Analysis on the Characteristics of Hotel Network Attention Based on Baidu Index--Take New Century Grand Hotel as An Example

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ABSTRACT. *With the rapid development of the Internet and the popularization of Internet mobile terminal applications, more and more customers use Internet search engines to obtain relevant information about staying in hotels, inquire about hotel stays, make reservations, and share hotel reviews. The information of these Internet search records can be collected, aggregated and stored. As a part of tourism big data, the hotel network attention characteristics are analyzed through search engine tools, and the source of user attributes, demand preferences, attention trends, satisfaction, etc. behind the data are mined. This will help the hotel to better target users, optimize products and precise marketing. This study uses Baidu index to study the network attention of New Century Grand Hotel, and through in-depth exploration of the characteristics of network attention, it is expected to be able to provide suggestions on the network marketing of New Century Grand Hotel.*

KEYWORDS: *Baidu Index; Network Attention; Internet; New Century Grand Hotel; Marketing*

1. Introduction

With the rapid development of the Internet and the continuous increase of network information, people have regarded using search engines to collect information as an important way to obtain the information they need in their lives. Baidu index and Google Trends have become the main platforms for obtaining network attention [1]. They are two functions launched by Baidu and Google respectively. Through these functions, people can learn about the trend of attention and the corresponding search volume in a certain period of time or one or several keywords on the Internet. And people can also use these functions to get more direct and objective social hot spots, netizens' interest in a certain period of time, and netizens' psychological needs [2].

Network attention refers to the related ancillary functions provided by a specific search engine, which can be used to understand the number and trend of searches for a certain keyword in a certain period of time [3]. Because of the widespread use of network attention, many scholars have also begun to use network attention to analyze problems in social, economic, and tourism fields.

The Internet in China is developing rapidly. As of June 2019, the number of Chinese search engine users reached 695 million, mobile search users reached 662 million, and online travel booking users reached 418 million, an increase of 8.14 million from the end of 2018. Online travel booking content mainly includes online booking of air tickets, hotels, train tickets and travel holiday products, etc [4]. The Internet has also become a decision-making and auxiliary tool for Chinese people to travel abroad. Through the search traces of search engines, we can effectively understand the hot spots of the tourism industry and the psychological needs of tourists.

2. Research Design and Data Sources

2.1 Research Design

This study selects New Century Grand Hotel as the research object. New Century Grand Hotel is a sub-brand of New Century Tourism Group. New Century Hotel Group is also China's largest private high-star hotel chain and ranks among the largest Chinese hotel groups. Second place, one of the top 100 hotel groups in the world. It has a certain representativeness among private hotels in China.

First of all, this article obtains the keyword data of New Century Grand Hotel from 2015 to 2019, and then reveals the time and space dynamic distribution characteristics of this hotel through two methods of comparative analysis and visualization. Then, this article analyzes the influencing factors of New Century Grand Hotel network attention, and finally summarizes and puts forward corresponding countermeasures and suggestions for the development of New Century Grand Hotel network marketing.

2.2 Data Sources

The data of this study mainly comes from Baidu index. Baidu (www.baidu.com) is currently the world's largest Chinese search engine. Baidu index is a kind of behavior data formed by netizens on the Baidu platform, and then use this behavior data as a platform on which basic data can be shared; Search index data refers to the analysis based on the search volume of netizens on Baidu, and then using keywords as statistical objects. Finally, the number of searches for various keywords searched by netizens on Baidu webpages is weighted and calculated. There are four main modules of Baidu index: trend research, demand map, public opinion insight, and crowd portrait, which also includes search index and media index. According to the

Baidu search terminal used by netizens, the search index is also divided into mobile search index and PC search index.

2.3 Keyword Selection and Data Collection

Considering the huge impact of the new crown epidemic on the hotel industry in 2020, the data during the epidemic period is not generally representative, so the sub-study selects the Baidu index data from January 1, 2015 to December 31, 2019 as the research basis. This paper uses the "keyword search" function in the Baidu index to collect data from the "New Century Grand Hotel" on the Internet from January 1, 2015 to December 31, 2019. Through analyzing and sorting out the corresponding data comparative analysis, comparing from different angles, analyzing from different angles such as time dimension, mobile port dimension, space dimension, and crowd structure dimension.

3. Research Result

3.1 Time Distribution of Network Attention

The overall daily average network attention of each month in the Baidu index of "New Century Grand Hotel" during 2015-2019 was sorted out, and finally the inter-annual change graph of the hotel's network attention was obtained (Figure 1). Through analysis, it is found that during the period 2015-2019, people's attention to the New Century Grand Hotel network fluctuates greatly from year to year, but overall it shows a downward trend; Internet attention increased rapidly in 2015. In 2016, network attention was relatively high. In 2017, 2018, and 2019, network attention decreased significantly. By comparison, it is found that the amount of online searches is relatively high from May to September each year. It can be inferred that people's search volume for New Century Grand Hotel has increased rapidly during the summer vacation, and people's demand for New Century Grand Hotel is also increasing. There are also many holidays from May to September, and there are enough travel opportunities for people, which leads to an increasing demand for hotels. During holidays and holidays, people's online searches for New Century Grand Hotel have shown an upward trend.

