Do Consumers Have Differential Preferences in Choosing Escape Rooms?

-- Evidence from Shanghai and Beijing

Xinran Wang

Ocean University of China, Qingdao, China

wxr7455@stu.ouc.edu.cn

Abstract. In recent years, the escape room industry has grown up rapidly in many cities in China. It has become one of the most popular entertainments for the younger generation in their spare time. From the firms' view, however, it remains unknown whether consumers in different places on different preferences for escape room choice. To address this question, we restrict our attention to Beijing and Shanghai, the two most well-known cities in China. We investigate the store on Dianping.com, a famous service online website in China. We find features about different stores in different cities. We also use the Natural Language Process (NLP) process to summarize topics with associated top words from customer reviews. We find that people in different cities have different preferences for escape stores. In addition, what most people care about in escape rooms are the service and their own experiences. We recommend that store managers should pay attention to improving their service attitude.

Keywords: Customer Reviews; Perplexity; Consumer Preferences; Escape Rooms.

1. Introduction

In recent years, more and more younger generations enjoy playing escape rooms in their spare time. The development of escape stores has also ushered in vigorous vitality. The escape room is a real-life escape game. Most of the main ideas of the secret escape interactive game come from movies, the Internet, and other scenes. Generally, it is more interesting and challenging, bringing exciting scene experiences. Room Escape can derive different themes from different design ideas, from tomb science to wild adventure, from stealing secret electricity to escaping cages, players can play an ideal role in their favorite theme scene. With meticulous eyesight, meticulous reasoning, a strong physique, and concerted cooperation, they can finally complete the task within the specified time and get rewards.

Online review platforms have emerged as one of the most popular information channels to disseminate quality information to consumers in leisure and entertainment projects. The escape room is not an exception. For example, Dianping.com, a popular social platform, has distributed escape room information to the public since 2008. In addition, it is one of the most popular and representative review platforms in China and citizens are used to searching for stores they are interested in or they want to know about. To be specific, Dianping.com includes various aspects of our daily life, such as food and restaurant, hotel, movie, and hair dress. Till 2022, there have been nearly 600 million users and over 4.32 million stores, covering almost all levels of cities in China.

Consumers can find rich information including store name, address, phone number, and reviewer comments and ratings. To better attract these consumers, online platforms collaborate with many stores. Store managers can introduce their secret rooms and offer various coupons and schedules.

However, it remains unknown to both the platform and store managers whether consumers in different places have different tastes and preferences for escape rooms. The answer to this question benefits both the platform and store managers. On the one hand, the platform can smartly allocate the search list, attracting more consumer volume. The store manager can easily expand his business in a new city.

To answer this answer, we restrict our attention to stores located in Beijing and Shanghai. We scrape data from Dianping.

2. Data Sources and Sample Construction

We collect the data from Dianping.com, a well-known life service online review website in China. We searched for the keyword "Escape Room" and collected information on stores located in Beijing and Shanghai, including store information, comments, reviewer ratings, etc. We ended up with 292 stores in Beijing and 255 stores in Shanghai, with 25,974 valid comments for stores in Beijing and 18,671 comments from stores in Shanghai, respectively.

3. Analysis

In this section, we present our main analysis. In Section 3.1, we focus on ownership information about the “Escape Room”. In section 3.2, we turn our attention to different types of coupons In section 3.3, we mainly focus on reviewing comments about topic words.

3.1 Chain Stores Versus Independent Stores

In this section, we characterize ownership information about escape rooms in Beijing and Shanghai.

