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# A Theoretical Framework of the Impact of Price Transparency on Pricing in the Lodging Industry

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# **A Theoretical Framework of the Impact of Price Transparency on Pricing in the Lodging Industry**

## **ABSTRACT**

Facilitated by electronic market places, price transparency has gained momentum in influencing hotel pricing and aroused heightened stakeholder interest recently in the lodging industry. However, there lacks a theoretical framework that explains the impact of price transparency on pricing and widely different opinions appear to introduce confusions to industry practitioners. Therefore, this study is designed to reveal a theoretical framework of the impact of price transparency on pricing for the lodging industry and offer relevant managerial implications.

***Keywords:*** Price transparency, hotel pricing, hotel, electronic marketplaces, Internet

## 1. INTRODUCTION

The advent of the Internet has revolutionized people's lives and the lodging business over the last 20 years. For 24 hours a day and 7 days a week, the Internet has enabled a low-cost platform for retail distribution that can reach customers anywhere in the world (Clemons, Hann, and Hitt, 1999). The application of the Internet has developed electronic marketplaces, which has taken over the majority of transactions in the lodging business. According to Thevenot (2011), more than 40 percent of all bookings (including direct and indirect bookings) are made online and some even have reached 80 percent because of their Internet only hotel room rates. In particular, the U.S. (41%) and Europe (37%) online travel agency shares are the two highest among online travel regions (Dooley, 2011).

The proliferation of electronic marketplaces has created a vast amount of information about products, prices, transactions and competitors, which lead to tremendous flows of information between buyers and sellers, between suppliers and manufacturers, and among competitors (Zhu, 2002). Information has become more transparent in electronic markets with significantly reduced searching costs (Clemons et al., 1999). As a result, customers are able to retrieve hotel prices and hoteliers to track competitors' pricing strategy changes, among other pieces of online information almost from anywhere at any time with a simple Internet connection. This increased price transparency appears to increase hoteliers' tendency to discount room rates to increase occupancy during tough economic times and steal market share in good times (Enz, Canina, and Lomanno, 2009). Randy Smith, co-founder of STR (previously known as Smith Travel Research), noticed this potentially adverse impact of price transparency and recently raised the following question in the 4<sup>th</sup> hotel data conference: Could price transparency result in a vicious cycle of prolonged discounting practices in the lodging industry?

This question has stimulated an important debate regarding the impact of price transparency on pricing in the lodging industry and many practitioners have responded to heightened stakeholder interest in price transparency with widely different opinions. As this question arouses tensions between different theoretical and empirical perspectives (e.g., Bakos, 1997; Clemons, Hann, and Hitt, 1999; Granados, Gupta, and Kauffman, 2003; Lal and Sarvary, 1999; Nilsson, 1999; Zhu, 2004) and has yet to be directly examined in the hospitality literature, this study is designed to offer a theoretical framework that helps to close the gap and enables hotel managers, particularly revenue managers, to determine the impact of price transparency while pricing their hotel rooms. Because this theoretical framework and the conclusions that follow are relevant to the extent that managers wish to improve stakeholders' wealth, I am able to infer managerial implications.

## **2. THE THEORETICAL FRAMEWORK**

This theoretical framework is created to explain the empirical phenomena of price transparency's impacts on pricing in the hotel industry. The fundamental assumption is that these impacts are not random but systematic. Consequently, a structure is possible to be formulated and viewed as a system.

To elaborate on assumptions: First, this study assumes that pricing is rational in the sense that it is guided by "pricing and revenue optimization" (e.g., Phillips, 2005, p26); in other words, hotel managers make their pricing decision to maximize the "net contribution" (operating profit) within the constraint of limited information. Second, this study is attempting to build a positive theoretical framework and not a normative theory. Third, if the impact of price transparency is assumed to be systematic, it can be observed in certain standard ways. Later on, I describe a

series of examples of the impact of price transparency. What this study must describe, then, is what goes on between price transparency and pricing from a holistic perspective.

