How does the hotel reviews from websites affect the rate of hotel booking of Centara Hotels and Resorts?



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An Independent Study Submitted in Partial Fulfillment of the Requirements

for the Degree of Master of Arts in Business and Managerial Economics Field of Study of Business and Managerial Economics

FACULTY OF ECONOMICS

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บทวิจารณ์ของโรงแรมจากเว็บไซต์ส่งผลต่อการตัดสินใจในการเข้าพักโรงแรมหรือไม่



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In recent years, online channel becomes a platform to generate sales. Before deciding to purchase customer will consult with reviews on internet. As customer tend to participate in the internet of things, this paper applies the factors impact customer decision on booking intention. The purpose of this experiment approach is to examine the influencing factors of occupancy rate in order to analyze performance of hotel. The research presents the result of regression that has been tested through the paper along with hypotheses related to the booking intention. As deluxe hotel could impact customer who prefer quality rather concern about the cost. The customer who decide to purchase a room would concern more on quality of service, positive brand image would increase brand awareness. This study finds that the effect of other factors is important to enhance occupancy rate of Centara.



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Hotel Reviews and Occupancy Rate

Research question: How Do the Hotel Reviews from Websites Affect the Rate of Hotel

Booking of Centara Hotels and Resorts?

Introduction

Hotel industry is a key factor of tourism sector which generates high revenues to the owner and it cannot deny that Internet is important for peoples' life and making life become easier in recent years. Furthermore, electronic word-of-mouth (eWOM) plays an important role to persuade customers decision making which encourages hotels perform well to satisfy customer needs. There are many factors impact customer's buying decision and eWOM is one of the factors. Most people share their story and experience among the group called word of mouth (WOM) and they would share about the impression of services and products via social media called eWOM (Mauri and Minazzi, 2013). In this globalization, the information on internet is easy to access and most businesses applied eWOM to their businesses, especially hotel business (Ye, Law, and Gu, 2009). In this era, government tries to encourages tourism sector in order to stimulate Thailand's GDP leading hotel industry gains benefits from this action. By so doing, hotel industry has been growing which attracts investors to invest in this sector leading to new hotels have been established for providing services that makes customer has more choices. There are various types of hotels to satisfy customer needs and it generates intense competition among the industry challenging hotels to improve their performance to gain customer. Most people would consult online reviews of customer from websites before deciding to purchase that has brought electronic word-of-mouth (eWOM) into Internet users. However, this research would like to study whether online hotel criticism encourages booking hotel rooms. To study the effect of hotel reviews on an occupancy rate could help a company to analyze the factors that influence sales. This paper could support the company to find out a new strategy to attract customers and understand more

about consumer behavior. The results would recommend the company for the best plan in order to earn a high profit.

The purpose of this study is to determine the effect of online hotel criticism on customer consideration leading to change in hotel sales revenue and other factors relevant to analyze the hotel criticisms affect company's financial. Moreover, the hotel reviews influence the customers intention to purchase which leads to improve hotels performance to satisfy customers. The secondary data will be used from TripAdvisor, Booking, and Agoda websites for online hotel reviews to investigate the change of Centara Grand Hotel room sales. The results of this study inform the hotel to concern the importance of eWOM which would affect the financial of hotels leading hotel to respond customers for improving performance and concentrate more on the content on social media.

As a below graph represents the number of hotels and hotel rooms in Thailand, trend of establishing hotel has increased year to year due to the number of tourists visiting Thailand has increased dramatically. The investor seeks an opportunity in this situation deciding to operate hotel business leads Centara to perform well to survive in the industry. However, the intense competition leads hotel has to create strategy to attract customer. Most hotels put more effort on online channel considering the reviews and comments on the website because people tend to search about the hotels before deciding to purchase. The higher of number of hotels and rooms, customers would consider more for purchasing since they have more options.

Number of Hotels and Hotel Rooms in Thailand Number of hotel rooms Number of hotels

Figure 1: A Graph of Number of Hotel and Rooms in Thailand

Source: CENTEL's 2016 Report

Centara Hotels and Resorts is the Central Group of companies providing best facilities and unique services for its customer. The first hotel was established together with Bangkok Convention Center which received positive feedbacks from customer. It leads to the company expanded nationally deluxe properties to serve customer worldwide. Likewise, the position of company focused on differentiation strategy, after seeking an opportunity for responding to new demand the company has expanded and diversified to new strategy. For launching newest brand, COSI hotel is affordable new modern lifestyle for serving guest to have a great experience.

Centara Hotels and Resorts has 39 properties in Thailand and this study is analyzed by using secondary data in form of wide panel data from the Centara website and other available sources. The average rating reviews of each hotel from Agoda, Booking, and TripAdvisor will be used to analyze the regression. Furthermore, other factors such as star rating, location, year, and the price will be applied for this model. The results of this work can imply the relationship between occupancy rate and other variables during the period 2014-2018. Data will be gathered as quantitative and

qualitative using to analyze panel data regression model to examine how dependent variable related to independent variables in the year 2014-2018. Collecting the data during 2014-2018 comparing the number of tourist and hotel booking in each year to study the impact of occupancy rate year by year. This study could provide benefits for a company to understand customers perception and its performance in terms of customers' perspective.

Literature Review

According to this research question, there are many prior works and papers conducted by researchers that is related to online hotel reviews and hotel booking. As the purpose of the paper aims to study whether the online reviews influence the hotel room sales during 2014-2018. Based on marketing theory, expectancy theory, most customers search for customer comments or customer feedback before deciding to purchase and in case of they perceive the positive views of feedback leading them to expect a high quality of service that brings the company to keep their standard or improve their performance to satisfy customers (Gavilan, Avello, and Martinez-Navarro, 2018). PowerReviews and E-tailing Group indicate that 22% of participants consult with reviews from travel sites before deciding to purchase all the time and 43% of participants frequently search reviews (Xie, Zhang, and Zhang, 2014). Thus, eWOM influence customer consideration due to consumer seek comments or reviews on the internet that tend to change customers' perspective on hotels (Vermmeulen and Seegers, 2009). The valence reviews impact customer intends to purchase as high number of positive reviewers convince people to buy the product but the negative criticism with low number of reviewers make people effortlessly change their attitudes about the product (Tsao, Hsieh, Shih, and Lin, 2015).

Theoretically, hotel tries to pay attention to eWOM as it has increased sale of hotel room (Ye *et al.*, 2009; Öğüt and Taş, 2012). The hotel could enhance the strategies by exploring the reviews on sites (Xie *et al.*, 2014). eWOM influences the consumer to book hotel rooms and also attitude toward hotel since searching for reviews convince people to change their mind (Vermeulen and Seegers, 2009) and it also persuades customer booking intention and behavior of consumer on buying

decision (Tsao *et al.*, 2015). The hotel puts emphasis on keeping and developing its standard to make customer impress on its service (Lien, Wen, Huang, and Wu, 2015). The websites will be trustworthy in case of high number of reviewers and it affects consumer consideration which makes hotel to aware of contents and reviews on internet (Ladhari and Michaud, 2015; Gavilan *et al.*, 2018). Hence, the eWOM on social media impact on purchase intention and brand awareness since consumer wants a good service quality with reasonable price, then customer would emphasize the reviews from websites (Ladhari and Michaud, 2015). The hotel reach customer through social media to create brand awareness and it creates value of the brand since positive brand image influence customer recognition leading to high price due to customer perceives price as value (Vermeulen and Seegers, 2009; Lien *et al.*, 2015).

The research of Vermeulen and Seegers (2009) found that positive reviews from travel websites influence the awareness of customer for little-known hotels than renowned hotels. The researchers applied marketing theory with their paper by using brand awareness and brand attitude. The questionnaires randomly sent to 168 customers via e-mail and people who respond immediately with positive views classify as high awareness while people respond immediately with negative views classify as low awareness. The hypothesis testing was conducted in this paper, using t-test and ANOVA to test the relationship among those variables. The result of this paper has shown that online reviews influence customer consideration and awareness for little-known brands than renowned brands. Additionally, positive reviews of hotels increase positive attitude hotels in little-known brands than renowned brands. On the other hand, the review rating of hotels affects renowned hotels more than little-known hotels in terms of number of hotel room sales (Blal and Sturman, 2014).