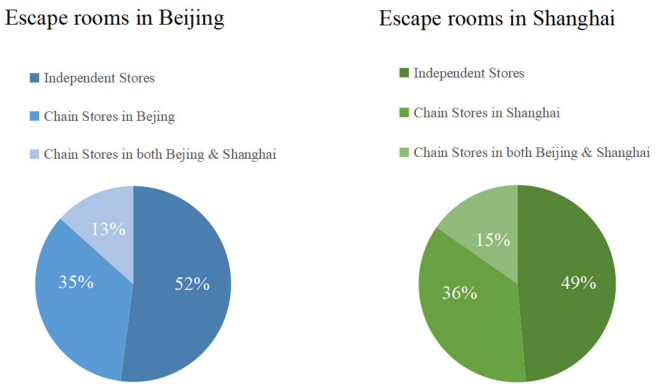


Fig 1. Ownership information about escape rooms in Beijing and Shanghai

There are 101 chain stores in Beijing, accounting for 35% of all escape stores, and 152 independent stores, accounting for 52%. Similar to the scenario in Beijing, we find that there are 92 chain stores (36%) and 124 independent stores (49%) in Shanghai. Among these chain stores, 39 of them have stores in both Shanghai and Beijing. This suggests that although chain stores are no longer exceptions in the escape room industry, it is still not prevalent for managers to expand to multiple cities. We conjecture this is because residents in different cities have differential preferences on store themes. We will examine this in the later sections.

3.2 Coupons

Table 1. The Classification of Coupons

Coupon types	Explanation
Common vouchers	Guests can play in an escape room at a lower price than the original price.
Individual vouchers	These kinds of vouchers can be only used for individuals.
Group vouchers	These kinds of vouchers can be used for a group of people.
Reward vouchers	Staff can be praised or inspired by these kinds of vouchers, which also indicate guests’ appreciation for the actors or actresses.

In this section, we take a look at the coupons provided by stores in Shanghai and Beijing, respectively. Stores usually provide multiple coupons with different functions. Because of that, we divide coupons into four categories, namely, vouchers, escape-room coupons, group-purchase coupons, and reward coupons. Specifically, common vouchers refer to a lower price than the original price for guests to play in an escape room; individual vouchers refer to only can be used by individuals; group vouchers refer to a group of people to use; reward vouchers refer to guests to indicate their preferences on actors or actresses (see Table 1 for details).

Based on these four categories, we conduct an analysis to compare the differences in vouchers between different chain stores. On one hand, for chain stores in Beijing, the average number of common vouchers for chain stores is 5.62 per store, the average number of individual vouchers is 10.29 per store, the average number of group vouchers is 3.91 per store, and the average number of reward vouchers is 2.33 per store. For independent stores in Beijing, the average number of common vouchers is 3.18 per store, the average number of individual vouchers is 3.11 per store, the average number of group vouchers is 2.40 per store, and the average number of reward vouchers is 1.70 per store.

On the other hand, for chain stores in Shanghai, the average number of common vouchers is 5.17 per store, the average number of individual vouchers is 6.14 per store, the average number of group vouchers is 4.57 per store, and the average number of reward vouchers is 1.09 per store. For independent stores in Shanghai, the average number of common vouchers is 5.25 per store, the average number of individual vouchers is 8.90 per store, the average number of group vouchers is 6.75 per store, and the average number of reward vouchers is 2.00 per store.

When it comes to the chain stores in both Beijing and Shanghai, the average number of common vouchers is 2.40 per store, the average number of individual vouchers is 3.70 per store, the average number of group vouchers is 2.26 per store, and the average number of reward vouchers is 1.78 per store.

