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Revenue Management in a Multi-Channel Environment: The Effect of Pricing Strategies on Perceived Fairness

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**REVENUE MANAGEMENT IN A MULTI-CHANNEL ENVIRONMENT:
THE EFFECT OF PRICING STRATEGIES
ON PERCEIVED FAIRNESS**

By

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A dissertation submitted in partial fulfillment
of the requirements for the

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William F. Harrah College of Hotel Administration
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ABSTRACT

Revenue Management in a Multi-Channel Environment: The Effect of Pricing Strategies on Perceived Fairness

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The rapid development of technology has made the hotel booking process become easier and more convenient, but it has also made hotel revenue management practices become more complex. Researchers have noticed the issues caused by perceived fairness. Yet, only a few studies have examined the impact of the pricing strategies over perceived fairness. Furthermore, no previous research study has examined Best rate guarantee (BRG), rate disparity, and rate frame together and investigated the interaction effects among these strategies on perceived fairness.

This study aims to examine the potential effects of three revenue management pricing strategies (BRG, rate (dis)parity, and rate frame) on customers' perceived fairness. A $2 \times 2 \times 2$ factorial between-subject experimental design was used. Eight scenario-based surveys were employed to evaluate how potential hotel guests react to three different revenue management strategies.

This study has both practical and theoretical contribution. Practicality, the outcome of this study can potentially offer a set of guidelines for hoteliers to follow in terms of revenue management pricing strategies across multiple distribution channels, while providing revenue managers with empirically supported suggestions to increase

hotel revenue. Theoretically, this study is one of the first attempts regarding perceived fairness of RM strategies examining both rate parity and BRG, which significantly contributes to the existing literature on revenue management.

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CHAPTER 1

INTRODUCTION

Revenue management (RM) is the art and science of predicting real time guest demand at the micro level and optimizing the price and availability of products to match that demand (Cullen & Helsel, 2006). From its origin in the airline industry nearly sixty years from now, revenue management has since expanded to other hospitality industries (Anderson & Xie, 2010; Kimes, 2002).

The hotel industry has adapted RM process from airline revenue management to maximize revenue in the early 1990s (Cross, Higbie, & Cross, 2009; Kimes, 2003; Schwartz, 1998). The first users of RM in the hotel industry were Hilton, InterContinental, Marriot, Sheraton, and Starwood (Schwartz, 1998). The initial RM systems for those hotels were replicated after the airline systems, which analyzed historical and future reservations, as well as booking patterns, by market segment (Cross et al., 2009; Schwartz, 1998; Shoemaker, 2003).

Typical pricing concepts within the lodging industry have been benchmarked to a hotels value proposition, a basic price position in terms of their published rack rate (Maier, 2012). A rack rate is the price for a room type without offering any discounts (Spivak, 2014). Revenue management establishes subsequent rack rate tiers for different room types depending on a broad set of variables, such as: market demand, competitors' price, events, seasonal stay patterns, and third party commission margins. Generally speaking, almost all other pricing decisions are derived from the rack rate benchmarks (Maier, 2012).

With more sophisticated property management system technology and the onset of online commerce, revenue management practices in the hotel industry have become more complex than simply analyzing ADR (average daily rate), occupancy, and rack rate benchmark targets. For example, as online shopping becomes popular (Haws & Bearden, 2006), revenue managers can actually track guest preferences for brands to determine how to better manipulate rates to maximize revenue (Dai, 2010). However, the development of technology does not make revenue management easier, contrarily; RM practices have become more complex. In today's global competitive environment, hotel revenue management has to deal with different ways of distributing room inventory, including brand.com (hotel's own websites), online travel agencies (such as Expedia and Priceline), social media outlets (such as Facebook and Twitter), and even mobile booking apps. To achieve the goal to distribute room inventory more effectively, revenue managers have to be familiar with a variety of distribution channels and multi-channel RM strategies.

Besides determining the combinations of distribution channels and how many hotel rooms to be offered for sale through each channel (O'Connor & Frew, 2004), pricing issues became more complicated (Christodoulidou, Brewer, Feinstein, & Bai, 2006; Raab & Mayer, 2003). In the context of multichannel pricing, two strategies are possible: maintaining price consistency across channels (rate parity) versus price discriminating across channels (rate disparity). For the purpose of maximizing profit, dynamic pricing has been commonly used by hotel revenue managers, who charge different prices for the same hotel rooms based on the amount of money that customers are willing to pay.

Although dynamic pricing is beneficial to hotels (Daripa & Kapur, 2001; Garbarino & Lee, 2003; Kannan & Kopalle, 2001), it is possible that negative emotional reactions among customers will be elicited (Campbell, 1999; Xia, Monroe, & Cox, 2004); specifically, inconsistent pricing practices can have a negative impact on a guest's perception of fairness and trust towards a company (Garbarino & Lee, 2003).

Problem Statement

Given the above mentioned unintended consequences of practicing dynamic pricing, hoteliers and researchers have increasingly begun paying attention to the issue of perceived fairness (Choi & Mattila, 2004, 2005, 2009; Cross et al., 2009; Mourier, 2010; Noone & Mattila, 2009). Since the late 90's, perceived fairness has been addressed by several researchers in the marketing discipline (Bolton, Warlop, & Alba, 2003; Campbell, 1999; Grewal, Hardesty, & Iyer, 2004; Vaidyanathan & Aggarwal, 2003; Xia et al., 2004). Yet questions, such as, "What is the effect of different revenue management strategies?" remain regarding the context of perceived fairness. As revenue management strategies have become much more common with the increased prevalence of online marketing, it is important to understand the effects, especially the interaction effects among RM pricing strategies on guest perceptions of price fairness.

Best rate guarantee (BRG) is a revenue management strategy hoteliers use to set different rates for a same hotel room according to expected room demand (Rohlf's & Kimes, 2007). BRG pricing guarantees that guests are given the lowest available rate (rates available for all potential hotel guests, which exclude all kinds of discount rates or special rates such as group rate or company rate) on any given channel of distribution (Rohlf's & Kimes, 2007). Why do hotels offer a rate guarantee? Many hotels are

practicing BRG so that they can compete with the third-party vendors and control the price points (O'Connor & Frew, 2002). However, this strategy is dangerous and will hurt customer's trust towards a brand when a hotel fails to fulfill its promise to offer the lowest rate (Rohlf's & Kimes, 2007).

Rate parity, as opposed to rate disparity or rate discrimination, means that selling the consistent rate (same or roughly identical) for the same room type on all channels (Simonich, 2011). It is the practice to maintain consistent rates for the same product across all distribution channels, regardless of commissions generated by each different online travel agency (OTA) such as Expedia.com and Orbitz.com. A number of issues stem from rate disparity. One such issue is the frustration caused by the perceived unfairness. For example, how will a hotel guest feel when he/she found a lower price offered for a same type of hotel room at a different distribution channels after he/she made an unchangeable reservation.

Researchers have noticed the issues mentioned above and examined the effects that pricing strategies have on perceived fairness. Maier (2012) proposed a RCO2P (reach, content, consistency and price parity) model to investigate hotel online distribution effectiveness and rate parity among multiple online distribution channels. Choi and Mattila (2004, 2005, 2009) studied the effects of rate parity on perceived fairness; Rohlf's and Kimes (2007) investigated the influence of BRG strategy on perceived fairness and Noone and Mattila (2009) researched the impact of rate presentation strategies on perceived fairness and booking intent.

Although the above mentioned studies have examined the impact (main effects) of each of the dynamic pricing strategies (BRG, rate disparity, and rate frame) alone over

perceived fairness, no previous research study has not examined those strategies together, nor the interaction effects among these strategies on perceived fairness.

Purpose of Study

Perceived fairness is critical for hotels since it is closely related to guests' trust towards a hotel brand and their booking intention (Bolton et al., 2003; Choi & Mattila, 2004; Chung & Pertrick, 2013; Grewal, Monroe, & Krishnan, 1998; Haws & Berdon, 2006; Kimes, 2002; Rohlfs & Kimes, 2007; Xia et al., 2004). The purpose of this dissertation research is to examine the potential effects of three revenue management pricing strategies (BRG, Rate parity, and Rate Frame) on customers' perceived fairness. The outcomes of this study can enrich the knowledge about guests' perceptions on the hotels' pricing strategies and the consequent booking intentions that may affect the hotels' long-term profitability and short-term market share.

Research Questions

The following research questions will be addressed in this dissertation:

1. What effects among three strategies have on perceived fairness?
2. Does rate disparity (i.e. rate discrimination strategy) have a negative effect on customers' perceived fairness?
3. What effect does BRG policy have on customers' perceived fairness?
4. What effect does rate frame have on customers' perceived fairness?

Significance of Study

This study has both practical and theoretical contribution. Practically, the outcome of this study could offer a set of guidelines to hoteliers to follow in terms of rate guarantees and other pricing strategies across multiple channels, providing revenue managers with empirically supported suggestions for increasing hotel revenue or market share through numerous distribution channels. Additionally, it will broaden the traditional RM research framework, thus providing researchers with pragmatic research topics in sync with industry's needs.

Theoretically, this study is one of the first attempts regarding perceived fairness of RM strategies examining both rate parity and BRG, which significantly contributes to the existing literature on revenue management.

Definition of Key Terms

The following are definition of key terms that were used in this study:

Best rate guarantee: a pricing policy that guarantees that guests are given the lowest available rate on any given channel of distribution (Rohlf's & Kimes, 2007). Lowest available rates are the rates that are available to all potential guests, which exclude all kinds of discounts rates (i.e. group rates, company rates, or AAA rates).

Customer's trust: the expectation that a firm is dependable and will deliver as it promises (Sirdeshmukh, Singh, & Sabol, 2002).

Distribution channels: mechanisms that distribute product or service to the right people at the right time in the right place and provide sufficient information (O'Connor & Frew, 2002).

Dynamic pricing: or dynamic variable pricing, is a price discrimination strategy. This pricing strategy suggests prices to be charged according to customer, product, time, or location (Armstrong & Kotler, 2000).

Hotel Tonight: a last-minute booking mobile app that provides easy mobile booking of same-day unsold hotel inventory (HotelTonight, Inc., 2014).

Rate frame: the relative positioning of a price of a company relative to the price of a competitor (Grewal & Joan, 2006).

Rate integrity: the practice of setting a price based on fair factors (i.e. size, cleanliness, and customer service) (Mourier, 2011).

Rate parity: selling the consistent (same or roughly identical) rate for the same room type on all channels (Simonich, 2011).

Rack Rate: A hotel rack rate is the "published rate," or "the maximum a property charges for a room" (Spivak, 2014).

