over. En de gemeente wordt er blij van omdat wij controle hebben over die fietsen. Politie is er blij omdat ze bij ons terecht kunnen met alle gestolen swapfietsen. Dat kunnen ze allemaal aan ons overlaten. Dus ja, ik denk wel dat zij altijd met ons mee willen denken. Wij worden inmiddels zelf door de politie of gemeente gebeld als ze vragen of ideeën hebben.

[Martine]: Ja, super.

[Zita]: Ja, dat gaat echt de goeie kant op. Maar ik weet niet hoe dat ik andere regio's zit.

[Martine]: Ik las ook best wel veel over gewoon duurzaamheid binnen bedrijf, dus niet alleen dat de fiets zolang mogelijk meegaat, dat scheelt natuurlijk gewoon geld. Maar wat ik me ook afvroeg. Hoe hoog staat duurzaamheid binnen jullie bedrijf in het vaandel? Ook als het gaat hoe de bedrijfsvoering is. Dus ook hoe de onderdelen worden geproduceerd en hoe het [bedrijf] logistiek in elkaar zit.

[Zita]: Dat weet ik niet. Maar ik weet, tenminste ik weet niet hoe het zeg maar hoe de onderdelen wordt gekeken als ze het aanschaffen. Maar ze kijken naar de duurzaamheid naar hoe goed is het onderdeel. We gaan geen goedkope meuk op onze fietsen zetten, want uiteindelijk ben je eindeloos bezig als alles kapotgaat. Dus voor de klant is het vervelend. Dus je denkt vooral na voor de klant. Ik weet wel dat..., we hadden ooit koplampen met batterijen op alle fietsen. En die zijn nu ruim een half jaar geleden allemaal vervangen door magnetische lampjes, dus ze hebben geen batterij nodig. Dus al die lampen worden verkocht en de batterijen worden gescheiden, en nu gaan we gewoon niet meer daar mee aan de slag.

[Martine]: Nouja, dus dat is echt iets, want je zag ze nog wel eens gewoon tussen alle andere fietsen op de grond liggen, de batterijtjes. Omdat het eruit gehaald werd.

[Zita]: En dat is niet goed, dus nu gaan we dus gewoon..., daar zijn we helemaal vanaf gestapt. Het is en duurzamer, het gaat langer mee, maar het inderdaad ook gewoon beter voor het milieu, het scheelt superveel batterijen. Als je voor 70.000 fietsen, wat het nu zijn al die batterijtjes moet gaan vervangen en weggooien en inzetten. Ja dat is niet te doen.

[Martine]: Dus zo wordt dat model wel iedere keer ontwikkeld, om hem toch...ja

[Zita]: Ja, nu komen ze ook uit de fabriek met die nieuwe soort lampjes, dat was eerst niet zo.

[Martine]: Ik begreep dat jullie van de productiefaciliteiten van Union gebruik maken?

[Zita]: Klopt.

[Martine]: Waar staat die fabriek eigenlijk?

[Zita]: In Litouwen.

[Martine]: Wordt die hele fiets daar in mekaar gezet? Of gebeurt er ook nog heel veel hier.

[Zita]: Hij wordt helemaal in elkaar gezet, maar dan nog wel met het stuur dwars, en met alles nog los in de schroeven, dat je het zelf nog kunt aandraaien. Ze worden in plastic ingepakt. Dat was eerst heel veel, maar nu nog heel weinig want we zijn echt gaan onder zoeken hoeveel plastic is daar nou echt voor nodig. Er komen dan zo'n 180 fietsen binnen, en dan moeten ze nog

tegen ingespoten tegen roest. Uit het plastic gehaald worden, het stuur moet recht, alles aangedraaid en dan is ie eigenlijk klaar om te gaan.

[Martine]: Ready to go!

[Zita]: Ready to go!

[Martine]: En worden die onderdelen..., enig idee waar dat gemaakt wordt?

[Zita]: Nee, geen idee.

[Martine]: Wel een interessante..., heel toevallig heb ik in Taiwan in die stad gewoon waar zo ongeveer alle fietsfabrieken staan.

[Zita]: Ohja?

[Martine]: Bijna onderdelen ter wereld die worden daar gemaakt. Maarja, je weet het nooit. Het kan altijd van een ander bedrijf afkomen. Voor mij wel interessant om te weten.

[Zita]: Volgens mij werken ze nu nog samen met grootleveranciers van onderdelen, dus waar die onderdelen dan worden gemaakt ligt niet in de handen van Swapfiets. Dus het zou heel goed kunnen dat die uit Taiwan komen.

[Martine]: Ik had nog een vraagje over de meest voorkomende defecten, daar hadden we het net ook al eventjes over gehad. Lekke band, fietslampjes dat soort dingen. Zijn toch wel vaak de wat kleinere dingen?

[Zita]: De meest voorkomende dingen zijn, hoe heet het. Het zadel achterover klapt. De reden daarvoor is dat het dus niet goed is aangedraaid toen ie nieuw was, of het stuur dat los gaat, zelfde verhaal. Lekke banden heel veel. Maar we hebben sinds afgelopen maand geloof ik, hebben we niet banden dus nu is het even spannen hoe dat dan zal gaan.

[Martine]: Of dat ook z'n vruchten afwerpt?

Dus die worden nu op alle nieuwe fietsen aangebracht. En euhm, slagen in het wiel. Vooral in het voorwiel komen heel veel slagen. Maar het wiel is ook aangepast, dus het is ook weer even afwachten of het blijft gebeuren, maar dat is nu wat het meest voorkomt.

[Martine]: Doen jullie dat dan gefaseerd? Dat je eerst zoveel fietsen..., ik kan me voorstellen hoe meer fietsen je hebt hoe moeilijker het wordt om een verandering door te voeren. Dat je dat niet in een keer kan doen.

[Zita]: Klopt. Het is inderdaad wel gefaseerd. De grootste stap die gezet wordt als het een succes is, is dat ze ook in de fabriek zo in elkaar worden gezet. Dat wij er niks meer aan hoeven te doen. Maar nu is het zo dat als je banden bij bestelt, dan krijg je nieuwe banden binnen, En als je een nieuwe wielen bestelt, krijg je nieuwe stevigere wielen binnen.

Dus dat wordt zo langzaam eruit gefilterd. Is dat ook waar mensen het meest over klagen?

[Zita]: Eh...

[Martine]: Of zijn dat ook vooral kosten, abonnementsdingetjes.

[Zita]: Ik denk vooral meer abonnementsdingetjes. Ik denk dat klanten bijvoorbeeld klagen over de batterij die er nu uit is...communicatiefouten, service fouten. Dat eigenlijk. Maar als een fiets kapotgaat niet, want soms zie je dat een klant een beetje opgetogen binnen komt: Ik heb een lekke band! Ja, dan krijgen ze een nieuwe fiets. En dat is leuk.

[Martine]: Wat ik wel heel leuk vind, je komt binnen met een probleem, maar je bent beter af door dat probleem want je komt met een nieuwe fiets weer naar buiten.

[Zita]: Ja, en je hebt meteen je abonnementskosten eruit.

[Martine]: Ja, precies. Dan denk je, het is toch niet voor niks geweest. Ja leuk! Nou, ik ben al een heel eind verder geholpen. Er zijn wel wat dingetjes maar dat ga ik eerst even uitwerken en kijken hoever ik er mee ben. En wat ik verder nog zou willen weten. Maar in ieder geval super bedankt voor je tijd.

[Zita]: Geen probleem! Als je nog meer vragen hebt?

[Martine]: Heel erg bedankt!

[Zita]: Je kunt altijd gewoon een mail sturen.

Appendix II - Transcription of the Interview Swapfiets (Tomas Knipscheer)

Conducted on: 25.09.2018, in Leiden.

Time: 13:00

Location: Swapfiets Head Quarters, Amsteldijk 216, 1079 LK, Amsterdam

Interviewer: Martine Lievers, MA student East Asian Studies.

Interviewee: Tomas Knipscheer, UX designer, Head Quarters Swapfiets Amsterdam

Also present: Onno Huyghe, Growth Director

Note: In order to improve the readability of this interview, in some cases, accidental repetitions, lapsus linguae, words like 'eh' and pauses have been corrected.

- start of the interview -

[Martine]: Het is vandaag 28 september, het is 13:00 uur. Mijn naam is Martine Lievers. Ik zit hier op het hoofdkantoor van Swapfiets in Amsterdam aan de Amsteldijk 216, samen met Tomas Knipscheer. Dankjewel voor je tijd! We gaan even een paar vragen beantwoorden.

[Tomas]: Top!

[Martine]: We hadden het net al eventjes over de plannen voor het buitenland, en hoe jullie dat aanpakken.

[Tomas]: Ja. Wat we hebben gedaan is: we hebben iemand ingeschakeld daarvoor. Die heeft een onderzoek uitgevoerd. Dat is een persoon. En die heeft dus naar de landen om ons heen gekeken. We zaten toen alleen maar in Nederland, en we wisten niks van het buitenland. Alleen maar dat het aansloeg in Nederland, maar we wisten niet precies waarom. Dat weten we nog steeds niet, daar zijn we nu een onderzoek naar aan het doen.

[Martine]: Ok, grappig.

[Tomas]: We denken dat het iets te maken heeft met de behoefte van mensen aan een fiets die ze zelf bezitten maar dat weten we niet 100% zeker. Wat we, waar naar hebben gekeken onderandere zijn of het voor ons gunstig was om daar heen te gaan, of het dichtbij was dus, of de cultuur anders was, of er daar inderdaad veel studenten waren, want we hebben gemerkt dat in Nederland het concept snel verspreid onder studenten, omdat je veel communicatie hebt onderling, en ja, onder studenten, als mensen ergens met een fiets komen met een blauwe band, dan gaat dat heel erg vanzelf.