Figure. 1 Diagram about changes in network attention along time

3.2 Distribution of PC and Mobile

The PC terminal of New Century Grand Hotel's daily network attention from 2015 to 2019 is added to calculate its annual daily average value, and then its inter-annual change characteristics are obtained (see Figure 2). Through the analysis of the data from 2015 to 2019, it can be seen that the inter-annual fluctuations in the PC end of New Century Grand Hotel's network attention are very small, but the overall trend is still showing a downward trend. In the five years, New Century Grand Hotel's network attention has fluctuated greatly on the mobile terminal, but the overall trend is still decreasing. The first two years showed an upward trend, reaching the highest in 2016, and declining year by year in 2017, 2018 and 2019. By comparing the network attention of PC and mobile, we can find that the network attention of mobile is higher than that of PC. This shows that with the advent of the mobile network era, people's demand for using mobile networks to query hotels is increasing.
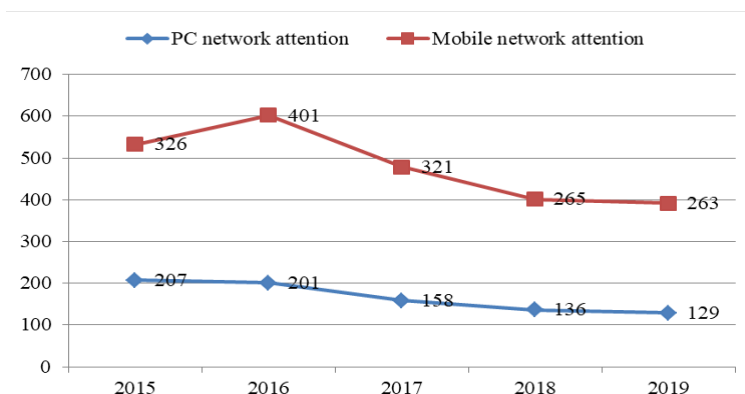

Figure. 2 Comparison of inter-annual changes in network attention between PC and mobile

3.3 Spatial Distribution of Network Attention

The search volume of a certain keyword in a region also predicts the demand for the thing in this region from a certain angle. Compare the search volume of New Century Grand Hotel in various provinces of China from 2015 to 2019. By analyzing the search volume of New Century Grand Hotel in various provinces, it is found that the top three regions in terms of search volume during the five-year period include Zhejiang, Beijing, Jiangsu, and Shanghai (see Table 1). The attention is very high, especially Zhejiang Province, which has consistently ranked first. This means that Zhejiang Province is likely to be the main source of tourists for New Century Grand Hotel. In addition, New Century Hotels & Resorts is headquartered in Zhejiang Province, which also has an important influence on the region's attention to New Century Grand Hotel.

Table 1. New Century Grand Hotel ranks among the top ten searches in China

Year\\Ranking	2015	2016	2017	2018	2019
No.1	Zhejiang Province	Zhejiang Province	Zhejiang Province	Zhejiang Province	Zhejiang Province
No.2	Beijing City	Jiangsu Province	Jiangsu Province	Jiangsu Province	Jiangsu Province
No.3	Jiangsu Province	Beijing City	Shanghai City	Shanghai City	Shanghai City
No.4	Shanghai City	Shanghai City	Henan Province	Henan Province	Henan Province
No.5	Henan Province	Henan Province	Shaanxi Province	Shaanxi Province	Shaanxi Province

Since 2016, the search volume in Beijing has been declining year by year, and by 2017 it is no longer in the top five. This shows that customers in Beijing are paying less and less attention to New Century Grand Hotel. Since 2017, Shanghai has been ranked third in terms of network attention to New Century Grand Hotel, indicating that Shanghai's demand for New Century Grand Hotel has been stable. Henan Province's attention to New Century Grand Hotel has been relatively stable, and Shaanxi Province has paid more and more attention to New Century Grand Hotel since 2017.

3.4 Distribution of Network Attention Population Structure

The TGI (Target Group Index) is an index that reflects the strength or weakness of the target group in a specific research area (such as geographic area, demographic field, media audience, product consumer). The TGI index indicates the differences in the concerns of users with different characteristics [5]. A TGI index equal to 100 indicates an average level, and higher than 100 indicates that the level of attention of this type of user to a certain type of issue is higher than the overall level.