Mauri and Minazzi (2013) analyzed customer reviews induce customer consideration to purchase hotel room. The online questionnaires sent to respondents to answer the questions by hiding the name of hotels to avoid bias from the customer's perception and experience. Spearman's rank correlation was used to find the relationship between those variables. It can conclude that positive reviews influence customer intention to book hotel rooms and company perception. Expectancy theory, most people seek for online customer feedback before making the decision and their

expectations will be high due to receive positive information leading hotel tries to improve its performance and build a good relationship with customer to satisfy their needs and stimulus customer to repurchase hotel room. The result implied that the positive reviews lead to a high level of expectation and negative reviews impact on hotel room sales. The hotel tries to reduce negative eWOM to convince customer to use its service. Therefore, the results of other studies inform that location and year of hotel opened impact performance of hotel by a good location has improved customer satisfaction and the high number of opening years makes company can apply any strategies to attract consumer to purchase but the years of hotel opening has impact only little bit in customer consideration (Xie et al., 2014). Besides, the high review rating does not influence customer intend to book hotel rooms (Blal and Sturman, 2014). In contrast, the negative reviews with high number of reviewers lead people to consider purchasing the room and impact on customer perception tend to reduce customer intention to book hotel room as when customer did not perceive service quality at their level of expectation, approximately 48% of them would pass it on other people (Tsao et al., 2015).

Ladhari and Michaud (2015) presented the impact of valence reviews on customer consideration. The research conducted the paper by using hypothesis testing to find the results. The researchers avoid bias of well-known hotels from participants by providing them star-rating of hotels, location and receive the feedback from respondents. The results have shown that the 4-star rating hotels have received positive feedback from its customer and customer's perception towards positive attitudes higher than 2-star rating hotels leading to high-star rating hotels create more value for the hotels attracting customer to purchase. As a result, the critique websites with a high number of positive reviews are trustworthy for consumer regardless of the star-rating. The price of hotel room impact on booking intention as customer seek the reviews on website, star-rating, and search for the location where hotels located comparing the price. The higher star-rating with a good location could set the high price of hotel rooms while customers perceive that it is affordable price and purchasing the rooms. The researchers analyzed that eWOM is the main factor affecting the performance of company financial that make the hotels concern about

reviews on the internet. In other words, the reviews on criticism sites have an impact on the hotel's image and booking intention that makes hotels manager to aware. More importantly, Zhou, Ye, Pearce, and Wu (2014) revealed the high-star hotel will be able to performs well and provide high quality of services which persuades the consumer intention purchasing rather than low-star hotel without consulting reviews rating. The hotel can offer high prices to customer due to a positive brand image and also it has improved the booking intention in which customers feel comfortable with those actions (Lien *et al.*, 2015).

Ye *et al.* (2009) examined the relationship between polarity reviews and intention to purchase hotel rooms. The data was gathered from Ctrip website and control the data as customer recognition by accumulating the data from the recent reviews as most people observe not more than the first two pages through the sites. The log-linear model was used to analyze the results and it can indicate that the positive reviews drive the sale of hotel rooms while the variance of reviews has reduced the hotel revenue. In other words, the increasing in 10% of review rating influences hotel revenue by 4.4%, and the review variance has roughly 10% increased leads to 2.8% reduction in hotel sales. Specifically, the review rating does not influence the booking intention for high-star rating and the high-star hotels have no incentive for the customer to purchase the rooms (Qi and Qiang, 2013). Moreover, Öğüt and Taş (2012) found that high-star hotels have no incentive for hotel room sales.

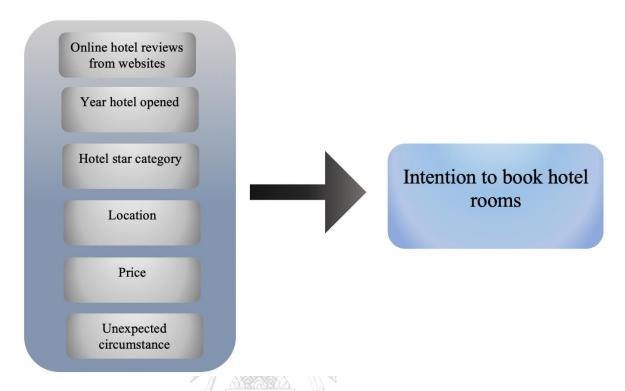
Theoretically, the hotel industry becomes more attractive and challenging for new entrants to enter into the industry, increasing in competitive economic climate (Mucai, Mbaeh, and Noor, 2013). Marketing theory, 7Ps of marketing mix will be introduced to analyze the customer satisfaction of hotel services. First of all, product, as the product in hospitality industry are service which is intangible product (Feongkeaw, 2013). The quality services provide to customer with available information (Loo and Leung, 2018) leads customer to perceive value of hotel (Feongkeaw, 2013). In addition, the price of hotel would be the one factor impacting customer decision to purchase the room since the hotel has to charge for a room that customer affordable would attract customer to book the room, pricing strategies

needed for this plan (Feongkeaw, 2013). The research of Feongkeaw (2013) examined that place marketing mix, before deciding to travel, place is one of considerable factor impact customer booking intention due to the guests have to ensure that they will reach their destination place, online channel is effective way to access to customer such as travel website (Agoda.com, Booking.com, and TripAdvisor.com. Furthermore, promotion is an influence booking intention, the promotion provided hotel will encourage the customer purchase the room, promotional pricing through travel websites are effective for hotel to improve its sales. The next one is people, if employees have positive attitude toward customer service, it could build a good relationship with customer which would satisfy customer expectation leading customer come to repurchase the room. Likewise, process is an important factor improving hotel services, the hotel has to encourage its employees to provide good services for the guests during staying in a hotel. The first impression in service quality would influence customer to revisit hotel. Finally, physical evidence is the building, uniform of employees and amenities provided by hotel would influence customer perception. Price and promotion are important for customer consideration (Loo and Leung, 2018).

These literature reviews inform the factors that can examine booking intention of hotel rooms and the results could help to determine the effect of all variables on occupancy rates. As well as, those variables seem to be important for analyzing the hotel room sales and strategies used to persuade the consumer. Some results would contrast with the other papers which could be used to determine the model in this research to support the results of the study. Thus, this research conducted by using panel data regression to analyze the factors that influence hotel room sales in the year 2014-2018 to see the tendency of tourism of Thailand and hotels financial performance.

Conceptual Framework

Figure 2: Conceptual Framework



The conceptual framework above is the hotel review from the website relates to intention to book hotel rooms. The research question is "How do the hotel reviews from websites affect the rate of hotel booking of Centara Hotels and Resorts?" According to the previous study, namely, Ye et al. (2009) found that the positive and higher rating reviews lead to the high number of people intend to purchase hotel rooms. Moreover, there are other variables have an impact on rate of hotel booking from previous research will be adopted in this paper. Therefore, other factors affect consideration of people in booking hotel rooms are year hotel opened, star of hotel, location, price, and unexpected circumstance. In terms of hotel reviews from websites, the factors influence online hotel reviews are website characteristics and customer satisfaction. However, past experience is the one factor that would impact both hotel reviews and intention to purchase hotel rooms due to past experience could influence customer to go to reviews the hotels and influence customer to revisit the hotel. Finally, the conceptual framework above provided the factors that would impact hotel reviews on the website and the customer booking intention.

Data Collection

According to the purpose of paper, I would like to find out whether the hotel reviews as the hotel rating and other factors affect the occupancy rate of Centara Hotels and Resorts from 2014-2018. To refine hypotheses, the exploratory of research is conducted for studying the relationship among variables by using the secondary data to complete all information and analyze the problem, developing field of study. I attempt to scope this study by focusing on all 39 properties of Centara Hotels and Resorts located in Thailand since Centara has a reputation and it has many branches in Thailand which makes the company outperforms its competitors in the hotel industry, creating a competitive advantage for company competing with rivals. This study attempts to use real data for testing the regression, the review scores from the popular travel websites that many tourists view. The available information of hotel in terms of price, location, star-hotel, opening year, and unpleasant circumstance will be retrieved from the Centara annual report to access the information.

As Xie *et al.* (2014) claimed that the location and age of hotel established influence the hotel performance to boost up the hotel room sales. Consequently, the two independent variables added for considering the impact of location and age of hotel on the occupancy rate. Therefore, the occupancy rate will be used as a dependent variable as it can use for observing the revenue of the hotels which could examine the financial performance of the hotel. The panel data regression and multiple regression will be used as an econometrics tool in this paper to show the relationship of each factor.

