

A Case Study of the Entertainment Service on the MeiTuan Platform

Jiahui Zhao

Shanxi University of Finance and Economics, China

1834613356@qq.com

Abstract. Nowadays, escape rooms have become a popular form of entertainment for the young generation because they are fun and challenging. How do we choose a decent escape room among many businesses? Perhaps, we can rely on the online review platform, which provides reviews generated by users who visits these businesses before. However, it remains unclear whether online reviews provide accurate quality information about entertainment services. We seek to answer this question by investigating the MeiTuan platform, one of the leading user-generated platforms in China. We use all listed escape rooms in Shanghai as an example. We describe the rating distribution and analyze the types of vouchers provided by these stores. We then utilize the NLP tool to extract the frequent words mentioned in user reviews. We find the average ratings of these stores are high. Moreover, the reviews on the platforms contain valid information and are not likely to be fraudulent.

Keywords: Escape Room; Online Reviews; Entertainment Services; Natural Language Processing.

1. Introduction

Today, escape rooms are thriving. As one of the rapidly growing leisure and entertainment industries, it has gradually become a popular choice for young people to meet, decompress and entertain. At the same time, escape room companies are expanding rapidly in China. The overall industry in China has gone through 12 years. It is developing towards the direction of scale and the industry volume has nearly tens of billions. By 2019, the number of escape room stores exceeded 10,000, and the industry developed rapidly. At present, there are 2,061 enterprises related to escape houses in China. More than half of them were founded between 2019 and 2020. A total of 584 companies were established in 2020 and 68 have been established since 2021. (See [https:// www.chinairn.com/news/20220906/163528482.shtml](https://www.chinairn.com/news/20220906/163528482.shtml)) According to the number of newly established enterprises in China in recent years, the single consumption of escape rooms in China is mainly around 100 RMB, accounting for more than 80%. People's acceptance of the high price of human NPC chambers gradually increased. The unit price of the escape room is expected to increase, thereby further expanding the market scale. (See <https://www.3d-printing.net.cn/166331.html>)

In recent years, online review platforms have sprung up in China. Consumers utilize information from these online platforms before they make a purchase. Online review platforms can help consumers learn about stores, reviews, and other information so that consumers can make smarter purchase decisions and enhance the experience. MeiTuan.com is one of the popular online review sites in China, and its services have covered more than 200 categories including catering, takeout, fresh retail, taxi hailing, bike-sharing, hotel tourism, movies, leisure, and entertainment. In 2021, the annual transaction users on the MeiTuan platform reached 691 million, with 35.8 per capita annual consumption and 8.8 million active merchants. In 2021, the full-year revenue of MeiTuan reached 179.13 billion yuan, compared with 114.795 billion yuan in 2020, up 56 percent year-on-year. At the same time, its food delivery transaction volume reached 702.1 billion yuan, up 43.6 percent from the previous year. The number of transactions reached 14.4 billion, up 41.6 percent year on year. (See <http://www.yjcf360.com/jinritoutiao/900893.htm>)

While online comments continue to affect people's lives, they have also encountered some troubles. For example, the review content of each store is uneven. When users are faced with tens or even hundreds of thousands of reviews uploaded every day, how do users prioritize more referential reviews and how do users find merchants that provide quality products and services more quickly?

These problems not only affect the user experience of the platform but also affect the future development of the online review platform. (See <http://www.techweb.com.cn/column/2010-07-29/651024.shtml>) MeiTuan also has its problems. First, like other platforms, MeiTuan lacks effective supervision of the products and services listed on its platform. For those who seek to start their businesses on MeiTuan, there are a few restrictions on them. Information verification, the authenticity of merchants, and service quality cannot be guaranteed. To enter the platform and attract consumers, they inevitably overstate their capabilities. Second, the website has many defects in processing information correspondence. The core of the MeiTuan review is that consumers can give feedback. However, this is a double-edged sword. For example, in 2014, many restaurant owners jointly accused a delegation on the platform of spreading many incorrect evaluations and information. Third, the payment and verification mechanisms are flawed. After the consumer makes the final payment, a QR code will be issued waiting for verification. However, once there is a dispute between consumers and businesses in terms of their rights and interests, consumers will feel uncomfortable and in turn reduce their trust in the website, fearing that information will be leaked. (See <https://www.fx361.com/page/2020/0704/7574608.shtml>)

The main purpose of our study is to learn information about escape rooms in Shanghai through MeiTuan. We aim to understand what consumer reviews lead to high ratings for escape room stores and whether consumers can get useful information from MeiTuan's consumer reviews.

