Case Study: Business Analytics of Mobike in the Bicycle Sharing System in People's Republic of China

Yihan Kong

Jserra Catholic High School, San Juan Capistrano, Ca, USA

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Abstract: Business analytics is widely used to provide insight for a company to determine its strengths and weaknesses. The study of a company from an analytical point of view promotes the company to grow and improve in order to thrive in an economy. Traditional business analytics method include segmentation, targeting, positioning, market analyzing, and customer analyzing. Adopting these methods, this research focuses on the future growth of the company, Mobike, and highlights potential drawbacks.

1. Introduction

In the last decade, public transportation gains popularity as people call for actions to reduce the emission of carbon dioxide in response to global warming. Besides the increasing construction of subways and buses, shared bicycles appear as creative shared transport service. They are for common use to individuals on a short-term basis at a low cost and time-sharing leasing model and a new type of green and environmentally friendly sharing economy. [2]By providing services on campuses, at subway stations, bus stations, in residential areas, commercial districts, public service areas, etc., bicycle-sharing companies complete the last "puzzle" in the public transportation industry, drive residents' enthusiasm for using other public transportation, and produce synergies with other public transportation methods, contributing to the reduction of the global carbon footprint. [1]Mobike, being one of leading advocators for Go Green mission, is a fully station-less bicycle-sharing system headquartered in Beijing, China and founded in 2015. [4]It is, by the number of bicycles, the world's largest shared bicycle operator. As of 2018, Mobike had operated in over 200 cities and 19 countries around the world. [3]

2. Research Method

Segmentation stands for how to divide customers into different groups in order to find the most actable and profitable customers. The potential target customers of the same group share similar needs, tastes, or behaviors. Targeting in a case study is used to focus on one single group of potential customers for analyzing. There should be reasonable factors for a group to be targeted in a case study. Positioning focuses more on the company by comparing it with its competitors on the market through the similarities and differences of their products. Market analyzing is a general term for a group of specific market research method, including surveying, interviewing, and social listening. Customer analyzing requires professional models to predict the feedback from the targeted customers.

2.1 Segmentation

In the traditional point of view, the customers can be segmented by their age, their occupation, the geographic region that they are in, and the climate of their living region. By age, people are divided into three groups: 12 and 30, 30 and 55, and 55 and above. By occupations, there are students, different

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kinds of workers, and the unemployed. By regions, people are segmented into urban, suburban, and rural. Last but not least, by climates, people are divided based on the weather of the region that they are living in.

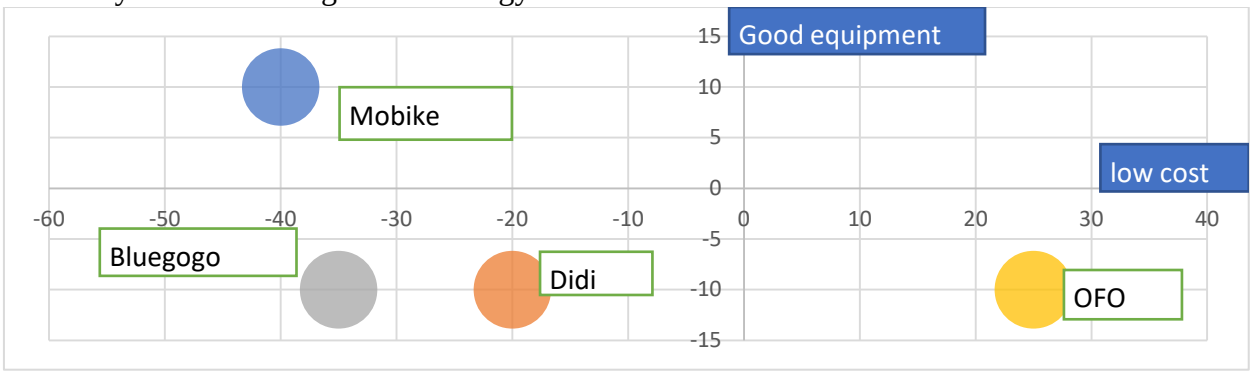
From the modern point of view, the customers of Mobike can be segmented by the occasions. There are people who choose to ride a bike in order to get to their workplaces or schools nearby every morning, most of whom cannot afford a car. Walking and taking public transportations, such as buses or subways, are time-consuming, especially when there is a traffic jam in the morning. In addition, there are some people who ride the shared bike after they have taken another public transportation. It is likely that one's destination is not very close to the subway or bus station. Sometimes it takes too long to walk, and it is not worth taking a taxi. What is more, a shared bike is also ideal for college students to ride on campus. It is much safer and more convenient than other transportations. Thus, riding a shared bike is the best option for all of them.

