

Operations Management of Mobike in China

Zhen Li

School of Management, Jinan University, Guangzhou, China

Email: zhen_liiii@sina.com

How to cite this paper: Li, Z. (2018) Operations Management of Mobike in China. *Open Journal of Business and Management*, 6, 688-695.

<https://doi.org/10.4236/ojbm.2018.63052>

Received: June 21, 2018

Accepted: July 10, 2018

Published: July 13, 2018

Copyright © 2018 by author and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Bike sharing is a booming industry in China during the past two years. Mobike, one of those bikes sharing companies, has distinguished itself from the competitors by its operations management. This essay focuses on the evaluation of how Mobike Company manages their bikes and how does the company control their quality. The bike sharing company needs to fulfill the demand during rush hour so it is an inevitable issue about capacity, inventory and control to a bike sharing company. At last, the essay gives recommendations related to the evaluations for improvement.

Keywords

Operations, Bike Sharing, Mobike, Resources

1. Development of Mobike

Mobike is a station-less bicycle-sharing system from China. China was known as “Bicycle Kingdom” in the past [1]. With the development of the economy, the quality of citizen’s life in China has improved and therefore using a bike as a trip mode becomes old-fashion. However, the traffic congestion during rush hour and unpleasant air quality in recent years arise people’s awareness towards green and healthy lifestyle. Chinese governments have tried public bicycle project in the past, but it is not so convenient because people can only lock the bike in a station which may be far from their offices and homes. When using Mobike, people can start and end their ride more conveniently. Instead of finding a bicycle station, they can park their bikes in authorized areas. The company aims at offering customers with sharing bike system at a low price to cater the need of short trips well as easing the traffic pressure, reducing air pollution and improving the quality of urban life. According to the director of the company, until June 2017, Mobike operates more than 5 million bicycles in more than 100 cities around the world, with daily orders exceeding 25 million and registered users

exceeding 100 million [2].

Factors contributed to the booming of bike sharing industry in China can be divided into 3 aspects: Firstly, it fulfills the need of commuting between a public transport station and destination. Secondly, the product combines bicycle with technology which makes lending and returning easily by comparing to using a bicycle card to hire a public bicycle. Thirdly, green commuting has gained popularity among people because it is not only economic but also environmental and time-saving.

The whole process of riding a Mobike is based on a smart phone. Users need to download the Mobike smart phone application developed by the company and pre-pay 299 yuan to prevent deliberate damage. By inserting a GPS system and a SIM card in every bicycle, the company can follow the track of their bikes. This utilization of technology in the bike also provides users with an easy way to find some available bikes nearby when they use the application. After scanning the QR code attached on the bike, it will unlock automatically because the background server can receive the request from users. It costs users 1 yuan or 0.5 yuan per 30 minutes riding, depending on the type of Mobike people choose to use. When people arrive at their destination, they can park the bike in an appropriate place. After closing the lock, the expense will be deducted automatically from the account with which users have linked their Alipay or bank card.

2. Key Operations Management Issues

Every organization provides either products or services to their customers. Operations management is the process of managing the resources which are used in getting through the tasks [3]. The key operations goal of Mobike Company is to make sure the bicycles are available and undamaged when they are in demand. That is, customers can get access to bicycles whenever they want. To achieve the goal, Mobike Company use technology to forecast which areas are in great need of bikes and manpower to dispatch bikes to that place. To offer a pleasant ride, which is the output of the company, designers in the company design bicycles, improving and launching new generations and staff from Mobike distribute bicycles from low-utilization areas to high-demand areas.

2.1. Transformation Process

A transformation process is any activity or group of activities that takes one or more inputs, transforms and adds value to them, and provides outputs for customers or clients [4]. In the input-transformation-output process of Mobike, the fundamentally transformed resources include bicycles and riders and the main transforming resources are staff and past tracks. During a short bicycle trip, both the bike and the rider are transferred from a starting point to a destination. By using the past tracks, staffs are able to know which places are in need of bikes and they locate them in specific areas so that the customers can get available bikes.

2.2. Keep Operations Consistent with Strategy

Strategy and operations are inextricably connected: strategy is a plan to reach an objective and operations is the means of getting there. Operations management involves the planning and coordination of work. Strategically, this involves the long-term planning and structuring of work. Indeed, the task of operations strategy is to design the operating system, which is the joint configuration of resources and processes, such that its resulting competencies are aligned with the organization's desired competitive position. Tactically, the task of operations management is to utilize the operating system and provide the best match of supply with demand.