Room Key: RoomKey.com is a hotel booking channel founded by the top hotel chains (Choice, Hilton, Hyatt, InterContinental, Marriott, and Wyndham), plus three new brands (La Quinta (midscale), Millennium Hotels & Resorts (midscale to upscale) and The Leading Hotels of the World (independent luxury)) to its lineup as it tweaks its novel quest to stand out in a crowded field and battle against OTAs (Schaal, 2012).

Opaque Pricing: A non-transparent value pricing method. With opaque pricing, guests are not able to see the brand of the product type until they buy it. (Landman, 2014).

Perceived fairness: the perception of customers that how they judge if an outcome and/or the process to reach an outcome is reasonable or acceptable (Bolton, et al., 2003).

Organization of the Dissertation

This dissertation is organized into five chapters. Chapter 1 provides a general introduction of this dissertation, including the problem statement, the study purpose, the research questions, the significance of the study, and the definitions of key terms. Chapter 2 presents a review of the literature on evolution of RM in the hospitality field and emerging distribution channels that make multi-channel RM become more complex, literature on rationales of RM strategies discussed in this study, literature on perceived fairness and related theories from multiple disciplines (i.e. sociology, consumer behavior, and marketing), and literature on past studies that address the perceived fairness issue in the hospitality field. Chapter 3 describes the methodology, including the research design, independent and dependent variables, measurement scales, sampling method, data collection, and data analysis methods. Chapter 4 presents the results. Chapter 5 provides a discussion and implication of the findings. It also highlights the limitations of the study and addresses the need for future research.

CHAPTER 2

REVIEW OF LITERATURE

The objective of this chapter is to better understand revenue management practices in the hospitality field, the concepts and theories underlying perceived fairness, and revenue management pricing strategies across electronic distribution channels. The literature review consists of four sections. The first section introduces the development of revenue management in the hospitality field, providing a general background that customers-centric becomes the most important trend of revenue management, and describes major traditional and emerging electronic hotel distribution channels, disclosing the difficulty of revenue management in the multi-channel environment. The second section discusses the rationales of revenue management pricing strategies discussed in this study and how these strategies may impact customers' perceived fairness. The third section explains the concepts, major factors of perceived fairness, and the theories relevant to perceived fairness. The final section summarizes past studies researching perceived fairness in the hospitality field and identifies how this dissertation will fill in the gaps existing in those researches.

A set of hypotheses were proposed after the literature review to address relationships between variables, followed by discussions explaining the effects of revenue management strategies on perceived fairness.

Revenue Management in a Multi-Channel Environment

Revenue management (RM) is the art and science of predicting real time customer demand at the micro level and optimizing the price and availability of products to match that demand (Cullen & Helsel, 2006). From its origin in the airline industry nearly sixty

years from now, revenue management has since expanded to other hospitality industries (Anderson & Xie, 2010; Kimes, 2002).

As most management practices, revenue management practice in the hotel industry has evolved over the years. First, revenue management has begun to evolve from a tactical role to a more strategic orientation that encompasses finance, marketing, sales and channel strategy (Noone, McGuire, & Rohlfs, 2011). Second, the rapid development of technology, especially social media, has huge potential benefits to both customers and hotels. Kimes' (2010) conducted a study surveying 487 hotel professionals. Nearly twenty-five percent of the respondents believed that technology would play an important role in the future developments within revenue management. The following sections will introduce how revenue management evolved from tactical revenue management to strategic revenue management, and describe what major emerging hotel channels are there that makes revenue management becomes more challenging.

From Tactical RM to Strategic RM

According to Buckhiester (2011), revenue management is a multi-disciplinary business process that is highly structured, which includes a fully synergistic approach to the relationship between operations, marketing, and sales. Buckhiester (2011) also summarized the six key components of a comprehensive RM: 1) capacity management, 2) benchmarking, 3) strategic pricing, 4) demand forecasting, 5) using business mix, and 6) distribution channel management. Hotels can optimize revenue and demand by conducting best practices in all of the six areas (Buckhiester, 2011).

Traditional inventory-centric RM focuses on optimizing inventory, in other words, selling the right number of rooms at a right price; while customer-centric RM analyzes

customer data to yield insights into the most valuable customers and fill the pipeline continuously and effectively.

Demand forecasting.

Tactical revenue management revolves around maximizing revenues by manipulating product availability in the short term (Baker, Marn, & Zawada, 2001). For example, it is generally desirable to close the inventory sale of lowest priced product during peak demand periods. However, in today's globalized hospitality industry, a more strategic demand forecasting is needed in the RM process.

Every successful revenue management model has a highly accurate demand forecast (Haensel, & Koole, 2011). There are many studies researching the optimization front, trying to find an optimal distributing policy to maximize profit, but there is less published work on forecasting issues (Chen & Kachani, 2007). Chen & Kachani (2007) present a forecasting framework that is apply to the hotel industry. By using historical hotel reservation data, this model can utilize various forecasting techniques and compare their performance. El Gayar, Saleh, Atiya, El-Shishiny, Zakhary, and Habib (2011) also present a model to maximizing hotel revenue. Their model focuses on and extends the existing optimization techniques to address group reservations and it uses "forecasted demand" arrivals generated from the real data for hotel revenue management.

Distribution.

Middleton and Clarke (2001) projected that, in the future, hotels will have to use a variety of channels in order to distribute their rooms most efficiently. Brewer, Christodoulidou and Rothenburger (2006) emphasized that hotel revenue managers must

consider the costs associated with using distribution channels and the levels of business activity at which they should be using certain channels.

Choi and Kimes (2002) discussed the challenges and opportunities to hotel revenue management practices associated with the emergence of internet-based distribution channels, and how the emergence of low cost booking channels increased hotel managers' concerns about maximizing hotel rooms' contribution margins (room price – booking costs). Choi and Mattila (2005) also argued that, unless a hotel high capacity or high demand intensity, it is not likely that a high room rate level or a big gap between distribution costs can lead to a significant contribution enhancement,.

Marketing.

Almost all hotels' loyalty programs are tracking guests' purchase preference and some hotels are even implementing customer relationship management (CRM) systems to capture, store, and analyze additional information about each customer, such as: demographic profiles, sales data, booking source profiles, requests, and survey responses (Lee, Bai, & Murphy, 2012). However, for the majority of hotels, these rich data sources are not tightly linked to their RM systems, and in fact they may not be regularly accessible to revenue managers (Noone, Kimes, & Renaghan, 2003).

One of the most critical issues for revenue management is to balance short-term revenue maximization versus long-term customer development (Cross, Higbie, & Cross, 2009). In revenue management's future, the concept of customer-centric, strategic revenue management will be adopted which is not just as an internal tool to predict the impact of transactions on the hotel, but as an external device to develop customers and customer segments (Cross & Dixit, 2005).

Emerging Distribution Channels

As discussed in the previous section, revenue management in the hospitality industry has involved from an inventory-centric, tactic management practice to a customer-centric, strategic management practice. However, as technology develops, revenue management is not just managing direct channels, they have to deal with a plenty of distribution channels. Besides all traditional distribution channels, there are many emerging hotel channels that people may already or may not noticed. This section will discuss the major emerging electronic distribution channels (such as Social Media, Mobile apps, Room key.com, and Hotel Tonight), disclosing the difficulty and challenges of revenue management in such a multi-channel environment.

Social media.

With the rapid development of social media, an increasing number of business travelers have begun to use social media sites to book hotels. Meanwhile, to entice customers to book directly via Facebook or Twitter, more hotels have begun offering direct bookings with a guaranteed lowest price through these two channels.

Since 2009, many hotels started to offer room-booking technology on their Facebook pages. Facebook is fast becoming more than a customer relationship tool for many independent properties and chains. What hotels do on their Facebook pages is to re-direct users to their own websites -- brand.com.

In November 2013, a new booking tool that allows guests to book hotel stays directly via Twitter was launched by Loews Hotels & Resorts (Loews, 2013). With this process, which is streamlined for social media, hotel guests do not need to call 800 numbers or online booking forms. Guests can just type #BookLoews in a tweet to

@Loews_Hotels. The tweet will be prompted by one of the brand's Travel Planners, who will start a Twitter conversation with the guests shortly. Once the guest decides to make a reservation, the Loews Travel Planner will tweet them a link to a secure chat conversation to process personal and payment information in a secure, PCI-compliant, digital environment. Social Media Reservations makes it very convenient for hotel guests who are also frequent users of social media to plan their travel.

The rationale that hotels use social media as booking channels is to enhance their direct booking and improve guest experience. However, hotels' social media strategies can also take advantage of what social media are best at (e.g. identifying and rectifying guests' problems). If hotels use Facebook and Twitter to connect with their guests, get their feedback, and actually take action to fix their problems, guests will be much happier; and they'll tell their friends about how they were helped. That means both hotel guests and their friends will be more likely to book with this hotel next time they travel—whether they use an online agency or not.

Mobile booking applications.

Mobile hotel booking applications are designed to provide hotel reservation support for mobile devices such as smart phones and tablets (Wang & Wang, 2010). Travelers can use different mobile apps to book a hotel room with their mobile devices. For example: Booking through hotel's mobile website or mobile app (e.g., Hilton, Marriott, etc.); Booking through online travel agency's mobile website or mobile app (e.g., Expedia, Priceline, etc.); or Booking through third party non-affiliate hospitality companies' website or mobile app (e.g., Preferred Hotel Group).

Mobile hotel booking apps makes the booking procedure more accessible and easy especially for traveling consumers allowing them to complete their reservations within a few clicks. From a business point of view, these mobile apps offer many more promising market opportunities than existing traditional online hotel booking (Kim, Park & Morrison, 2008). Because of the limited screen size, interfaces on mobile devices are more easier and user-friendly, guests can be guided through the search and booking procedure in just a few clicks. In this way, typing efforts could be saved when compared to traditional online hotel booking. To help book a hotel room as quickly and in as few steps as possible, these mobile apps may be used with other mobile tools such as GPS technology to search for hotels nearby (Wang & Wang, 2010). In addition, hotel companies and travel agencies can eliminate a lengthy sign-in process; enabling the consumer to set up an automatic log-in on their mobile device (Wilkening, 2012). Especially among last minute bookers, mobile booking apps have become increasingly popular. It is not surprising that mobile apps are likely to be more user-friendly than traditional online hotel booking, and then becomes a key channel in the near future. Because of these reasons, price decisions on mobile booking channels should be very careful.

RoomKey.

RoomKey is a hotel booking channel founded by the top hotel chains (Choice, Hilton, Hyatt, InterContinental, Marriott, and Wyndham), plus three new brands (La Quinta (midscale), Millennium Hotels & Resorts (midscale to upscale) and The Leading Hotels of the World (independent luxury)) to its lineup as it battles against OTAs (Schaal,

2012). This new hotel search engine is created to remove online travel agents from the booking process to lower the commission fees and increase the net profits.

