A Research on Website Function of High-star Hotel Based on Customers Perspective: A Case of Xiamen, China

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Abstract
Hotel websites have been more concerned about the structure and content of the website itself, ignoring the hotel websites’ nature for customer service. Thus, this paper starts the basis of determining the function structures and evaluation indexes systems of hotel websites, focusing on discussing the hotel websites’ nature for customer service. This paper found out the customer demand for the hotel websites functionality by the questionnaire survey, then, the hotel websites of 50 samples were visited to analyze the functions. SPSS was applied to the analysis of questionnaires. Study suggests that current high-star hotel website features in Xiamen City of China can not meet the needs of customers. The base layer functions could provide simple hotel information, but it overlooked the hotel customer’s travel needs; main level functions could not meet the requirements that customers understand the features, early experience and information exchange; the core layer functions were not symmetrical with customer demand, and the information was not updated timely, as well as, customer relationship management was not perfect, so the core layer functions had not implemented functions of both the base layer and main layer with dynamic optimization. A limitation of this study is that the random sample may be not representative. If the hotel websites truly become an effective tool for hotel management and marketing, the needs of hotel customers should be fully considered.

Keywords: Hotel, Websites, Customers Perspective

1. Introduction
With the development of the Internet, its advantages, including interactive, real-time and convenience, become more evident, for which the traditional tourism industry quickly integrates into the network economy tides. In reality, the hotels should pay high commissions to the booking website for reservation through the intermediary website to get a customer, but this commission was eventually passed on to their clients, making the hotel be faced the pressure of competition, as well as, allowing customers to bear the extra cost. If the hotels provide the service through the self-built website, a lot of comparative advantage can be received: The hotels can use the network to finish transactions to the customers by the modus of “face to face” without the intermediary agents, by which the high commission cost can be saved, so the hotel can set a reasonable and flexible pricing strategies to attract customers to book rooms online[4]; The hotels can implement an effective customer relationship management, enhancing interaction, communication and exchange to maintain long-term stable business relationships with customers, and to build mutual trust to enhance customer satisfaction and loyalty; The hotels can effectively carry out network marketing to set a good product and corporate image. At present, the major hotels have set up their own web site, applying the hotel websites to erecting a platform for self-publicity, the communication between hotel and customer, and the company customer database. Therefore, the functions of the hotel websites were more and more concerned by the hotels, which also become a very important research point in hotel information.

2. Literature Review
Overseas academics began to study the hotel websites since 1990’, and some important results of the evaluation of hotel websites were gradually achieved. Baloglu S, Pekcan Y A (2006) proposed hotel websites construction should be conducive to strengthening the long-term cooperation with
customer relations, and the hotel websites can be applied to establishing relationship marketing model[1]. Gan L, Sim CJ, Tan H L (2006) believed that there are multiple relationships between the hotel websites’ relationship marketing online and hotel domain[3]. Jeong Mi young, Choi Ji young (2004) believed that the website forms, web content and realistic picture impact on customer purchase behavior, and the website content and realistic picture are the important factors of customers evaluating the hotel websites[5].

Domestic researches on this area started late, but tourism academic researches of Hong Kong and Taiwan in this area were relatively deep. Kar Wing Li (2007) first majored point of discussion of hotel website construction from the web marketing, and gradually began the research of the booking function of hotel websites, the evaluation of integrated functions of hotel websites, the multi-language information retrieval results of hotel websites, and so on[6]. The study of Rob Law, Catherine Cheung (2006) showed that the hotel websites of Hong Kong, Taiwan and other regions played a good hotel booking functions[2]. Real customers (E-consumers) and potential customers (E-buyers, E-lookers) consistently believed that the hotel website provide effective, accurate and timely updating of the hotel information[7]. Moreover, the higher of the hotel’s star, the more important of their website comprehensive service quality. There are many problems in the constructions of mainland's hotel websites[12]. Although most of the hotel can provide basic information and facilities description, being lack the contents such as travel partners, local attractions and other value-added contents. Although most hotel websites have bilingual or multi-language features, the basic online reservation system is only available in English version.

