IMPACT OF REPUTATION ON REVENUE MANAGEMENT AT HOTELS

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Abstract
Recently, revenue management has become more common in all types of hotels, because of the rise of Online Travel Agents in Japan. Moreover, in response to the spread of the Consumer Generated Media, reputation (word of mouth) such as numerical online rating and textual online review has begun to exert a big influence on hotel conversion rate and room rate. When formulating their sales strategy, hotels must consider not only factors such as the facilities, brand, competitors, and sales channels but also their reputation. This paper examines the impact of reputation on revenue management practices at hotels using questionnaire survey and interview survey. We concluded that the reputation plays the following three roles for the hotels; (1) A indicator used to improve their facilities and services, (2) Open communication tool between customers and hotels, (3) KPI to review their sales strategy. In addition, reputation affects not only the conversion rate but also the room rate directly. Therefore, in order to implement revenue management successfully, revenue managers should regard reputation as a major KPI.
Key words: Revenue Management, Reputation, Hotel, Consumer Generated Media, Word of Mouth

INTRODUCTION

Revenue management has become more common in all types of hotels recently in response to changes in the external environment shown below.

- Growth of OTAs (Online Travel Agents)
- Growth of LCC (Low Cost Carrier)
- Changes in sales methods of flight tickets
- Changes in the traveler's consciousness

And reputation (word of mouth) such as numerical online rating and textual online review have begun to exert a big influence on hotel conversion rate and room rate with the spread of the Internet and CGM (Consumer Generated Media). When reviewing their sales strategies, hotels must consider not only factors such as the facilities, brand,

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competitors, and sales channels but also their reputation. However, it is not clear how reputation affect revenue management practices at hotels.
The purpose of this study is to examine the impact of reputation on revenue management at hotels.

REVENUE MANAGEMENT

THE DEFINITION OF REVENUE MANAGEMENT

Revenue management is defined as a revenue maximization tool which aims to increase net yield through the predicated allocation of available bedroom capacity to predetermined market segments at optimal price (Donaghy and McMahon, 1995). And revenue management does not only try to enhance the turnover ratio (or capacity usage ratio) of the site but also is a technique that can increase the short-term sales revenue (Ng, 2008).

REVENUE MANAGEMENT AT HOTELS

The outcome financial measure of revenue management is yield, which means revenue per available time-based inventory (Kimes,1997). In hotel industry, yield is calculated as RevPAR, which is determined by dividing room revenue received for a period by the number of rooms available in the hotel for that period, and is the product of ADR (Average daily rate) and room occupancy rate.

$$\text{RevPAR} = \frac{\text{Room revenue}}{\text{Number of rooms sold}} \times \frac{\text{Number of rooms sold}}{\text{Number of rooms available}}$$

SALES ACTIVITIES IMPLEMENTING REVENUE MANAGEMENT

A significant increase of the percentage in sales amounts of OTAs has changed the sales activities of hotels dramatically. OTAs makes it possible for hotels to implement revenue management. Accordingly, the role of the revenue managers who implement revenue management have become more important. The main works of revenue manage are price setting, capacity assignment, plan control and sales channels decision to increase the sales revenue (see **Fig. 1**).

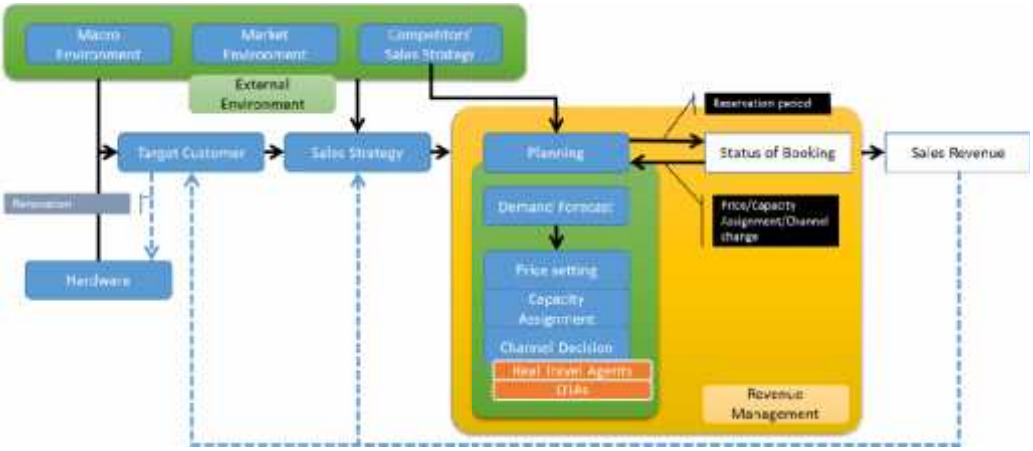

Fig. 1. Sales Activities Implementing Revenue Management

PREVIOUS RESEARCH

There have been some articles on the relationship between financial performance of hotels and the status of their reputation.

Wang et al (2015) found that positive online reviews (WOM) have little influence on the room price and rating, but negative reviews have big influence on the room price and rating by using reservation data from Expedia.