### **2.1. Price Transparency Defined**

There are three important notions involved in the definition of price transparency—availability, accessibility, and visibility. For example, from a consumer’s perspective in the lodging industry, price transparency is commonly defined as the ability for a consumer to observe the room rate for each night of his or her stay and to compare room rates for different hotels easily (Carroll and Siguaw, 2003; Rohlfs and Kimes, 2007; Miao and Mattila, 2007), as when information about the trading and transaction process, such as quotes and transaction prices, are available, the market can be considered price transparent (Granados, Gupta, and Kauffman, 2004). Price transparency is also defined as the degree to which market participants have access to information on pricing, both before and after trades, order sizes (before resulting in trades) and trade sizes (after execution) (Clemons, Hitt, Gu, Thatcher, and Weber, 2002) and similarly, as reflect the degree to which market participants know the prevailing prices and characteristics or attributes of goods or services on offer (Clemons et al., 2002).

Based on these definitions, therefore, I define price transparency as the degree of availability, accessibility, and visibility for hotel managers to access room rates and pricing information of their competitors for this study.

### **2.2. The Impacts of Price Transparency**

Price transparency, as defined herein, can act as an important force and exert its impact on pricing both from within and outside of the traditional supply and demand framework. Specifically, price transparency can influence prices not only directly, but also indirectly through search costs, competition, demand, efficiency, and product differentiation (e.g., Bakos, 1997;

Clemons, Hann, and Hitt, 1999; Granados, Gupta, and Kauffman, 2003; Lal and Sarvary, 1999; Nilsson, 1999; Zhu, 2004).

### **2.2.1. Direct Impact on Prices**

Price transparency could sometimes drive prices up and bring higher revenues (Lal and Sarvary, 1999), as price transparency could lead to monopoly pricing in the following circumstances. First, if sufficient buyers and sellers are involved, the prices can be increased and competition can be driven down. Second, if the products have relevant non-overwhelming, non-digital attributes, customer loyalty can be efficiently leveraged. Third, if the products are what people purchase regularly; consumers tend to remember the ones that they preferred. Prices in this case are more likely to increase since consumers are more loyal to these brands. And lastly, if the purchase situation can be characterized by “destination shopping”, price transparency tends to increase prices because the cost of taking a shopping trip is higher than the cost of searching online.

### **2.2.2. Indirect Impacts on Prices**

**Reduce searching costs.** The search cost measures the difficulty of getting information on prices; therefore, higher price transparency leads to lower searching cost (Nilsson, 1999). In traditional marketplaces, the cost of search is the cost of visiting more than one store. On the Internet, with OTAs, hotels own websites, and social media platforms, searching costs are greatly reduced. Traditional opinions seem to be that “the Internet lowers the cost of distribution and the cost of search, thereby lowering barriers to entry, and thus ‘creating the closest thing yet to Adam Smith’s perfect competition’” (Lal and Sarvary, 1999).

Lower search costs provide an opportunity for firms to leverage their brand demand, loyalty and increase their profits; even when the cost of searching for lower prices seems to be

lower than that for the product attributes, the Internet can lead to lower levels of price and bring about higher revenues (Lal and Sarvary, 1999). However, Bakos (1991) pointed out that the provision of price information leads to a reduction of buyers' search cost, which in turn reduces sellers' profits and increases consumer welfare. In addition, there is also a chance that the use of the Internet can discourage consumers from engaging in search (Lal and Sarvary, 1999).

A reduced search cost, or a facilitation of price comparisons, therefore, should lead to price changes with reduced price dispersion (Nilsson, 1999). In other words, price transparency can lead to lower or higher prices by reducing consumer search costs.

**Increase competition.** Price transparency lowers search costs, enables consumers to find the lower prices and, therefore, leads to greater competition among sellers and benefits for buyers at the expense of sellers (Bakos, 1997; Zhu, 2004). Bakos (1997, 1991) also suggested that reducing the search cost of price and product information improves market efficiency but can also reduce seller profits, as when price information is provided, the buyers' search cost decreases, which reduces the sellers' profits and, therefore, leads to a buyer's market. According to Dave McCormick, Senior Vice President of FreeMarkets Inc. (Wilson, 2000), "Suppliers are finding that, in a transparent environment where competitors can see each other's bids, the price for goods is being driven down."