[Martine]: Ja, precies.

[Tomas]: En ook of er veel fietsen waren die steden, dus of de fietscultuur al bestond, en ook of de stad niet te groot was. We zijn ook niet meteen begonnen met de grootste stad in een land, want we kunnen beter eerst alle kinderziekten in een land soort van wegspelelen voordat we naar een grotere stad gaan. En er zijn een aantal golven uitgekomen, van steden van oke dit zou een geschikte stad kunnen zijn om mee te beginnen, en daarna hierheen en daarna hierheen. Maar dat zijn eigenlijk alle criteria waarop we van te voren kunnen selecteren en daarna is het gewoon uitproberen geweest, werkt het wel, werkt het niet.

[Martine]: Ja.

[Tomas]: Je merkt dat het in sommige steden wel aanslaat meteen, en in sommige steden wat minder. **[Martine]:** Wat trager?

[Tomas]: En dat valt eigenlijk, er zijn zoveel factoren die daar op van invloed kunnen zijn dat

het moeilijk is om eh..

[Martine]: Dus dat zal ook in de toekomst nog moeten blijken waar dat dat aan ligt, of zo'n dienst wel of niet aanslaat.

Ja, of niet. Ja of het gaat gewoon minder of het gaat gewoon beter. Maar het is ok niet per se ene probleem, het is meer, hoe zeg je dat, iets dat we zien een observatie.

[Martine]: Ja, inderdaad. Maar ik kan me voorstellen dat als de motivatie om voor zo'n dienst te kiezen als Swapfiets nogal verschilt per regio dat dat, tenminste dat zijn dingen voor mij die ik dan grappig vind om te weten.

[Tomas]: Ja wat we nu aan het onderzoeken zijn, we toevallig laatst gestart met een project om in kaart te brengen wie onze gebruikers zijn, en wat hun motivaties zijn. En een aanname die we hebben gedaan is dat Swapfiets, op basis van een soort van, je hebt een bepaalde methodiek, dat is jobs to be done approach. Dat je kijkt naar welke behoefte de dienst invult voor de gebruiker, welke job het doet. En wij denken gewoon dat het een hele simpele job is die Swapfiets verricht namelijk dat je een fiets nodig hebt of niet, op het moment dat je fiets kapot gaat kan je kiezen om naar de fietsenaker te gaan of je kan voor een Swapfiets kiezen of voor een aantal alternatieven maar die zijn minder gebruikt. En de Swapfiets is dan een hele lage drempel, dus daar zetten we zelf ook heel erg op in, die lage drempel. Dan wordt je keus al heel makkelijk op dat punt, We verwachten dat daar de grootste, dat dat de grootste motivatie is voor gebruikers.

[Martine]: Ik heb ook een enquête gemaakt, daar ben ik ook wel benieuwd naar wat daar een beetje gaat uitkomen.

[Tomas]: Voor in China?

[Martine]: Ja, voor in China. En wat als een van de vragen daar in heb zitten, als een soort van controlevraag....Kijk, wat die mensen allemaal precies doen, voor beroep ofzo dat maakt me niet zoveel uit, maar of ze wel of niet student zijn dat vind ik wel interessant om te weten. En of het expats zijn ja of nee. Want ik ga mijn enquête uitrollen in China, maar stel nou dat bijvoorbeeld die enquête massaal wordt ingevuld door de Britse expat community, ja dat is leuk maar dat....

[Tomas]: Maar dat is niet echt representatief voor heel China.

[Martine]: Nee precies, en dat geeft mij ook niet echt genoeg handvatten om daar dan iets over de te kunnen zeggen. En misschien is het onder commuters wel veel populairder dan onder studenten omdat die veel te arm zijn, ik noem maar iets.

Wat nog wel een goeie vraag zou kunnen zijn is of ze behoefte hebben aan het bezitten van een eigen fiets. Wat dat is natuurlijk wat Swapfiets onderscheid van alle deelfietsconcepten ook.

[Martine]: Ja precies.

[Tomas]: Want je krijgt gewoon je eigen fiets en je hoeft hem niet meer in te leveren op een gegeven moment. Je weet gewoon wat je kan verwachten als je op de fiets stapt. En als hij kapot gaat dan is het door jou gebeurd, en niet door andere gebruikers.

Dus daar Swapfiets zou daar ook nog wel geïnteresseerd zijn in die vraag, dus zitten mensen in China, de Chinese mensen daar op te wachten?

[Martine]: Ik heb wel zo'n vraag erin zitten inderdaad. En met name ook als dat wel of niet zo is waarom dan? Want hele praktische dingen, bijna niemand heeft plek om zijn eigen fiets kwijt te kunnen. Bijvoorbeeld als mensen zeggen van: "Ja, ik wil geen eigen fiets kopen want dan zet ik hem op straat neer en die belandt in een berg met 10 miljoen andere fietsen, dat ga ik niet doen" ofzo. Dat zijn niet echt dingen waar wij rekening mee houden dat dat daar speelt. Maar dat vind ik wel..

[Tomas]: Nog niet!

[Martine]: Precies, Nog niet! Ik ben benieuwd.

[Tomas]: Ik kan me wel voorstellen dat als inderdaad die behoefte er is dat gewoon

opvouwfietsen op de markt wil fietsen, dat je iet standaard Nederlandse omafiets op de markt wil brengen. Maar dat is ook wat we in het buitenland hebben moeten doen. In Nederland hebben we natuurlijk de zwarte omafiets als archetype fiets. In het buitenland hebben ze eigenlijk, zijn ze alleen maar gewend aan fietsen met versnellingen. En dan niet drie versnellingen zoals we in Nederland ook wel eens hebben, maar zeven versnellingen.

[Martine]: Ja, gewoon heftig.

[Tomas]: Dus zoals ik Duitsland zouden we alleen maar kunnen beginnen met ons luxe model dat dus zeven versnellingen heeft. Dat was ook niet iets wat we van tevoren hadden geanticipeerd. We waren al bezig met het ontwikkelen met een fiets met drie versnellingen. En toen ja, we hebben fietsen met zeven versnellingen nodig anders willen ze het niet. Oke, nouja.

[Martine]: Hoe weet je dat dat daar behoefte aan is? Is daar van tevoren een beetje onderzoek naar gedaan?

[Tomas]: Ja en nee. Ze hebben natuurlijk het initiële onderzoek gedaan over de fietsen, maar dat is vooral demografisch vlak. Dus zijn er genoeg mensen, is de vraag ernaar, is de omgeving er goed voor. En wat we daarna doen, we zijn natuurlijk een startup, nog een buzzword, en dat is dat we super lean zijn, dus we beginnen gewoon in zo'n stad. We zetten iemand neer en we gaan mensen spreken en dan vragen we hoe het daar gaat. Waar we moeten beginnen. Stel dat..., we hebben altijd ook..., als we in een nieuwe stad beginnen zoeken we een regiomanager daar, die de boel kan managen. We zetten niet iemand van onszelf daarnaar die we al hebben, we zoeken iemand daar die weet hoe het werkt en die connecties heeft daar, die eventueel werknemers zou kunnen activeren. Zodat het zoeken van de grond, wel onder begeleiding van ons hoofdkantoor maar in principe is het zo dat daar een heel eigen team ontstaat.

[Martine]: Zodat je als klant ook wat directere lijnen hebt naar de vestiging daar?

[Tomas]: Ja, in principe als je als klant belt kom je wel in contact met de service desk hier. Zodat we een heel eenzijdige service kunnen leveren. Zodat je niet heel erg afhankelijk bent van of jouw regio wel of geen goeie service levert voor de beleving van ons merk. Maar als je naar de winkel gaat daar ben je gewoon met ene lokaal team in gesprek en die kunnen jou ook veel beter advies geven hoe het lokaal allemaal geregeld is.

[Martine]: En wat ik me afvroeg, stel nou je zou beginnen in een stad waar 100.000 mensen wonen bijvoorbeeld, hoe weet je dan met hoeveel fietsen je gaat beginnen daar. Is dat ook een gokje? Of kan je heel snel nieuwe fietsen aanleveren? Als het te weinig blijkt?

[Tomas]: Dat weet ik zelf niet, ik weet wel..., we hebben een hele groei afdeling waarmee je misschien ook nog wel zou kunnen praten. Wat ik wel weet dat het altijd afwachten is hoe de locatie reageert op Swapfiets. Dus we hebben waarschijnlijk een indicatie van dit is waar we willen zijn op een gegeven moment, en dan kunnen we inderdaad meer of minder moeite doen om ervoor te zorgen dat we daar komen. Eh, we wachten niet per se af. Intussen weten we denk ik wel een beetje hoe het gaat reageren tenzij we naar een nieuw land gaan of een nieuw deel. We gaan binnenkort naar Frans België, dan moeten waarschijnlijk weer nieuwe dingen..., krijgen we weer nieuwe ervaringen vergeleken met Vlaanderen.

[Martine]: Ik kan het me zo voorstellen inderdaad.

[Tomas]: Maar eh, ik denk ook wel dat we redelijk snel kunnen schakelen alleen we moeten..., we zijn..., wat een beetje een probleem is..., hoe we werken tot nu toe is dat we niet een hele grote buffer hebben tussen wat we willen halen en wat we zouden kunnen.

[Martine]: Dus ook het aantal fietsen echt nu op dit moment is gebruik is?

[Tomas]: Ja we hebben niet perse miljarden fietsen over, we zijn er gewoon mee bezig. In Amsterdam is er nu een wachtrij omdat we veel meer vraag hebben dan we ingecalculeerd hebben. We hebben niet per se 100.000 fietsen ergens staan.

[Martine]: Is dat alleen in Amsterdam, die wachtrij?

[Tomas]: We hebben in een aantal steden wachtrijen, maar in Amsterdam is het altijd het meest hectisch want dat is de grootste stad die we tot nu toe..., maar tenminste waar wij de grootste aanwezigheid hebben op dit moment.

