AN EFFICIENT METHOD TO IDENTIFY CUSTOMER VALUE IN TOURIST HOTEL MANAGEMENT

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Abstract: Fierce market competition forces tourist enterprise to put more and more attention on the demands of the customer. Customer relationship management (CRM) becomes increasingly important in tourist industry. Identify valuable customers and cultivate these valuable customers is the two basic tasks of CRM. So it has significant meaning for manager to indentify the value of customers. In this paper, we introduce a more convenient statistical method based on RFM (Recency, Frequency, Monetary value) analysis (Xiaoyu Zhao, 2005) to the customer value identification in tourist hotel. We study how to use this method in the management of a tourist hotel. The convenience and importance of this method are demonstrated through comprehensive analysis.

1 INTRODUCTION

Customer relationship management (CRM) (Qingliang Meng, 2005) is the key for tourist enterprise to gain winning in the age of E-Commerce. Judging customer value and keeping the relationship with valuable customers are the core activities of CRM. Through research on customer value (Xuhui Yan, 2009), enterprise managers are able to judge it by the contribution of customer and invest in customers who make the largest contribution with effective resources selectively. In this way, it will bring to more profits for enterprise.

The existing methods to judge customer value mainly base on data mining (Xiaoyu Zhao, 2006) and fuzzy comprehensive evaluation (Xin Zan, 2008). The method based on data mining is a little complicated for enterprise managers, especially when we do not need the result to be very accurate. The method based on fuzzy comprehensive evaluation is also not simple in practical application. Generally it has to use Delphi method to determine the weighted value of evaluation indicators at first.

In this paper, we introduce a statistical method based on RFM (recency, frequency and monetary value) analysis theory to judge customer value in tourist hotels. RFM analysis is a very important analysis method for customer response (Xiaoyu Zhao, 2005). RFM model is used to represent customer behavior characteristics. This approach records three dimensions of customer transactional data, namely recency, frequency and monetary value, to classify customer behavior (Jinyao Luo, 2009). Combining RFM analysis with statistical method to judge customer value is more convenient than the two methods mentioned above. It does not need to know about data mining knowledge, and also not need to use Delphi method to determine the weighted value of evaluation indicators like fuzzy comprehensive evaluation method. Especially when we do not need the results are extremely accurate, the convenience of statistical method based on RFM analysis are more obvious. In this paper, we introduce how to use this statistical method based on RFM analysis in tourist enterprises through a case study of tourist hotel.

Rest parts of this paper are organized as follows. The second part introduces briefly the customer value and RFM theory. The third part is a case study. It specifically introduces the method indicators and its application process. The forth part is an effect analysis to demonstrate the convenience of this method in practical

application. The last part is a conclusion about the text.

2 RELATED THEORIES

2.1 Customer Value

"Marketing Management" (Philip Kotler, 2002), authored by Kotler, says that customer value generally refers to the total value which customers get from products or services. This includes the product value, service value, personal values, image value, etc. The concept is to measure the value customers received, but for customers, they must spend a considerable cost in order to obtain the value generated by these products and services. It can be named customer cost. The value customers really obtain is the value customers get minus that they spend. But for ordinary enterprises, the so-called customer value refers to the customers' importance for enterprise. It can be simply understood as a kind of ability that customers bring profits for enterprise. Now customer cost refers to what enterprise spent to obtain some clients. If the customer cost is higher than the customer value, it means that what enterprise spends for the customer is more than what the customer brings. Then the client will be abandoned gradually.

Judging valuable customers and cultivating valuable customer is the two basic tasks of enterprise CRM and two basic methods to keep customers' loyalty (Mingliang Chen, 2006). Fierce tourist market competition forces enterprise to put more and more attention to the demands of the customer. More and more enterprises realize the importance of customer relationship management. They spend a lot of resources in this field. However, enterprises' resources are limited. How to use limited resources to maximize benefits becomes the focus of enterprises' attention. This is just why customer value identification is so important.

2.2 RFM Analysis

RFM analysis (Xiaoyu Zhao, 2005) is the comprehensive analysis about recency, frequency and monetary value. It is an important method used in judging customer value. The use of RFM analysis method can enable enterprises to pay more attention to high-value customers, and thus get the most profit through the best use of limited resources.

The basis of RFM analysis is three key indicators about customer behavior. Bult and Wansbeek give a definition of these three indicators as follows (Bult J R, 1995).

(1) R (recency) refers to the interval from the last purchase to the current time. Customers who patronize your hotel recently are more likely to come again than those who came a few months or even a few years ago.

(2) F (frequency) refers to the number of purchase times in a certain period. Customers who patronize your hotel frequently are more likely to come again than those who come rarely.

(3) M (monetary value) refers to the total consumption of customer in a certain period. Customers who spend plenty of money in your hotel are more likely to come again than those who spend a little.