By comparing the TGI index of network attention, it is found that the distribution of the ratio of male to female in the New Century Grand Hotel is concerned. The male TGI index is 109.99 and the female TGI index is 89.35. This shows that male users pay more attention to New Century Grand Hotel than female users (see Figure 3).
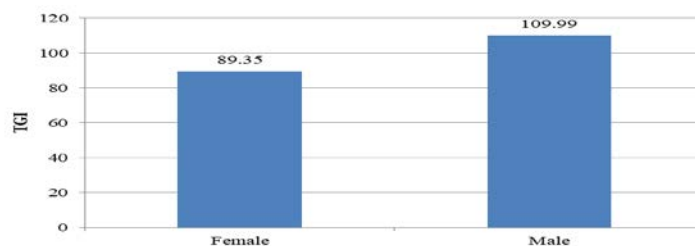

Figure. 3 Comparison of TGI index of network attention by gender from 2015 to 2019

By comparing the TGI index of network attention, it is found that in the distribution of the proportion of ages who pay attention to New Century Grand Hotel, the TGI index of the people between 30-49 years old is higher than 100, and the TGI index of the 30-39 year old people is 118.48, 40 -49-year-olds have a TGI index of 121.6. This shows that middle-aged people pay more attention to New Century Grand Hotel's network than the overall level (see Figure 4).
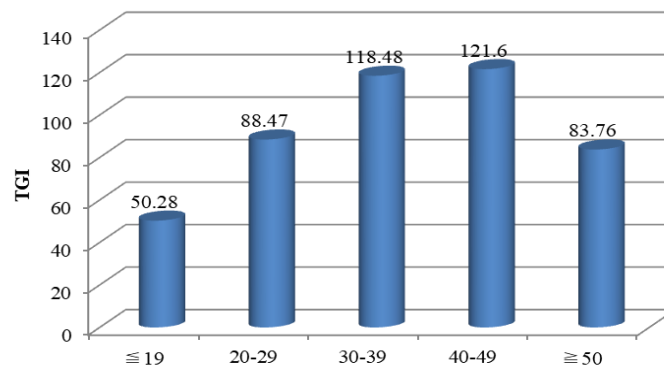

Figure. 4 Comparison of TGI index for each age group of network attention from 2015 to 2019

4. Conclusion

4.1 Conclusion

From the perspective of the time distribution of network attention, during 2015-2019, New Century Grand Hotel's network attention fluctuates greatly from year to year, but overall it shows a downward trend. In the monthly changes, it is found that the network attention is higher from May to September each year, which shows that the influence of New Century Grand Hotel is decreasing year by year. May to September is the peak season for New Century Grand Hotel.

From the perspective of the distribution of network attention on the PC and mobile terminals, although the network attention of New Century Grand Hotel has shown an overall downward trend, the network attention of the mobile terminal is significantly higher than that of the PC. This shows that with the advent of the mobile network era, people have an increasing demand for using mobile terminal networks to query hotels.

From the perspective of the spatial distribution of network attention, the top five regions for New Century Grand Hotel search volume from 2015 to 2019 include Zhejiang, Beijing, Jiangsu, Shanghai, Henan and Shaanxi. This means that these areas are likely to be the main source of tourists for New Century Grand Hotel.

From the perspective of the distribution of Internet attention population, male users pay more attention to New Century Grand Hotel than women, and middle-aged people aged 30-49 pay more attention to New Century Grand Hotel online than the overall level.

4.2 Suggestion

Hotels should pay attention to the construction of network information platforms. Through internet promotion, more people can learn about the hotel brand. Through Internet promotion, word-of-mouth promotion, market promotion and other methods, the market is constantly opened up [6]. The hotel can publish the latest business information related to the hotel through the Internet for the retrieval of netizens. Through this method, it can publicize its own company, publicize its hardware conditions, publicize its service quality, and fully display its good image. And through the network with customers for real-time communication, product promotion and offline cooperation. At the same time, develop new market potential through the Internet [7]. The construction of the mobile terminal information platform is conducive to the long-term development of the hotel, because there are more and more customers on the mobile terminal, and the continuous expansion of the distribution and information dissemination of the mobile terminal can better enhance the hotel's popularity and mobile terminal revenue.

Hotels should pay attention to the marketing of key events. When facing events with strong market public opinion, hotels need to seize every opportunity for publicity and make publicity in the market. Through the hot publicity of key events, advertising costs can be saved to a certain extent, and more investment returns can be earned with less investment [8].

The hotel should carry out the promotion of the surrounding source market [9]. The hotel should be based on the existing market, can continue to develop a broader market and seek customers in the market. Through different social media communication methods, the intake channels of new customers can be increased.

Word-of-mouth publicity is also an important means of publicity [10]. Constantly improving your reputation can also increase your value in your business circle. In addition, the customer's word-of-mouth publicity also needs to be continuously emphasized. The promotion of surrounding customers is the guarantee of a hotel's stable customer source.

Hotels should strengthen cooperation with travel e-commerce. With the continuous development of the Internet age, OTA companies continue to emerge. With the help of cooperation with OTA third-party platforms, the market can be quickly opened. The diversified and personalized travel e-commerce services launched by the OTA platform can better promote people's desire to buy, which in turn can improve the hotel's own transaction opportunities.

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