Wan Xucai (2007) believed the hotel website of the hotel information should be from the macro point, and the specific research points to the hotel websites should be focused on internet marketing, customer relationship management, website development, network security and management[13]. Yang jie (2007) found that online marketing would become one of the most important marketing tools for the hotels[16]. The hotel should build customer relationship management system to enhance customer loyalty to the hotel on its own websites. Customer relationship management of the high-star hotel with the websites is to manage the clients’ basic information, contacts, sales opportunities to evaluate the customer credit rating to consistently find significant customer[15]. Customer Relationship Management database contains three data tables which are the clients basic information sheet (Kh-jbxx), contact information form (Lxr-xx) and Client Assessment Form (Kh-pg), and E-R diagram is shown in Figure 1.

![Figure 1. The E-R diagram of customer relationship management database](image-url)
the function of hotel customer demand for the websites, then, the rather strong customer demand indicators could be come to. This paper selected 50 hotel’s websites in Xiamen as a sample for a visit to understand their actual functions, combined with functional assessment of customer needs, in order to enrich the online site evaluation of domestic research content, to provide effective guidance for the hotel to serve customers better.

3. Study Process

3.1. Object

In this paper, when the data were selected, taking into account the low-star hotels do not build their own websites, or even they build websites, it is difficult to play its due role, for example, the website is too slow to open[10]. Thus, the main body of this study is the high-star hotels. Hotel clients include the reality of the hotel website users and potential users, and the former refers to the consumers who browse the hotel website or through the hotel website to book the rooms in the hotel, while the latter refers to the consumers who do not browse or use the hotel websites. The former and the latter are both the object-oriented study of this paper.

3.2. Research Methods

3.2.1. Index Selection

The functions of hotel websites are classified by 3 levels (base layer, the main layer, the core layer), 7 modules (Hotel basic information, relevant travel information, hotel products and services, information feedback and communication, the interface functions, CRM, information updates) and 30 indexes. See table.1.

<table>
<thead>
<tr>
<th>Evaluation Indices</th>
<th>Average</th>
<th>Standard Deviation</th>
<th>Evaluation Indices</th>
<th>Average</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Overview</td>
<td>3.017</td>
<td>0.980</td>
<td>C6 Shopping</td>
<td>3.345</td>
<td>1.282</td>
</tr>
<tr>
<td>C2 Location</td>
<td>4.561</td>
<td>0.668</td>
<td>C7 Weather</td>
<td>3.205</td>
<td>0.918</td>
</tr>
<tr>
<td>C3 News</td>
<td>2.728</td>
<td>1.139</td>
<td>C8 Tourism</td>
<td>4.151</td>
<td>0.766</td>
</tr>
<tr>
<td>C4 Events</td>
<td>2.125</td>
<td>0.785</td>
<td>C9 Condition</td>
<td>4.127</td>
<td>1.020</td>
</tr>
<tr>
<td>C5 Culture</td>
<td>3.551</td>
<td>1.034</td>
<td>C10 Traffic</td>
<td>4.211</td>
<td>0.810</td>
</tr>
<tr>
<td>B1 Basic Information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1 Rooms</td>
<td>4.877</td>
<td>0.672</td>
<td>C20 Languages</td>
<td>4.350</td>
<td>0.985</td>
</tr>
<tr>
<td>C1 Dining</td>
<td>4.531</td>
<td>0.789</td>
<td>C21 Link</td>
<td>2.154</td>
<td>1.448</td>
</tr>
<tr>
<td>C13 Entertainment</td>
<td>3.012</td>
<td>1.006</td>
<td>C22 Investigation</td>
<td>3.767</td>
<td>1.210</td>
</tr>
<tr>
<td>C14 Conference</td>
<td>3.275</td>
<td>1.284</td>
<td>C23 Map</td>
<td>2.158</td>
<td>1.597</td>
</tr>
<tr>
<td>C15 Recommendation</td>
<td>4.421</td>
<td>1.010</td>
<td>C24 Mail</td>
<td>3.352</td>
<td>1.266</td>
</tr>
<tr>
<td>C16 Promotions</td>
<td>3.733</td>
<td>1.351</td>
<td>C25 Message</td>
<td>4.578</td>
<td>0.826</td>
</tr>
<tr>
<td>C17 Products</td>
<td>4.792</td>
<td>0.825</td>
<td>C26 BBS</td>
<td>4.349</td>
<td>0.803</td>
</tr>
<tr>
<td>C18 Booking</td>
<td>4.721</td>
<td>0.765</td>
<td>C27 FAQ</td>
<td>3.387</td>
<td>1.125</td>
</tr>
<tr>
<td>C10 Payment</td>
<td>2.769</td>
<td>1.190</td>
<td>C28 Online Survey</td>
<td>2.368</td>
<td>1.365</td>
</tr>
<tr>
<td>B2 Products and Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C29 CRM</td>
<td>4.212</td>
<td>1.301</td>
<td>B3 Update</td>
<td>4.687</td>
<td>0.720</td>
</tr>
<tr>
<td>B3 CRM</td>
<td>4.212</td>
<td>1.301</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Based on statistics derived from the questionnaire.