[Martine]: Ja, ja.

[Tomas]: Volgens mij zijn we ook al live in Antwerpen, ik weet niet of die groter is dan Amsterdam, qua inwoners?

Volgens mij niet, net niet. Ja ik weet het eigenlijk niet. Tellen ze de haven mee?

[Tomas]: We zijn nog niet live in Berlijn, want dat is nog een bridge too far in Duitsland. Er zijn ook wel plannen voor maar dan ja eh, dan krijgen we weer een hectische....We lopen in Amsterdam tegen allemaal problemen aan omdat het zo groot is. Normaal, wat we deden was, we zetten 1 loods op en 1 winkelpunt.

[Martine]: Ja.

[Tomas]: En daarmee service-ten we een hele stad. Nou dat gaat prima in...,

[Martine]: Ja, een heel verzorgingsgebied.

[Tomas]: Ja, in Leiden bijvoorbeeld, of Den Haag of in Delft. Maar in Amsterdam is het centrum zo compact dat je vanuit 1 punt niet heel goed de hele regio kan servicen. Dus de auto is dan een uur onderweg als hij ergens heen moet aan de andere kant van het centrum en dan weer terug moet.

[Martine]: Ja, dat kost allemaal tijd.

[Tomas]: Dan kan je ieder uur per auto maar een afspraak plannen terwijl ze er in andere steden misschien 4 per uur kunnen doen met een auto. In Amsterdam hebben we deregie nu opgedeeld in subregios.

[Martine]: Dat zal ongetwijfeld...,

[Tomas]: Ja, het probleem waar we tegenaan liepen omdat Amsterdam zo groot en zo dense was waar we daarvoor nog niet mee te maken hadden gehad. Iedere keer als we naar een nieuwe stad gaan komen er weer nieuwe uitdagingen die alleen maar daar spelen.

[Martine]: Ja dat met name ook veel in de logistiek zitten dan vermoed ik?

[Tomas]: Ja en onze interne operatie. We hebben natuurlijk een eh..., als we gaan zeggen we gaan Amsterdam onderverdelen in vier regio's, dat kan prima, maar dan moeten we ook onze systemen die we hebben daar op voorbereiden. Oke, blijkbaar mogen we nu op dit tijdstip alleen maar deze regio doen, of deze auto mag alleen maar regio doen, dan moet dat weer ergens geprogrammeerd worden.

[Martine]: Ja, ja. 12:00

[Tomas]: We lopen ook de hele tijd met de rest van het bedrijf achter de operatie aan. We kijken steeds hoe we het kunnen ondersteunen.

[Martine]: Het wordt een soort controle kamer van..eh..

[Tomas]: Ja, het is heel interessant. Ik zit dus in het digitale team dus ik merk dat heel erg dat we soort van het laatste punt zijn voordat iets moet kunnen. En vaak is er nog niet per se 100% nagedacht over wat er dan zou moeten dus..

[Martine]: Ja ja, precies.

[Tomas]: Whaa, het gaat allemaal niet.

[Martine]: Maar misschien wel over wat het ideale resultaat zou zijn maar niet zo goed hoe je dat dan zou implementeren.

[Tomas]: Ja het is vaak zo van: Gisteren moesten we dit eigenlijk hebben...Oke...

[Martine]: Ohja, haha. Gisteren was dit heel chill geweest.

[Tomas]: Nouja, ik denk dat het over een maand wel kan.

[Martine]: Volgens mij is dat ook wel inherent aan een bedrijf dat snel groeit. Idem dito ook voor de medewerkers, want jullie zullen wel in die anderhalf 2 jaar tijd van....4/5...10 mensen naar hoeveel?

[Tomas]: Toen ik hier begon waren er drie oprichters en ik met mijn compagnon. En nu is hij...we hebben 700 contracten volgens mij, verdeel over ik weet niet of je de term fte kent?

[Martine]: Ja

[Tomas]: Ongeveer 405 ft.

[Martine]: Oh, oke! Das aardig?

[Tomas]: Ja, dat is zeker aardig.

[Martine]: En hoeveel werken er hier op het hoofdkantoor?

[Tomas]: Zo'n 60 om en nabij. Het fluctueert heel erg gedurende de week, maar [inaudible part]

[Tomas]: We hebben hier dan...we kunnen zo wel even een rondje lopen.

[Martine]: Ja, lijkt me een goed idee.

[Tomas]: We hebben hier de hele, ja hoe zeg je dat, kantoorgedeelte, en we hebben ook nog ergens een helpdesk.

[Martine]: Ohja, grappig want het is echt bijna...Want jullie hebben ook ongeveer 30 vestigingen overal verspreid?

[Tomas]: Ja, minder volgens mij hoor. Dat weet ik niet zeker, ik houd het niet meer bij.

[Martine]: Ja, haha.

[Tomas]: Ik ben vooral veranderingen aan het uitvoeren die overal op van toepassing zijn, dus ik hoef niet meer echt te kijken naar hoeveel, of waar we lokaal nog iets moeten aanpassen, dat doen we niet echt. Bij ons zit het grootste gedeelte van het personeel in hoe zeg je dat, de wat simpelere taken. Meestal wat meer hands-on, dus mensen die fietsen rondbrengen, mensen die fietsen repareren en mensen die in de winkels staan. Dus echt service. Het kantoorgedeelte is eigenlijk maar heel klein. En dan heb je natuurlijk nog in iedere stad een eigen team met een aantal management functies en uitvoerende functies. Ik denk dat de doorloop is heel hoog is bij de mensen die het laagst op de lijst staan. Hier [op het hoofdkantoor] merken we dat wat minder, dus hier komen vooral mensen bij. En ook in alle management functie komen er mensen bij, daar is de doorloop wat lager. Ik weet ik, ik weet iegenlijk ook niet wat normaal is. Dit is eigenlijk mijn eerste referentie.

[Martine]: Ja, kan ik me voorstellen, je hebt ook niet echt een meetlat.

[Tomas]: Ja, ik heb altijd voor mezelf gewerkt maar voor de rest niet echt bij eh...

[Martine]: Een werkgever...Maar als bedrijf heb je ook niet echt een meetlat waar je jezelf tegenover kan afzetten.

[Tomas]: Dat is sowieso lastig want we doen heel veel dingen voor het eerst met dit bedrijf. Er was niks in deze sector dat deed wat wij deden.

[Martine]: Nee, klopt.

[Tomas]: We hebben ook geen competitie, nog.

[Martine]: Ik ben benieuwd. Ja eigenlijk zijn al die andere diensten die er zijn dus toch anders, het is huren of leasen of inderdaad ehh..

[Tomas]: Ja, niet gericht op je eigen fiets bezit.

[Martine]: Je ziet ook wel van die hotels, en fietsenmakers die allerlei soorten diensten voorzien, maar...

[Tomas]: We werken ook wel samen met hotels.

[Martine]: Ja?

[Tomas]: Ja. Hotel kunnen bij ons ook een abonnement afsluiten voor een aantal fietsen die ze dan weer doorverhuren aan eigen mensen. We zijn er nog niet heel actief mee bezig omdat de

hele digitale infrastructuur daar nog niet op voorbereid is. Wel een beetje maar niet optimaal.

[Martine]: Ja.

[Tomas]: We kunnen daar nog niet zo hard in groeien. Als b2b bedrijf moet je het wel allemaal in 1 keer goed doen, anders willen mensen het niet. Je hebt geen gratie die je wel als nieuwe start-up hebt bij consumers. Wat voor studie die je eigenlijk?

[Martine]: Nouja, als er in ieder geval 1 ding wel aan de orde is, is dat als een schaap over de dam is dan gaan ze allemaal. En dat is wel iets dat je heel erg ziet gebeuren met andere diensten. Ze hebben deel paraplu's. Ja, verzin het eens. Dat soort services, ja dat explodeert echt. En dat is natuurlijk wel echt een...

[Tomas]: Maar is het ook winstgevend?

[Martine]: Kan me niet voorstellen, kan me niet voorstellen.

[Tomas]: Lijkt me heel moeilijk op zo'n grote schaal.

[Martine]: Ja, dat lijkt mij ook. Want dan zou je idealiter gaan die fietsen wel een paar jaar mee natuurlijk om dat rendabel te maken. En met die deelfietsen dan betaal je natuurlijk, naja, 10 -2 cent voor zo'n ritje iedere keer, maar dat is niet zozeer waar ze het geld mee binnen harken.

[Tomas]: Ja, Mobike zelf geloof ik zit op WeChat. Ik heb ergens gelezen ooit dat Mobike vooral bedoeld was inderdaad om zoveel mogelijk transacties op Wechat te genereren. En inderdaad dus ook persoonsgegevens te verkopen aan andere partijen.

[Martine]: Ja, datamining.

[Tomas]: Dat is de hele fietsdienst natuurlijk een soort van bijzaak. Wat natuurlijk super het tegenovergestelde is wat wij als oorsprong hebben. Oke, mensen willen gewoon lekker kunnen fietsen zonder dat ze problemen hebben. Nou, hoe gaan we daar een bedrijf omheen bouwen. Service staat op nummer 1 bij ons.

[Martine]: Ja, inderdaad.

[Tomas]: Dat is toch wel een net iets andere insteek.

[Martine]: Oke, ik ga even kijken of ik nog andere specifieke vragen voor je heb. Een aantal ga ik je sowieso nog doormailen. Zijn er nog andere dingen die je van me zou willen weten of zou willen vragen?

[Tomas]: Nou, ik heb hier even rondgevraagd. Maar vooral Steven, de CEO, zegt dat het belangrijkste om te weten dat zou zijn of mensen een eigen fietst zouden willen bezitten, dat is echt de hoofdvraag om te beantwoorden voor ons concept. Zeker vergeleken met alle andere competitors in de sector.