In terms of economic perspective, tourism industry is an important factor to boost up country's GDP and economy in Thailand. A study of Assaf and Cvelbar (2011) revealed that the higher capacity of hotel will be improved the occupancy rate of hotel due to capacity investment has improved hotel performance, generating more revenue for hotel since visitor enjoy for staying. The government policy to stimulus hotel industry could encourage the company to create effective strategies to gain a competitive advantage. According to labor market theory, the company motivates employee to perform well for their works would generate positive work environment leading employee satisfaction has increased, and the outcomes of the company would

be effective (Cho and Eerden, 2006). The training of employee would generate the high quality of work (Assaf and Cvelbar, 2011) which enhances the hotel performance that satisfies customer needs resulting in positive impact on hotel reviews (Blal and Sturman, 2014). In connection with economic theory, Ratisukpimol (2019) indicates the HHI of hotel industry is moderately high and it can imply that the competition is quite intense and the high number of years that hotel established would help hotel to gain more experience to manage operation cost as learning curve theory and applied economies of scale to minimize the cost. Besides, the hotel could accomplish in cost efficiency to compete with competitors as if there are many hotel brands in the market, customer has more choices consideration and customers will also become price recognition to aware of price before deciding to purchase (Assaf and Cvelbar, 2011). Additionally, the hotel gains competitive advantage by pricing strategies and hotel performance that generates value for the hotel where 4-star and 5star hotels generate sales 35% of the hotel industry along with the location of hotels are attractive where the recognition destination (Assaf and Cvelbar, 2011; Cho and Eerden, 2006).

I start to adopt general factors as a proxy from prior works which is more likely to be a statistically significant to analyze the relationship between each variable. All those variables provided would impact on occupancy rate refers to previous parts. Consequently, the description of all variables as follows:

The occupancy rates HULALONGKORN UNIVERSITY

The yearly occupancy rate for all thirty-nine properties will be gathered separately in each branch of Centara Hotels and Resorts from annual report in percentage numerical for the year 2014-2018. The data could help to analyze the company's financial and enhance the strategies of the company to attract more consumers. The high occupancy rate can imply that the company has strong in its position and well-organized to satisfy customer needs. It is assigned to be the dependent variable.

TripAdvisor's hotel rating scores

The average hotel's review scores of TripAdvisor website year 2014-2018 in each hotel which the score out of five. The high number of reviewers represent the popular

and trustworthy of the website which can imply that most people would search for this review website before they make the decision. TripAdvisor has many people post their comments and reviews on the sites that impacts to customer consideration. The high number of reviewers would make people trust on the website and also there are both Thai and non-Thai people who visit this site. It is assigned to be an independent variable.

Agoda's hotel rating scores

The average scores of the hotel reviews provided by Agoda website using as numerical data during the year 2014-2018. The score provided out of ten and the numerical data will be used in this method to determine whether the customer reviews on this site would impact on booking intention. Agoda is one of the sites that most people choose when they search for online reviews before deciding to purchase the hotel rooms. The critic scores in each hotel from the website using as an independent variable.

Booking's hotel rating scores

The average scores hotel reviews from Booking website which provided the information about hotels and review rating for customers in each hotel. The score provided out of ten and the valence reviews that could find in this site as well. The numerical data will be collected for this method to analyze the impact of the score on the booking intention during 2014-2018 for comparing in each year how the hotel performs on financial statements. It is assigned to be an independent variable.

Location of hotel

The location of hotel or place where the hotel located of hotel is divided into two groups as hotels and resorts located near the beach, another one is hotels located in the capital town and other elsewhere. A better location could impact customer consideration as it can persuade customers to book hotel rooms (Zhou *et al.*, 2014). As hotels are located in different parts of Thailand and the way to avoid bias is to classify hotels in location where beach or capital town since most of them located in up-country, the reference group is hotel located in capital town and other elsewhere.

The data collection is separated into a beach resort and capital town as dummy variables where beach resort is equal to 1, and capital town is equal to 0. This variable will be used to analyze whether the location would impact the customer to book hotel rooms as Centara Hotels and Resort has many branches in Thailand and some branches located in the same province but different areas. Therefore, this variable could help to examine the relationship of each variable. The data gathered from the CENTEL report and it assigned as the control variable.

Hotel star category

The star-hotel would represent the performance or quality of the hotels which is the star rating hotels is 1-5 whiles 1 is the lowest rating and 5 is the highest rating. According to the previous research, the researchers found that the hotel star category could influence customer booking intention (Ladhari and Michaud, 2015). Hence, this variable used in this method to investigate the relationship of each variable and analyze the impact of hotel star on customer consideration. The 3-star hotel categorizes as low-star hotel while 4-star and 5-star hotel categorize as high-star hotel. The data will be used as dummy variable; 1 = high-star hotel and 0 = low-star hotel. The star rating in each branch of Centara hotel gathered from Centel report using the dummy variable as a control variable.

Aged of the hotel

The year opened of Centara Hotels and Resorts in each branch gathered from the Centel report. The number of years opened would impact customer to purchase the service of hotel due to the high number of years leads to the reputation of hotel would impact customer to book hotel room. The high number of years hotel established impact on the customer decision due to the high number of years lead to the high-level performance of hotel and the hotel would gain advantage from this to enhance the strategies to attract customer (Xie *et al.*, 2014). It is assigned to be the control variable.

Price of hotel

The average price hotel rooms of every type of room which the information provided by Centara Hotels and Resorts website. The reasonable price persuades the customer to purchase the hotel rooms, if the high price with the high-level quality of service, customer will be willing to pay for those services (Lien *et al.*, 2015). The increasing in price tend to reduce hotel revenue (Öğüt and Taş, 2012). It assigned to be the control variable and numerical data.

Unexpected circumstance

During the year, there are the situations that occur and effect the rate of hotel room sales. The data were retrieved from Centara annual reports in each year to inspect the situation from report of Centara informing about its performance. Since, when the unpleasant situations such as boat tragedy and explosion in southern provinces that would make travelers feel unsafe at their trip destination and make them change their decision or plan for travelling to the other destination places. It is a dummy variable where; 1 = event effect and 0 otherwise. It assigned to be the control variable.

As the data were retrieved from many travel sites provided and using the real data for studying the impact of online users on hotel financial performance by gathering qualitative and quantitative data. Testing the panel data regression perceived countable data as qualitative data will be adopted into a dummy variable. Accordance with prior works, the independent variables added into this model for widely focusing on the factors that would affect the sales of hotel identifying as occupancy rate of Centara Hotels and Resorts during 2014-2018. To study this impact for five-year would generate accurately results for studying the relationship between each variable.

Table 1: The Information of Variables

Variable type	Variable	Variable in sources	Measurement
Dependent variable	Occupancy rate	Average occupancy rate per year from 2014-2018 available at annual report of Centara Hotels and Resorts.	Percentage
Independent variable	Review scores	Average review scores on hotel from TripAdvisor.com in the year 2014-2018.	Score
Independent variable	Review scores	Average review scores on hotel from Agoda.com in the year 2014-2018.	Score
Independent variable	Review scores	Average review scores on hotel from Booking.com in the year 2014-2018.	Score
Control variable	Location	The area where hotel located; $1=$ beach area and $0 =$ capital town. The data from Centel report.	Categorical
Control variable	Hotel-star	The star rating of hotel from 1-5 stars from Centel annual report; 1 = high-star hotel and 0 = low-star hotel.	Categorical
Control variable	Age of hotel	The number of hotel-year opened in each branch from Centel report.	Year
Control variable	Price	The average price of every room types in hotel from Centara website.	Baht
Control variable	Unexpected circumstance	The situation that occur and might impact occupancy rate; 1 = event effect and 0 = no event effect from Centara annual report.	Categorical

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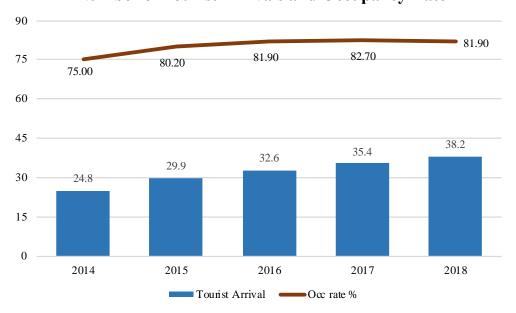
Table 2: The Summary Statistics Table

	Mean	SD
Occupancy rate in 2014 (%)	75.00	2.42
Occupancy rate in 2015 (%)	80.20	2.59
Occupancy rate in 2016 (%)	81.90	2.05
Occupancy rate in 2017 (%)	82.70	3.60
Occupancy rate in 2018 (%)	81.90	1.30
Age of hotel	13.97	5.54
Price in Baht	2917.54	1087.46
Rate of review on TripAdvisor	4.19	0.38
Rate of review on Agoda	8.85	0.32
Rate of review on Booking	8.50	0.14
Observations	39	

The statistical inference from Table 2 has shown the roughly data for variables that will be used to analyze for the regression model. It provides mean and standard deviation of a dataset for the occupancy rate of Centara Hotels and Resorts in 39 properties categorize in each year from 2014 to 2018 as the dependent variable. All necessary information of this model has been provided as a table above for utilizing as independent variable excepting the location and unexpected circumstance which cannot be estimated. As Figure 3 shows the trend of the number of tourists visiting Thailand and the occupancy rate of all branches of Centara Hotels and Resorts simultaneously. The number of tourist arrivals to Thailand has continually increased since 2014 and the overall occupancy rate of Centara has moderately increased since 2014, whereas the occupancy rate has slightly decreased in 2018. Therefore, all variables as mentioned to inspect the trend of occupancy rate.