As Mobike is designed by Beijing Mobike Technology Company Limited, this company positions itself as a technology company which applies hi-tech to people's daily transportation so as to improve their quality of life. The company attaches great importance to their "operations", that is, their bikes and this is the key operations strategy. Unlike other bicycle sharing company such as ofo, bluegogo and xiaoming etc., Mobike possesses its own production line rather than working together with an original equipment manufacturer. Corresponding to the strategy of the organization, the staff design high-quality bicycles and upgrade new type according to riders' general feedbacks. The cost per bike is expensive because Mobike also owns many patents in its bearing, brake, wheels etc. and the patents applied will extend the life of bikes. The high-cost and high-quality give Mobike the advantage to focus less on "operational" because the staff will not spend so much time on reclaiming and repairing as their competitors [5]. To give more attention to "operations" and focus less on "operational", the designers equip Mobikes with GPS and SIM card so in the later time the company can get easy access to the need and demand of bikes by using the past data. However, their competitors, those who have not set chips in the bikes when designing the bike, will find themselves fall behind Mobike once they realize the importance of data. To develop the performance in operations management, Mobike launch a special promotional activity where users will join in the operational process themselves and contribute to the improvement of operations management of the company.

3. Resources and Capacity

Mobike Company adopts the chase demand plan in these days when dealing with the capacity problems. During the rush hours, it may be difficult for people to find a bike so the company needs to dispatch the bikes to some highly-used areas to guarantee that there are enough bikes to ride.

3.1. Operations Management in the Beginning

In the initial periods, the bicycle operations staffs in Mobike Company do this work. Each staff is responsible for a specific area in the city. They are required to find the bikes parked inside a community, small alley and some remote areas

where the bikes may be idle and transfer them to highly-used areas. They work with van drivers. The drivers drive the staff to a general place and the staffs are responsible for finding out the exact locations of idle bikes by using the application in smart phone and load the bikes into the van. With a van of bikes, the drivers drive to metro stations and commercial districts and the operations staff carry the bikes from the van to the ground. To be honest, they can be called as workers rather than staff because it is not themselves who decide where to lay the bikes. They just follow the instructions from the company. Moreover, the locations and quantity of the bikes which will be put on by the operations staff are based on rough estimation because the company is in the start-up stage and cannot collect numerous bicycles using data. Since the company cannot give an optimal plan of where and how many the bikes will be launched so that the staff can be a kind of cost if they transfer too many bikes to the new locations. On the other hand, if the bikes put on the specific districts cannot fulfill people's demand Mobike Company are possible to lose market because the users can use sharing bikes from other companies.

3.2. Deal with a Trade-off Problem

What the operations staffs do is trying to adjust the volume of bikes to reflect the fluctuation during rush hours. There is a trade-off problem in this transferring method. Once the sharing bikes have been launched, it is the market that mainly decides the distribution of the bicycles. If a bike can be found in some remote areas, it means someone around this place has used this bike. Although the bike seems to be idle at the moment, it may still be rid by someone in the future. A question comes up. If the bike will be used someday, what is the point in carrying these bikes to other areas, which may be useless because there is not an optimal plan. What the company keeps doing is transporting bikes from low-demand areas to high-demand areas in order to match capacity and make more profit. The most important problem need to considerate is to balance the cost of the operations staffs and drivers, the opportunity cost of the bikes used in remote places and the profit made in high-demand areas. In this situation, if an instruction is not perfect enough the company may make less profit than when the bikes have not been dispatched before. The job of operations staff requires an enormous amount of strength and they do the same thing every day, which is tedious for them. In the beginning, this method is helpful to the company, but as the company has expanded its operations area around China and launch more bikes into cities, the salary of operations staff account for a large portion of operations cost. What's more, if Mobike still adopts this chase demand plan, they are faced with some unnecessary cost because some shifts may not be necessary.

3.3. Development in Operations Management

Mobike soon came out with a new approach to manage their bikes and capacity.