In 2012, RoomKey claims 14 million monthly unique visitors, but most of these visitors would be surprised to learn they even stopped by. The disconnect is that the focus of RoomKey's attempt to attract visitors to its site is serving up pop-under advertisements that appear for some users when they visit one of the founding chains' websites, do a hotel search, but don't book a room. For example, a potential hotel guest taking Marriot.com through its paces, but leaving the site without booking a room may notice a full-page advertisement with the Marriott logo on top showing nine properties from other brands, with the attempt to "book direct" on RoomKey.com (Singh, 2013)

According to the introduction on RoomKey.com, "RoomKey has a clean design that is less utilitarian and more inviting than those of the online travel agents and aggregators. When potential hotel guests put in the city or zip code of their destination plus travel dates, they will then receive an array of hotel options presented as a list or on a map. Guests can filter the results by price and star range, and when they made your choice, a click will take them through to the relevant hotel website, where the price should be the same. It is remarkable that all hotels participated in RoomKey offer best rate guarantee to their guests."

HotelTonight.

HotelTonight is a mobile booking channel launched in 2010; it provides easy mobile booking of same-day or last-minute unsold hotel inventory. For hotel guests, it offers incredible convenience and amazing value at quality hotels. For hotels, it is a

marketplace to fill last-minute rooms that would otherwise remain empty (HotelTonight, Inc., 2014).

With smartphone becomes increasingly popular, many people spend more time at home on their smart phone than PC. Thus smartphones and tablets offered a new way to tap into truly last-minute, on-demand booking (O’Keefe, 2013).

How does this booking app different from other hotel booking apps? The answer is price. A test had been done by a travel journal editor, in which she searched with the goal of finding the best available rate at a hotel in Manhattan and got nine options — three downtown, three midtown and three uptown —in three different booking channels (Hotel Tonight, Expedia, and each individual hotel website). The results show that, in the seven instances, HotelTonight competed with Expedia, it beat Expedia six times and tied once; In the eight times HotelTonight competed with the hotels’ own websites, it beat them seven times and lost once (in some instances, rates were not available in some channel).

It is obviously that HotelTonight is good at offering great deals on last-minute hotel bookings. But there are some limitations: First, users can’t shop on HotelTonight until noon, which can make last-minute travel booking a little bit stressful. Second, it only offers limited options—i.e. only ten hotels were found by HotelTonight, while you will find more than 100 by using Expedia – it will be very difficult if you plan to stay at a particular hotel. Lastly, HotelTonight can only be used for domestic hotel bookings (Brown, 2012).

HotelTonight is designed to reach many audiences, including those looking for a last-minute deal and those looking for a last-minute room and are indifferent to the

specific brand of hotel for which they are looking. For the revenue management, HotelTonight can be a great channel to fill last-minute cancellations at a discounted rate or a channel to fill the last few rooms in the hotel at parity. However, it's ultimately the revenue manager who has to have a real good understanding of different pricing strategies.

Revenue Management Pricing Strategies Discussed in this Dissertation

As mentioned in the previous section, revenue management requires both tactical and strategic revenue management, and revenue managers have to deal with plenty of distribution channels. In such a complex multi-channel environment, it is necessary to conduct and execute revenue management strategies carefully. An example is customers' perceived fairness on different revenue management price positions and booking platform strategies – customers' perception on the revenue management strategies is the key to measure if these customer-centric strategies are successful. This section will discuss the revenue management pricing strategies studied in this dissertation and how they impact customers' perceived fairness.

Rate Frame

According to Grewal and Joan (2006), rate frame is defined as the relative positioning of a rate a company relative to the rate of another company. Other framing studies also show that guests have different reactions to different rates depending on the rate's relative standing to competitors' rates. For example, Adaval and Monroe (2002) found that guests have preference on a product when other products have higher prices, while the results are the opposite when competitive rates are lower.

In the context of multichannel pricing, two strategies are possible: maintaining price consistency across channels (rate parity) versus price discriminating across channels (rate disparity). When the focal firm adopts a disparity pricing strategy while a competing firm adopts a parity approach, two possible price frame scenarios emerge. The multiple prices offered by the former firm can be lower (positive price frame) or higher (negative price frame) than the single price offered by the latter firm.

Dynamic Pricing and Rate Parity

Dynamic pricing is a price discrimination strategy. This pricing strategy suggests that prices should be charged according to customer, product, location, time, or channel (Armstrong & Kotler, 2000). The purpose of this strategy is to maximize profit by manipulating the magnitude of price differences, so that guests will be charged the highest prices they are willing to pay.

Many researchers analyze dynamic and static pricing policies. Cooper (2002) and Maglaras and Meissner (2006) present results of contrasting static and resolving pricing policies. Cooper (2002) provides an example showing that resolving policies does not necessarily lead to a better result, whereas the numerical results of Maglaras and Meissner (2006) show that its expected revenue is superior to static pricing in non-asymptotically settings. However, the policies generally assume a long-term perspective when studying expected revenue and a short-term view when risk sensitivity might be more important. Gallego and van Ryzin (1994, 1997) discuss the numerical results of static pricing in comparison to the optimal price. They conclude that for large sized problems with known demand functions and no constraint on price setting, there were no great benefits when using dynamic pricing.

One important issue hotel revenue manager encountered is the desire for rate parity among all the channels of distribution, because customers commonly check several channels for rates (O'Connor, 2003). Rate parity, opposed to rate disparity, means that selling the same rate for the same room type on all channels (Simonich, 2011). In Maier (2012)'s RCO2P model, the rate parity component evaluates a hotel's ability to distribute the same price point across multiple online distribution sources, alleviating customer confusion, controlling the dynamic nature of variable pricing over time, and the perception pricing of the hotel product relative to its features. It is the practice of maintaining consistent rates for the same product across all online sales channels, regardless of commissions generated by each different online travel agency (Mourier, 2011).

However, even without using dynamic pricing, it is difficult to maintain rate parity in a multi-channel environment. For instance, when hotel sell their rooms to the online travel agents (OTAs) at wholesale rates, the OTAs will then mark them up at contract-specified margins to sell to individual travelers. OTAs will have direct access to the hotel's inventory of rooms and will sell from it. Buyers will be given a confirmation number that needs to be presented to the hotel upon arrival. Guests will then pay the hotels for their stays, and the OTAs will bill the hotels for their commissions (Toh, Raven, & DeKay, 2011). For example, for the room that costs the guest \$200, the wholesale rate might be \$150 and the agreed markup would be 25 percent for OTAs. Normally, the OTA will sell the room at \$200 and remit \$150 to the hotel. But if OTAs lower their price, \$180 for instance, rate disparity then exist between OTAs and hotel's direct channel.

A number of issues stem from rate disparity. For instance, frustration can be caused by the perceived unfairness when a guest find different prices offered for the same product across various distribution channels (Demirciftci, Cobanoglu, Beldona, & Cummings, 2010). Another issue is that price disparity across distribution channels could result in lower booking intent. Potential hotel guests may become confused when they find different rates for a same product across distribution channels (Choi, Mattila, Park, & Kang, 2009). Thus, the first hypothesis of this study is proposed in based on the discussions above:

H1: Rate parity across different channels will be perceived fairer than rate disparity while familiarity of pricing strategies (FAM) is controlled.

However, consumers' fairness judgments are not made in isolation of other product attributes (Choi et al, 2009). For example, Folkes and Kamins (1999) argued that product quality does not have any significant impact on guest responses when ethicality perceptions were low, but it does when ethicality reach a certain level. Choi et al. (2009) also found that rate disparity across distribution channels will not influence customers' ethicality if the rate offered is lower or equal to the uniform price. Thus, the following moderating hypothesis is put forth:

H2: The effect of rate disparity on perceived fairness is moderated by rate frame while FAM is controlled.

H2a: Rate disparity is perceived less fair than parity if Negative Frame is offered while FAM is controlled.

H2b: Rate disparity is not perceived less fair than parity if Positive Frame is offered while FAM is controlled.

That is, guests will only perceive rate disparity unfair when they are offered a higher rate (negative frame); they will not perceive rate disparity unfair when they are offered a lower rate (positive frame).

Best Rate Guarantee

Best rate guarantee (BRG) (also known as best available rate) is a revenue management pricing strategy that gives potential customer the confidence that they cannot book a room for a lower rate on channels other than the hotel's website. BRG policy guarantees that guests are given the lowest available rate on any given channel of distribution (Rohlf & Kimes, 2007). Lowest available rates are the rates that are available to all potential guests, which exclude all kinds of discounts rates (i.e. group rates, company rates, or AAA rates).

Hotels.com first introduced BRG in 2002 to gain a competitive edge over other OTAs, such as Expedia, Priceline, and Orbitz (Rohlf & Kimes, 2007). Not surprisingly, not just these competitors, but also almost all major hotel chains responded by also instituting their own best rate guarantees. The characteristics of the various companies' BRG policies are roughly identical – the sites quote guests the lowest available nightly rate for a specific room type, arrival date, and length of stay.

The terms and conditions of BRG policies from different companies are also similar. The following are some rules applied to most of the BRG policies:

1. Guest must have a confirmed reservation from one of this hotel's booking channels (some does not require).
2. Guest must find a lower publicly available rate ("Lower Rate") on other booking channel (except for "opaque" or "last minute" channel) for the Same

Accommodations. "Same Accommodations" means the same room type, at the same hotel, with the same dates and length of stay, same number of guests, same designation as either cancellable or non-cancellable, same advance purchase policies, and the same terms and conditions governing the room rate.

3. Guest must submit your claim within 24 hours of making your reservation and at least 24 hours (some hotels require 48 hours) prior to your arrival at the hotel.
4. BRG does not apply to "opaque" websites, hotel packages or travel packages, and any discount or negotiated rates (membership, group, or company rates).

To avoid rate and brand erosion and to maintain or expand their existing market share, many hotel companies control the distribution of their rooms by offering the best rate guarantee (Rohlfis & Kimes, 2007; Starkov & Price, 2007). However, this practice is sometimes a mere statement guaranteeing the best rate rather than actually offering the best available rate (Demirciftci, 2007). This inconsistency is attributed to the fact that the intermediaries involved may sell a room for a lower rate so that hotels fail to keep their promise on offering the lowest rate (O' Connor & Murphy, 2008).

In rate disparity conditions guests are likely to engage in attributional processes in order to understand why the outcome happened (Folkes, 1988; Weiner, 2000). In such cases, customers are likely to seek sense-making information. Consequently, explanations, such as BRG pricing policy (telling customers that hotel's website offers the lowest rates), should increase perception of fairness and booking intent. Thus, the following hypothesis is proposed:

H3: Offering BRG will increase perceived fairness than not offering this pricing strategy while FAM is controlled.