3.2.2. Sample survey
In this study, 50 four-star and five-star hotels in Xiamen were randomly selected as a sample of star hotels, with search engines of Baidu.com and Google.com to determine the establishment of the hotels’ own websites.

In the above sample of 50 hotels, 32 hotels were willing to conduct customer survey with the author. Investigators randomly selected 20 customers in each of the 32 hotels who were told to judge the extent of rate in terms of the importance of the various indicators, and rate was at 5 point scale in descending way (very important = 5, more important = 4, general = 3, comparatively unimportant = 2, very unimportant = 1). Then, an open issue was designed at the end of the questionnaire to ask the respondents what they considered the additional important indexes, in order to understand hotel customers’ demand for the hotel website functions.

3.2.3. Index classification

To exclude the indexes of the hotel website functions which affected customer demand rather weaker, this paper selected the hotel customer reviews of more than 3 points which were investigated by the website functions in the results of this survey. After visiting and observing the hotel websites of 50 samples, using web content analysis, the functions of the hotel website evaluation criteria could be carried out as follows. See figure 2:

- **Multilingual index evaluation**
  
  Among the 50 hotel websites distilled, 1 language used in the websites was labeled 0, 2 languages were labeled 1, 3 languages were labeled 2, and so on.

- **Information updating indexes**
  
  In a period of 3 months of actual observations, if the hotel website information was updated in time, it was labeled 1; If not, it was labeled 0.

- **Other indexes**
  
  If there were some functions in the hotel websites, it was labeled 1, if not, it was labeled 0. All of the above data were input the database created by SPSS software, which was applied to the statistical work.

3.2.4. Reasonable sample
The time of sample survey was from August 1, 2009 to October 30. There were 5 star hotels, 35 four-star hotels, 10 three-star hotels in 50 star hotels of Xiamen. The samples were randomly distributed in the various administrative regions as a whole in Xiamen, covering the business type, resort, conference-type and other different types of hotels. Thus, the sample selection is scientific and rational.