[Martine]: Ja, dat is een hele goeie.

[Tomas]: Dus als dat beantwoord wordt dan zou dat fijn zijn.

[Martine]: Dat zijn jullie daar al blij mee?

[Tomas]: Verder hebben we niet direct behoefte om naar China te gaan, dus opzich.

[Martine]: Ver weg, verre toekomst.

[Tomas]: Ja, we zijn nu aan het uitbreiden naar landen waar we ook met een vrachtwagen naar toe kunnen, en waar we zelf ook een beetje gevoel bij hebben. En in China zouden we toch, ja, moeten opstarten met ehhh...

[Martine]: Met een Chinees team...

[Tomas]: Ja.

[Martine]: ...en een hele aparte Aziatische tak nodig. Nou, de tijd gaat snel, dus wellicht in een paar jaar tijd?

- Onno Huyghe, (Growth Dxswirector) responsible for the companies growth and foreign markets at Swapfiets joins the conversation -

[Martine]: Hoi, Martine.

[Onno]: Hoi, Onno!

[Tomas]: Martine gaat volgende week naar China om te kijken of Swapfiets gewild is.

[Onno]: Kijk! Kijk eens!

[Tomas]: Dus, haha, heb je nog vragen?

[Martine]: Ja, ik ben dus mijn masterscriptie aan het schrijven. Ik heb mijn bachelor scriptie ook al geschreven over fietsen in China, en ik wilde daar gewoon mee doorgaan, in ieder geval over dat onderwerp. Ja, en dat ik naar China ga is eigenlijk meer een soort van toevallige bijkomstigheid, maar als ik er toch heen ga dan ga ik ook wel een beetje veldwerk doen en enquêtes rondsturen. Dus ik ook dat daar iets relevants uitkomt.

[Onno]: Wat ik wel interessant zou vinden is uiteraard wat mensen van het concept vinden, maar ook wel benieuwd zijn welke prijs ze daarvoor willen betalen.

[Martine]: Ja top, het zit verwerkt in de enquête, dus dat komt goed. Als je het lukt vindt kan ik eventueel...,want ik heb een enquête gemaakt die gaat via Wechat en weet ik veel wat verstuurd worden. Ik kan je de link even duursturen, dan kun je even kijken.

[Onno]: Ja, leuk! Ik doe de groei voor Swapfiets dus dat ehh.

[Martine]: Ja ik had je naam her en der al horen vallen.

[Onno]: Ik krijg wel eens de vraag of we niet naar China moeten, en dan zeg ik altijd dat de value daar inderdaad wat lager is dan in Europa, dus dat dat de reden is dat het niet boven aanstaat. Maar wel heel leuk om dat een beetje te gaan uitzoeken.

[Martine]: Wellicht ooit.

[Onno]: Ja, Inderdaad! Ja, er zijn in ieder geval veel fietsen daar!

[Martine]: Vrij veel ja. Nou, leuk om je even gesproken te hebben, dankjewel!

[Onno]: Succes!

- Onno leaves the conversation -

[Martine]: Ohja, misschien is dat nog eh..., dat schiet me nu zo te binnen. Ik begreep dat jullie fabriek in Litouwen staat? Van Union, waar jullie gebruik van maken?

[Tomas]: Ehh, volgens mij wel ja, ja.

[Martine]: Weet je toevallig ook waar alle onderdelen gemaakt worden?

[Tomas]: Volgens mij is dat wereld wijd.

[Martine]: Overal en nergens?

[Tomas]: Ja. En dat ja dat is volgens mij hoe de hele fietsindustrie werkt.

[Martine]: Ja, je gaat naar een beurs en dan kijk je welke bedrijven de beste dingen hebben?

[Tomas]: Ja, nou ik weet wel dat Union wel een heel sterk, heel streng selectieproces hebben kwaliteitsproces, en dat we geen willekeurige fabrieken hebben in China. Dus dat zal allemaal wel redelijk gecontroleerd worden. Maarja, overal en nergens. Volgens mij was er laatst ook, waren we een bepaalde sub-assembly aan het samenstellen, of was er. En toen viel er een bepaalde fabriek om in China, en toen kon dat hele 'part' nergens meer besteld worden. De hele industrie heeft daar dan ook last van, dat is wel grappig.

[Tomas]: Daarom zeg ik ook altijd graag dat we nog niet echt een competitor hebben nog. Dat het ook heel onwaarschijnlijk is dat iemand hetzelfde concept neer gaat zetten op korte termijn,

omdat het gewoon heel lastig is om zo'n groot volume hoge kwaliteit fietsen te komen. En omdat men inderdaad de valkuilen nog moet overwinnen voor dat ze zijn waar wij zijn.

[Martine]: Ja, het is moeilijk om zo inde boot mee te springen en mee te liften. Dat is wat misschien wel een groot verschil is met China. Investeringsmaatschappijen bulken van het geld, genoeg. Je hebt een goed idee, knippert 1 keer met je ogen en iemand heeft het van je gejat. Dat zou ook iets zijn.

[Tomas]: Daar zou ik wel vanuit gaan. Je kan denk ik wel veel winnen in de manier waarop je het doet. Wat al die deelfiets bedrijven hier ook gedaan hebben; je kan wel 100,000 fietsen neerzetten maar daar zit niemand op te wachten.

[Martine]: Nee, als je een telefoonnummer belt en je krijgt geen persoon van vlees en bloed aan de lijn die jou helpt...

[Tomas]: Op een leuke manier... Misschien zitten ze daar in China wel helemaal niet op te wachten. Geen idee. Zou ook wel interessant zijn, op wat voor communicatie ze daar zitten te wachten, wat ze fijn vinden met bedrijven. Ik weet wel dat intern, in heel veel Aziatische landen het een stuk hiërarchischer is. Hier hebben we bijvoorbeeld een hele platte organisatie. Ik spreek Onno aan, Onno is hoofd van groei. Dan zit ik hier al een tijdje, maar dat kan iedereen doen in principe als die een vraag heeft, of als je iets wil.

[Tomas]: Bij Swapfiets zijn we heel erg gefocussed op dat het een goede ervaring moet zijn. Dat als iemand ons belt Daar hebben we ook een feedbackloop voor ingebouwd, dus nadat er een contact moment is geweest, krijgen klanten ook de vraag wat ze daarvan vonden. Dat zijn we nu voor meerdere facetten aan het doen voor ons bedrijf, dus bijvoorbeeld ook nadat er je een swap hebt gehad, wat vond je ervan.

Appendix III: Questionnaire Shared Bikes in Shanghai 共享单车在上海 vs. Swapfiets

M. Lievers - Questionnaire MA Thesis, Leiden University - September 2018

大家好!

我的名字叫李曼婷，来自荷兰。目前我是莱顿大学亚洲学的硕士学生。我的论文研究调查是关于上海的共享单车。[1] 请你们帮我分享或填写! 童叟，大家都可以填写! 如果有问题的话，请你联系我。非常感谢你们的帮助!

曼婷

Hello everybody!

My name is Martine Lievers, from The Netherlands. I am a master student Asian Studies at Leiden University. I am currently working on my MA thesis about shared bicycles in Shanghai. Would you all please be so kind to help me fill in and/or share this questionnaire? Should you have any questions, please feel free to contact me. Thank you so much for your help!

Martine Lievers

MA Asian Studies, Leiden University, The Netherlands
m.w.lievers@umail.leidenuniv.nl

*[1] The questions marked with an * are derived from or based on a questionnaire created by Zou Linghong in her 2014 thesis: Addressing declining bike use in China: Factors associated with bike ownership and use. However, the questions have been adapted to better fit the research topic.*

Part 1: Demographic Questions 第1部: 基本资料

1. Please indicate your sex. 请选择你的性别

Male男 Female女

2. Please indicate your age group. 请选择你的年龄区间:

12 岁以下 13-18岁 19-35岁 36 - 50 岁 51 - 65岁 65+ 岁以上

3. Are you a Chinese national? 你是否为中国籍?

Yes 是 No 否

4. Where do you currently live? 请选择你目前住的地

Shanghai Municipality 上海市

Other place in China 另一个地方在中国

Abroad 外国

5. Are you currently a student? 你目前是学生吗?

Yes 是 No 否

Part 2: Shared Bicycles 第二部：共享单车

*6. Do you or your household own a bike? 你或你家是否拥有一辆自行车？

- Yes 是
- Yes, more than one 是，不止一辆
- No 否

7. Do you make use of shared bikes in Shanghai? 你在上海是否使用共享单车出行？

- Yes 是
- No 否

If not, please continue to question 13 请接着回答 13 问题

*8. How often do you use a shared bike? 你使用共享单车出行的频率如何？

- (almost) everyday (几乎) 每天
- 1-2 times/week 平均每星期 1-2 次
- 1-2 times/month 平均每月 1-2 次
- 1-5 times/year 平均每年 1-5 次

*9. Did you use shared bikes more during the past year than the previous years? 与前些年相比，你在过去的一年中使用共享单车的频率：

- Less 更少
- About the same 无明显变化
- More 更多

*10. I use shared bikes because: (Multiple answers possible)

我使用共享单车出行因为：（多选）

They are more **convenient** than using my own bike (no investment needed, no worries about maintenance or theft, no responsibility)

共享单车比自己的自行车更便利（不需要投资、不需自己修理、对共享单车没有责任）

They are **cheaper** than other forms of transport

共享单车比其他交通方式更便宜

They are **faster** than other forms of transport/ to avoid traffic jams

共享单车比其他交通方式更快，避免堵车

They **improve connections** between other forms of transport/solves “the-last-mile-problem”