However, it is predictable that a failed BRG (when a hotel fails to offer the lowest rates as it promised) will hurt perceived fairness and, what is worse, customers' trust towards this brand. Thus it is noteworthy to empirically investigate how BRG pricing strategy impact perceived fairness and the following hypotheses are proposed:

H4: The effect of BRG on perceived fairness is moderated by rate frame while FAM is controlled.

H4a: BRG will increase perceived fairness if Positive Frame is offered while FAM is controlled.

H4b: BRG will decrease perceived fairness if Negative Frame is offered while FAM is controlled.

That is, offering BRG will increase perceived fairness if hotel truly offers lower prices as it promised (Positive Frame), but it will decrease perceived fairness if a hotel fails to offer lower prices as it promised (Negative Frame).

Perceived Fairness and Relevant Theories

Perceived fairness is a concept that has been used by many different disciplines (i.e. marketing, sociology, consumer behavior). The reason that perceived fairness attracts people's attention is that researchers found perceived fairness has direct influence on the intention to purchase and repurchase (Bolton, Warlop, & Alba, 2003; Choi & Mattila, 2004; Chung & Pertrick, 2013; Grewal, Monroe, & Krishnan, 1998; Haws & Berdon, 2006; Kimes, 2002; Xia, Monroe, & Cox, 2004). This section will explain the concept and rationale of perceived fairness, introduce major factors that may impact perceived fairness, and discuss the related theories underlying perceived fairness.

Perceived Fairness

Fairness has been defined as a judgment of whether an outcome and/or the process to reach an outcome are reasonable, acceptable, or just (Bolton et al., 2003). The cognitive aspect of this definition indicates that price fairness judgments involve a comparison of a price or procedure with a pertinent standard, reference, or norm. According to Xia et al (2004), fairness is more of a subjective than an objective judgment because it is what guests actually perceive regardless whether such perception is correct or not. Therefore, perceived fairness may not be critical until guests perceive a pricing strategy as unfair.

Fairness perceptions are governed by the belief that firms are entitled to a reference profit, and customers are entitled to a reference price. Reference prices are the price that guests feel is acceptable in the market. Price increases are considered to be fair if the increase does not result in an increased profit to the firm (Kahneman, Knetsch, & Thaler, 1986). When customers perceive that the motive for a price increase is a fair one, customers have higher repurchase intentions (Homburg, Hoyer, & Koschate, 2005). It is interesting that customer satisfaction influences the perceived motives for the price increase; when customer satisfaction is high, positive motives are more likely to be inferred (Homburg et al., 2005).

There are two major categories when researchers study perceived fairness: (1) investigating the determinants of perceived fairness (e.g., Bolton & Alba, 2006; Campbell, 1999, 2007; Gielissen, Dutilh, & Graafland, 2008; Vaidyanathan & Aggarwal, 2003) and (2) examining the impact of perceived fairness on guests' attitudinal and behavioral outcomes (e.g. Daskalopoulou & Petrou, 2006; Lii & Sy, 2009; Oh, 2003; Xia

et al., 2004). Findings from both themes provide insights into the study of price fairness perceptions under various pricing contexts (e.g., Homburg et al., 2005; Martin, Ponder, & Lueg, 2009) with respect to guests' reactions' to pricing strategies (Bolton et al., 2003; Choi & Mattila, 2009; Herrmann, Xia, Monroe, & Huber, 2007).

Factors that Influence Perceived Fairness

There are many factors other than the ones discussed above that may have direct impact on perceived fairness such as past prices, differential customer treatment, perceived cost, and guest knowledge.

Past prices and perceived fairness.

Evidence suggests that guests rely on past prices when judging the appropriateness of current prices and use current prices to forecast future prices (Briesch, Krishnamurthi, Mazumdar, & Raj, 1997; Jacobson & Obermiller, 1990). Researchers also believe that guests do not understand the inflation well so that their estimates of its effects may be biased (Bates & Gabor, 1986; Katona, 1975; Kemp, 1987, 1991). Therefore, many consumer behavior researchers believe that guests will actually underestimate rather than overestimate inflationary trends, which will prompt the perception of unfair pricing (Bolton et al., 2003).

In hospitality consumer behavior research, researchers use the concept of a "reference transaction" when discussing fairness (Kimes, 2002). A reference transaction is how customers think a transaction should be conducted and how much a given service should cost. For example, customers of a particular hotel may know that they used to pay \$100 for a standard room, and so the reference price for this room at that hotel would be \$100. Any higher price for a same type room at that hotel would be perceived unfair.

Differential customer treatment and perceived fairness.

Seiders and Berry (1998) define fairness as “a customer’s perception of the degree of justice in a service firm’s behavior.” They distinguish three types of justice, distributive, procedural, and interactional justice—a distinction that has become prevalent both in service research (McColl-Kennedy & Sparks, 2003) and in organizational contexts (Cohen-Charash & Spector, 2001). Differential customer treatment mainly implies an unequal distribution of goods and services (Finkel, 2000), therefore, from the equality perspective, differential treatment can be considered unfair. For example, two hotel guests paid same price to stay in a same hotel. Although they stay in same type of room, guest A’s room that has better location than guest B’s. Guest B would perceive not unfair if he found out the difference.

Perceived cost and perceived fairness.

Aside from reference transactions, the perceived fairness of a price is likely to be influenced by the perceived cost of a good (Bearden, Carlson, & Hardesty, 2003; Thaler, 1985).

Bolton et al. (2003) conducted a series of experiments to test the relationship between perceived cost and perceived fairness. Their experiments showed that, although participants were not indifferent to the costs incurred by different types of sellers, estimated profits of sellers were quite high and estimated non-COGS (Cost of Goods Sold) costs were relatively low (Bolton et al., 2003). The results were consistent with Kahneman et al. (1986)’s study, which suggests that guests are sensitive to a price increase even if they noticed the change of costs.

Guest knowledge and perceived fairness.

Guests may draw on their general knowledge about the marketplace. Procedure justice theory, equity theory, and the principle of dual entitlement all indicate that information that provides reasons why a certain price is set may influence perceptions of price fairness.

As Bolton et al. (2003) suggest, buyers may judge fairness at an aggregate level across a transaction space that consists of multiple dimensions. In addition, buyers' perceptions of price fairness stem both from economic comparisons and from social norm comparisons. Social norms of economic exchange are the understood rules of behavior for both buyers and sellers, and they serve as guides to behaviors of parties in exchanges (Maxwell, 1999). Therefore, guests may also rely on their knowledge about the exchange norms to refine their price fairness judgments. For example, a price increase may be caused by the economic environment.

Theories Relevant to Perceived Fairness

The concept of perceived fairness was developed from several theories from different disciplines (i.e. sociology, marketing, and consumer behavior); the following paragraphs will describe these theories and explain how they related to perceived fairness.

Social comparison theory.

Social comparison theory, proposed by Festinger (1954), is centered on the belief that there is a drive within individuals to gain accurate self-evaluations. The theory explains how individuals evaluate their own opinions and abilities by comparing themselves to others in order to reduce uncertainty in these domains, and learn how to

define the self (Festinger, 1954). According to social comparison theory, guests make judgments of equality or inequality based on comparison (Major & Testa, 1989).

There are various forms of comparison, for example, comparison with other guests, other seller, and self-experience. According to Xia et al. (2004), “the other-customer comparison has greater effect on perceived price unfairness than self-reference, if the transaction characteristics are similar”. Haws and Bearden (2006)’s study provided evidence to support this statement; they examined guests’ perception on fairness of dynamic pricing and found that guests had lowest perceived fairness when comparing with other guests. It is not doubtful that this inequity pricing can lead to a negative emotion and reaction, such as complaints, negative word-of-mouth, and revenge action against the seller (Dai, 2010).

Dual entitlement theory.

Dual entitlement has been used as a fundamental principle for explaining how people perceive price fairness (Kahneman et al., 1986; Kalapurakal, Dickson, & Urbany 1991; Campbell, 1999). Kahneman et al. (1986) postulated that a dual entitlement (DE) principle exists; that is, “a consumer is entitled to a reasonable price based on reference transaction, and a company is also entitled to a reasonable profit based on reference profit.” Based on this principle, a hotel is not allowed to increase profits if it violates the entitlement of a guest, whereas, it is acceptable for a hotel to protect profits if the reference profits are threatened (Chung & Petrick, 2013). Thus, Kahneman et al. (1986) argued that while people tend to accept price increases when costs increase, they would not accept price increases if costs have not increased.

Although the DE principle is commonly used in the pricing literature, Vaidyanathan and Aggarwal (2003) suggested that despite a DE theory argues that cost-justified price increases should be perceived as fair, this may not be the case in real life. That is to say, even if price increases are cost-justified, individuals could perceive unfairness depending on how they understand the causes of the price changes. For example, when the locus of causality is internal to a hotel, increases of room rates can still be perceived as less fair.

Prospect theory.

Tversky and Kahneman (1979) propose that perceptions depend on the contextual framing: “there is an asymmetry between the way guests responds to losses and the way they respond to gains. A loss generates a larger response, in absolute terms, than a gain of the same magnitude, and is posited to be more salient in individuals' minds. As a result, disadvantageous inequity, a loss, is likely to be perceived more negatively than advantageous inequity, a gain, is perceived positively, even when of equivalent magnitude.”

According to prospect theory, “a perceived disadvantageous price inequity likely will generate a more unfavorable customer response than a perceived advantageous price inequity of the same magnitude generates a favorable customer response. In other words, when two customers compare the prices they are offered for a particular product, the customer who is offered the higher price will experience a greater decrease in his/hers willingness to buy the product than the customer who is offered the lower price will experience an increase in willingness to buy the product (Tversky & Kahneman, 1979).” This also leads to the last hypothesis of this study:

H5: The more guest perceive the pricing strategies fair, the more likely they are willing to buy.

Utility theory.

Utility theory (Thaler, 1985) posits that “guests derive both acquisition and transaction utility from their dealings in the marketplace. While acquisition utility reflects the utility derived from possessing the product, transaction utility reflects the difference between the fair price guests expect to pay and the actual market price encountered. This difference may be positive, giving buyers an extra incentive to complete the purchase process, or negative, dampening guests' willingness to buy.” According to Kamen and Toman (1970), guests are not willing to pay more for an item when they have some preconceived ideas about what is a fair price for it.

The pricing literature recognizes that people may respond differently to prices. For example, Marielza and Monroe (1994)'s study has examined several constructs that are related to rate perceptions, such as reference prices. They have advanced the notion that price acceptability is affected by perceptions of fairness, or equity, among such constructs.