2. Data Sources and Sample Construction

To get information about the escape room in Shanghai, we collected it from the MeiTuan website. As a popular online review platform, MeiTuan contains a lot of information we need. We collected information about escape rooms from January 2013 to April 2022, including store link, store name, store star, store location, number of store discount packages, store discount package information, store discount package price, number of store reviews, and content of store reviews. We collected information from 210 stores but some of them do not have special deals or have closed stores without deleting the information on their web pages. We end up with a dataset consisting of 189 stores, 1,311 discount packages, and 18,670 reviews. On average, each store provides seven discount packages.

3. Analysis

This chapter mainly analyzes and explains the information collected from MeiTuan. In Section 3.1, we emphatically analyzed the characteristics of discount packages and the basic information about escape rooms in Shanghai. In Section 3.2, we utilize NLP techniques to extract valuable information from customer reviews.

3.1 Characteristics of Discount Packages

In this section, we provide necessary statistics on the number of stores, store discount packages, and store reviews. A total of 189 escape rooms were included in the data, and 1,311 discount packages were covered.

Table 1. The Keywords of Each Class

Classification	specific types of Escape Rooms	Group Activities	Board Games	Coupon Cards	Tips	Food and Drink	Costume Changes	Items to be used
The keywords	theme	marriage proposal	murder mystery game	cash coupon	NPC	snack	cosplay	game coin
	student discount	birthday party	werewolf kill	gift voucher	tip	liquor	self-portrait	stamp album
	Block booking	team	board games	raffle ticket	beverage	coffee	live costume change	polaroid

In analyzing the characteristics of discount packages, we divided them into 8 categories. These categories are specific types of escape rooms, group activities, board games, coupon cards, tips, food and drink, costume changes and items to be used.

The definition for each class and its associated keywords is displayed in Table 1. Among them, the specific types of escape rooms refer to the escape room theme that each store belongs to (e.g., the discount package of *the two themes of free play*). Group activities refer to activities with many participants for a lively atmosphere, gathering, etc. For example, marriage proposals, birthday parties, and other types of activities (e.g., the discount package of *personalized birthday group customization*). A board game is a game that is played on the table at a party (e.g., the discount package of a *murder mystery game*). A coupon card is a specific offer for a customer (e.g., the discount package of a *business stored-value card*). A tip is money given by a customer to an employee of a store (e.g., the discount package of an *NPC deduction*). Food and drink refer to the food that a store provides to customers (e.g., the discount package of *unlimited snacks and drink*). Costume change activity refers to the customers wearing the designated clothes by the scene to participate in the escape room (e.g., the discount package of *real scene change*). The items that need to be used refer to the props that customers need independently in the store to be used in the escape room (e.g., the discount package of life-saving props).