共享单车为您提供其他交通方式之间更好的连结/解决了最后一英里的问题

They are more **beneficial to one's health** than other forms of transport

共享单车比其他交通方式对身体更健康

They are **better for the environment** than other forms of transport

共享单车比其他交通方式对环境好得多

leisure activities/recreational purposes

娱乐休闲

Other 其他 _____

11. What providers do you make use of? (Multiple answers possible) 您使用哪些供应商？（多选）

- Mobike 摩拜单车
- Ofo 小黄车
- Hellobike 哈罗单车
- Gonbike 共佰单车
- Xiaoming 小鸣单车

- U-Bicycle 优拜单车
- Bluegogo 小蓝单车
- Qibei 骑呗单车
- Xiangqi 享骑单车
- Other 其他_____

12. When I use a shared bike, I feel responsible for it. 使用共享单车时，我感到很负责任。

(1 = very little, 10 = very much) 1= 很少， 10 = 很多)

- 1 2 3 4 5 6 7 8 9 10

***13. I do NOT use shared bikes because:** (Multiple answers possible) 我不使用共享单车出行因为：（多选）

- I cannot cycle 我不会骑自行车
- I use my own bike 我使用自己的自行车
- I prefer other forms of (public)transport 其他的交通方式比共享单车更方便
- Air pollution 空气污染
- Climate is inconvenient for cycling 地气候不适合
- Distances to school, work, supermarket etc. are too far away 到学校，工作，超市等的距离太远
- Traffic is too dangerous 交通太危险了
- Cycling is a hobby, not a legitimate form of transport/not cool 骑自行车是一种爱好而不是交通方式/共享单车不酷
- The deposit is too high 押金太高了
- Availability, too many bikes, or too few 可用性，自行车太多或太少
- Too many bikes have defects 故障的自行车太多
- Other 其他_____

14. Did you ever complain to a bike sharing company? 你是否曾经向共享单车公司抱怨？

- Yes 是
- Yes, more than once 是，不止一次
- No 否

15. If yes, what was the complaint about? (Multiple answers possible) 如果是的话，抱怨跟什么事有关？（多选）

- Quality of the bike (something was broken) 自行车的质量（有些东西坏了）
- Availability (too few available bikes) 可用性（可用的自行车太少）
- Deposits or other financial issues 押金或其他财务问题
- Problems with the app 应用程序问题
- Problems with the subscription 订阅问题
- Customer service 客户服务
- Other 其他_____

16. Who is responsible for regulating/managing bikes in the public space? (Multiple answers possible) 您认为谁对管理公共场所的共享单车有责任？（多选）

- Bike sharing companies 共享单车公司
 - National/provincial government 国家/省政府
 - Shanghai Municipality 上海市
 - Bike sharing users 共享单车用户
 - Other 其他_____
-

Please indicate your agreement with the following statements by selecting one of the five options:

针对下列陈述请给出你的观点：

1 星星 ~ **Strongly disagree** 十分不同意

2 星星 ~ **Disagree** 不同意

3 星星 ~ **Neutral** 中立

4 星星 ~ **Agree** 同意

5 星星 ~ **Strongly agree** 十分同意

17. The number of shared bikes in Shanghai is a good development.

我认为目前上海公共街道的共享单车数量是一个很好的发展。

1 2 3 4 5

18. Shared bikes in Shanghai are sufficiently regulated/managed.

上海市内公共场所共享单车受足够管制/管理。

1 2 3 4 5

***19. Bike parking facilities in Shanghai are available and convenient.**

上海有足够的共享单车停车设施且使用便捷。

1 2 3 4 5

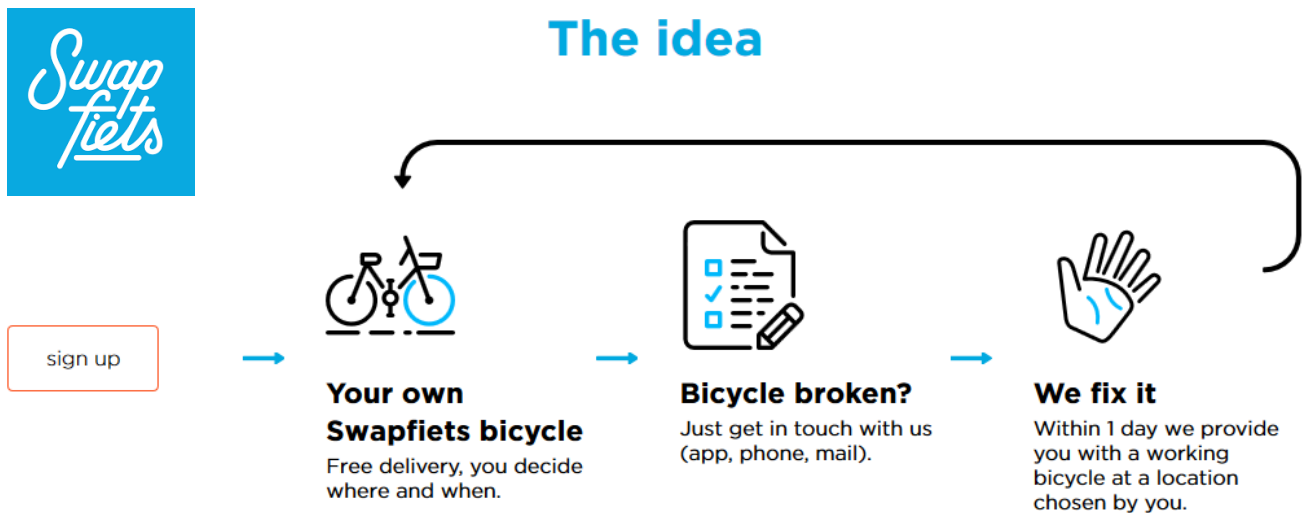
Part 3: The Swapfiets Concept 第 3 部: Swapfiets 概念

20. Have you ever heard of the Swapfiets concept? 你听说过 Swapfiets 的概念吗?

Yes 是

No 否

If not, please read the following introduction: 如果没有, 请阅读以下的介绍:



'Swapfiets' ('fiets'是荷兰语中的自行车用词) 最好被描述为自行车的“订阅”。按月收费, 您将获得一辆自行车。每当有什么东西坏掉, 或者自行车被盗时, Swapfiets 都会过来修理或更换它, 不收任何额外费用。只要您支付订阅费用, 它就归您所有, 因此您自己有责任妥善保管。Swapfiets 旨在确保每个人都拥有一辆没有毛病的自行车, 并减少旧和未使用占用公共空间的自行车数量。

The 'Swapfiets' ('fiets' is the Dutch word for bike) can best be described as a 'subscription' for bikes. For a monthly fee, you receive a bike. Whenever something breaks, or a bike gets stolen, Swapfiets will come over and repair or replace it, free of any additional charges. As long as you pay for the subscription, it stays in your possession and thus it is your own responsibility to take good care of it.

Swapfiets aims to make sure everyone always has a working bicycle, and reduce the number of old and unused bicycles occupying the public space. Source: <https://www.swapfiets.nl/>

21. Swapfiets is a good idea. Swapfiets 的概念是一个好主意。

1 2 3 4 5

22. I am willing to adopt a service like Swapfiets. 我愿意采用像 Swapfiets 这样的服务。

1 2 3 4 5

23. This type of service could be viable in Shanghai. 在上海,这种服务可行。

1 2 3 4 5

24. I would be interested in having/using my own bicycle.

我对拥有/使用自己的自行车有兴趣。

1 2 3 4 5

25. Customer service is very important. 客户服务非常重要。

1 2 3 4 5

26. The maximum price (per month) I would be willing to be pay is:

您愿意为这种服务支付的最高价格(每月)是多少?

10-25 元

26-50 元

51-75 元

76-100 元

101-150 元

151-200 元

200-300 元

300 or more 元

nothing

Part 4: Other 第 4 部: 其他

27. Please indicate how much you value the following aspects when choosing the mode of travel. 在选择出行方式时, 请说明您对以下方面的重视程度。 1 = very little, 10 = very much / 1= 很少, 10 = 很多

Convenience 便利

1 2 3 4 5 6 7 8 9 10

Safety 安全

1 2 3 4 5 6 7 8 9 10

Speed 速度

1 2 3 4 5 6 7 8 9 10

Environment 环境

1 2 3 4 5 6 7 8 9 10

Price 价格

1 2 3 4 5 6 7 8 9 10

Health 健康

1 2 3 4 5 6 7 8 9 10

Other 其他

Appendix IV: Fieldwork Locations & Maps

List of fieldwork locations

Locations that have been counted 3 times:

- 1) East Nanjing Rd. Metro Station (南京东路地铁站) - 31.23803, 121.48251**
- 2) Tongji University Campus (同济大学校园) - 31.28248, 121.50637**
- 3) Shanghai New International Expo Centre (上海新国际博览中心) - 31.20622, 121.56416**
- 4) China Art Museum (中华艺术宫) - 31.1867, 121.49311**
- 5) Dongchang Rd. Ferry Terminal (东昌路渡口) - 31.23011, 121.50436**
- 6) Ningbo Rd. (宁波路) - 31.23897, 121.48262**
- 7) Ferry from Lujiabang Ferry Terminal (陆家浜渡口) - 31.20784, 121.5045 to Nanpu Bridge Ferry Terminal (南浦大桥渡口) - 31.20265, 121.50579**
- 8) Sichuan Middle Rd. (四川中路) - 31.23777, 121.488**
- 9) Beijing East Rd. (北京东路) - 31.23881, 121.47711**

Locations that have been checked once:

- 1) Dongchang Rd. Metro Station (东昌路地铁站) - 31.23374, 121.51516**
- 2) Dongjiadu Ferry Terminal (董家渡渡口) - 31.21501, 121.50806**
- 3) Hengshan Rd. Metro Station (衡山路地铁站) - 31.20545, 121.44706 to Wulumuqi Rd. (乌鲁木齐路) - 31.2132, 121.44569**
- 4) Jinling East Rd. Ferry Terminal (金陵东路渡口) - 31.23244, 121.49315**
- 5) Joy City Mall (上海大悦城) - 31.24517, 121.47135**
- 6) JuLu Rd. 158 (巨鹿路) - 31.22306, 121.4663**
- 7) Longyang Rd. Metro Station (龙阳路地铁站) - 31.20325, 121.55756**
- 8) M50 Creative Space (莫干山路50号) - 31.24768, 121.44875**
- 9) People's Park (人民公园) - 31.23272, 121.47536**
- 10) Shanghai Railway Station (上海火车站) - 31.25134, 121.45499**
- 11) Shanghai Bicycle Industry Association (上海市自行车行业协会) - 31.22834, 121.41057**
- 12) Suzhou Rd. Riverside Park (苏州路河边公园) - 31.24304, 121.48457**
- 13) Tianzifang (田子坊) - 31.208, 121.46949**
- 14) Xintiandi (新天地) - 31.2165, 121.47532**
- 15) Yili Rd. (伊犁路) - 31.19904, 121.40335**
- 16) Zhongshan North Rd. (中山北路) - 31.26214, 121.46436**

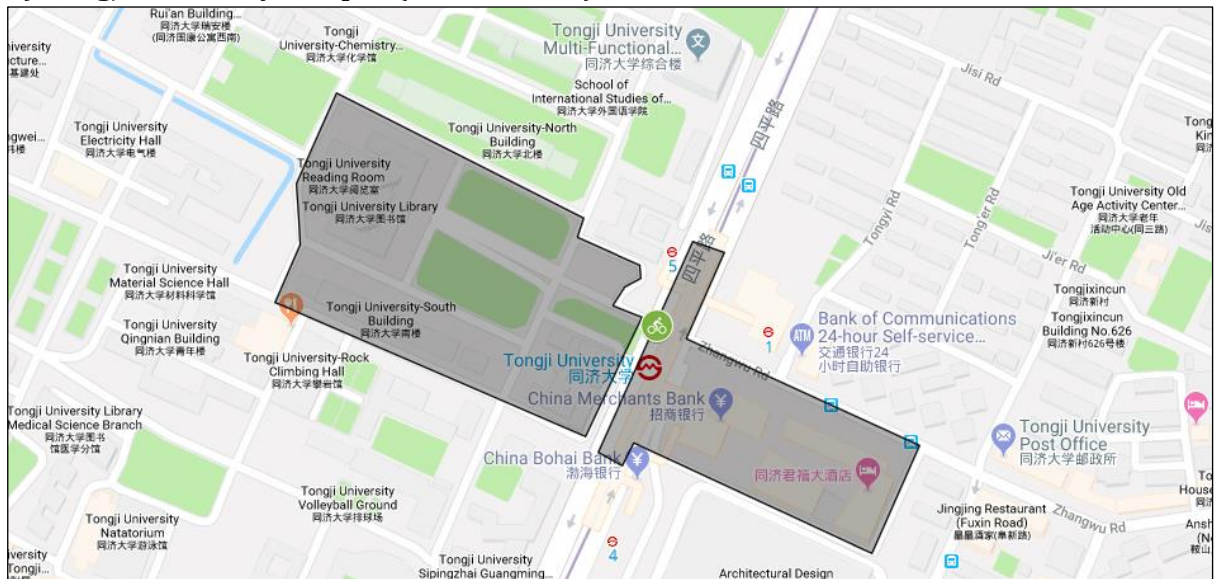
Fieldwork Maps

Locations that have been counted multiple times:

1) East Nanjing Rd. Metro Station (南京东路地铁站) - 31.23803, 121.48251



2) Tongji University Campus (同济大学校园) - 31.28248, 121.50637



3) Shanghai New International Expo Centre (上海新国际博览中心) - 31.20622, 121.56416



4) China Art Museum (中华艺术宫) - 31.1867, 121.49311



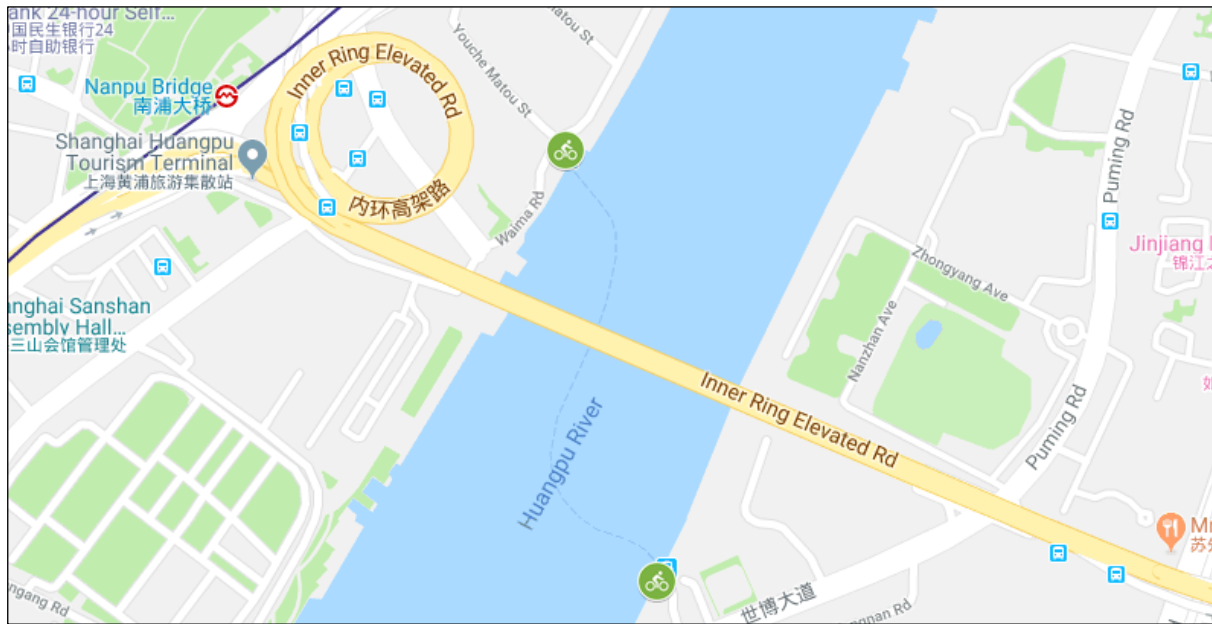
5) Dongchang Rd. Ferry Terminal (东昌路渡口) - 31.23011, 121.504



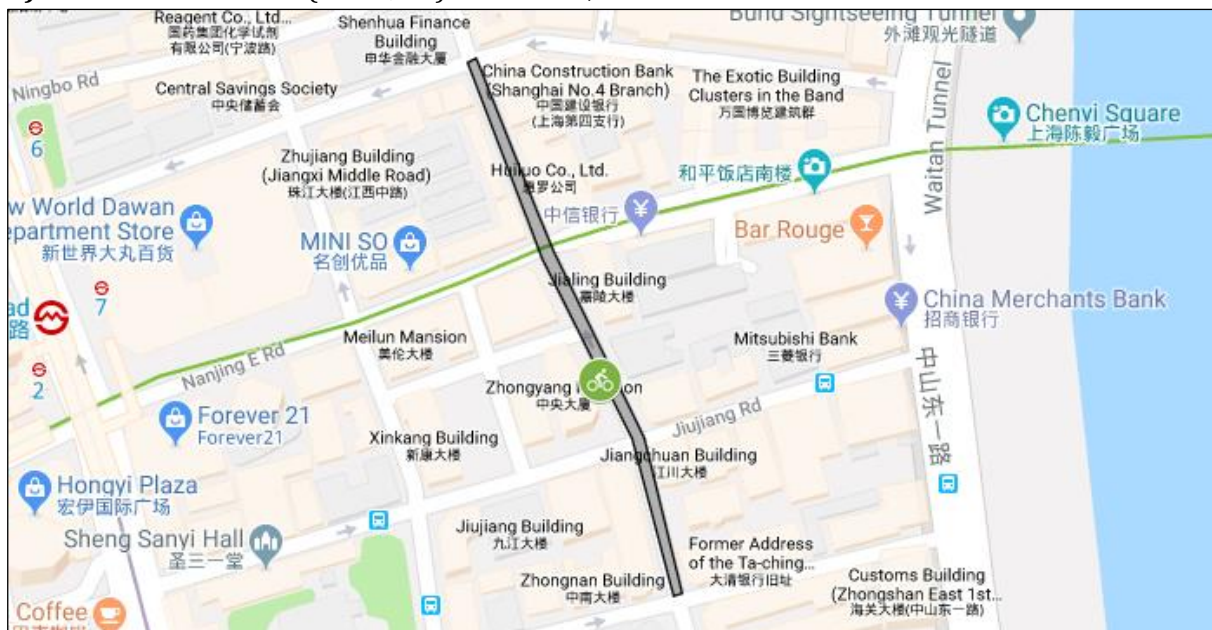
6) Ningbo Rd. (宁波路) - 31.23897, 121.48262



7) Ferry from Lujiabang Ferry Terminal (陆家浜渡口) - 31.20784, 121.5045 to Nanpu Bridge Ferry Terminal (南浦大桥渡口) - 31.20265, 121.50579