2.2 Targeting

This case study of Mobike targets commuting people, such as workers and students who have to travel between their homes and their workplaces or schools daily. The reason of choosing this group of people is that first, they have a lot of experiences with using Mobike as they have to commute every day on weekdays, possibly leading to more feedback on details instead of responding in a broad sense, which makes it hard to analyze precisely. Second, as introduced just now, Mobike can be found more commonly than other shared bikes, making it ideal for commuting people to get a bike immediately when they need as they are usually in a hurry in the morning. Third, Mobike is a relatively new company and its image suits teenagers and young, strong workers, making it compatible with this segment of people.

2.3 Positioning

According to the Top Ten Brand Ranking, there are four top bicycle-sharing companies. They are Mobike, OFO, Bluegogo, and Didi. It is worth noting that OFO is no longer operating and is considered to be broken, but according to its contribution to the shared bicycle industry and the position it reached at its peak, the industry still puts it in a leading position. After a detailed investigation about these four companies, I have produced this perceptual map to make everything simple for you guys. So basically there are two main customer needs, low cost and good bikes. OFO is cheap but has bikes with relatively low quality. Both Bluegogo and Didi have fair bikes but they are expensive, especially after the pandemic. Mobike, as marked in red, is the shared bike with better quality and more reasonable price than any other brand for active shared bike riders who have some money but require comfort during the trip because Mobikes are well-designed to make people sit well and ride easily without costing a lot of energy.

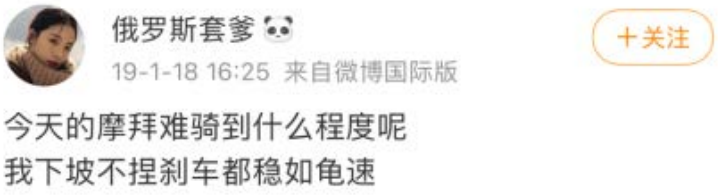


2.4 Market Analyzing

The first market analytics method being used is survey. A Google Form was created with 8 scale-based questions and 1 optional free response question about their thoughts on Mobike. The scale-based questions are regarding its cost, comfortness about seat cushion, tires, and chain, weight, appearance, design on unlocking system, and operation of the app. People are required to rate on a scale out of 10. For the free response, they are questioned if they have other feedback or thoughts about Mobike that they would love to share with me. The form was sent out to 31 Chinese high schoolers and 19 responses were received from them. The form was also sent to regular workers, and 12 responses were back from them.

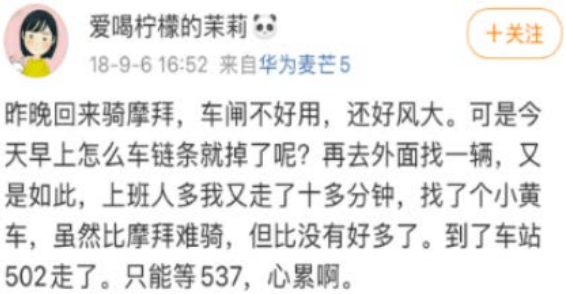
The results of the scale-based questions are shown above. The mean and median scores of all 31 responses are calculated and recorded here. According to the value, most of the people surveyed are relatively satisfied about the eight characteristics of the bikes, as they gave out a rate over 5, meaning that Mobike produces comfortable bikes that make customers like them. However, more than half of them were unsatisfied about the pricing. One person explained in the free response that compared to other companies which only required 99 CNY for the first deposit, Mobike required 299 CNY, which was high.