Figure 3: The Graph Represents the Tourists and Occupancy Rate

Number of Tourist Arrivals and Occupancy Rate



Source: CENTEL's 2018 Report

Empirical Strategy

Accordingly, in this study, it consists of methodology, hypothesis, and econometric specification. After gathering literature reviews so far in determining of

online reviews on booking intention. Hence, I would like to adopt these general ideas to analyze the impact of rating reviews on rate of booking room. It has to move toward by adopting the economic perspective to find the variables that impact the occupancy rate of Centara Hotels and Resorts from 2014-2018 to explore more in the details the factors affect hotel room sale in each year. Therefore, the multiple regression would be adopted in this model as follows:

$$ln(Occ) = \beta_0 + \beta_1 TRIP + \beta_2 BOOK + \beta_3 AGO + \beta_4 LOCA + \beta_5 STAR + \beta_6 YR + \beta_7 lnPR + \varepsilon_i$$
(1)

The research objective is to find the effect of hotel review rating and other factors on booking intention. As the study of prior works, this research adopts these general ideas for determining the change of occupancy rate. Thus, I would like to apply the panel data regression to this work as this paper aims to study the company's financial in each year from 2014 to 2018 because the occupancy rate always fluctuates as it depends on customers behavior. The Hausman test and Redundant test will be used to compare among of those three methods which are fixed effect regression, random effect, and pooled OLS that which methods would be suitable for the dataset. The available information can be applied to identify the impact of each independent variable on dependent variable and how much the review rating affects the occupancy rate of hotels by using panel data regression model as follows:

• Fixed effect regression

$$lnOcc_{it} = \beta_0 + \beta_1 TRIP_{it} + \beta_2 BOOK_{it} + \beta_3 AGO_{it} + \beta_4 lnPR_{it} + \beta_5 YR_{it} + \alpha_1 STAR_{1it} + \alpha_2 LOCA_{2it} + \alpha_3 DYear_{3it} + u_{it}$$
(2)

• Random effect

$$lnOcc_{it} = \beta_0 + \beta_1 TRIP_{it} + \beta_2 BOOK_{it} + \beta_3 AGO_{it} + \beta_4 LOCA_{it} + \beta_5 STAR_{it} + \beta_6 YR_{it} + \beta_7 lnPR_{it} + \beta_8 DYear_{it} + w_{it}$$
(3)

• Pooled OLS regression

$$lnOcc_{it} = \beta_0 + \beta_1 TRIP_{it} + \beta_2 BOOK_{it} + \beta_3 AGO_{it} + \beta_4 LOCA_{it} + \beta_5 STAR_{it} + \beta_6 YR_{it} + \beta_7 lnPR_{it} + \beta_8 DYear_{it} + v_{it}$$

$$\tag{4}$$

Where:

Occ is the occupancy rate of each hotel per year in all branches of Centara hotels and resorts at the year 2014-2018 as dependent variable.

TRIP is the average rating scores of hotel reviews on TripAdvisor website from 2014-2018 as independent variable.

BOOK is the average scores of hotel reviews available at Booking.com website for the year 2014 through 2018 as independent variable.

AGO is the average scores of hotel reviews from Agoda.com website of year 2014-2018 as independent variable.

LOCA is the environmental of the location; 1 = beach resort and 0 = capital town.

STAR is the hotel star category in each branch. In this case, the 3-star hotel categorizes as low-star hotel while 4-star hotel and 5-star hotel are assigned as high-star hotel; 1 = high-star hotel and 0 = low-star hotel.

AGE is the number of year that hotel was established in each branch.

PR is the average price of hotel in all room types.

SIT is the unexpected situation that impact the occupancy rate of hotel in each year; 1= event effect and 0 = no event effect.

DYear is dummy year where:

DYear2014 = 1 is the occupancy rate in the year 2014 and 0 otherwise.

DYear2015 = 1 is the occupancy rate in the year 2015 and 0 otherwise.

DYear2016 = 1 is the occupancy rate in the year 2016 and 0 otherwise.

DYear2017 = 1 is the occupancy rate in the year 2017 and 0 otherwise.

DYear2018 = 1 is the occupancy rate in the year 2018 and 0 otherwise.

 Occ_{it} is the occupancy rate of the hotel where i is the list of hotel name (i = 1, 2, 3, ..., 39) during time t is year from 2014-2018 (5-year); t = 1,2,3,4,5.

 u_{it} is experimental error variance.

 w_{it} is error in time series components and time cross-sectional.

 v_{it} is unobserved individual specific effect and experimental error variance.

 α_i are intercepts of entity-specific which captures heterogeneities across entities.

 β_i are parameters.

 ε_i are error terms.

According to prior research, namely, Gavilan *et al.* (2018) found that the high rating of reviews will increase the intention to book hotel rooms and location, star, and year have a positive impact on booking hotel. Additionally, the research of Wang, Lu, Chi, and Shi (2015) has shown the research about the star rating hotel is the one-factor influence the customer to book the hotel rooms, the high star rating leads to increase the sale of hotel rooms. Therefore, in multiple regression, I hypothesize that $\beta_1, \beta_2, \beta_3, \beta_4,$ and $\beta_5 > 0$ because the high rating reviews and the resort beach attract customers to book the hotel rooms and the star rating hotel also could be the factor that impacts customer consideration, I hypothesize that the occupancy rate of hotels would increase over time. To test the hypotheses, the multiple regression and panel data regression models will be used in this paper to find the relationship with each variable in the year 2014-2018 and estimate the occupancy rate each year to compare the number across all the years to see the statistically significant.

Results

Since, I am able to obtain 39 observations in total as discussed in pervious part. Therefore, the multiple regression will be used to analyze to observe the relationship in each variable each year to inspect the factors that impact on occupancy rate of hotel. The Table 3 discloses the results of equation (1).

Table 3: Regression Table to Find Out the Effect of Occupancy Rate From 2014-2018

Variable	InOcc rate 2014(%)	InOcc rate 2015(%)	InOcc rate 2016(%)	InOcc rate 2017(%)	InOcc rate 201
Beach Resort	-0.004	0.024	-0.002	0.025	0.01
	[0.39]	[2.22]*	[0.20]	[2.13]*	[1.38]
High-star	-0.003	0.022	0.002	-0.003	-0.006
	[0.30]	[2.57]*	[0.34]	[0.32]	[1.13]
Opened	-0.002	0.001	0	0.002	0
	[2.72]*	[1.07]	[0.43]	[2.65]*	[0.33]
InPrice	0.02	0.008	0.015	0.037	0.002
	[1.78]	[0.74]	[1.75]	[3.18]**	[0.27]
TripAdvisor	0.042	0.051	0.05	0.082	-0.005
	[2.62]*	[3.26]**	[4.10]**	[4.87]**	[0.53]
Agoda	-0.009	-0.013	-0.013	-0.042	0.033
	[0.46]	[0.70]	[0.92]	[2.08]*	[2.85]**
Booking.com	-0.006	-0.013	-0.009	-0.001	-0.019
	[0.28]	[0.65]	[0.60]	[0.04]	[1.54]
Constant	4.016	4.08	4.045	3.737	4.305
	[28.07]**	[29.45]**	[37.03]**	[24.69]**	[48.86]**
Observations	39	39	39	39	39
R-squared	0.49	0.56	0.57	0.71	0.29

Absolute value of t statistics in brackets

Table 3 shows the results of equation (1), the data have been converted into percentage by computing "antilog". In Table 3 the results for 2014 shows that one more year hotel has been existence leads to decrease occupancy rate by 1% with a statistical significance, which seems to be worse. One more score improving on average review scores leads to 1.04% increase in occupancy rate with a statistically significance. As a result, from Table 3, in 2015, the location of beach hotel could generate more room sales than hotel located somewhere else around 1.024%. Hotel with high-star guarantee could increase the occupancy rate nearly 1.02% which is higher than low-star hotel. From Table 3 in 2015, the result indicates that one more score of average scores increase in rating reviews from TripAdvisor website has increased occupancy rate approximately 1.05% with a statistical significance. Seemingly, in 2016, one more score increases in average rating review scores from TripAdvisor website has increased occupancy rate nearly 1.05% with a statistical significance.

