A Case Study on Developing an Internet-Based Competitive Analysis and Benchmarking Tool for Hospitality Industry

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Abstract

In order to improve service quality and better understand, prepare for, and predict the marketing dynamics, it is essential to grasp the performance of other competing enterprises. Competitive analysis and benchmarking in the tourism industry are always challenging, especially for small businesses. Unique from the standardization of other manufacturing industries, hotels, restaurants, and attractions are diverse enterprises, each possessing unique characteristics. When comparing, it is difficult to benchmark one from another, especially for tourism properties across different locations. In addition, the performances of hotels, restaurants, and attractions in one destination are highly interlinked. This case study describes the development, functionality and the barriers for adoption for the Hospitality Performance Index- an Internet based benchmarking system. We compared the functionality of the HPI with the Star Report from Smith Travel Report, detailing the process of development and the barriers during the adoption process. Our experience shows that this type of system is valuable when utilized by hoteliers as well as members of convention and visitors bureaus. However, the adoption of the system faces several notable barriers, including different levels of computer and Internet knowledge and expertise, interfaces with a low level of usability, and unsupportive managers. More work is needed to help the staff members create a habit of entering data on a weekly basis. In developing technological systems for the hospitality and tourism industry, these barriers should be considered opportunities for future address.

Introduction

Competitive analysis and benchmarking in the tourism industry is always challenging, especially for small businesses (Cano, Drummond, Miller, & Barclay, 2001). Different from the standardization of other manufacturing industries, hotels, restaurants, and attractions are diverse enterprises and organizations and each possesses unique characteristics. At time, it is difficult to measure up one from another, especially for tourism properties across different locations. However, in order to improve service quality and better understand, prepare for, and predict the marketing dynamics, it is essential to grasp the performance of other competing enterprises. Especially for the tourism industry, the performance of hotels, restaurants, and attractions in one destination are highly interlinked. A better understanding of what others are forecasting in a highly specified competitive set will benefit their own tourism enterprises tremendously.

Smith Travel Research (STR) has been recognized as a leader in providing information and a benchmarking tool to the U.S. lodging industry (Agarwal, Yochum, & Isakovski, 2002). STR suggests that it possesses the most extensive database on lodging properties in the United States, based on its surveys from over 30,000 hotel properties (Rompf, 1998). STR reports were criticized for not presenting independent hotel properties and small businesses and the reliability of their analyses was questioned (Agarwal, Yochum, & Isakovski, 2002; Rompf, 1998). One method to solve this problem is to dynamically compare one property’s performance with other properties in various combinations, including comparisons to other hotels in the same location, the same type, or the same daily rate level. This research describes the development and adoption of an Internet-based dynamic competitive analysis and benchmarking tool for the hospitality industry which is superior to its predecessors in many different ways. We describe the
functionality, the development, and the adoption of the system, including various barriers in the adoption process.

**Hospitality Performance Index System**

This case study describes the development, functionality and the barriers for adoption for the Hospitality Performance Index- an Internet based benchmarking system for short is called the HPI. We compared the functionality of HPI with the Star Report from STR. We detailed the process of development of HPI and the barriers during the adoption process.

1. Functionalities

The Hospitality Performance Index (HPI) is an Internet-based software system designed to provide the owners and operators of the region’s commercial lodging facilities a means to compare their property's performance with aggregates of others in their competitive set on a variety of performance matrices. The HPI will allow the hoteliers to contrast their property's last week performance and forecasted bookings with their choice of other lodging segments in terms of type, location, and rate. However, it differs from the Star Report of STR in that with a mouse click, hoteliers can choose the segments in which to contrast his/her firm's performance. Customized reports can also be produced to reflect future booking patterns. Though it is only used locally, the dynamic report generating functions and user-friendly interface make it a useful tool for both hoteliers and local convention and visitors bureaus (Figure 1 describes the overall structure).

![Figure 1. The Technical Structure of Hospitality Performance Index System](image-url)
Revenue managers will report their weekly performance indices and their forecasts by logging in using the specified username and passwords assigned to them. Two major functions of the system are revenue reporting and forecasts for the next four weeks. The major indices are: total rooms available for that week, room nights sold for the week, including separate numbers for transient rooms and group rooms, average rate for the week, and their forecast for the next four weeks, based on daily transient and group occupancy (Figure 2). During the first two days of every week, the system is open for data input; from every Wednesday, the system is locked for data entering and the users can log on to generate dynamic reports. The four criteria the users can control for their competitive sets are: hotel type (Bed & Breakfast, hotel, resort, or villa rental home), location (various districts in the city), rate (less than $99, $100 - $199, $200 - $299, $300 or more), and location type (downtown, highway, resort). The users can specify any one of these properties, or any combination of these four conditions, in order to control the competitive sets.