Hotels are faced with the paradox of price transparency in electronic marketplaces—price information is widely available to facilitate marketing and distribution; but, at the same time, this price transparency makes it difficult for companies to capture higher profits (Porter, 2001). Perhaps Lal and Sarvary (1999) shone some light on this paradox as they argued that competition changes depend on the relationship between searching costs for prices and that for product

attributes—when the cost of searching for prices is lower than that for product attributes, competition increases, *visa vie*.

While price transparency would result in greater price competition, Bakos (1997) argued that the market needs price transparency because it increases the efficiency of markets by providing a better allocation and reducing search costs, which could increase the net social surplus—low market efficiency leads to higher search costs to consumers, which can reduce buyers in the market and lead to efficiency losses and even market breaking down.

Consequently, the raised competition level resultant from increased price transparency through reduced search costs, combined with the shared characteristics within a hotel's competitive set, tend to subject hotels to acute price discount pressure (Clemons, Hitt, Gu, Thatcher and Weber, 2002).

**Increase demand.** A market mechanism with higher transparency could result in higher consumer demand because consumers are more willing to search within that market mechanism, electronic or physical, and price transparency is positively related to customers' willingness-to-pay, which can result in higher consumer demand and lower the price elasticity for firms with greater transparency (Granados, Gupta, and Kauffman, 2003). The same results were obtained by Lee (1998) in his study on electronic marketplaces. In Lee's study, a used car sale website, AUCNET, was examined to determine whether electronic markets with high price transparency would lower product prices. On AUCNET, all used cars have to be inspected by AUCNET mechanics and are rated from 1 to 10 (10 indicates a new car). Only those rated higher than 4 could be listed on AUCNET. This strategy assures the quality of cars sold on the website, therefore, resulting in higher selling prices than in a traditional market. This indicates that a high



price transparency market could lead to higher prices if the market assures the quality of the product.

**Increase efficiency.** Some literature also considers price transparency or information transparency a good rather than bad addition to electronic marketplaces since it increases the efficiencies that arise from a more widespread dissemination of accurate information (e.g., Granados, Gupta, and Kauffman, 2003). With the spread of the Internet and B2B electronic marketplaces, greater market transparency for price and transaction information has enabled more efficient pricing and more effective matching of buyers and sellers (Zhu, 2002). According to Zhu (2004), receiving more accurate information (pricing information) permits the firms to determine what strategies are more suitable to the actual state of the market and, hence, improve the profits. Sellers and buyers obtain the economic benefits that could have been held by intermediaries by being exposed to trade information of quotes and transaction history from the market (Granados, Gupta, and Kauffman, 2003).