8) Sichuan Middle Rd. (四川中路) - 31.23777, 121.488

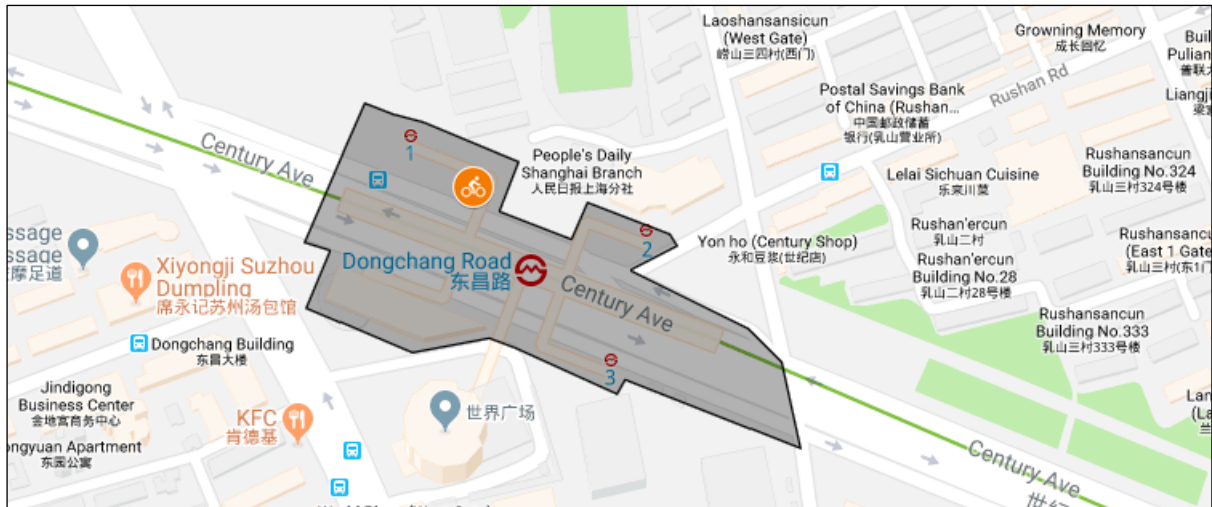


9) Beijing East Rd. (北京东路) - 31.23881, 121.47711

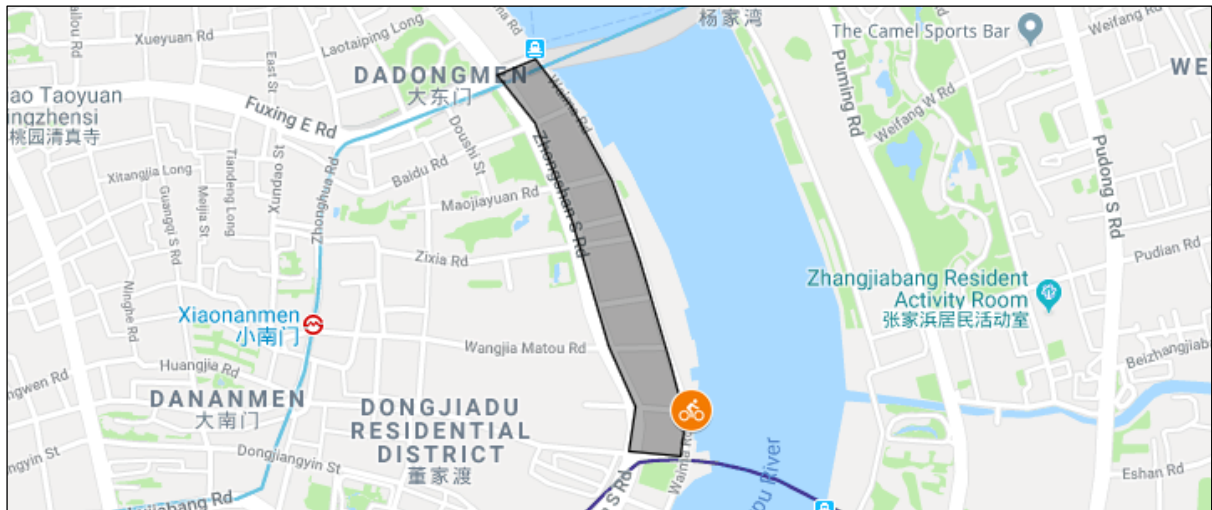


Locations that have been checked once:

1) Dongchang Rd. Metro Station (东昌路地铁站) - 31.23374, 121.51516



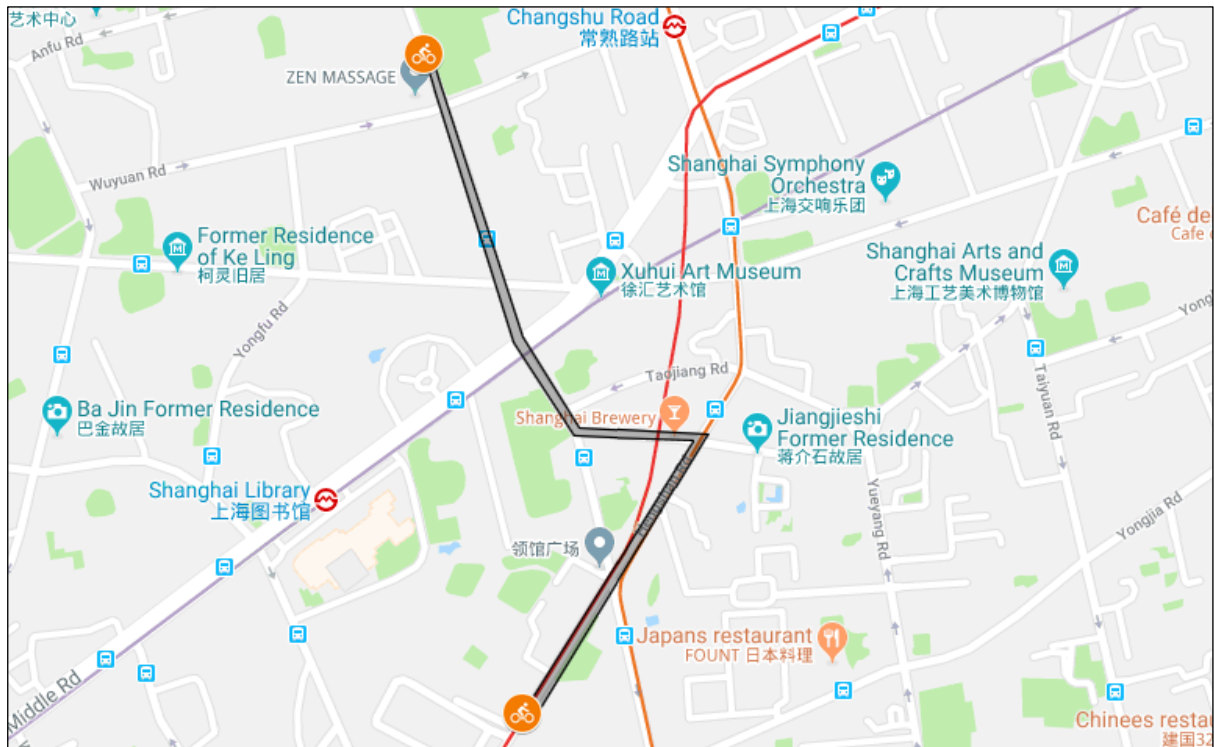
2) Dongjiadu Ferry Terminal (董家渡渡口) - 31.21501, 121.50806



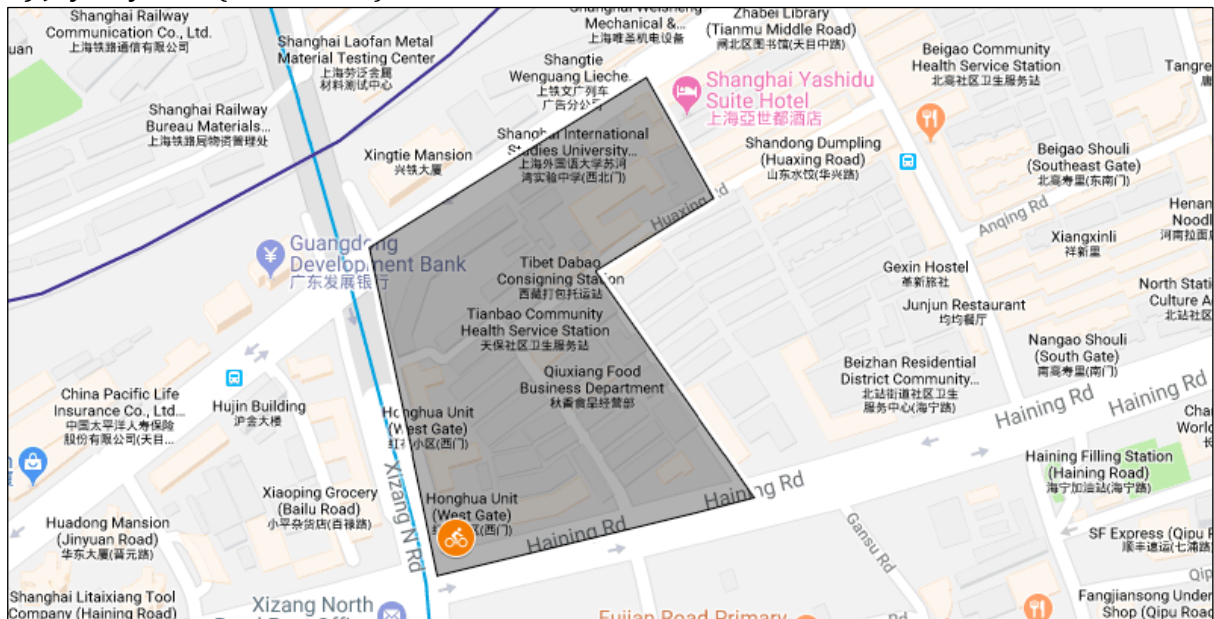
3) Jinling East Rd. Ferry Terminal (金陵东路渡口) - 31.23244, 121.49315



4) Hengshan Rd. Metro Station (衡山路地铁站) - 31.20545, 121.44706 to Wulumuqi Rd. (乌鲁木齐路) - 31.2132, 121.44569