Generally, if a user opens Mobike's app, they will see a map of all the bikes available nearby. During March of 2017, the company marked some bikes as "bonus bikes" on the map. Users can recognize them easily as the "bonus bikes" shown on the map are labelled with red envelope. Once users unlock these bonus bikes and ride them for at least ten minutes, they will receive a bonus between 1 yuan and 100 yuan. The design of bonus bikes aims at encouraging people to ride bikes from low-demand areas to crowded places. If people park bonus bikes near crowded places like metro station and business district, they will be more likely to receive a big bonus. Bonus can be accumulated and people can withdraw the money from their Mobike accounts to their bank accounts.

The benefit of bonus bikes is obvious. As there is a reward for finding and riding the bike, this interesting design can immerse users in a game scene like *Pokemon Go*. The setting of bonus bikes is not a random choice. They are either located in low-traffic areas or have not been used for a long time. Under this condition, users are stimulated to join in the daily operations issue in this game-like promotion activity. Although the Mobike gives some benefits to their users, it is still beneficial to the company because the users do some adjustments and managements themselves instead of the staff, which will save some costs. Apart from increasing the utilization of bicycles and decrease the work in daily operations management, the method is also practical in managing the usability problem. Users will report the bikes if they are locked by others deliberately or out of use. Once the company receives the report, it can deal with the problem effectively and it saves times and costs because users help it in finding problems rather than checking bicycles by the staff. Additionally, the promotion activity can attract more users. By sharing the money they earn in the social media, more people are drawn to using Mobike.

The idea is good but Mobike needs to emphasis on one important point, that is, how much should the company spend in supporting this activity. If the bonus is little, people cannot be activated and consider it as a gimmick. If the bonus is too much, Mobike may lose profit by comparing to use the operations staff. Additionally, what users want is to get available bicycles whenever they need but the design of "bonus bikes" require users to find a designated bike, which may waste their time and energy. Are they willing to find bikes located in unfrequented places like small alleys, abandoned parking lots, only for winning the bonus? In a word, if Mobike wants to win in the competition, it needs to figure out how to activate the use of more bikes among users. The design of "bonus bikes" proves that Mobike has attached significance to innovation and technique, which will make their operations management easier.

4. Quality Management

Offering high-quality services can bring organizations chances to conquer in the market. To Mobike, high-quality offerings mean users are satisfied with the whole process of using Mobike, that is, finding, riding and parking.

4.1. High-Quality Design

With the expansion of the company, it has put a large amount of bikes in cities so it is not difficult for people to catch sight of a mobike. Except for parking in the middle of the roads, car parks and private places, people can almost park it everywhere so this process will not be an essential problem. Mobike did focus on quality from the first beginning. To prevent disrepair easily, bicycles are made of aluminum so they will not become rusty because of the rain. To guarantee the safety of the riders, hubs are wide and heavy. To prevent the chains from slipping, mobikes are designed with no chains. To focus less on daily operations, wheels are solid so they do not need charging. [6] These intentions are good for the company but still not thorough enough. The designs make mobikes heavier than general bikes and people find it difficult to keep balance and hard to ride, especially on an upward slope. What is more, seats of the first generation of mobike cannot be adjusted, which annoyed users a lot.

4.2. Change the Perspective

What they focused on first were qualities of bikes, not qualities from the perspective of customers or operations. Considering the problem in a position of users, a high-quality experience means the bike is easy to ride and control. To expand the service life of bikes and cut the cost of operations management, the designs are original and innovative but there is a gap between users' expectations and perceptions. To erase the gap, Mobike has improved the design and come out with new generations named "Mobike Lite" and "Mobike II". Lighter aluminum has been utilized. Seats are adjustable. Wheels are not totally solid. New generations please users at this time.

In big cities such as Beijing, Shanghai, Shenzhen, people can see most of the mobikes in the street are new generations. However, when Mobike expanded in small cities such as Zhuhai, Jinan and Fuzhou, the company still put the old generation bikes into the market even though new generations have already appeared in big cities. An audacious deduction can be put forward. Mobike has manufactured excess bicycles at first and they have not put most of them into the market yet, so it still keeps launching the old generation. Without some attempts in small areas first, numerous bikes were produced. In the process of total quality management, Mobike overlooked prevention costs and appraisal costs. As a consequence, external failure costs increased since users may choose sharing bikes from other companies.