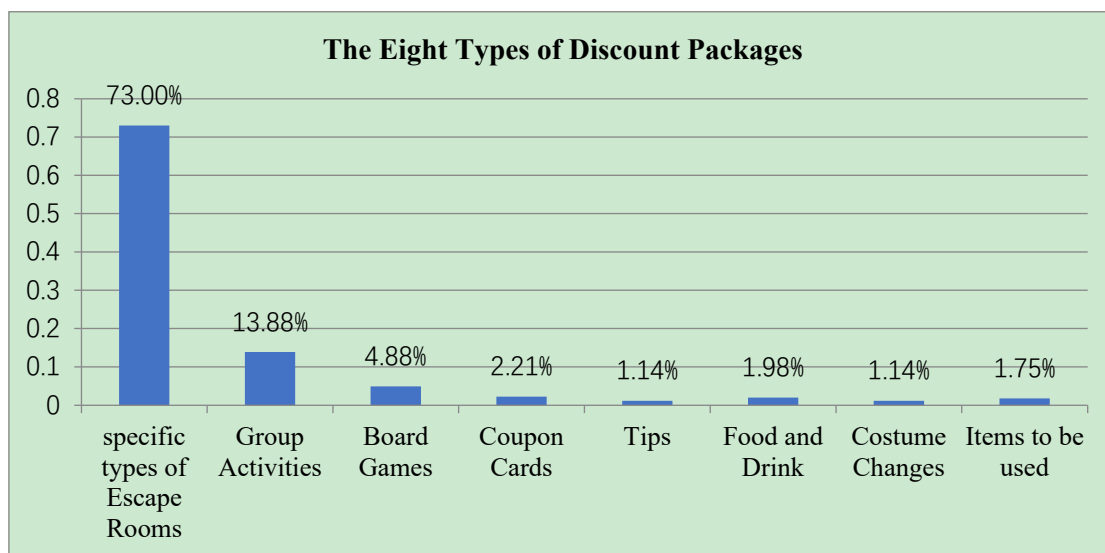


Figure 1. The Proportion of Eight Types of Discount Packages

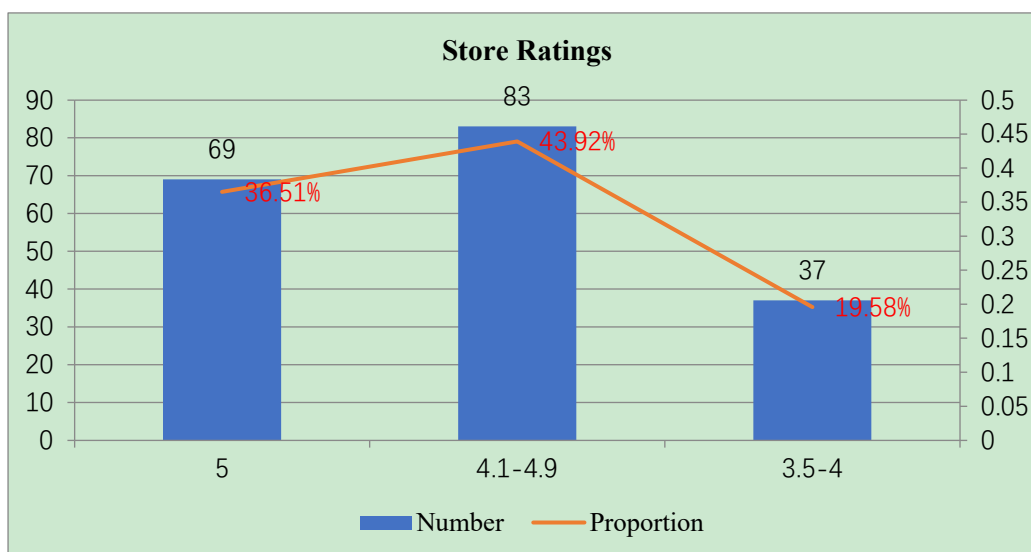


Figure 2. The Number and Proportion of Store Ratings

According to the collected data of various categories on the discount package, summarized in Figure 1, the specific type of escape rooms accounted for the main proportion, up to 83%. At the same time, tips and dressing activities accounted for the smallest proportion, only 1.14%. In addition, customers generally rate stores based on their experience with escape rooms and discount packages. As shown in Figure 2, customer ratings are generally concentrated between 3.5 to 5. Out of 189 escape rooms, 69 stores achieved a perfect score of 5, accounting for 36.5%. The largest proportion of stores was between 4 and 5, and there were 83 (about 44%) of them. 37 stores, or 19.5%, scored between 3.5 and 4.

3.2 User Reviews

In this section, we perform text analysis on the users' comments. Each escape room store has users' comments about the experience of the theme and the special package. These users' comments can reflect a good or bad situation of a store to a large extent. Other customers can also choose their favorite stores based on these reviews. For a large number of user comments, we chose to use the LDA model to process the data. The LDA topic model is mainly used to predict the topic distribution of the document. The topic of each document in the document set can be given in the form of a probability distribution. Topic clustering or text classification can be conducted according to the topic. To determine the number of topics, we examine the perplexity function, a commonly used measure to tune the hyperparameter. The smaller the perplexity value, the better the model. The trend chart of perplexity is shown in Figure 3, and the optimal number of topics can be determined to choose 12. We then manually check the highly frequent words in each topic and classify these topics into four categories, namely, environment, service, comprehensive evaluation, and difficulty. We find that users with low ratings are mainly unsatisfied with the service, while users with high ratings prefer to give an overall evaluation.

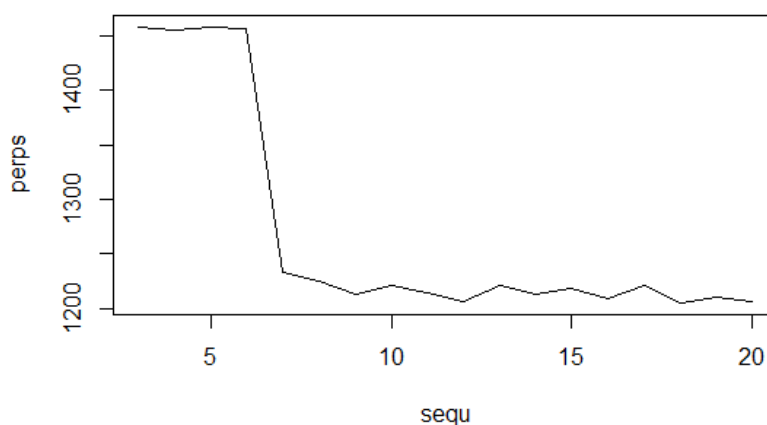


Figure 3. The Perplexity Curve

4. Conclusion

The goal of this study is to explore whether online review platforms contain useful quality information in the context of the escape room industry. To achieve this goal, we study the information on stores and coupons, and consumer reviews on the MeiTuan platform.

One of our key findings is that though critics question the value of these online review platforms, users' comments on the Meituan platform convey valid quality information. Our findings support the previous literature on online word-of-mouth and provide some evidence in a new setting.

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