These three indicators can be nearly applied to all products, no matter whether the product is tangible or intangible (such as hotel services). Also they can be applied to different business models: B2B model (such as hotel products supply) and B2C models (such as retail trade and service industry). Just because of these three principle's universal applicability and their ability to respond customer behavior, they can be used in enterprise marketing and management. And it will be more convenient to judge the customer value than other methods.

3 TOURIST HOTEL CUSTOMER VALUE JUDGMENT

As is mentioned above, RFM analysis is a very important analysis method for customer response. Combining RFM analysis with statistical method to judge customer value is more convenient than existing methods in practical application especially when we do not need the results are fairly accurate. Now we introduce how managers conduct customer value judgment using statistical method based on RFM analysis through a case study of tourist hotel.

3.1 Indicator of Judging Customer Value by RFM Analysis

Recency indicator: The list of customers will be arranged according to the time of patronage. The customer who has patronized the tourist hotel most nearly is ranked first; on the contrary, the one who

patronized the tourist hotel long ago is ranked last. Then we divided the arranged list into five equal portions. If the tourist hotel has 500,000 customers, each portion includes 100,000 customers. Label each portion, that is, the first portion (the group which has patronized the hotel most nearly) is numbered one and the last portion (the group who patronized the hotel long ago) is numbered five.

Frequency indicator: The list of customers will be arranged according to the frequency of patronage. The customer who has patronized the tourist hotel frequently is ranked first; on the contrary, the one who patronized the hotel rarely is ranked last. Then we divided the arranged list into five equal portions. If the tourist hotel has 500,000 customers, each portion includes 100,000 customers. Label each portion, that is, the first portion (the group who has patronized the hotel frequently) is numbered one and the last portion (the group who come rarely) is numbered five.

Monetary value indicator: The list of customers will be arranged according to the amount of consumption. The customer who has the largest amount is ranked first; on the contrary, the one who has the smallest amount is ranked last. Then we divided the arranged list into five equal portions. If the tourist hotel has 500,000 customers, each portion includes 100,000 customers. Label each portion, that is, the first portion (the group who has the largest amount) is numbered one and the last portion (the group who has the smallest amount) is numbered five.

3.2 Application of Judging Customer Value by RFM Analysis

Based on the method mentioned above (judging customer value by RFM analysis), the specific applications are as follows.

(1) Only considering the recency indicator:

If the tourist hotel managers carry out marketing activities for these customers, no matter it is hotel room discount or free hotel service upgrade, the situation of response only considering the recency indicator is like Figure 1.

(2) Only considering the frequency indicator

If the tourist hotel managers carry out marketing activities for these customers, the situation of response only considering the frequency indicator is like Figure 2.
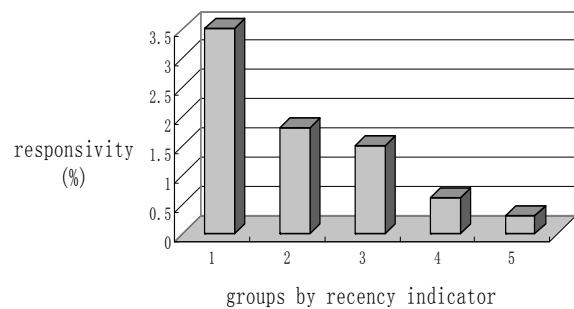

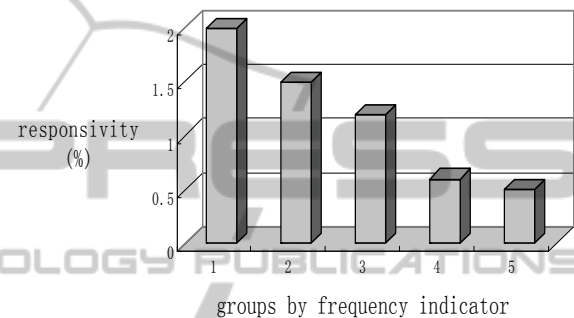Figure 1: Situation of response base on recency indicator.

Figure 2: Situation of response base on frequency principle.

(3) Only considering the monetary value indicator

If the tourist hotel managers carry out marketing activities for these customers, the situation of response only considering the monetary value indicator is like Figure 3.
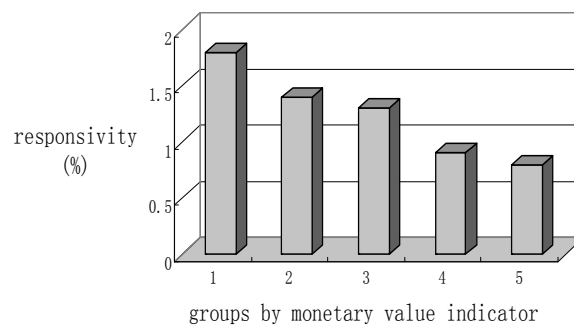

Figure 3: Situation of response base on expenditure principle.