In the later time, when doing the promotion activity such as "bonus bikes", Mobike choose to do the experiment in Beijing first and then did the activity in other cities. After the experiment, Mobike knew the participation rate and thus they could set the "bonus" more rational [7].

5. Recommendations

The function of "bonus bikes" should improve. To reduce the cost of daily operations management, Mobike comes out with "bonus bikes". With finding and

riding a bonus bike, users take part in the operational issue, which eases the burden of the company. Though the design is good, it can still be improved. The company can set the following rules. When using the smartphone application, there are many parking places for users to choose according to their locations and if they park the bicycles in one for these preferred places, users are likely to receive more bonus. This is one type of bonus. If the users prefer not to park the bike in the favored places, they are supposed to park bicycles in conspicuous places so that bikes can be used again in a short time and the operational efficiency will increase. Users can gain the bonus if the bike they parked before is used again within a reasonable time. To prevent deliberately parking and using again to get bonus, the bonus should be set to below 0.5 yuan because each ride costs at least 0.5 yuan.

Adding new functions named “Ask for a mobike” and “Relocate a mobike”. If one needs a bike in half an hour somewhere, he can check on the application whether there are available bikes or not. If not, he can post a requirement in “Ask for a mobike”. Before starting a trip, people can open the “Relocate a mobike” and see whether there is a requirement near the destination. If there is one, they can choose to “accept”, fulfil the requirement from a stranger and this bike can only be unlocked by the demand side in the appointed time. The one who use “Ask for a mobike” will pay a bit more comparing to a general ride. The extra money is used for rewarding the one who use “Relocate a mobike”. This is also an approach to balance need and supply.

The technical apartment should upgrade the application so that two bikes can be unlocked by one phone. When friends go out together, they may use mobikes. Some of them have never used mobike before and they do not want to download the application and give the deposit money at that time so the group of friends will walk instead. Under this situation, Mobike loses the chance to attract the users they should have attracted. The improvement of the system will give Mobike the chance to increase the utilization and customers. If one is satisfied after being invited by his friend to ride, he will also register a Mobike account and then Mobike earns more users.

6. Conclusion

Mobike is born in the soil of sharing economic and Internet development, and it has made a great contribution to improving public travel efficiency. Its innovative management mode used in the era of “no piles” for public bicycle rentals solved the difficulty of traveling with the power of high technology and the market, and promoted the use of green riding path. The origin idea of sharing bike is creative but when putting the idea into practice, there are some practical problems which require the company to tackle through information technology, big data and human resources.

Acknowledgements

I would like to express my gratitude to those who have helped me during the

writing of this essay. I gratefully appreciate the help of my lecturer of operations management Mark Hall for his encouragement and guidance. I would also like to say thank you to my personal tutor Jimmy, it is the personal meeting with you that inspired me to think about this industry. Lastly, my gratitude also extends to my family who have been assisting, supporting and caring for me during my study.

References

- [1] Zhang, L., Zhang, J., Duan, Z. and Bryde, D. (2015) Sustainable Bike-Sharing Systems: Characteristics and Commonalities across Cases in Urban China. *Journal of Cleaner Production*, **97**, 124-133.
- [2] Brennan, M. (2017) Mobike White Paper Report Released.
<https://chinachannel.co/mobike-white-paper-report-released/>
- [3] Stevenson, W. (2014) Operations Management. 113-114.
- [4] Slack, N., Brandon-Jones, A. and Johnston, R. (2011) Essentials of Operations Management. Pearson Education Limited, Harlow, United Kingdom, 192-221.
- [5] Yu, D.S. and Shang, L.C. (2017) Opportunities and Challenges Faced by Share Economy: Taking Sharing Bicycle as an Example. 2017 *2nd International Conference on Modern Economic Development and Environment Protection (ICMED 2017)*, Qingdao, 16-17 December 2017, 254-258.
<https://doi.org/10.12783/dteees/2017/19777>
- [6] Howells, K. (2017) Mobike Unveils New Model.
<https://www.bikebiz.com/news/mobike-unveils-new-model>
- [7] Horwitz, J. (2017) One of China's Top Bike-Sharing Startups Is Now Paying Users to Ride Its Bikes.
<https://qz.com/942372/mobike-one-of-chinas-top-bike-sharing-startups-is-now-paying-users-to-ride-its-bikes/>