3.2.5. Recovering questionnaire

Among the 50 hotels selected above, the author carried out the investigation on the hotel website functions of customer demands. 10 consumers were randomly selected from each hotel to ask their functional requirements for the hotel websites in the form of questionnaires. A total of 500 questionnaires were sent out, and 481 were returned, of which 473 valid questionnaires were effective (effective rate was 98.34%). The results showed that 72.95% of the respondents visited or used some functions of the hotel websites, who were the real users of the hotel websites; 28.05% of the respondents did not visit the hotel websites, who were the potential users of the hotel websites. It is shown in figure 3:

4. The demand of the star hotel website functions

As hotel customers, regardless of the reality of the hotel website users or potential users, their demand for the website functions are of great importance: the former gave reference comments on building of the hotel current websites and the latter prompted the hotel websites building for the future direction of development. Moreover, once the hotels meet the needs of this part of potential users, the hotels can directly promote the development of hotel information, and a lot of the hotels can be cut down. The survey results showed, there is a certain demand preferences in the hotel websites users for their functions. It is shown in Figure 4:
4.1. The demands of base layer functions

In the base layer of the hotel websites, the average score of the 4 indexes of the location, traffic guide, local tourist, surrounding environment was 4 or more, which indicated that customer demand for the website functions was the strongest; The score of the 4 indexes of hotel profile, the hotel culture, weather, shopping guides was between 3 to 4, which shows customer demand for the function was relatively strong; The score of the indexes of hotel news, hotel event index was 3 or less, which showed customer demand for the function was weak.

4.2. The demands of main layer functions

In the main layer of the hotel websites, the average score of the 8 indexes of the room description, product picture video, food introduction, feedback, online booking, special recommendation, BBS, multi-language features, the average scores are above 4, which indicated that customer demand for the website functions was the strongest; The score of the indexes of sports and recreation, business meetings, promotional privileges, websites searching, FAQ, E-mail address was between 3 to 4, which shows customer demand for the function was relatively strong; The score of the indexes of payment, links, site map, online surveys and other indicators was 3 or less, which showed customer demand for the function was weak.

4.3. The demands of core layer functions

In the core layer, the main functions are customer relationship management and information updating, and they both constitute a large module, as well as, they were respectively an index. In fact, the core layer updated, recorded, collated and analyzed the fragmentary information collected in the previous layers, so that the information could be valued, and be returned to the previous two levels to be dynamically optimized.

Among them, the customer relationship management is the core and soul of the hotel websites. The so-called customer relationship management is to provide customers with satisfactory products and services to establish long-term stability, mutual trust, mutual benefit and the close relationship with customers between the dynamic process and business strategy through the management of customer information resources[8]. CRM system is generally composed by the customer market management, customer sales management, customer support and service management, database and supporting platforms in which various types of customer information and data can be saved and organized. For example, if the feedback and evaluation of a customer browsing the web from the beginning, starting booking, checking in the hotel, enjoying the service until checking out are all recorded, the hotel will be able to effectively analyze customer demand preferences to provide different customers with different personalized service. Information updating index is a function of comprehensive evaluation index, which has its importance, and can reflect the dynamic optimization of the base layer and the characteristics of the main layer functions, being included in the core layer.

The investigation results showed that the score of customer relationship management and information updating were more than 4, that is to say, the demand for two functions of the customers was very strong. Be noted that part of the respondents in the open issues of the questionnaires raised some questions that the site speed was also a very important indicator. But in practice, in the condition of different configurations of the computer or at different time and different internet speeds, the situation was different. First of all, even with the same configuration of the computer can not be observed to ensure its scientific, but the site user's computer configurations vary, so the data here is not of great practice. Secondly, in the same period of time to observe the speed, there is always the order of time, the internet speed itself, which is an uncertain factor[9]. For a few seconds to open within the scope of the impact of huge rate, the result may be of not large science protection. Therefore, the actual situation for the user needs study is not considered in this study.

In addition, at the beginnings of investigation, many respondents do not understand customer relationship management, but their scores were 4 or more when they are explained by the investigators. Taking into account this situation, this paper adjusted the questionnaire, and necessary explanations of
customer relationship management were added at the end of questionnaires. Also, investigators of this paper were asked to pay close attention to the responses of the respondents during the process of the survey to communicate timely where it was not understood by the respondents in the questionnaire.