Transaction utility theory is underlying this notion, which posits that “guests derive both acquisition and transaction utility from their dealings in the marketplace. While acquisition utility reflects the utility derived from possessing the product, transaction utility reflects the difference between the fair price guests expect to pay and the actual market price encountered. This difference may be positive, giving buyers an extra incentive to complete the purchase process, or negative, dampening guests' willingness to buy” (Thaler, 1985).

Equity theory.

Equity theory (Adams, 1965) suggests that “individuals evaluate the ratio of the investments they make to a particular exchange to the profits they derive from it, relative to the investments and profits allocated to their exchange partners, in other words, individuals are concerned not only with the absolute level of outcomes, but also with fairness of outcomes for both parties involved in transactions.” Because it deals with the equality of the outcomes for both parties of an exchange relationship, equity theory has been frequently applied in the research of price fairness perceptions (e.g., Martin-Ruiz & Ronda-Cataluna, 2008; Martins & Monroe, 1994; Oh, 2003; Xia et al., 2004).

According to Homans (1961), equity needs not necessarily be concerned with the outcomes achieved by parties directly involved in an exchange. Instead, indirect exchange partners, such as two customers buying from the same seller, would also have a right to expect that their common direct partner, the seller, would apportion their individual outcomes by following the rule of equal gain-loss ratios (Martins & Monroe, 1994). In other words, buyers may consider the prices paid by other buyers for the same products they acquire. This can be extended to the situation when customers book a same type hotel room in two different channels with different prices. That is, customers may take into account the rates offered by other distribution channels for the same products they acquire.

According to Deutsch (1975), equity serves as the most important distribution principle to evaluate exchange fairness, that is, the party at a comparative disadvantaged position may choose to quit the relationship when inequity within an exchange is noted.

For instance, hotel guests may leave the exchange relationship by not staying in the particular hotel and switch to the hotel's competitors.

To conclude the theories discussed above, Dual Entitlement Theory focuses on prices and supply-demand and how they are related, emphasizing both the procedures and the outcomes in an exchange relationship (Urbany, Madden, & Dickson, 1989); Social Comparison Theory suggests that perceived fairness is a judgment based on comparison; Prospect Theory posits that a perceived disadvantageous price inequity will generate a more unfavorable customer response than a perceived advantageous price inequity of the same magnitude generates a favorable customer response; Utility theory suggests that price acceptability is affected by perceptions of the equity, or fairness; Equity Theory suggests that guests may take into account the prices paid by other guests for the same hotel room.

This dissertation applies these theories as a foundation to develop an experimental design to illustrate what guest's perception will be in different scenarios (combination of dynamic pricing strategies).

Since only limited research study the impact of revenue management pricing strategies on perceived fairness in the hospitality field, the next section will review those studies and identify the gaps that can be filled in by this dissertation.

Perceived Fairness Research in the Hospitality Field

This section reviews the past studies researching perceived fairness and addresses the limitations of those studies, and identifies how the gaps were filled in by this dissertation.

Kimes (1994) compared customers' acceptability on differential pricing between airline industry and hotel industry and found that airline customers were more likely to accept this pricing strategy than hotel customers. But a follow-up study (Kimes, 2002) conducted eight years later shows that there were no difference between airline customers and hotel customers. These studies were the earliest that address the issue of perceived fairness in the hospitality field. However, they mainly focus on the differential pricing to different customer, while not address the issue that this pricing strategy across different distribution channels could result in perceived unfairness.

Bolton et al. (2003) conducted a series of studies demonstrates that guests are inclined to believe that the selling price of a good or service is substantially higher than its fair price. Bolton et al. (2003) found that guests' perceived fairness were affected by several factors including past prices, competitor prices, and cost of goods sold. These factors become important variables used by researchers in studying customers' perception on pricing strategies. A similar study (Wayne & Kimes, 2010) was to determine whether the perceived fairness of hotel revenue management (RM) pricing strategies was influenced by brand class, information, and familiarity. They found that brand class does not impact perceptions of fairness of RM pricing practice strategies when controlling for familiarity and the provision of information.

Choi and Mattila conducted a study (Choi & Mattila, 2004) researching perceived fairness associated with dynamic pricing in the hotel industry by using a 3×2×2 experimental design. The independent variables used in their design were price outcome (worse, same, better), information (with information and without information), and reference price type (expectation-based comparison and social comparison). The study

showed that when hotel customers received room rates that higher than the rates that given to others (worse outcome), they perceived the pricing practice less fair than when they received the same rates as others. Results also showed that reference type matters. Only when customers compared their rates with others (social comparison), and the comparison outcome was worse did they perceive the practice unfair. When they received room rates that higher than the rates they expected, they did not perceive unfair (expectation-based comparison). This study was one of the earliest that using experimental design with written scenario method, however it still not take consideration of different distribution channels. This research also relied on a convenience sample of travelers (single location). Although sample in their 2006 study cover both U.S and Korean (Mattila & Choi, 2006), all respondents were recruited from two airports (Washington, DC and Seoul, Korea), thus the generalizability of the finding is still a limitation of the study.

Rohlf's and Kimes (2007) examine customers' perception on best rate guarantee pricing strategy. They found that infrequent travelers (those staying in hotels twenty nights per year or less) judged best rate pricing most fair. In contrast, frequent travelers were essentially indifferent to the two pricing approaches (BRG and non-BRG). This study is one of the limited studies that address the perception on BRG strategy; however, it did not address the issue when BRG strategy is used along with other pricing strategies. This has been improved by Noone and Mattila (2009) in their 2009 study. They examine customers' perception on BRG pricing associated with two rate presentation approaches (blended approach and non-blended approach) within a two-night length of stay. Results indicated that a non-blended rate presentation approach (lower rate for the first night

followed by a higher rate for the second night; or the opposite way) generates higher willingness to book ratings than a blended rate presentation approach (same rates for both nights). This study limited their examination of the rate sequences associated with a non-blended rate presentation approach to a two-night length of stay. If associated with a longer length of stay, customer willingness to book might be different. Also, although there was question related to BRG pricing in their survey, they did not allow for a best rate guarantee in any of their scenarios. The impact of best rate guarantees should be explored.

Choi et al. (2009) examine the effect of price disparity across multiple distribution channels on guests' perceived fairness, focusing on the moderate role of rate frame. This study has significant contribution to the research on effect of pricing strategies over perceived fairness. The scenario design of this study is also followed by many researchers using experimental design. However, there are some limitations of this study. First, the study does not take consideration of the effect of best rate guarantee policy on perceived fairness. Second, in the research design, all three scenarios in the rate parity condition were exactly the same even if they are under different rate frames. This dissertation extends the design in Choi et al. (2009)'s study and fixes the above issues; details are explained in Chapter 3.

Summary of Literature Review

In summary, the literature review introduces the development of revenue management in the hospitality field and describes major traditional and emerging electronic hotel distribution channels; discusses the rationales of revenue management pricing strategies discussed in this study and how these strategies may impact customers'

perceived fairness; explains the concepts of perceived fairness and the related theories; summarizes past studies focused on perceived fairness in the hospitality field and identifies how this dissertation will fill in the gaps existing in those researches.

Following the relevant discussion based on the literature review, hypotheses of the dissertation have been proposed throughout the literature review. A summary of hypotheses are presented on Table 1.

Table 1

Proposed Hypotheses

| Hypotheses | Statement of Hypothesis |
|------------|---|
| H1 | Rate Parity across different channels will be perceived fairer than Rate Disparity while familiarity of pricing strategies (FAM) is controlled. |
| H2 | The effect of Rate Disparity on perceived fairness is moderated by rate frame while FAM is controlled. H2a: Rate Disparity is perceived to be less fair than Rate Parity if Negative Frame is offered while FAM is controlled. H2b: Rate Disparity is not perceived as being less fair than Rate Parity if Positive Frame is offered while FAM is controlled. |
| H3 | Offering BRG will increase perceived fairness than not offering this pricing strategy while FAM is controlled. |
| H4 | The effect of BRG on perceived fairness is moderated by Rate Frame while FAM is controlled. H4a: BRG will increase perceived fairness if Positive Frame is offered while FAM is controlled. H4b: BRG will decrease perceived fairness if Negative Frame is offered while FAM is controlled. |
| H5 | The more guest perceive the pricing strategies fair, the more likely they are willing to buy. |

CHAPTER 3

METHODOLOGY

The purpose of this dissertation was to examine the effects of revenue management pricing strategies on customers' perception of fairness. This chapter shows the methodology used in this dissertation in five sections. The first section describes the research design. The second section discusses the questionnaire. The third section states the variables used in this dissertation and how they will be measured. The fourth section introduces the sampling and data collection procedures. The last section presents the data analysis methods that will be used.

Experimental Design

Written scenarios are commonly used in studies researching perceived fairness and perceived price policies (e.g., Bolton, Warlop, & Alba, 2003; Choi, Mattila, Park, & Kang, 2009; Kahneman, Knetsch, & Thaler, 1986; Noone & Mattila, 2009; Rohlfis & Kimes, 2007). Eight different scenarios resulted from a two rate parity strategies (parity vs. disparity) \times 2 rate frames (positive vs. negative) \times 2 BRG strategies (BRG vs. non-BRG) factorial between-subject experimental design. This study presented eight role-playing scenario-based surveys to evaluate how respondents react to rate parity policy and BRG policy (See Table 2 for rate frames in the eight scenarios). Appendixes 1-8 show all eight scenarios (only one of the eight scenarios will be randomly presented to our sample population).

In all scenarios, participants were told to imagine that they were shopping for a hotel room for leisure (business travelers were excluded since they are relatively insensitive to hotel rates) travel purposes (Tanford, Erdem, & Baloglu, 2011).

Participants were then told that their hotel search has been narrowed down to one hotel (hotel X). In addition, the participants were given detailed descriptions on this hotel's features (a three-star hotel).

Table 2

Eight Scenarios

| Scenario | Rate Parity | BAR | Rate Frame | Rates in Two different channels |
|----------|-------------|-----|------------|---------------------------------|
| 1 | Parity | Yes | Negative | A:\$99, B: \$89 |
| 2 | Parity | Yes | Positive | A:\$99.9, B: \$99.5 |
| 3 | Parity | No | Negative | A:\$99, B: \$109 |
| 4 | Parity | No | Positive | A:\$109.5, B: \$109.9 |
| 5 | Disparity | Yes | Negative | A:\$99, B: \$89 |
| 6 | Disparity | Yes | Positive | A:\$99.9, B: \$99.5 |
| 7 | Disparity | No | Negative | A:\$99, B: \$109 |
| 8 | Disparity | No | Positive | A:\$109.5, B: \$109.9 |

Note: A = Hotel's website (brand.com), B = another booking channel (non-brand.com).