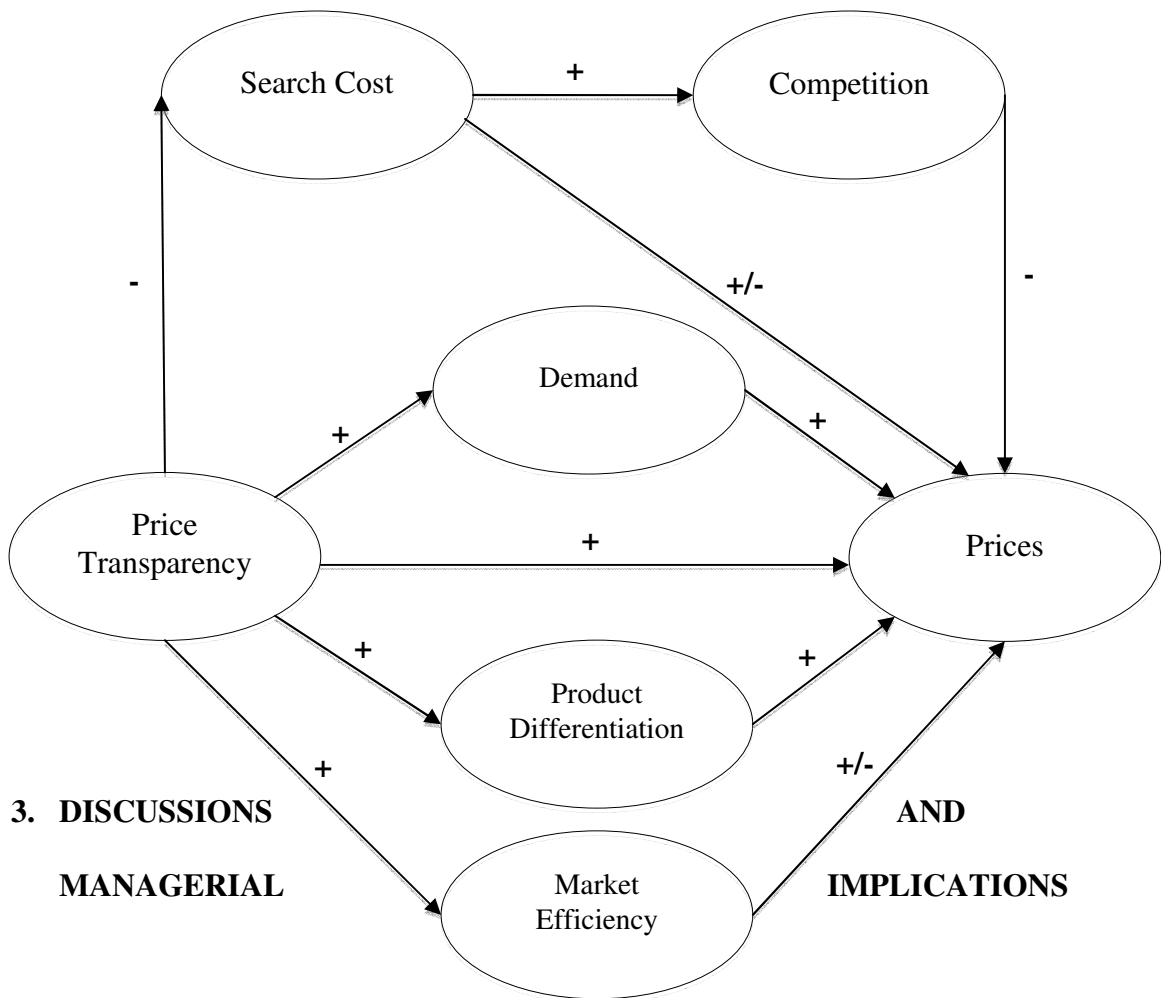
But notice, price transparency in the electronic marketplace is not all positive. A transparent environment does not necessarily do all good for all its participants (Zhu, 2004). It benefits some firms but hurts others; there is a chance that the market share can be redistributed from high-cost firms to low-cost firms (Zhu, 2002).

**Increase product differentiation.** Greater price transparency pushes market sellers to increase product differentiation to capture more profits. Even when the products are with relatively simple and unambiguous product descriptions, differentiation is essential for electronic markets to assure sellers' profits (Clemons, Hann, and Hitt, 1999). Price transparency does lead to a higher competition level but the competitive effects can diminish if firms react by differentiating their products further (Schultz, 2004).

As mentioned previously, the reduction in consumer search costs in electronic markets can lead competitors to increase price competition, which could possibly result in converging prices and ultimately eliminate any extraordinary profits (Malone, Yates and Benjamin, 1987; Bakos, 1991, 1997). Complex products characteristics protect producers from vicious price competition through product differentiation (Porter, 1985). By offering different products (either different price-quality combinations or different non-quality attributes), firms can soften competition and increase their profits in markets (Hotelling, 1929; Salop, 1979; Gabszewicz and Thisse, 1979, 1980; Shaked and Sutton, 1982, 1983; Perloff and Salop, 1985). Price transparency helps sellers increase their product differentiation and can potentially lower price competition in the market (Lal and Sarvary, 1999). On the other hand, even with products with simple and unambiguous characteristics, product differentiation is an important component of electronic markets strategies (Clemons, Hann and Hitt, 1999).