5. The evaluation of star hotel website functions

According to the function evaluation methods, using SPSS statistical software calculated the total score of each index, mean, and mean value of each index into a percentage (Some of the indexes appeared in the frequency of all websites). Be noted that in the evaluation of the index information updating, the consistency ratio of evaluation results of the two judgers was 96%, whose findings were viewed as a basis for final evaluation. The results are shown in Table 2:

<table>
<thead>
<tr>
<th>Evaluation Indexes</th>
<th>Score</th>
<th>Frequency %</th>
<th>Evaluation Indexes</th>
<th>Score</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Overview</td>
<td>48</td>
<td>96</td>
<td>B2 Shopping</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>C2 Location</td>
<td>45</td>
<td>90</td>
<td>C3 Weather</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>C5 Culture</td>
<td>9</td>
<td>18</td>
<td>C6 Tourism</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>C9 Condition</td>
<td>6</td>
<td>12</td>
<td>C10 Traffic</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>C4 Travel</td>
<td>45</td>
<td>90</td>
<td>C20 languages</td>
<td>47</td>
<td>94</td>
</tr>
<tr>
<td>C22 Investigation</td>
<td>6</td>
<td>12</td>
<td>C23 Message</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td>C25 Message</td>
<td>27</td>
<td>54</td>
<td>C26 BBS</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>C27 FAQ</td>
<td>2</td>
<td>4</td>
<td>C28 CRM</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>C29 CRM</td>
<td>21</td>
<td>42</td>
<td>C30 Update</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Based on statistics derived from the questionnaire.

5.1. The evaluation of base layer functions ($A_1$)

In the part of basic information of the hotel ($B_1$), the functions of these two indexes of the hotel profile ($C_1$) and location ($C_2$) were the most perfect, whose frequency in the 50 samples of the hotel websites was more than 90%. Hotel Culture ($C_3$) frequency was 18%, and only a small number of hotels were provided with cultural, hotel events and honor certificates and other information.

In the part of relevant travel information ($B_2$), the frequency of all indexes were low, among which shopping ($C_6$) and local travel ($C_8$) index were relatively high, whose frequencies were 24% and 20%, and others were lower than 15%.

In summary, the functions of base layer of hotel websites basic about the geographical location can meet the needs of customers, but there are many differences between other functions and customer demands. First of all, most of the hotel websites are limited to a simple overview of hotels, which is precisely the weakest function that customers demand; Secondly, the function of the hotel culture that customers want to know is too little. Finally, it is very serious that the related functions are lack of travel information, and it is very asymmetric to the customer demands.

5.2. The evaluation of main layer functions ($A_2$)


In the part of products and services in the hotel (B3), all the hotel websites had introduced hotel rooms, and food introduction, sports & recreation and business meetings were very full; 88% of the websites have the function of online booking, but they rarely realize one-stop service from a query to the reservation to the payment; The frequency of the functions of product image & video and promotions was 50%, but only a few hotels had special recommendation function, whose frequency was only 22%.

In the part of the multi-language functions section of the interface functions (B4), there are 3 hotels with 4 languages, 3 hotels with 3 languages, 41 hotels with 2 languages. The frequency of search function of hotel websites is generally low, and this function of individual hotel website is neither inactive nor useless.

In the part of feedback and exchange of information (B5), 84% of the hotel websites offered e-mail addresses, and 54% of the hotel websites set a function of feedback, but the frequency BBS was extremely low, and only three hotel websites had such functions. In summary, the functions of hotel products and information services could better meet customers’ needs, but two functions of special recommendations and product images & video obviously could not meet customers’ needs. In addition, the interface function was not perfect, and multi-language capabilities were very asymmetric to customers’ needs. The functions of feedback and communication viewed as the most obvious customers’ needs was missing in the state in addition to e-mail address and message feedback function.