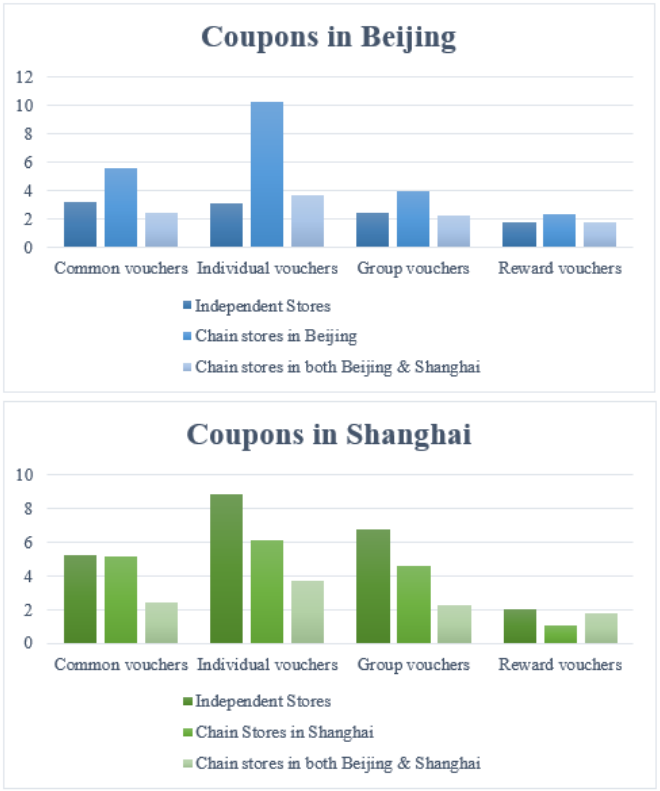


Fig 2. Coupons for stores in Beijing and Shanghai

Therefore, the utmost significance of the coupons is that there are more individual vouchers in chain stores in Beijing while there are more individual vouchers in independent stores in Shanghai.

3.3 Review Comments

On DianPing.com, customers can freely review and rate a store to express their feelings about this escape room. We take the following step to understand the information conveyed by reviewers' comments. The main method we use is the Natural Language Process (NLP) to clarify various themes and find topic words. We start with using JiebaR, a Chinese word segmentation tool, to tokenize the sentences and delete meaningless stopwords. We also manually create a dictionary that converts words with similar meanings into one word. We then use the Latent Dirichlet Allocation (LDA) model to detect the potential number of topics induced by reviews and utilize a perplexity score to determine the optimal number. The result is 65. We classify these topics into five categories: service, plot, script, environment, and experiences. In addition, we calculate the respective proportions of Beijing and Shanghai, as well as the proportions of positive and negative reviews. Because Dianping.com uses a five-star rating system, we assume that three or more star ratings refer to positive comments and those with one- or two-star ratings are negative comments.

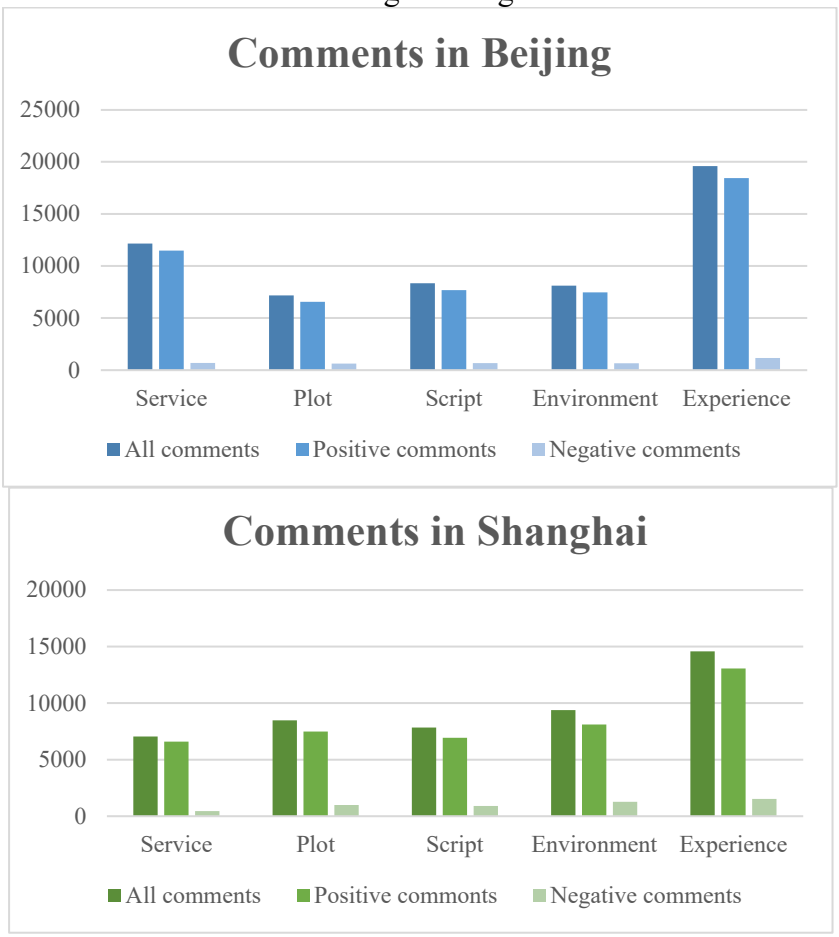


Fig 3. Comments on stores in Beijing and Shanghai

In Shanghai, there are 18,671 comments in total, of which 7,041 are service (38%); 8,472 are plot (45%); 7,832 are script (42%); 9,374 are environment (50%); 14,577 experiences (78%). In the positive comments, the proportion of all kinds of comments is the same as the overall one, while for the negative comments, the service and experience comments are significantly reduced, only for 18% and 60%, which indicates that most of the escape stores having the best service and experience.