Then participants were asked to assume that they obtained room rates from two different distribution channels – Brand.com and a non-brand.com (can be any possible distribution channel that is qualified for BRG policy). To control for the effects of differences in length of stay and type of room on guest evaluations, participants were told that they were looking for room rates for only one night and for a particular room type (king-sized standard room). To avoid the limitation of BRG policies (e.g. reservation need to be made 24-48 hours before the date of arrival), participants were told that they were planning a one-day trip one week ahead of time.

According to Gazzoli, Kim, and Palakurthi (2008), if rates have a variation of less than 2% across distribution channels, this should be considered rate parity. Conversations with subject matter experts in the industry supported this assertion. Thus, in this research design, to differentiate the parity conditions in two rate frames (negative and positive), rates offered from two distribution channels in the parity situation were slightly different. The following sections explain details of different scenarios.

In the rate parity conditions, both channels have similar rates (i.e. \$99.9 from brand.com and \$99.5 from other channel in scenario 2; or \$99.5 from brand.com and \$99.9 from other channel in scenario 6); while different rates were quoted from each channel (i.e. \$99 from brand.com and \$89 from other channel in scenario 1; or \$99 from brand.com and \$109 from other channel in scenario 3) in the rate disparity condition.

In the BRG condition, respondents were informed that the hotel offers a best rate guarantee policy, under which the hotel promises that guests are given the lowest available rate on Brand.com; while in the non-BRG condition, there was no such message.

Having read the scenario, participants were asked to rate their fairness perception of the hotel pricing practice. All participants were clearly instructed in the survey.

Questionnaire

The questionnaire had several sections. The screening question was “have you booked a hotel online in the past year?” All respondents selected to answer “no” were screened out of the survey. For those who met the screen criteria, the first section asked questions about demographics and hotel online-booking frequency of the respondents for screening purposes.

The second section of the questionnaire asked respondent to give adequate attention to the stimuli and the following questions. Then the stimulus material, one of the eight manipulated scenarios, was randomly shown to the respondents. Once the respondent clicked the right arrow (go forward) on the screen to continue, the advertisement disappeared and the scales measuring dependent variables appeared on the screen. Respondents can viewed the scenario again by clicking the left arrow (go back) to make sure the information was well received.

The third section asked the respondents their familiarity of pricing strategies and the likelihood they would book the hotel, followed by the booking channel that they used the most. The details of variables and measurement are described in the next

Variables and Measurement

Dependent variable in this dissertation is customers' perceived fairness on pricing strategies. Perceived fairness was measured with a four-item, seven-point Likert scale adapted from Choi & Mattila (2005)'s, Wirtz & Kimes (2007)'s , and Wayne & Kimes (2010)'s:

Perceived Fairness

1. Hotel X's pricing practice is fair.
2. Hotel X's pricing practice is ethically acceptable.
3. Hotel X took advantage of the customer.
4. I agree with the pricing policies of hotel X.

All items were measured on a 7-level Likert scale. Respondent ratings for these four questions were then averaged to form a Perceived Fairness (PF) Index (since item 3 is a reverse question, values for this item were reversed back when creating the PF index).

There were three between-subject independent variables tested in this study. The first independent variable was the rate parity strategy with two levels: rate parity versus rate disparity. The second independent variable was best rate guarantee strategy, which also has two levels: with BRG versus without BRG. Finally, the third independent variable was rate frame: Positive rate frame, in which brand.com offers lower rates comparing to non-brand.com; and Negative rate frame, in which rates offered by brand.com is higher than that offered by non- brand.com.

The effect of perceived fairness on booking intent was also reexamined in this study; respondents' familiarity with pricing strategies was used as covariate when testing hypotheses. Thus, booking intention and familiarity were also measured by using a two-item measurement, separately, adapted from Kimes and Wirtz (2007):

Booking Intention

1. The likelihood that I would book this room is:
2. The likelihood that I would consider staying at this hotel next week is:

Both items were measured on a semantic differential scale from 1=Very Unlikely to 7= Very Likely. Respondent ratings for these two questions were then averaged to form a Booking Intent (BI) Index.

Familiarity

1. Are you familiar with the hotel's pricing strategy?
2. How often have you seen, hear of or experienced hotels' pricing strategy?

Both items were measured on a 7-points Likert scale. Respondent ratings for these two questions were then averaged to form a Familiarity (FAM) Index.

Frequency they made hotel reservations online, online booking channel they have used the most, and demographic information (gender and age), were also asked in the survey. Appendix 9 shows the scale items that will be used in the study.

Sampling and Data Collection

The sample was reached online through Qualtrics (2014). Data collection continued until an adequate cell size was reached for appropriate analysis. It is suggested that sample size for a multivariate analysis must at least be 20 respondents in each cell, and preferably more, as higher levels of power are reached with larger cell sizes (Hair, Anderson, Tatham, & Black, 1998). Thus, a minimum of 50 respondents in each cell were sought in this study, resulting a total of 403 respondents for 8 (2 x 2 x 2) scenarios. Each cell size was kept almost equal by random distribution of respondents to cells to keep the statistical analyses more straightforward (Hair, et al., 1998). Cell sizes ranged between 50 and 51 respondents. Respondents in each cell were exposed to only one scenario. After exposure to one of the eight possible scenarios, sample was asked to respond to the scales to measure perceived fairness.

The study population was potential leisure travel guests who have booked a hotel room online at least once in the past year. All survey responses were anonymous.

Data Analysis

Statistical analyses were carried out in several stages. In the first stage, outliers and normality (i.e. skewness and kurtosis of the data) were examined. No outliers were found and normality assumption was met (skewness and kurtosis on each variable ranged from -.674 to .635.)

In the second stage data was summarized with descriptive statistics, in which demographic profiles, means and standard deviation, reliabilities for the scales were reported.

In the third stage, assumptions for the analysis for hypothesis testing were tested. In case of violation, appropriate statistical remedial techniques were employed. Finally, main statistical tests were carried out to test hypotheses.

A 2×2×2 Factorial ANCOVA (Analysis of Covariance) model was used to determine significant differences between average responses. Since familiarity of hotels' pricing policies might intervene with respondents' reactions, subjects' self-declared familiarity was run as a covariate in the data analysis. In addition, a regression analysis was employed to test the linear relationship between booking intent and perceived fairness.

To determine whether a hypothesis was rejected or accepted, .05 was used as the cut off point for *p* values. Although it may be argued to be arbitrary, the convenience and the frequent use of .05, and its unsurpassed popularity over many decades made it a rule of thumb since 1925 when Fisher published his book, *Statistical Methods for Research Workers* (Dallal, 2009).

CHAPTER 4

ANALYSIS AND RESULTS

This chapter provides the data analysis process and the results of this dissertation. Reliability issues are addressed at first, followed by the descriptive statistics. Then, assumptions for the analysis for hypothesis testing were presented, followed by the results of main statistical tests. At last, the results for testing of the hypotheses are discussed.

Reliability of the Scales

A special online survey feature that forces respondents to answer all the questions was activated before the beginning of the data collection so that each respondent filled out the entire survey with no missing variables. Dependent variables (perceived fairness and booking intention) and the covariate (familiarity of pricing strategies) were all measured by seven point scales; thus, there were no outliers found in the data.

Table 3

Analysis of Measurement Reliability

| Item | Mean | Stand. Dev. | Cronbach's α |
|------|------|-------------|---------------------|
| PF1 | 5.23 | 1.337 | .71 |
| PF2 | 5.24 | 1.348 | |
| PF3 | 4.12 | 1.763 | |
| PF4 | 5.05 | 1.465 | |
| BI1 | 5.12 | 1.544 | .87 |
| BI2 | 4.86 | 1.690 | |
| FAM1 | 4.62 | 1.786 | .95 |
| FAM2 | 4.49 | 1.567 | |

Cronbach's alpha was used to evaluate the reliability of measurement. Table 3 shows the means and standard deviations for each scale variable along with the calculated alpha values. All alpha values were found to be at an acceptable level of 0.6 or higher (Miller, 1995).

Descriptive Statistics

Table 4 displays the demographics and the booking habits of the sample. Of the 403 respondents, females and males were almost evenly distributed, female 49.1% versus male 50.9%. This is similar to the latest U.S. Census results: 49% of male and 51% of female (U.S. Census Bureau, 2013). The largest age group was 20-29 years old (28.8%), followed by 50 years old and over (24.6%), 30-39 years old (24.3%), and 40-49 years old (18.6%). Of the all respondents, only 3.7% were under 20 years old.

Only the respondents who have booked a hotel online in the last year at least once were included in the study. The frequencies of hotel online booking in the last twelve months are also reported in Table 4. Those who booked a hotel online for 1-2 times in the last twelve months constituted 39.5 % of the respondents; while 33.7 % booked 3-5 times, 16.9 % 6-10 times, and about 10 % booked more than 10 times. The fact that most of the respondents book hotels frequently makes the findings and implications more realistic.

The most popular online-booking channel was Hotel's website (60.5%), followed by OTA (26.3%), Hotel's Apps (8.2%), and Search Engine (3%). One percent of the respondents used OTA's apps the most, another one percent of the respondents preferred to use other channels, and no one selected social media. Since not all respondents specified the name of the channel they used, this information is not included in Table.3. Among those who specified the name of the channel they used, it is interesting to notice

that Expedia was the most popular OTA, followed by Hotels.com, Priceline, Kayak, Travelocity, and Orbitz. Google was the most popular search engine for hotel booking, followed by Bing.

Table 4

Demographic Profile and Booking Habits of the Respondents (N=403)

| | n | % |
|---|-----|-------|
| Gender | | |
| Male | 205 | 50.9 |
| Female | 198 | 49.1 |
| Total | 403 | 100.0 |
| Age | | |
| Under 20 | 15 | 3.7 |
| 20-29 | 116 | 28.8 |
| 30-39 | 98 | 24.3 |
| 40-49 | 75 | 18.6 |
| 50 and over | 99 | 24.6 |
| Total | 403 | 100.0 |
| Times booked a hotel online in the past year | | |
| 1-2 | 159 | 39.5 |
| 3-5 | 136 | 33.7 |
| 6-10 | 68 | 16.9 |
| 10-14 | 25 | 6.2 |
| 15 and more | 15 | 3.7 |
| Total | 403 | 100.0 |
| Online Booking Channel used the most | | |
| Hotel's websites | 244 | 60.5 |
| OTA | 106 | 26.3 |
| OTA apps | 4 | 1.0 |
| Social Media | 0 | 0 |
| Search Engine | 12 | 3.0 |
| Hotel's Apps | 33 | 8.2 |
| Others | 4 | 1.0 |
| Total | 403 | 100.0 |

Test of Assumptions of ANCOVA

Like most other statistical techniques, ANCOVA has certain assumptions that must be checked, and any violation must be addressed. The assumptions of ANCOVA are independence, normality, homogeneity of variances, homogeneity of regression slopes, and linearity of regression. Each of these assumptions has been checked and no significant violation was detected that posed a threat to the robustness of ANCOVA. A complete discussion of all assumptions can be seen in the following sections.