Edwin and Dipendra (2016) showed a positive direct relationship between the number of reviews of the TripAdvisor and ratings by path analyzing the data of 178 hotels. They also revealed that the ranking of TripAdvisor plays a role to associate the number of reviews with the relative ranking of the hotel.

Karen et al. (2016) revealed that responding to customer's word of mouth will not only increase the rating of the advisors but also increase the number of reviews. They also clarified that management's response to word of mouth alleviates the impact of ratings and reviews on hotel performance.

Anderson (2012) revealed the relationship between ratings, room price, occupancy rate, and market share of hotels by using Travelocity data.

Although these previous studies revealed that reputation and hotel sales are closely related, it is still not clear how the revenue management practices will be affected by the reputation. Recently, in addition, tools to set the room rate from real time big data using AI (Artificial Intelligence) have been proposed, e.g. "Metro engines" using IBM Watson, Expedia.

REARCH DESIGN

RESEARCH QUESTIONS

Our key research questions are as follows;

Q1: What are the characteristics of reputation?

Q2: How the revenue management practices will be affected by the reputation?

To address first research question, we classified the characteristics of reputation. And we conducted a questionnaire survey and interview surveys to examine second research question.

WHAT ARE THE CHARACTERISTICS OF REPUTATION?

We classified the characteristics of reputation by focusing on media (human, organization, Internet) and considered their function.

When hotel reputation is gathered from specific stakeholders (e.g. customer), data aggregation and measurement are relatively easy. Since everyone is a potential customer for the hotel, it is easy to propagate and share information about hotels.

Before the spread of the Internet, the impact of word of mouth was limited and the scope of the sharing was limited to the surroundings of the holder of informarion. Therefore, the reputation seems to have not exerted a clear influence on the revenue management. The information of the reputation at this stage dissipated to various places and functioned as information for good service selection that only specific groups can know.

In the era when real agents have strong power in the travel industry, the influence of reputation seemed to have been small. However, in that era, reputation of hotels has exerted a certain influence on the revenue management. As travel agencies preferentially recommended the hotels which gained a certain level of ratings from customers, their revenue was influenced by the reputation which had been accumulated and shared by real travel agencies. At this stage, reputation of hotels was consolidated and used as knowledge for selection and recommendation.

With the spread of the Internet, everyone can see the hotels' word of mouth from anywhere, anytime. Since many travelers conduct hotel search and booking behaviors while using these pieces of information, reputaion has become a major factor directly affecting hotel revenue. Reputation play an important role for an open communication tool when customers sort hotels.

Based on these points, the characteristics of reputation of hotels can be summarized as shown in **Tab. 1**.

Tab. 1. Characteristics of Reputation focused on Media

Intermediary of Information	Customer	Real Agent	OTAs, Review sites
Media	Human	Organization	Internet
Range of Communication	Narrow ←		→ Wide
Form of Communication	Diffusion	Aggregation	Sharing
Function for Users (Hotel and Customer)	Selection	Selection, Recommendation	Selection, Recommendation, Communication

HOW THE REVENUE MANAGEMENT PRACTICES WILL BE AFFECTED BY THE REPUTATION?

Next, we conducted a questionnaire survey in 2017 to address the second research question. The questionnaire was sent to 1,239 hotels holding over 50 rooms in Tokyo, Kyoto, Okinawa, and Hokkaido area where are representative tourist visit sites in Japan. We sent the questionnaire to GMs (General Managers) of the hotels in these areas. The response rate for the survey was 20.3% with the number of responses totaling 251 hotels. All variables are designed using six-point Likert scale with answers of 6 “Perfectly True” and 1 “Perfectly Untrue”. The Profile of Respondents is shown in (Tab. 2.)

Tab. 2. Profile of Respondents

	Area				
Type of Hotels	Hokkaido	Okinawa	Tokyo	Kyoto	Total
Business Hotel	15	6	24	6	51
Budget Hotel	42	20	67	16	145
Resort Hotel	18	11	0	1	30
Japanese Style Hotel (Ryokan)	10	0	0	1	11
Others	4	2	8	0	14
Total	89	39	99	24	251

As a result of our survey, we found that almost all hotels place importance on the word of mouth. Many hotels regard the word of mouth as a important tool for sales promotion (average 3.8 point) (See **Fig. 2** and **Tab. 3**).