In Beijing, there were 25,974 comments in total, of which 12,154 are about service (47%); 7,177 are plot (28%); 8,344 are script (32%); 8,112 are environment (31%); 19,596 are experience (75.%). Among the positive comments, service, and experience were slightly higher than the overall rating, with 49% and 79% respectively. In terms of negative comments, service, and experience comments also decreased significantly, only 25% and 43% respectively. This phenomenon shows that most guests focus more on service and their own experience.

To sum up, according to comments in Beijing and Shanghai, the number of comments on experience accounts for the largest proportion, and the number of comments on experience shows the most obvious change in the negative comments. Therefore, it can be seen that people tend to value personal experience the most when choosing an escape room. Most importantly, people have different preferences in different cities.

4. Conclusion

The goal of this study is to identify the differences between chain escape stores and independent escape stores in Beijing and Shanghai to find the differential preferences of consumers in choosing escape rooms. To achieve this goal, we collect data about different stores and comments in Beijing and Shanghai these two cities from Dianping.com, one of the well-known life service online review websites. Moreover, we divide the coupons into four types: common vouchers, individual vouchers, group vouchers, and reward vouchers. Based on these four types of vouchers, we could find that individual vouchers are the most popular. In addition, we use Natural Language Process (NLP) process to clarify topics with associated top words from customer reviews. Then, according to consumers' comments from different themes, we could get some key results as follows.

One of our key findings is that although an escape room provides many types of thesis and plots for guests to play, most people still focus more on service and their own experience. Therefore, an escape store needs to strengthen these two aspects to attract more and more customers. Besides, whether in a chain store or an independent store individual vouchers are more popular than other types of coupons. In addition, although chain stores are no longer exceptions in the escape room industry, it is still not prevalent for managers to expand to multiple cities. Therefore, we can conclude that residents in different cities have different preferences for store themes.

Through our observation and analysis of the data, we believe that it might be helpful for the owners of escape stores to construct popular stores and it will also be useful for people who want to play escape rooms to choose what they enjoy. As more and more people enjoy escape rooms, I'm sure our findings will become useful and helpful.

References

[1] A review of the development of Dianping past and present life. Retrieved January 13, 2023, from https:// zhuanlan.zhihu.com/p/88439597.

[2] China's secret escape market size, consumption level, the number of newly established enterprises and industry competition pattern. (n.d.). Retrieved December 20, 2022, from https://baijiahao. baidu.com/ s?id =1749889408688466280&wfr=spider&for=pc.

[3] The background to the development of Escape Rooms. Retrieved November 3, 2023, from https:// zhuanlan. zhihu.com/p/423625848.

[4] Du He. The application of data analysis in Dianping.com[J]. Western leather, 2020, 42(02):59.

[5] Fu Yang, Wang Mingru, Long Xiaofu. "Real escape rooms" Analysis of the prospects of the game market [J]. Statistics and management, 2016, No.226(05):110-111. DOI: 10.16722/j.issn.1674-537X. 2016. 05. 039.

[6] Jiang Chenxu. Escape Rooms: The bar is low. Business is hot[J]. Public investment guide, 2013, No. 248 (12): 43.

[7] Zhang Yun. Make a fortune in a "escape room"[J]. Employment of college students in China, 2015, No.336(18):30-31.

[8] Cui Xiaoli. Escape rooms: Danger versus pleasure[N]. Procuratorial daily, 2019-11-15 (005).

[9] Yang Yuliang. Have you ever played an escape room? [J]. Financial expo,2020(09):74-77.

[10] Li Qiaona, Wang Yong. Data crawling and analysis of Dianping medical institutions based on Python[J]. Chinese science and technology paper online quality paper, 2022,15(02):270-279.