Independence

It is important that observations are independent of each other for ANCOVA results to be valid (Hair, Anderson, Tatham, & Black, 1998). This is ensured by random distribution of respondents into any of the eight groups that are being investigated in this study. Randomization ensured that cases in each of the eight cells, and all cases in the entire sample, are independent of each other. They are not bound to each other by time, place, or any other possibly confounding factor that can systematically pose the threat of bias in any of the studied groups.

Normality

It is assumed that dependent variable is normally distributed, meaning that “joint effect of two variables is normally distributed” (Hair et al., 1998, p. 349). The effect of the covariate on the dependent variable must also be normally distributed. The cell sizes in the current study range between 50 and 51 respondents, which are well above the minimum cell size of the 20 recommended by Hair et al. (1998). Also, skewness and kurtosis on each variable ranged from $-.674$ to $.635$. Thus, violation of this assumption does not pose a threat to validity of ANCOVA results.

Homogeneity of Variances

Assumption of homogeneity of variance for the Factorial ANCOVA has been tested by Levene's Test, and the assumption was met as evidenced by $F(7, 395) = 1.102$, $p = .455$.

Homogeneity of Regression Slopes

It is assumed that covariate and independent variables do not interact, in other words, the influence of covariate on the dependent variables does not change significantly based on various levels of independent variables. In the current study, the covariate FAM is expected to have an influence on DVs for both BRG and Rate Parity but not for the Rate Frame. As expected, assumption is met for BRG and Rate Parity, $ps > .05$; but not for Rate Frame, $p < .05$. It is logical that the influence of FAM on perceived fairness would not change based on rate frame; because, hypothetically, guest always prefer positive rate frame to negative rate frame according to social comparison theory.

Covariate Linearly Related to the Dependent Variables for All Levels of the Factors

Theoretically it is expected that guests with high levels of FAM are expected to be more positively responsive to perceived fairness on pricing strategies with all else being equal. In fact, there is a linear relationship between FAM and the dependent variables which is evident in the significant result of the covariate in the ANCOVA results in the following section.

Results of ANCOVA

A $2 \times 2 \times 2$ Factorial ANCOVA was performed using three independent variables (Rate Parity, BRG, and Rate Frame), one dependent variable (Perceived Fairness), and

one covariate (Familiarity). The means and standard deviations for each cell are presented in Table 5. The ANCOVA results are presented in Table 6.

Table 5
Mean and Standard Deviation Scores of Perceived Fairness (N=403)

| Rate Frame | <u>Rate Parity</u> | | <u>Rate Disparity</u> | |
|------------|--------------------|-----------|-----------------------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| BRG | | | | |
| Negative | 4.90 | .974 | 4.18 | .934 |
| Positive | 4.81 | 1.214 | 5.25 | .820 |
| Non-BRG | | | | |
| Negative | 4.78 | .974 | 4.66 | 1.099 |
| Positive | 4.86 | 1.170 | 5.40 | 1.021 |

As can be seen from Table 6, the covariate, familiarity of pricing strategies (FAM), was significantly related to the perceived fairness, $F(1, 394) = 15.503, p < .000$, partial $\eta^2 = .04$. The mean of FAM for all cells was 4.56.

There was no 3-way interaction effect among the three pricing strategies on the dependent variable, $p = .474$. Statistical significant 2-way interaction effects was found between Rate Parity and Rate Frame, $F(1, 394) = 18.743, p < .001$, partial $\eta^2 = .05$; but there was no significant interaction effects between BRG and Rate Frame ($p = .772$) or between BRG and Rate Parity ($p = .094$).

Table 6

Analysis of Covariance of Perceived Fairness as a Function of Parity, BRG, and Frame, With Familiarity Scores as Covariate

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>p</i> |
|-----------------|-----------|-----------|-----------|----------|----------|
| Covariate (FAM) | 1 | 15.98 | 15.98 | 15.50 | .000 |
| BRG | 1 | 2.52 | 2.52 | 2.44 | .119 |
| Parity (P) | 1 | .53 | .53 | .51 | .475 |
| Frame (F) | 1 | 23.83 | 23.83 | 23.12 | .000 |
| BRG × P | 1 | 2.91 | 2.91 | 2.82 | .094 |
| BRG × F | 1 | .09 | .09 | .08 | .772 |
| P × F | 1 | 19.32 | 19.32 | 18.74 | .000 |
| BRG × P × F | 1 | .53 | .53 | .51 | .474 |
| Error | 394 | 406.10 | 1.03 | | |
| Total | 403 | 9959.25 | | | |

There was a significant main effect for Rate Frame, $F(1, 394) = 23.116$, $p < .001$, partial $\eta^2 = .06$; but no significant main effects were found for BRG ($p = .119$) and Rate Parity ($p = .475$).

The plot evidence for the Parity*Frame interaction is presented below in Figure 1. As can be seen from the plot, lines are not parallel, and cross substantially. Hence, conducting simple main effects analysis on the Parity*Frame interaction is a reasonable follow-up.

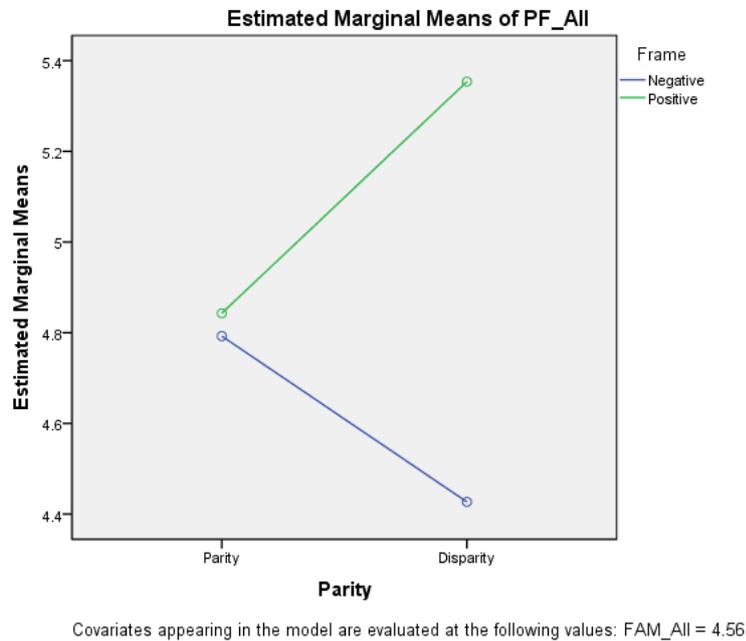


Figure 1. Interaction between rate parity and rate frame

Simple main effects analysis on the Parity*Frame interaction was conducted. The difference between Parity and Disparity strategy was tested at each rate frame, using a conservative alpha level (.025). Within Negative Frame, respondents perceived Parity strategy fairer than Disparity strategy, $F(1, 394) = 6.454, p < .025, \eta^2 = .02$. With Positive Frame, respondents perceived Disparity strategy fairer than Parity strategy, $F(1, 394) = 12.763, p < .001, \eta^2 = .03$.

The mean difference between Positive Frame and Negative Frame was also tested at each level of Rate Parity. Within Parity group, respondents perceived no significant difference between Positive Frame and Negative Frame, $p = .726$. But within Disparity group, respondents perceived Positive Frame fairer than Negative Frame, $F(1, 394) = 41.812, p < .001$.

Hypotheses Testing

Test of Hypothesis 1

Hypothesis 1 states that Rate parity across different channels will be perceived fairer than rate disparity while familiarity of pricing strategies (FAM) is controlled. According to the ANCOVA results, the main effect for Rate Parity was not significant, $p > .05$. Thus, the analysis does not support Hypothesis 1.

Test of Hypothesis 2

Hypothesis 2 states that the effect of Rate disparity on perceived fairness is moderated by rate frame while FAM is controlled. Specifically, rate disparity is perceived less fair than parity if Negative Frame is offered (H2a); rate disparity is not perceived less fair than parity if Positive Frame is offered (H2b).

Hypothesis 2 is tested by simple effects analysis on the Parity*Frame interaction. Under Negative Frame condition, respondents perceived Disparity strategy ($M=4.427$, $SE=.101$) less fair than Parity strategy ($M=4.793$, $SE=.102$), $p < .025$; however, under Positive Frame condition, respondents perceived Disparity strategy ($M=5.354$, $SE=.102$) more fair than Parity strategy ($M=4.843$, $SE=.101$), $p < .001$. Thus, both H2a and H2b are supported.

Test of Hypothesis 3

Hypothesis 3 states that offering BRG will increase perceived fairness than not offering this pricing strategy while FAM is controlled. According to the ANCOVA results, the main effect for BRG was not significant, $p > .05$. Thus, the analysis does not support Hypothesis 3.

Test of Hypothesis 4

Hypothesis 4 states that the effect of BRG on perceived fairness is moderated by Rate Frame while FAM is controlled. Specifically, BRG will increase perceived fairness if Positive Frame is offered while FAM is controlled (H4a); BRG will decrease perceived fairness if Negative Frame is offered while FAM is controlled (H4b). This is not supported by the analysis since the interaction effects for BRG*Frame was not significant, $p > .05$.

Test of Hypothesis 5

Hypothesis 5 states that the more guest perceive the pricing strategies fair, the more likely they are willing to buy. After all needed assumptions (independence, normality, and linearity) were met; a simple linear regression was conducted with booking intent (BI) as dependent variable and perceived fairness (PF) as independent variable. The result suggests that PF was a significant predictor of BI ($p < .001$). PF was positively correlated to BI; the variance in booking intent explained by perceived fairness was 36% (R^2).

CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter summarizes the study and reviews the results of testing the hypotheses that were proposed herein. The findings and the practical implications are discussed next, followed by the limitations and future research directions.

Summary of the Study

The purpose of this study was to examine the effects of three revenue management pricing strategies (BRG, Rate (dis)parity, and Rate Frame) on customers' perceived fairness. A 2×2×2 between-subject experiment was carried out to see how pricing strategies impact perceived fairness, which is the dependent variable. The experiment had three independent variables that were manipulated. The first independent variable was Rate Frame with two levels: Positive vs. Negative; the second independent variable was Rate Parity with two levels: Parity vs. Disparity; and the third independent variable was best rate guarantee (BRG) also with two levels: BRG vs. non-BRG. Familiarity of pricing strategies (FAM) was used as covariate when testing hypotheses.