The results in Table 3 in the year 2017, as the numbers use double-log which have been computed "antilog" to make it as a percentage. It reveals that hotel located

^{*} significant at 5%; ** significant at 1%

near beach attract people 1.03% higher than another hotel located elsewhere. Moreover, one more age of hotel has improved the occupancy rate by 1%. Additionally, at 95% confident level, there is an evidence to infer that 1% increase in average price of hotel room in all properties of Centara hotel will increase in occupancy rate by 1.04% with statistically significance due to the customer concern about hotel attribute performance as hotel long-established providing customer with memorable branded, hotel has experiences for operating business and competing with competitors. The hotel focuses on quality of services, therefore, when price of a room is high, customer will be willing to pay for it since the hotel offer exceptional service to customer as mentioned in literature reviews part. Besides, the one more average score higher in rating reviews on TripAdvisor website has improved occupancy rate for Centara Hotels and Resorts by 1.09% with a statistical significance. Conversely, one more score of average score rating reviews from Agoda website has decreased the occupancy rate of hotel approximately 0.96%. The results of Table 3 in 2018 shows that the increasing of one average score in rating reviews from Agoda site has attract more people around 1.03% with a statistical significance.

The results from Table 3 demonstrate the impact of each variable on occupancy rate in the year 2014-2018 in details to study the factors that impact the booking intention which is in each year has a different factor that influence the occupancy rate. However, the hotel reviews from TripAdvisor website is a factor influencing the hotel room sale every year except in 2018 which can imply that the hotel should put more effort on the online travel website and keep try to improve their performance to satisfy customer needs. As the results obtained the TripAdvisor is the most impact on occupancy rate as the customer feels the content of comments on this website are reliable as the prior researchers, namely Kim and Park (2017) claimed that TripAdvisor is the trustworthy website comparing to other travel websites. Hence, the rating online reviews from TripAdvisor is reliable in customer perspective and it is the one of the most popular travel websites that travelers have consulted for review that would make the hotel deems to rely on critic from this website and improve their performance in case of customer criticize about it (Kim and Park, 2017).

The high rating reviews and located at a good location would influence the occupancy rate because the high rating reviews make customer expect high services and also make customer accept the higher price (Xie *et al.*, 2014). On the other hand, the higher of year operation of hotel could attract customer to book hotel in a small term effect (Xie *et al.*, 2014).

According to results from Table 3, it implies that the location of hotel does not impact much on hotel sales as the previous research has found that the effect of number years of hotel has opened on occupancy rate is a bit low (Xie et al., 2014). Thus, the location is sometimes not a main factor which customer considers before making decision which does not impact on occupancy rate in the year 2014, 2016, and 2018. Moreover, the result has shown that customers consider the 5-star hotel when they decide to purchase the room. In year 2014, as the main revenue came from tourism sector which made Centara could perform well and brought about more hotel room sales. Similarly, Centara hotel where located in Bangkok has become well known under this brand which made it was popular among the tourists. Unfortunately, during Q3 there was a Thai political crisis which was anti-government protest lead to instability in Thailand and it made tourists concerned about the security caused the hotel business did not go well during that period as the results show that even though the hotel has a good reputation by getting high star or opened for several years as the results from the reviews from Booking and Agoda also generate negative affect on occupancy rate in 2014, as a negative sign. In 2016, the tendency of Chinese tourists came visiting Thailand, Pattaya had decreased which made Centara beach resort got an effect on this by reducing occupancy rate comparing previous year. Besides, the boat explosion, boat capsizing, explosion in southern provinces, and fluctuations of Malaysian ringgit leading Malaysian tourists decided to not travel to Thailand, the hotel could not perform well in southern province. The explosion in Hua Hin where the attractive destination was frightened traveler, it has brought a negative impact for hotel as the results shown the seaside hotel could generate lower sales than hotel in somewhere else leads to hotel located near beach resort has to lower their price to attract customer result in the online reviews from Agoda and Booking have a negative impact toward occupancy rate.

Lu *et al.* (2014) indicate that the positive rating reviews in luxury hotel could generate more sales than low-star hotel and positive reviews from travel site influence the booking hotel rooms. On the other hand, the high rating reviews do not impact on booking intention (Blal and Sturman, 2014). As the results from Table 3 has shown that the rating reviews from Booking and Agoda have not much impact on occupancy rate as it is insignificant in statistical. It can imply that people are more rely on the online rating reviews from TripAdvisor than the other websites during 2014-2017.

According to the previous part, this paper adopts panel data regression as a model used to analyze the result. Table 4 has shown the result of estimation of equations (2), (3), and (4) from previous part. As it can be seen, Table 4 below shows the estimated among variables by using panel data regression by classifying into three methods as fixed effect regression, random effect, and pooled OLS regression. To analyze the impact among variable.



Table 4: Regression Table of Panel Data Regression

Variable	Fixed Effect Regression	Random Effect	Pooled OLS Regression
	lnOccupancy rate (%)	InOccupancy rate (%)	lnOccupancy rate (%)
Year of Opened	0.003	0	0
	[1.21]	[0.40]	[0.57]
InPrice	0.047	0.012	0.009
	[1.97]	[2.19]*	[2.34]*
TripAdvisor	-0.038	0.053	0.072
	[1.58]	[3.79]**	[6.22]**
Agoda	-0.012	-0.006	-0.011
	[0.48]	[0.39]	[0.87]
Booking	0.021	0.015	0.007
	[0.86]	[0.96]	[0.49]
DYear2014	0.005	-0.022	-0.024
	[0.31]	[3.77]**	[3.81]**
DYear2015	0.025	0.006	0.005
	[2.08]*	[1.05]	[0.88]
DYear2016	0.018	0.006	0.005
	[2.08]*	[1.05]	[0.89]
DYear2017	0.033	0.026	0.026
	[5.10]**	[4.87]**	[4.41]**
Beach Resort		0.015	0.014
		[2.06]*	[2.60]*
High-Star		0.002	0.002
		[0.45]	[0.60]
Constant	4.093	4.023	4.035
	[14.28]**	[43.56]**	[56.47]**
Observations	195	195	195
Number of ID	39	39	
R-squared	0.43		0.46
	Correlated Randon	n Effects – Hausman Test	;
Chi-square		32.71	
Prob>chi-square		0.0003	

Absolute value of t statistics in brackets

^{*} significant at 5%; ** significant at 1%

Since panel data regression consists of three models, the Hausman test is the tool for analyzing the suitable model between random effect and fixed effect regression.

Correlated Random Effects - Hausman Test.

 H_0 : Random effect is efficient for this model.

 H_1 : Fixed effect is efficient for this model.

As the Table 4, Hausman test, p-value is less than alpha (0.0003 < 0.05) meaning that Null hypothesis is rejected, it can conclude that the model suggests that fixed effect regression is appropriate for this analysis and the test is significant at 95% confidence level.

Besides, the redundant test would be the tool for determining the test between fixed effect and Pooled OSL model as follows:

Redundant fixed effect test

 H_0 : Pooled OLS regression is efficient for this model.

 H_1 : Fixed effect is efficient for this model.

Table 5: Result of Redundant Test

Effect Test	Statistics	d.f.	Prob > F
Cross-section F	3.08	38,146	0.0000
Cross-section Chi-square	141.56	38	0.0000

As Table 5 has shown that the p-value of both F test and Chi-square test are less than alpha (0.0000 < 0.05), the Null hypothesis is rejected. There is an evidence to refer that fixed effect regression is appropriate for this analysis and it is statistically significant. In conclusion, both Hausman and Redundant test, the results show that the fixed model is efficient for this analysis.