The second market analytics method used is social listening. An app called Weibo was used, where Chinese people post their thoughts and life blogs. As a lot of benefits about Mobike were known using the survey, social listening was designed to mainly focus on the challenges that Mobike was facing. Keywords like *Mobike is bad* were searched up and 10 complaints from personal users, not official accounts or news reports, were collected. A couple of screenshots of the posts as examples are shown. One user's complaints shows that the brake of this Mobike was damaged, bringing inconvenience to the customer (see Fig. 1). The post of the second user indicates a few things (see Fig. 2). First, again, Mobike was easily and commonly damaged as two Mobikes that this lady found were broken. Secondly, Mobike was more pervasive than other brands of shared bikes as the lady states that it took her over ten minutes to find an OFO. Third, Mobike was more comfortable than other bikes, or OFO at least.



"How difficult is Mobike to use today? I'm as slow as a turtle when I go downhill without using the brakes."

Fig.1 First Example of Social Listening



"I rode Mobike back (home) last night. The brake was not working well, but luckily the weather was nice. However, how come the chain became loose this morning? I went to find another one and it was still broken. I walked for ten more minutes when I was in a hurry in the morning. I found an OFO,

which was less comfortable than Mobike but it was much better to have a bike to ride than not. When I arrived at the bus station, #502 had left already. I had to wait for #537. I was so tired."

Fig.2 Second Example of Social Listening

After analyzing the posts, it was shown that many people complained about other issues that were easily overlooked by the public. For example, 4 of them mentioned that sometimes it was hard to find a bike at some places. Mobike usually appeared at one site altogether, so people could not find it at every crossing. And sometimes people would not park the bike at the proper places, making it hard to be found by other users. What is more, 7 of them wrote about the damaged bikes. Sometimes, people could not unlock and use the bike because the lock was damaged or the QR code was scratched by others intentionally. There were also times when they found something wrong with the bikes, like the brake was not working, while they were riding them, leading to severe danger to the riders.

2.5 Customer Analyzing

Customer Lifetime Value Model was used because as shared bikes can be purchased repeatedly, they are not suitable to be analyzed by Bass Model. According to data on the Internet and on the official site of Mobike company, the net profit derived from the customer annually is about to be 1000 CNY. It was assumed that the discount rate to be 10% and the retention rate of the customer to be 50% as there are many competitive companies in the market now. The planning horizon was predicted to be 5 years because shared bike is an unstable and new industry. According to the formula (see Fig. 3), the CLV is calculated to be about 1634, which is decent but not very good.

$$\sum_{t=1}^{T} \frac{(R-c)r^{t-1}}{(1+d)^t} = \sum_{t=1}^{5} \frac{1000 \cdot 0.5^{t-1}}{(1+0.1)^t}$$

Fig.3 Customer Lifetime Value Model Formula and Calculation

3. Discussion

In this case study, I used the traditional research method of business analytics to study the good and the bad of a shared bike company, Mobike, while standing at a modern point of view. First, I determine the target customer of the research from various divisions of potential bike-riders determined using both the traditional and innovative method of segmentation. Then, through the positioning of the company with its competitors and the feedback from the target group, the relationship between Mobike and the market is determined.

4. Conclusion

According to the Market and Customer Analytics introduced just now, it is confident to summarize the biggest opportunity and challenge for Mobike. Mobike stands out among other bike-sharing companies mostly by its comfortable design of the bike, which does not cost too much for the company and makes the customers more satisfied with its service and more loyal to use its bikes. There are two biggest challenges. The first is that the cost for customers is too high, as introduced in the survey section. The second is that it is hard to keep the bikes organized and free from intentional damages such as breaking the tires and exchanging QR code to a fake one. As there are tons of bikes around the world, many of them are far from the operator and they are too many to be supervised closely. It is difficult for the operator to keep their bikes safe.

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