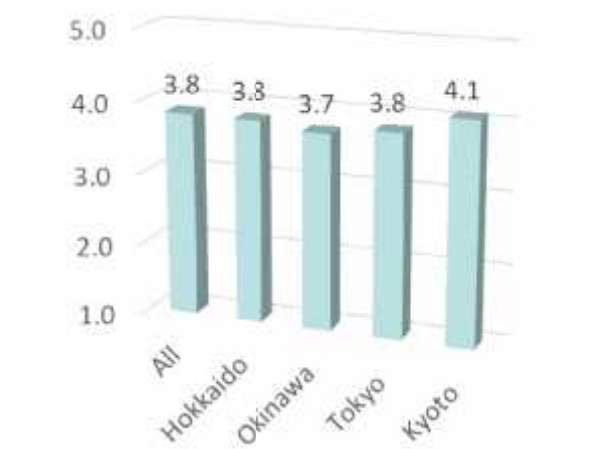

Fig. 2. Average score on regarding the WOM as a sales promotion tool (Area)

Tab. 3. Average score on regarding the WOM as a sales promotion tool (Hotel type)

Type of Hotel	Average Score	Std Dev.
Business Hotel	3.90	1.10
Budget Hotel	3.78	1.12
Resort Hotel	3.79	1.13
Ryokan	3.91	0.70

Average score on considering the word of mouth when deciding the selling price of the room (average 2.5 point) is definitely lower than above score (See **Fig. 3**). As to second question, there is a difference among type of hotels. In resort hotels, some hotels regard word of mouth as a factor to decide selling price (See **Tab. 4**).

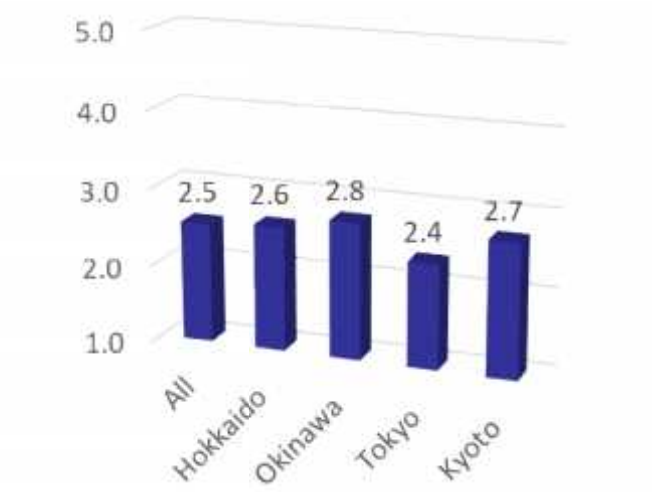

Fig. 3. Average score on considering WOM when deciding the selling price of the room (Area)

Tab. 4. Average score on considering WOM when deciding the selling price of the room (Hotel type)

Type of Hotel	Average Score	Std Dev.
Business Hotel	2.50	1.00
Budget Hotel	2.45	1.11
Resort Hotel	2.87	1.25
Ryokan	2.82	1.25

In the next step, we conducted interview survey to clarify how the revenue management practices will be affected by the reputation. We interviewed five resort hotels about following three points, considering the characteristics of reputation;

(1) Reputation response policy
(2) How to use reputation now?
(3) How to use reputation in the future?

The results of the interview surveys are as follows;
(1) Reputation response policy

- *The department which deals with reputation makes prompt response to the "Word of Mouth" within 24 hours.*
- *The score of reputation of the hotel is one of the KPI (Key Performance Indicator) for reviewing performance of GM.*

(2) How to use reputation now?

- *Our hotel considers reputation as a factor to determine the room rate.*
- *We think that a decline of reputation signs that divergence between customer awareness and hotel awareness is occurring.*
- *Based on reputation, our hotel regularly improves service quality.*
- *We refer to the reputation and occupancy rate as a criterion for judging whether the level of room rate is appropriate or not.*
- *We use the reputation (1) to confirm the customer's price sensitivity, (2) to gather information for future management resource allocation, (3) to build contact points with customers.*

(3) How to use reputation in the future?

- *We plan to use the reputation as service improvement.*
- *It is important for the GM to understand the contents of reputation correctly and to respond to customers appropriately.*
- *We think that response to online review is sales promotion to customers.*
- *We believe that it is indispensable to use the information of reputation to improve customer satisfaction.*

We found that most of the hotels recognized the importance of reputation which influences the purchasing behavior of customers greatly. Moreover, we also found that reputation was used not only as an indicator of improvements in facilities and services, but also as a KPI to review their room rate for the hotels appropriately.

Based on our surveys, reputation such as “Word of Mouth” has the following three roles for hotels;

(1) Indicator to improve their facilities and services
(2) Open communication tool between customers and hotels
(3) KPI to review their sales strategy

SUMMARY AND FURTHER RESEARCH

The object of this study is to examine the impact of reputation on revenue management practices at hotels. To examine this research question, we classified reputation by focusing on media (human, organization, Internet) and conducted the questionnaire survey and interview surveys.

From these surveys, we concluded that the reputation such as word of mouth has the following three roles for the hotels; (1) An open communication tool for customers to choose a hotel, (2) Indicators for hotels to improve their service, (3) Indexes for hotels to consider their sales strategy. In addition, reputation not only affects the conversion rate but also directly affects the room rate. Therefore, to implement revenue management successfully, it must be necessary to regarding the reputation as a major KPI.

We have to further examine the impact of reputation on revenue management at hotels;

- Paying attention to the contents of “Word of Mouth”
- Paying attention to the management environment and sales strategy of the hotel

To further examine the impact of reputation on revenue management practices at hotels, additional questionnaire surveys and interview surveys are still needed.

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