5) Joy City Mall (上海大悦城) - 31.24517, 121.47135



6) JuLu Rd. 158 (巨鹿路) - 31.22306, 121.4663



7) Longyang Rd. Metro Station (龙阳路地铁站) - 31.20325, 121.55756



8) M50 Creative Space (莫干山路50号) - 31.24768, 121.44875



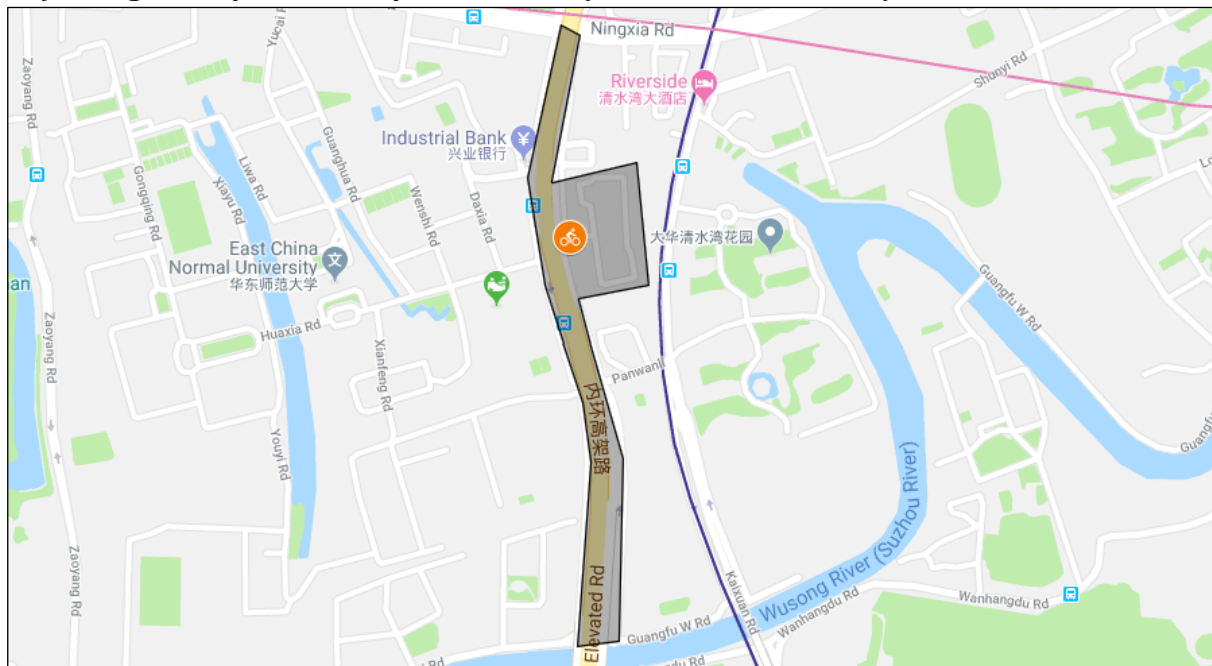
9) People's Park (人民公园) - 31.23272, 121.47536



10) Shanghai Railway Station (上海火车站) - 31.25134, 121.45499



11) Shanghai Bicycle Industry Association (上海市自行车行业协会) - 31.22834, 121.41057



12) Suzhou Rd. Riverside Park (苏州路河边公园) - 31.24304, 121.48457



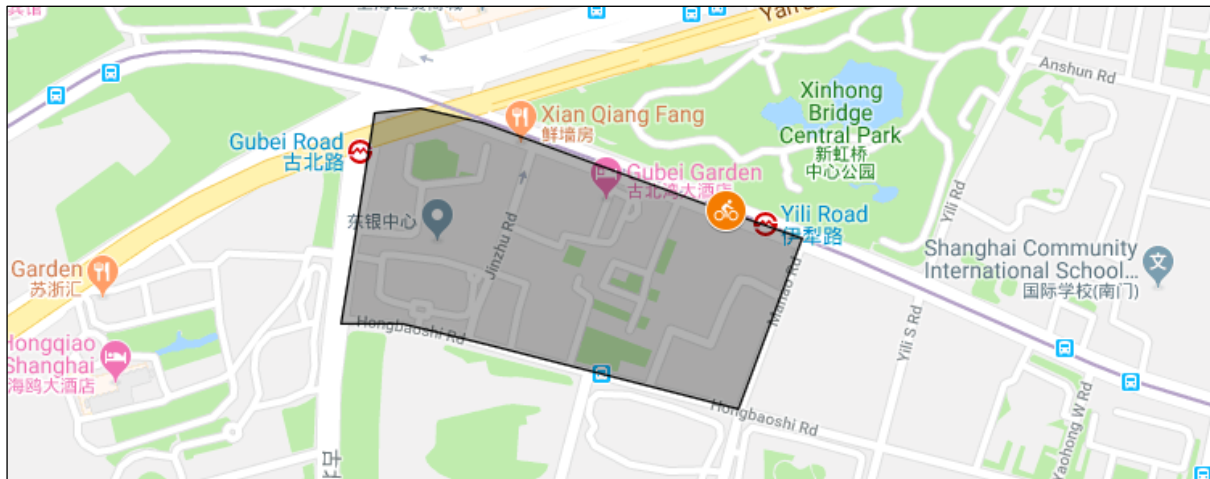
13) Tianzifang (田子坊) - 31.208, 121.46949



14) Xintiandi (新天地) - 31.2165, 121.47532



15) Yili Rd. (伊犁路) - 31.19904, 121.40335



16) Zhongshan North Rd. (中山北路) - 31.26214, 121.46436



Appendix V: Table bicycle counting

| | Mobike | Ofo | Hellobike | Xiangqi | Jiujiu | Xiaoming | U-Bicycle | Kuqi | Tiantianqi | Youon | Yichu | 100-Bike | Total Shared | Total Private |
|--|--------|-----|-----------|---------|--------|----------|-----------|------|------------|-------|-------|----------|--------------|---------------|
| Beijing East Rd. | | | | | | | | | | | | | | |
| 23.10 morning | 86 | 23 | - | - | - | - | - | - | - | - | - | - | 109 | 44 |
| 23.10 noon | 81 | 15 | - | - | - | - | - | - | - | - | - | - | 96 | 25 |
| 23.10 evening | 40 | 9 | - | - | - | - | - | - | - | - | - | - | 49 | 42 |
| China Art Museum | | | | | | | | | | | | | | |
| 07.10 rush hour | 16 | 45 | - | - | - | - | - | - | - | - | - | - | 61 | 6 |
| 14.10 morning | 3 | 8 | - | - | - | - | - | - | - | - | - | - | 11 | 2 |
| 23.10 noon | 7 | 15 | - | - | - | - | - | - | - | - | - | - | 22 | - |
| 06.10 morning | 55 | 24 | 5 | 4 | 10 | 11 | 5 | 5 | 1 | 1 | 1 | - | 122 | 587 |
| DongChang Rd. Pier | | | | | | | | | | | | | | |
| 06.10 noon | 25 | 15 | 2 | 1 | 2 | 2 | - | - | - | - | - | 5 | 52 | 7 |
| 06.10 rush hour | 8 | 9 | 2 | 1 | 2 | 2 | - | - | - | - | - | 5 | 29 | 7 |
| 06.10 evening | 2 | 7 | 1 | - | 2 | 2 | - | - | - | - | - | 5 | 19 | 7 |
| East Nanjing Rd. Metro Station | | | | | | | | | | | | | | |
| 04.10 noon | 54 | 27 | 2 | 7 | 4 | - | - | - | - | - | - | - | 94 | 92 |
| 04.10 evening | 3 | 7 | - | 5 | 3 | - | - | - | - | - | - | - | 18 | 59 |
| 05.10 morning | 47 | 22 | 1 | 5 | 2 | - | - | - | - | - | - | - | 77 | 71 |
| Ferry Lujiabang to Nanpu Bridge | | | | | | | | | | | | | | |
| 07.10 noon | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - |
| 14.10 morning | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - |
| 23.10 rush hour | - | - | - | 1 | - | - | - | - | - | - | - | - | 1 | - |
| Ningbo Rd. (road side bike parking) | | | | | | | | | | | | | | |
| 07.10 evening | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | - |
| 08.10 morning | 9 | - | - | - | - | - | - | - | - | - | - | - | 9 | - |
| 08.10 rush hour | 23 | - | - | - | - | - | - | - | - | - | - | - | 23 | 1 |
| Shanghai New International Expo | | | | | | | | | | | | | | |
| 13.10 morning | 45 | 33 | - | - | - | - | - | - | - | - | - | - | 78 | 1 |
| 11.10 noon | 4 | 21 | - | - | 1 | - | - | - | - | - | - | - | 26 | 3 |
| 13.10 evening | 3 | 18 | - | - | 1 | - | - | - | - | - | - | - | 22 | - |
| Sichuan Middle Rd. cycling street | | | | | | | | | | | | | | |
| 07.10 morning | 17 | 8 | 1 | 1 | 1 | - | - | - | - | - | - | - | 28 | 26 |
| 11.10 noon | 7 | 5 | - | 1 | 1 | - | - | - | - | - | - | - | 14 | 23 |
| 13.10 evening | 1 | 3 | 1 | 2 | 1 | - | - | - | - | - | - | - | 8 | 33 |
| Tongji University Campus | | | | | | | | | | | | | | |
| 05.10 noon | 178 | 40 | 4 | 6 | 10 | 12 | 5 | 5 | 1 | 1 | 1 | - | 263 | 827 |
| 05.10 evening | 89 | 23 | 5 | 4 | 9 | 11 | 5 | 5 | 1 | 1 | 1 | - | 154 | 631 |
| 06.10 morning | 55 | 24 | 5 | 4 | 10 | 11 | 5 | 5 | 1 | 1 | 1 | - | 122 | 587 |