Since Hausman test and Redundant test indicate that fixed effect regression is appropriate to analyze the data. Table 4 shows the results of equation (2), in fixed effect regression, due to occupancy rate is a percentage making the data have been used double-log; therefore, the numbers from Table 4 have to compute the "antilog" that makes the number of results from table different from interpretation part. In Table 4 with fixed effect regression model, the results reveal that in the year 2015, it is statistically significant, the occupancy rate has increased more than year 2018 around 1.03%. Furthermore, in 2016, 1.02% of occupancy rate is higher than year 2018. In addition, in 2017, the rate of people who purchase hotel rooms is higher than 2018 by 1.03% and statistically significant at 1%.

Likewise, the results from Table 4, Centara annual report revealed that in the year 2014, the occupancy rate has slightly increased since the company could not perform well in the year 2014 due to the unexpected circumstance occurred that makes tourists canceled booking. According to Centara annual report, in 2018, it reveals that overall situation seemed to be good in terms of the flourishing of tourism leads to hospitality became popular. In this case, the booming of the hospitality industry made the new entrants moving into the market and it generated more competitors for Centara which made it has to face difficult times and put more effort to overcome these problems. With the excuse of hotel performance in 2018, it had made the information in that year a bit fluctuated leads to moderately drop occupancy rate in 2018 down. Unfortunately, in 2017, the boat tragedy in Phuket caused the number of Chinese tourists to Thailand reduced approximately 9% and 10% in third and fourth quarter respectively and also cancellation the booking rooms, in 2018. Correspondingly, Russian World Cup had reduced Europe tourists to Thailand. These factors made the company could not perform well in 2018 since the overall revenue had declined comparing to year 2017.

As the results from Table 4, in fixed effect model, the results have been transformed to be percentage by computing the "antilog". To do so, it can interpret that one more year the hotel has been operated will increase 1% of occupancy rate but statistical insignificant, which seems to be good for hotel that has operated for many years. The increasing of price in 1% leads to increase in rate of occupancy by 1.05%,

it is not a statistically significant since Agušaj, Bazdan, and Lujak (2017) found that the higher prices make customer expects the higher quality of service and facilities hotel provides to customer and hotel that operates for many years could perform well and it also provides better facilities comparing other hotels less-known or open in few years, Centara hotel considers as well-known hotel in Thailand. One more score increase in average scores of TripAdvisor website will reduce occupancy rate around 0.96% with a statistical insignificance, these results imply that the rating reviews less likely to impact on occupancy rate. However, the increasing of one score on the average scores of Agoda site tend to deduct 0.98% in rate of occupancy with statistical not significant. Contrastingly, average scores of Booking site increases one score will increase 1.025% of occupancy rate with a statistically insignificant. The scores from Booking website is the most trustworthy comparing other sites (Agušaj et al., 2017) though the statistical insignificant, since the impact of those variables are a small impact on hotel room sales. The high-hotel star would be less attracted for customer to write or rate reviews on website (Lu, Ye, and Law, 2014). Consequently, the unpleasant situation seems to be impact on the occupancy rate and makes the online reviews do not impact on occupancy rate.

Since there are some unexpected circumstance occur during each year through, I would like to add one more variable into the model to experiment that whether the situations that could impact on hotel room sales as the annual reports has explained about their performance through these reasons. Therefore, the situation would be added in the panel regression to analyze the results and the equations could be written down below:

• Fixed effect regression

$$lnOcc_{it} = \beta_0 + \beta_1 TRIP_{it} + \beta_2 BOOK_{it} + \beta_3 AGO_{it} + \beta_4 lnPR_{it} + \beta_5 YR_{it} + \alpha_1 STAR_{1it} + \alpha_2 LOCA_{2it} + \alpha_3 SIT_{3it} + \alpha_4 DYear_{4it} + u_{it}$$

$$(5)$$

• Random effect

$$lnOcc_{it} = \beta_0 + \beta_1 TRIP_{it} + \beta_2 BOOK_{it} + \beta_3 AGO_{it} + \beta_4 LOCA_{it} + \beta_5 STAR_{it} + \beta_6 YR_{it} + \beta_7 lnPR_{it} + \beta_7 SIT_{it} + \beta_8 DYear_{it} + w_{it}$$

$$(6)$$

• Pooled OLS regression

$$lnOcc_{it} = \beta_0 + \beta_1 TRIP_{it} + \beta_2 BOOK_{it} + \beta_3 AGO_{it} + \beta_4 LOCA_{it} + \beta_5 STAR_{it} + \beta_6 YR_{it} + \beta_7 lnPR_{it} + \beta_7 SIT_{it} + \beta_8 DYear_{it} + v_{it}$$

$$(7)$$

Table 6: Regression Table of Panel Data Regression with Unexpected Circumstance

Variable	Fixed Effect Regression	Random Effect	Pooled OLS Regression
	lnOccupancy rate (%)	InOccupancy rate (%)	InOccupancy rate (%)
Year of Opened	0.003	0	0
	[1.17]	[0.33]	[0.52]
InPrice	0.046	0.012	0.01
	[1.99]*	[2.31]*	[2.45]*
TripAdvisor	-0.035	0.052	0.073
	[1.47]	[3.71]**	[6.34]**
Agoda	-0.012	-0.005	-0.01
	[0.50]	[0.31]	[0.78]
Booking	0.027	0.016	0.005
	[1.13]	[0.98]	[0.35]
Event Effect	-0.012	-0.01	-0.008
	[3.04]**	[2.61]**	[1.99]*
DYear2014	0.005	-0.022	-0.023
	[0.31]	[3.67]**	[3.75]**
DYear2015	0.023	0.005	0.005
	[1.99]*	[0.95]	[0.79]
DYear2016	0.016	0.004	0.004
	[1.83]	[0.75]	[0.65]
DYear2017	0.031	0.025	0.025
	[5.00]**	[4.78]**	[4.29]**
Beach Resort		0.014	0.013
		[1.95]	[2.53]*
High-Star		0.002	0.002
		[0.32]	[0.50]
Constant	4.07	4.022	4.024
	[14.59]**	[43.03]**	[56.74]**
Observations	195	195	195
Number of ID	39	39	
R-squared	0.47		0.47

Absolute value of t statistics in brackets

^{*} significant at 5%; ** significant at 1%

According to results of equation (5) show in Table 6, in fixed effect model, the number have been computed antilog to transform into percentage, it has shown that 1% of higher average price in overall properties of Centara hotels has improved occupancy rate around 1.05% with a statistically significant. At 99% confident level, there is an evidence to infer that the unexpected circumstance occurs could be less attractive people than normal circumstance nearly 0.99%. In 2015, the occupancy rate is higher than in 2018 by 1.02%. Besides, the occupancy rate has increased in 2017 which is higher than 2018 nearly 1.03%

As the Centara annual report has shown, in 2015, overall performance of hotel located in Bangkok did not perform well as it expected since there was an explosion near Ratchaprasong and the demonstrations that made tourists cancelled the room that made the occupancy rate of hotel located in Bangkok generated lower sales than somewhere else. Fortunately, the hotel located in other provinces could perform well, especially in southern part of Thailand that the number of Chinese tourists had increased dramatically that could drive the occupancy rate of hotels located in those provinces. Overall revenue in 2015 had higher than previous year. In 2017, the increasing of number of tourist arrivals from China, Russia to Thailand generated the sales of hotel rooms especially in Southern provinces of Thailand since the government introduced the policy to stimulate tourism sector and it also affected on hospitality industry. Furthermore, the number of Indian tourists had enhanced since the airlines opened more routes in many cities. In 2018, as the content mentioned in previous part which makes other factors could give a small impact on the occupancy rate in this year as shows in Table 6.

Consequently, the Table 6 illustrates the tourist has no sensitive to price in case of the increasing of price make guest expects service higher as the price that guarantee the quality of services in customer perspective. It is noteworthy that hotel tries to maintain a positive brand image to ensure that customers will satisfy with all aspects of their experience. Customer purchases room by paying money for exchanging with the quality of service which is a tradeoff and also in high-star hotel the rating reviews do not affect much on booking intention (Lu *et al.*,2014). It implies

that in the high-star hotel or hotel reputed, rating reviews do not impact much on customer decision since the hotel is well known and the star of hotel could assure the quality of hotel provided as the results of Table6 demonstrate that rating reviews from TripAdvisor, Agoda, and Booking sites have impact on occupancy rate in a small number since there is another factor which is event effect directly impact the rate of booking hotel room.