A total of eight written-scenarios have been developed with intended manipulations for each level of the independent variables. Respondents were randomly shown one of the eight scenarios. Perceived fairness was measured after respondents finished reading the scenario. All qualified respondents were those who have booked a hotel online in the past year.

Discussion of Results

The ANCOVA results show that there was no 3-way interaction effect among three “the other-customer comparison has greater effect on perceived price unfairness” pricing strategies on perceived fairness. Two-way interaction effects only exist between Rate Parity and Rate Frame, but not between BRG and Rate Frame, nor BRG and Rate Parity. Main effect results only significant for Rate Frame but not Rate Parity or BRG. And the simple linear regression results suggest that perceived fairness was significant indicator to booking intent. The results show several significant findings as summarized below.

First of all, it has been approved again in this study that guests’ fairness perception has significant impact on booking intent. Although many researchers have found that perceived fairness is closely related to guests’ booking intent (Bolton, Warlop, & Alba, 2003; Choi & Mattila, 2004; Kimes, 2002; Rohlfs & Kimes, 2007; Wayne & Kimes, 2010; Xia, Monroe, & Cox, 2004), it is worthwhile to test it again in the nowadays when technology has changed our booking habits. Also, this evidence also supports the rationale of this dissertation, to investigate the perception of fairness.

Second, the purpose of this study is to investigate how revenue management pricing strategies affect perceived fairness. An interesting finding regarding to Rate Parity strategy and Rate Frame is that, when offered lower rate (Positive Frame), respondents prefer Rate disparity; but when offered higher rate (Negative Frame), respondents prefer Rate parity. This can be explained by the Social Comparison Theory, that is, guests prefer to make judgments of equality based on comparison of other guests

(Major & Testa, 1989). If others get better rate, guest cares more about equality; however, when guest himself/herself gets better rate, inequality is no longer an ethic issue.

Third, the significant main effect results for Rate Frame show that respondents with Positive Frame have higher perceived fairness scores than those with Negative Frame. This also supports the above conclusion that price comparison is the most important factor regarding to perception of fairness.

When measuring each pricing strategy alone, only Rate Frame has significant impact on perceived fairness, both Rate Parity and BRG were not significant. It is interesting that Rate Parity was not significant to perceived fairness, because it means that guests do not perceive parity fairer than disparity in general. This again suggests that, although ethic issue can be important to perceived fairness, but price really matters.

Last but not the least, the insignificant main effect results for BRG suggests that, the BRG Policy itself is not important to guests, because guests care more about if a hotel can really provide lower rates.

Practical Implication

The findings of this dissertation suggest several significant practical implications for the hotel industry to better utilize revenue management pricing strategies. The results of simple effects for Rate Parity and Rate Frame have important practical contribution. If hotel plans to set a relative higher price on hotel's website than other channels (Negative Frame), it is better to keep the prices within the rate parity status (i.e. less than 2% of variance), because guests are incentive to a small variance of rate difference and will not perceived such pricing strategy as unfair; In the other hand, if a hotel plans to set a relative lower price on its website than other channel (Positive Frame), it is better to

make the rate difference larger (i.e. >2%), otherwise guest may still buy from other channel without feeling unfair.

The insignificant main effect results for Rate Parity and BRG suggests that, the pricing strategies themselves are not important to hotel guests; what guests really care about is what they can get from those policies. When a hotel conducting a new pricing strategy, the most important thing is to make potential guests feel like they are beneficial from this strategy; a strategy will be successful especially when the potential guests believe they get more benefits than other guests, according to the Social Comparison Theory.

The descriptive results show that 60% of the respondents selected brand.com as their most often used booking channel, which is the top channel comparing to others. However, this figure is lower than that in the Internet Travel Hotel Booking Statistics report (2013), which shows 65% of the internet bookings were made through brand.com. Therefore, it is not to be neglected that more than one fourth of the respondents (26%) selected to use OTA. Although hotel managers are often hesitant to develop relationships with OTAs, they should still carefully using OTA to gain more market shares until their own “OTA” like Roomkey.com beat other OTAs.

It is noticeable that mobile apps and search engine are also important channels for potential guests (8% and 3%, respectively). Hoteliers should pay more attention on these emerging channels, especially mobile apps. It is not surprising that mobile apps are likely to be more user-friendly than traditional online hotel booking.

Theoretical Implication

According to Social Comparison Theory (Festinger, 1954), guests make judgments of equality or inequality based on comparison. There are many different types to comparison, e.g., comparison with other guests, comparison with other seller, and comparison with previous experience. Many previous studies have examined perception on fairness based on the Social Comparison Theory (Campbell, 2007; Gielissen, Dutilh, & Graafland, 2008; Haws & Bearden, 2006; Jacoby, 1976; Lii & Sy, 2009; Vaidyanathan & Aggarwal, 2003; Xia et al., 2004).

The current study not only supplemented the prior studies but also increased their external validity by finding similar results in a different market (hospitality industry) and by controlling an important covariate such as familiarity of pricing strategies. The effects of various hotel pricing strategies on perceived fairness have been studied by the current dissertation.

The current study also extends and improves the previous experimental designs (Choi & Mattila, 2005; Choi, Mattila, Park, & Kang, 2009) by the following steps: First, the current study is the first to take consideration of the effect of all three pricing strategies (BRG, Rate Parity, and Rate Frame) on perceived fairness. Second, the current study manipulate the three independent variables and design eight different scenarios, which fixes the design issue in previous studies (i.e. all scenarios in the rate parity condition were exactly the same even if they are under different rate frames in Choi et al. 2009's study).

Limitations

This dissertation has some limitations, just like any other study, that need to be discussed to calibrate the interpretations of the results. First, a scenario-based survey method was used in this study. Therefore, it was behavioral intention but not actual behavior in the market place that has been captured in this study. However, emotional commitment is equally important in predicting behavior according to previous studies (Choi et al., 2009; Eagly & Chaiken, 1993; Fitzmaurice, 2005).

Second, guest' brand attitudes were manipulated in this study, a hypothetical brand (Hotel X) was created in the scenarios. In the real life, guest's brand attitudes and brand loyalty may have important impact on their perceptions.

Third, the cell sizes were about fifty, which is above the minimum cell size of 20 (Hair, Anderson, Tatham, & Black, 1998). However, fifty respondents might not be enough to find the existing variations on the dependent variable. The hypotheses that were not supported in the current dissertation may be supported in future studies with larger sample sizes. Thus, the current cell sizes might have posed a limitation on the findings.

Future Study

This dissertation presents some potential avenues for further research. First, the importance of the size of rate differences can be explored. In this study, the disparity condition has a \$10 rate difference, but the results may be different when this difference changes. According to Janiszewski and Lichtenstein (1999)'s range theory, the attractiveness of a market price to a guest depends on the comparison of the market price

to the endpoints of the range of remembered prices. Thus, the size of price differences may impact the effects examined in this study.

Second, to apply BRG, special rates or discounted rates were not considered in this dissertation. However, guests' perception may be very different on those special rates.

Third, this dissertation only investigates the effects of three popular pricing strategies, there may be more strategies and policies that can be investigated in the future study.

Conclusion

As technology develops, the area of revenue management pricing in the multi-channel environment becomes a very hot topic and is currently evolving throughout the hospitality industry. As this evolution continues, it is critical to explore the effects of different revenue management pricing strategies on guests' perception.

For this purpose, this dissertation examined the effects of three revenue management pricing strategies (BRG, Rate (dis)parity, and Rate Frame) on customers' perceived fairness. To achieve the research objectives, a $2 \times 2 \times 2$ factorial between-subject experimental design was conducted.

The findings of this study suggested both theoretical implications and practical implications for the hotel industry to better utilize revenue management pricing strategies. The outcome of this study could offer a set of guidelines to hoteliers to follow in terms of rate guarantees and other pricing strategies across multiple channels.

Although this dissertation has some limitations as noted, the findings of this dissertation contribute a critically important perspective on the perceived fairness on pricing strategies in the hotel industry. This dissertation marks the beginning of a

research stream intended to understand revenue management pricing and its implication in the business.

APPENDIX 1 Scenario 1

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel. This hotel offers **Best Rate Guarantee** (BRG). BRG means that the posted rate on the hotel's website is the lowest available rate (excluding any special discount rates).

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99 | \$89 |

APPENDIX 2 Scenario 2

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel. This hotel offers **Best Rate Guarantee** (BRG). BRG means that the posted rate on the hotel's website is the lowest available rate (excluding any special discount rates).

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99.9 | \$99.5 |

APPENDIX 3 Scenario 3

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel. This hotel offers **Best Rate Guarantee** (BRG). BRG means that the posted rate on the hotel's website is the lowest available rate (excluding any special discount rates).

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99 | \$109 |

APPENDIX 4 Scenario 4

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel. This hotel offers **Best Rate Guarantee** (BRG). BRG means that the posted rate on the hotel's website is the lowest available rate (excluding any special discount rates).

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$109.5 | \$109.9 |

APPENDIX 5 Scenario 5

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel.

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99 | \$89 |

APPENDIX 6 Scenario 6

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel.

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99.9 | \$99.5 |

APPENDIX 7 Scenario 7

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel.

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99 | \$109 |

APPENDIX 8 Scenario 8

Imagine you are going out of town on a short LEISURE trip next week and want to book a standard room with a king-size bed in a three-star hotel for one night at your own expense. Assume you do NOT qualify for any discount.

You narrowed down your search to the following hotel (hotel X) which is a full service hotel.

You have visited the hotel's websites as well as another booking channel you regularly use (this can be any booking channels such as Expedia.com, Kaya.com, Social Media sites of a hotel chain, or mobile booking apps of a hotel...) to check this hotel's room rate for the same type of room on the same date. You have obtained the following information:

| Hotel X | Hotel's Websites | Another Booking Channel |
|---------|------------------|-------------------------|
| Rates | \$99 | \$109 |

APPENDIX 9 Scale Items

Perceived Fairness

1. Hotel X's pricing practice is fair.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

2. Hotel X's pricing practice is ethicality acceptable.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

3. Hotel X took advantage of the customer.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

4. I agree with the pricing policies of hotel X.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Booking Intent

1. The likelihood that I would book this room is:

Highly unlikely 1 2 3 4 5 6 7 Highly likely

2. The likelihood that I would consider staying at this hotel next week is:

Highly unlikely 1 2 3 4 5 6 7 Highly likely

Familiarity

1. Are you familiar with hotels' pricing strategies?

Unfamiliar 1 2 3 4 5 6 7 Familiar

2. How often have you seen, hear of or experienced hotels' pricing strategy?

Unfamiliar 1 2 3 4 5 6 7 Familiar

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Dissertation Title:

Revenue Management in a Multi-Channel Environment: The Effect of Pricing Strategies on Perceived Fairness

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