Figure 2. Data Input Functionality of HPI

Once the users have submitted the data and the reporting functions are enabled, they can login to the HPI and generate the following reports:

A. Under Last Week’s Performance Report, a comparison of their property’s performance in Average daily Rate, Revenue per Available room, Occupancy by their choice of competitive sets (Segment, Rate, Location, Location Type) (Figure 2);
B. Under Forecast Reports, a comparison of their property’s forecasted occupancy rates (transient, group, total) for the next four weeks (by day) according to their choice of competitive sets (Segment, Rate, Location, Location Type) (Figure 4);
C. For full service hotels, the user can also review the group pick ups one year out (as a percentage of occupancy) by hotel location.

D. Once there is sufficient data in the HPI, under View Histories a user can also retrieve past weekly historical data of his/her property and his/her choice of competitive sets. For example, a user can retrieve the Occupancy Rate, Revenue per Available Room and Average Daily Rate of hotels in one district next week a year ago by simply typing in the dates in questions.

It should be noted that to insure confidentiality, there must be at least three reporting properties (not including the property viewing the reports) in a selected competitive set to generate reports. If a user receives an error report, he or she needs to hit the back button and eliminate a criterion of the competitive set in order to relieve the criteria and pick up more reported hotels.

Comparing the HPI system with the Starr Report, the unique contribution is the forecasting function since it can provide valuable marketing and organizational implications for businesses around the area. In order to evaluate the accuracy of forecasting, correlation analysis was performed on the performance data versus the actual weekly performance. Figure 5 shows the plot of the actual weekly performance with forecasted data on group books and Figure 6 shows the plot of the actual weekly performance with forecasted transient rooms sold. The correlation between transient room booking and forecasted data is .783 \((p<.001)\) and the correlation between group room booking and forecasted data is .923 \((p<.001)\), indicating the high accuracy of forecasted data and their usefulness in informing marketing and organizational decisions of local businesses.

![Figure 5. Correlation of Four Week Transient Forecasts with Actual Weekly Data Averages from September 18, 2005 to February 24, 2006](image)
2. The Development Process of the System and Usability Issues

The conceptualization of the system started in January, 2005. In the past, the staff members in the local convention and visitor’s bureau would call hotel properties in the city in an effort to understand how the market was doing. The process was always labor-intensive and could only be conducted once per month. Thus, the local convention and visitor’s bureau in collaboration with the hospitality and tourism development of a local university started to develop an online system to replace and expand the reporting functions. The development started in March; the beta-release of the system was in first week of September, 2005. From then on, the two staff members worked closely with the hotel properties to promote the system. The usability problems that emerged through the adoption were able to be reported to the developer and the system continued to be refined.

3. Technology Adoption Issues

From the release of the beta-version of the system, the adoption has been a major effort of the team. The 72 hotel travel council members were asked to join the system. However, two staff members from the hospitality department of a local university need to make contact with each hotel to make sure they have an assigned staff to enter data every week. The adoption of the system faces several barriers, including revenue managers’ diverse computer/Internet knowledge and expertise, interfaces with a low level of usability, privacy concerns, and unsupportive managers. However, many small businesses including
bed and breakfasts, are enthusiastic after adopting the system. Many hotels from large chains are unwilling to sign up as they have similar systems currently available from their headquarters. This system currently represents around 75% of all the hotel properties in the city. However, in each week, the staff of the system needs to email each one of them to ensure they input the data promptly. To date, fewer than 30% to 40% of the properties enter their data each week.

Application of Results

Even though a majority of hotel properties have registered for HPI, creating a habit of entering data and generating reports is still a major task for the staff members. However, during a convention and visitors bureau meeting in the state, all directors of the 12 convention and visitors’ bureaus expressed interest and two more systems are currently under development. A sharp contrast exists between the interests of the CVB directors to track information and the revenue managers’ unwillingness to enter the data.

Conclusions

HPI is an Internet-based competitive analysis and benchmarking tool which continues to gain popularity in both participation and application. It provides a more convenient and valuable way to compare and track the performance of one’s own property versus other competitive sets. Our experience shows that this type of system is valuable and useful for hoteliers as well as convention and visitors bureaus. However, the adoption of the system faces several barriers, including the lack of necessary computer skills and Internet knowledge, interfaces with a low level of usability, and unsupportive managers. More work is needed to help the staff members create a habit of entering data. In developing technological systems for hospitality and tourism industry, we need to consider those barriers we may face and the opportunities they present to grow our hospitality communities into thriving and cooperative markets in the future. Though tourism and hospitality has been the biggest beneficiary Internet marketing (Werthner & Ricci, 2004), many challenges exists when a new technological system is introduced to the hoteliers. The combined efforts to improve the system’s usability, as well as continuous promotion and outreach to independent and branded hoteliers, will be essential to future success.

References