5.3. The evaluation of core layer functions (A3)

During the investigation of the evaluation of hotel websites functions, the frequency of customer relationship management (B6) was 42%. Meanwhile, according to observation of the reviewers, the score of the information updating of the hotel websites was 12, which meant only 1/4 of the hotel websites could keep the information updated in time. This shows that the hotel websites do not build the sound functions of customer relationship management, and there are serious problems of not promptly updating the website information. As a function of core layer, the absence of these two functions will seriously affect customer demand for the functions of hotel websites.

5.4. The evaluation of whole functions

In three levels, the base layer is the cornerstone of the hotel site, so it must provide informative, various and basic hotel information, as well as, other related travel information, which could play and optimize the functions of main layer and core layer. The main level is the main module level that can play interactive advantages of the hotel websites, which mainly provide real-time interactive communication services between the hotel and customers, as well as, customers and the customers. The main level itself constitutes a personal service, which is a basis to provide for the wider and deeper personalized services. The core layer integrates the former two-tier information, causing the value appreciation and dynamic optimization. It is shown in figure 5:
The results of investigation showed that, on the whole, hotel websites can provide simple and basic information, but they neglect the demands for tourism information of the hotel customers, which limit function optimization of the main layer and the core layer. In showing character of the main, the hotel websites can not meet the consumers’ demands of understanding characteristics, early experiencing and information exchanging which show a single form for the consumers. Because of insufficient use of modern electronic technology and weak interactivity, the content has not features, nor did it constitute personalized service, which limit of the functions of individual service in the core layer. In the core layer of the hotel websites as the core and soul, customer relationship management functionality was not perfect, and the information was not updated in time. The functions of the first two levels were no dynamic portfolio optimization and value-added in this level, leading hotel website not have the core competitiveness in meeting customer needs.

6. Conclusions

The statistical information system of tourist traffic and transportation in travel agencies, as one four major functional modules of dynamic monitoring system, played a statistical analysis and support decision-making role. The system can obtain the planning and related information of tourist traffic and transportation from three major functional modules of transportation resources, transportation plan, transportation scheduling. The use of this information, the managers can study transport statistics to reasonably accurately analysis tourist traffic and transportation, which become the key to success for monitoring tourist traffic and transportation of travel agencies and transportation.

In the current international market with information technology, the construction of hotel websites has become one of the key points in hotel information. The key of improving the quality of hotel websites is to meet the demands of the customers to the functions of hotel websites. The functions of Star hotel websites can be divided into three layers, the base layer, the main layer and the core layer, which cover 7 module (30 indexes) basic information of the hotel, relevant travel information, hotel products and services, interface functions, feedback and communication, customer relationship management and information updating. This level was viewed as the basis in this paper. The 50 star hotels in Xiamen as an example, this paper studied evaluation for star hotel website functions based on customers’ demands, and the following conclusions can be drawn:

● The demands hotel customers to hotel websites functions have respectively focused on the base layer, the main layer and the core layer, but as a whole, the actual functions of the hotel website do not fully meet the customer needs to provide good service for customers.

● The base layer of hotel websites can provide simple information, but it overlooked the hotel customers’ demands of tourism, limiting the function optimization of the main layer and the core layer.

● The functions of the main layer of hotel websites can not meet the consumers’ demands of understanding characteristics, early experiencing and information exchanging, so the personalized service system has not be constructed.

● The customers’ demands for the functions of the core layer in hotel websites are very strong, but the hotel websites has not any sound functions of customer relationship management, and information is timely updated to meet customers’ demands to the core functions of hotel websites, which can not achieve the portfolio of dynamic optimization and value-added functions in the base layer and the main layer.

Thus, based on customers’ demands, the hotel websites of star hotels in Xiamen can provide simple information to meet customers’ demands. Overall functions, especially the core layer functions are out of line with customers’ demands, which is urgent for hotel managers to raise awareness in hotel websites construction to improve the hotel website functions based on the customers’ demands.
7. References