Implications

In this part, this experiment study exposes the effect eWOM on occupancy rate. The impact of reviews or comments on customer consideration. To begin with, the results from Table 6 demonstrates on fixed effect regression that the hotel review scores do not influence the occupancy rate owing to the fact that there are some unexpected situations cause to change consumer behavior. As the discussion in literature review part, it examines that marketing mix is tool analyzing the customer behavior because customer perceive hotel image and hotel value through its quality of services. Therefore, the hotel would emphasize on service quality to reach customer expectation. Hotel would put more effort on its employees to motivate employees to work efficiency by providing good services to respond customer satisfaction, including create brand trust for customer. In terms of economic perspective, utility theory, people's preference for goods or services, in this case, if level of customer satisfaction with hotel's service is high, customer will revisit the hotel. Consequently, the hotel has to improve it quality of services to remain customer satisfaction since once visitors use services, they would expect more quality of services and facilities for next revisiting. High customer satisfaction will create value of brand leads to increase brand awareness on customer.

The number of people who comments on website tend to decrease that makes the online reviews sometimes do not directly impact on occupancy rate because people do not review much on hotel with high star and also the reviews of hotel would not influence customer consideration. Therefore, the hotel manager should encourage the customer to post reviews on website in order to gain competitive advantage on this action in terms of marketing (Zhang *et al.*, 2010; Ye *et al.*, 2011). The deluxe hotel

could attract customer to purchase the rooms even though the price is trivially high due to the fact that customer is willing to pay high price for high quality (Viglia, Minazzi, and Buhalis, 2016). It implies that the qualities and facilities provided by hotel are worthy for customers to spend high amount of money tradeoff with quality they prefer while the hotel should keep the price not exceeding customer expectation. As Centara hotel is one of well-known brand in customer perspective, customer could perceive value through online reviews along with brand image of hotel enhancing customer booking intention.

Theory of consumer behavior, the customer will be rational making decision before deciding to purchase to achieve maximize utility (Kawsa-ard, Unthong, Petchwarun, and Kruefu, 2013). The well-known hotel, the hotel provides high quality of services and facilities could help reducing customer sensitive on price leads to some group of tourists do not change their mind when price is trivially higher, called inelasticity of demand. Apart from this, Figure 4 shows that two tourist countries arrival to Thailand are China and Malaysia are major guests for the hotel. Chinese and Malaysian are not responsive to the changing price (Kawsa-ard *et al.*, 2013) because Thailand is one of favorite destination for both of them as southern part of Thailand, especially Phuket is the most preference destination for Chinese and Malaysian.

during the period that has unpleasant situation, the occupancy rate tends to slightly decrease. It implies that the unexpected circumstance is one of threat for hotel owing to the worst situation change customer consideration by cancelling hotel room. Theoretically, consumer behavior, unpleasant situation impacts customer consideration which makes company has to build customer confidence by providing center corporate reporting for emergency situation. By doing so, it would help to improve brand image for hotel encouraging customer intention to purchase the rooms. Hence, the intense competition in the industry due to sudden increase in tourist arrivals leads to tourism sector became source of revenue for country. In addition, as

annual report in 2017 claimed that currency exchange rate would be affect consumer

Hence, the Figure 5 below reveals the occupancy rate in four-quarter period,

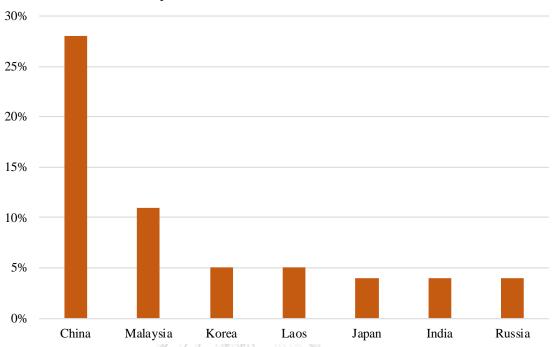
decision in case of baht appreciation against US dollar. Consequently, hotel has reduced its price and put more effort on online promotion to attract consumer because most income of company comes from foreign guests. Also, hotel offers the promotion for consumer by selling special trip package for its guests to make customer perceive good experiences its services. Besides, the location of hotel would be one of competitive advantage for gaining customer as the company established beach resorts in southern province and they could perform well, especially beach resorts in Samui is one of the resorts that popular there.

In a result, the factor impact customer consideration, external factor, economy is one of factor that impact tourist decision as the previous indicates that the currency fluctuation in this case is Malaysian ringgit fluctuation making Malaysian does not travel to Thailand. Malaysian is at second rank for tourist arrivals in Thailand, indicating in Figure 4, hotel got lost of its customer during that period of time. Another external factor for analyzing in this case is environment, climate change has affected to customer decision for travelling to southern province, also boat crisis and other unexpected situations become factors impact decision making. Customer decides consuming service based on these factors since tourists concern about uncertainty hazard risks. It demonstrates that unexpected circumstance is a main factor affecting occupancy rate.

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Figure 4: A Bar Graph of International Tourist Contribution

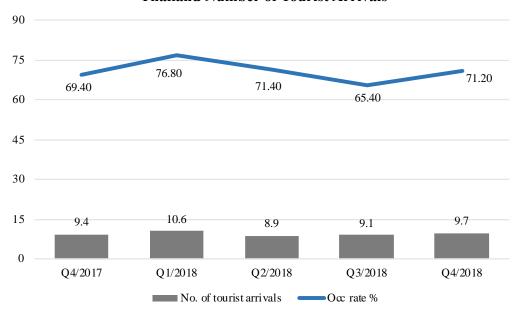
Top5 International Tourist Contribution in 2018



Source: CENTEL'2018 Report

Figure 5: Graph of Tourist Arrival During 2018

Thailand Number of Tourist Arrivals



Source: CENTEL'2018 Report

Limitations and Future Research Directions

In this part demonstrates the limitation of the paper which could be beneficial for exploring more in the future. In consequence, the number of reviewers in some hotels are lower than other well-known hotels. Although they operate under the same brand, some of them could not perform well comparing to hotels located in southern provinces. It would generate bias for estimating the customer feedbacks. Additionally, this paper provides advantages for only Centara Hotels and Resorts would might not benefit for other hotels and also data collection is small for analyzing performance of hotel accurately. This would be left for future study, the study should be extended for exploring the relationship among variables, to increase the number of observations might help to generate outcomes precisely. It will enhance hospitality sector in case of extending scope of study to focus on the thing that impact revenue of hotel. Furthermore, in this case, there is no evidence to support that the guests of hotel consult with online reviews. Consumers might not search for online hotel reviews on site and decide to purchase hotel room by other reasons such as promotion or personal preference. The future researchers should explore for customer who purchase the rooms with consulting online reviews, through survey etc. Moreover, customer does not classify into each group to analyze the customer behavior in each group which would help hotel can target its customer. Finally, hotel does diverse enough to compare in each segment such as low-star hotel and high-star hotel which would be better if future researchers could gather information of hotel diversify in level of services.

Conclusion

In conclusion, this paper demonstrates the impact of online reviews on occupancy rate. The purpose of this study is to estimate the effect of customer reviews on customer booking intention. To confirm the notion, it can conclude that the rating reviews from all travel websites do not influence the occupancy rate of Centara. Moreover, from Table 6, the results show the negative impact between reviews on travel websites (TripAdvisor, Agoda, Booking) and occupancy rate. The main factor affects occupancy rate is unexpected circumstance as Centara annual report examines

the happening of unpleasant situation leads guest cancel booking immediately. It implies that the unexpected situation causes reviews on hotel not influencing occupancy rate. Besides, price is the factor influencing rate of booking the room due to customer perceive Centara as deluxe hotel since many properties of Centara recognized hotel awards. It makes guest value hotel and creates positive brand image for hotel. Therefore, the high price of hotel room, customer will be willing to pay for high quality of services and amenities. When price of hotel room has increased, customer will expect excellent quality of services and facilities. Once guest has visited the hotel and has a wonderful experience, he/she will revisit with higher expectation of service leading hotel has to continue improving its service.

Another interesting result of this study is that the unexpected circumstance has reduced occupancy rate and also this is threat of hotel since it hurts tourism sector. Tourists have cancelled booking hotel rooms after receiving the news about boat tragedy in their destination owing to the fact that people are aware of their safety. It has prompted hotel to realize and overcome this situation enhancing tourist confidence leading to company has to create contingency plans for uncertainty or risk situations.