(4) Considering three indicator

Combining the three indicator, we can get 111 ... 545,551,552,553,554,555, a total of 125 (5*5 *5 =125) sub-groups. Select about 30,000 clients and conduct test marketing activities for the 125

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groups. It means each group includes about 240 people (240 × 125 = 29600). When we conduct marketing activities to these test samples, it is necessary to record the feedback from these customers. Then we can calculate the cost and return of these marketing activities. A figure can also be made according to these data. It is similar with the Figure 4.
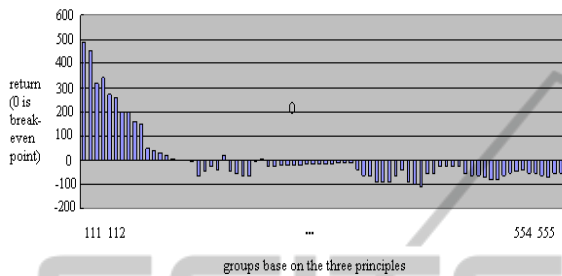

Figure 4: Situation of response base on the three principles.

Zero-scale line is a break-even one. 111 is the group which has the highest rate of return, 555 is the group which has the lowest rate of return. Among all 125 groups, some groups' return are greater than their costs (for example: 111,112, etc.), and some groups' return are less than their costs (for example: 555,554, etc.). As is calculated, in the 125 groups, only 34 groups are profitable.

4 RESULT ANALYSIS

4.1 Results of RFM Analysis

According to the results of application, if the tourist hotel managers conduct marketing activities for the whole 500,000 customers, forecasting results are as follows:

In the all 125 groups, the average response rate is about 1.14%, so a total of 500,000*1.14%=5,700 people respond to it.

Per capita marketing cost is 0.55 Yuan, so there will be totally 500,000*0.55=275,000 Yuan.

The net profit per respondent is 40 Yuan, so the total is 5,700*40=228,000 Yuan.

Net profit is amounted to 228,000-275000=-47000 Yuan. (Deficit)

If the tourist hotel managers conduct marketing activities only for the 34 profitable groups, forecasting results are as follows:

In these 34 groups, the average response rate is about 2.61%, so a total of 136000*2.61%=3549 people respond to it.

Per capita marketing cost is 0.55 Yuan, so there will be totally 136,000*0.55=74,800 Yuan.

The net profit per respondent is 41 Yuan, so the total is 3,549*41=145,509 Yuan.

Net profit is amounted to 145,509-74,800=70,709 Yuan. (Profit)

Return on investment (ROI): 70,709/74,800=94.53%.

Table 1: Test results.

	All groups	Profitable groups
Number of groups	125	34
Total number of people	500,000	136,000
Total costs	275,000	74,800
Response rate	1.14%	2.61%
Number of respondent	5,700	3,549
Net profit per respondent	40	41
Total profits	228,000	145,509
Net profit	-47,000(deficit)	70,709(profit)
Return on investment	17.09%	94.53%

Based on the above application test, if the tourist hotel managers conduct marketing activities for the whole 500,000 customers, there will be a loss of 47,000 Yuan. In another way, if the tourist hotel conducts marketing activities only for the profitable customers, then 70,709 Yuan can be made. The return on investment is 94.53%. Obviously, it is impossible for the tourist hotel to carry out marketing activities for all the customers. Therefore, those who bring profits greater than costs to tourist hotel are the marketing object.

4.2 Method Comparison

From what we have discussed above, we can see the identification method of customer value based on RFM analysis only need simple statistical knowledge and some uncomplicated calculation. Through them it is convenient for enterprise managers to judge the customer value. Not like the method based on data mining, managers do not have

to know any professional data mining knowledge. Also not like the method based on fuzzy comprehensive evaluation, it does not have to use Delphi method to determine the weighted value of evaluation indicators at first. So when we do not need the identification results to be fairly accurate, using the statistical method based on RFM analysis is more convenience.

5 CONCLUSIONS

Customer value judgment is the core activity of CRM, especially in the service industries such as tourist hotels. It is just like the famous idea that 20% of the customers will create 80% of the profit, the valuable customer can bring most of interest to an enterprise. So finding a method to judge customer value in tourist enterprises becomes very important. In this paper, we introduce the statistical method of judging customer value by RFM analysis, and show how to use this method in tourist enterprise. The convenience and correctness of this method in practice is demonstrated through an effect analysis. After the study on customer, the enterprise manager can more clearly determine who the most valuable customers are. And they can accordingly invest in them with effective resources selectively in order to gain more profit and to maintain good customer relationship.

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