As the previous part, the implication could support the finding of this study for hotel concerning about the eWOM, new technological platform. In fact, the quality of services and facilities are still a key factor impacting customer intention purchasing. The unforeseen circumstance results in difficulty for hotel has to overcome this threat, it is one of an important source changing customer behavior. To understand customer behavior, the hotel should consider on social media to build a customer relationship and understand customer satisfaction providing the services at level of customer expectation. The standard of hotel has to continue improving and developing for attracting consumer to purchase the room enhancing new experience for its customer.

Recommendations

According to the study, hotel should emphasize on its performance, keep improving its facilities and services to sustain customer purchasing the room.

Enhancing its standard would help generate value for the hotel over the competitors. The hotel should diversify services for attracting customer booking the room leading to create positive attitude towards hotel and customer will perceive the brand image, a competitive advantage for the hotel. Since customer does not respond to the price change, it implies that customer sensitive to performance of hotel rather than price. Therefore, the hotel has to endeavor to adapt its service with new modern world, technology platform to reach its customer. Additionally, building a good relationship with customer is long-term plan company should do. The hotel manager should encourage employees for serving best services to visitor leads to create positive brand attitudes toward consumer. This study recommends the hotel to create some contingency plans for uncertainty situation to build customer confidence.



REFERENCES



Agušaj, B., Bazdan, V., & Lujak, Đ. (2017). The relationship between online rating, hotel star category and room pricing power. *Ekonomska Misao I Praksa*, (1), 189-204.

Assaf, A., & Cvelbar, K. L. (2011). Privatization, market competition, international attractiveness, management tenure and hotel performance: Evidence from Slovenia. *International Journal of Hospitality Management*, *30*(2), 391-397.

Blal, I., & Sturman, M. C. (2014). The differential effects of the quality and quantity of online reviews on hotel room sales. *Cornell Hospitality Quarterly*, *55*(4), 365-375.

Blal, I., Singal, M., & Templin, J. (2018). Airbnb's effect on hotel sales growth. *International Journal of Hospitality Management*, 73, 85-92.

Central Plaza Hotel. (2015). 2014 Annual report of the Central Plaza Hotel. Retrieved from https://centel.listedcompany.com/misc/AR/20150403-CENTEL-AR2014-EN.pdf

Central Plaza Hotel. (2016). 2015 Annual report of the Central Plaza Hotel. Retrieved from https://centel.listedcompany.com/misc/AR/20160328-centel-ar2015-en.pdf

Central Plaza Hotel. (2017). 2016 Annual report of the Central Plaza Hotel. Retrieved from https://centel.listedcompany.com/misc/AR/20170328-centel-ar2016-en.pdf

Central Plaza Hotel. (2018). 2017 Annual report of the Central Plaza Hotel. Retrieved from https://centel.listedcompany.com/misc/AR/20180328-centel-ar2017-en-02.pdf

Central Plaza Hotel. (2019). 2018 Annual report of the Central Plaza Hotel. Retrieved from https://centel.listedcompany.com/misc/AR/20190401-centel-ar2018-en.pdf

Cho, S., & Erdem, M. (2006). Employee relation programs and hotel performance: Impact on turnover, labor productivity, and RevPAR. *Journal of Human Resources in Hospitality & Tourism*, *5*(2), 55-68.

Feongkeaw, C. (2013). Factors affecting the travel decision making of work age people during weekend and long holiday in Bangkok metropolis. A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science Program in Sport Science Faculty of Sport Science of Chulalongkorn University. 1-102.

Gavilan, D., Avello, M., & Martinez-Navarro, G. (2018). The influence of online ratings and reviews on hotel booking consideration. *Tourism Management*, 66, 53-61.

Karunaratne, W. M. K. K., & Jayawardena, L. N. A. C. (2010). Assessment of customer satisfaction in a five star hotel-A case study. *Tropical Agricultural Research*, 21(3), 258-265.

Kim, W. G., & Park, S. A. (2017). Social media review rating versus traditional customer satisfaction. *International Journal of Contemporary Hospitality Management*, 29(2), 784-802.

Ladhari, R., & Michaud, M. (2015). eWOM effects on hotel booking intentions, attitudes, trust, and website perceptions. *International Journal of Hospitality Management*, 46, 36-45.

Lien, C. H., Wen, M. J., Huang, L. C., & Wu, K. L. (2015). Online hotel booking: The effects of brand image, price, trust and value on purchase intentions. *Asia Pacific Management Review*, 20(4), 210-218.

Limrojnukoon, P. (2017). Factors affecting consumer of online travel agencies in Thailand. An Independent Study Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration Faculty of Commerce and Accountancy of Thammasat University. 1-78.

Loo, P. T., & Leung, R. (2018). A service failure framework of hotels in Taiwan: Adaptation of 7Ps marketing mix elements. *Journal of Vacation Marketing*, 24(1), 79-100.

Lu, Q., Xiao, L., & Ye, Q. (2012). Investigating the impact of online word-of-mouth on hotel sales with panel data. 2012 International Conference on Management Science & Engineering 19th Annual Conference Proceedings, 3-9

Lu, Q., Ye, Q., & Law, R. (2014). Moderating effects of product heterogeneity between online word-of-mouth and hotel sales. *Journal of Electronic Commerce Research*, 15(1), 1-12.

Mauri, A. G., & Minazzi, R. (2013). Web reviews influence on expectations and purchasing intentions of hotel potential customers. *International Journal of Hospitality Management*, *34*, 99-107.

Mucai, G. P., Mbaeh, E. K., & Noor, A. I. (2013). Extended marketing mix and customer's satisfaction in classified non-star hotels in Meru municipality Kenya. *International Review of Management and Business Research*, 2(3), 691-696.

O'Neill, J. W. (2004). An automated valuation model for hotels. *Cornell Hotel and Restaurant Administration Quarterly*, 45(3), 260-268.

Öğüt, H., & Onur Taş, B. K. (2012). The influence of internet customer reviews on the online sales and prices in hotel industry. *The Service Industries Journal*, 32(2), 197-214.

Qi, L., & Qiang, Y. (2013). How hotel star rating moderates online word-of-mouth effect: A difference-in-difference approach. 2013 International Conference on Management Science and Engineering 20th Annual Conference Proceedings, 3-8.

Ratisukpimol, W. (2019). The analysis of hotel business in Ratchathewi district, Bangkok: Market structure and competition. *Sukhothai Thammathirat Open University Journal*, 32(1), 43-62.

Sopakdee, K., & Chantuk, T. (2016). Expectations factors affecting behaviors is using website online. *Veridian E-Journal of Silpakorn University*, 9(2), 358-374.

Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, 32, 1310-1323.

Torres, E. N., Singh, D., & Robertson-Ring, A. (2015). Consumer reviews and the creation of booking transaction value: Lessons from the hotel industry. *International Journal of Hospitality Management*, 50, 77-83.

Tsao, W. C., Hsieh, M. T., Shih, L. W., & Lin, T. M. (2015). Compliance with eWOM: The influence of hotel reviews on booking intention from the perspective of consumer conformity. *International Journal of Hospitality Management*, 46, 99-111.

Vermeulen, I. E., & Seegers, D. (2009). Tried and tested: The impact of online hotel reviews on consumer consideration. *Tourism Management*, 30(1), 123-127.

Viglia, G., Minazzi, R., & Buhalis, D. (2016). The influence of e-word-of-mouth on hotel occupancy rate. *International Journal of Contemporary Hospitality Management*, 28(9), 2035-2051.

Wang, M., Lu, Q., Chi, R. T., & Shi, W. (2015). How word-of-mouth moderates room price and hotel stars for online hotel booking an empirical investigation with Expedia data. *Journal of Electronic Commerce Research*, *16*(1), 72-80.

Xie, K. L., Zhang, Z., & Zhang, Z. (2014). The business value of online consumer reviews and management response to hotel performance. *International Journal of Hospitality Management*, 43, 1-12.

Ye, Q., Law, R., & Gu, B. (2009). The impact of online user reviews on hotel room sales. *International Journal of Hospitality Management*, 28(1), 180-182.

Zhou, L., Ye, S., Pearce, P. L., & Wu, M. Y. (2014). Refreshing hotel satisfaction studies by reconfiguring customer review data. *International Journal of Hospitality Management*, 38, 1-10.

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