According to Clemons, Hann, and Hitt (1999), consumers prefer trading products “closeness” against price; firms are able to charge prices above marginal cost and, therefore, maximize profits when firms locate as far away from each other as possible. By differentiating themselves from the competitors, hotels are able to charge higher than average prices since their services are unique (Kim, Han and Hyun, 2004). However, if hotels are unable to add value or differentiate themselves from competitors, they should set room prices comparable to their average competitor’s prices (Kim, Han and Hyun, 2004). Also, for those hotels that have differentiated themselves from competitors, but in a negative way, should command lower than average competitor’s prices and need to find ways to improve the differentiation premium factors (Arnold, Hoffman, and McCormick, 1989).

**Figure 1: The Theoretical Framework of the Impact of Price Transparency on Pricing**



The theoretical framework identified herein (Figure 1) reveals the sophisticated impact of price transparency on pricing that includes both the complexity of human activities and environmental circumstances (Steed and Gu, 2005, p. 370). While a company’s internal and external factors simultaneously influence an hotelier’s pricing decisions (Kotler and Armstrong, 1996), product differentiation appears to be the most prominent internal factor that can be directly used to guide marketing goals, marketing strategy mix, cost, and organization (Hung, Shang and Wang, 2010) because price transparency tends to increase prices through enhanced

product differentiation (e.g., Clemons, Hann, and Hitt, 1999). Where there is little ability to differentiate a hotel's product or service, increased competition driven by lower search cost may significantly pressure hotel prices down (e.g., Bakos, 1997; Nilsson, 1999), causing the vicious cycle of prolonged hotel discounting practices that concerned Mr. Randy Smith and many hoteliers.

Except product differentiation, other factors in the theoretical framework act in an exogenous fashion; in other words, hotel managers barely have control over them. However, a clear understanding of these exogenous forces can significantly improve managerial pricing practices because proper pricing strategies can be employed to accommodate the necessary changes. The trend of increasing price transparency facilitated by Internet and electronic market places can have a direct and positive impact on pricing when the demand for the hotel product is consistently high over time. Hotels of this type should not rely on discounting practices over time as increased price transparency helps the hotel to secure a higher price. The trend of increasing price transparency can also lead to higher demand and improved market efficiency and in turn higher prices (e.g., Granados, Gupta, and Kauffman, 2003; Lee, 1998). The challenge, though, comes from lower search cost and intensified competition, which tend to pressure down hotel prices (e.g., Bakos, 1997; Nilsson, 1999). Without proper product differentiation, competition can commoditize the hotel industry and drives hotel prices down significantly; hoteliers will lose their pricing power and be subject to the mercy of the market force because a hotel property's pricing power depends on the existence of its own price-response function (e.g., Phillips, 2005). In other words, differentiation is the very key that grants hotels the power to price their rooms individually and the competitive effects can be overcome if hotels react by differentiating their products further from each other (Schultz, 2004).

Hotel managers may often feel compelled to determine their room rates based on those of their competitors—by either matching or under-cutting their competitors. By sacrificing a certain amount of revenue, hotel managers can capture more customers, fill out occupancy, and achieve a higher market share. However, this competition-driven pricing strategy does not appear to increase demand as much as it reduces revenues (Enz, Canina, and Lomanno, 2009). Offering lower prices than does the competition leads to higher occupancy percentages for the discounting hotel, but these comparatively lower prices also result in lower RevPAR performance than that of the competition. On the contrary, hotels that charge a higher rate do lose their occupancy but can achieve much higher RevPAR; at the end of the day, the RevPAR performance is what really matters to the bottom line of a hotel. For hotels that are lowering rate to fill out occupancy, the final goal is indeed to capture more revenue, and the best way to have a higher revenue performance than the competitors is to have higher rates (Enz, Canina, and Lomanno, 2009). A hotel should not drop its prices below those of its true competitors if it wishes to enjoy a RevPAR premium—a hotel should always price above the direct competitors in order to generate higher rooms revenue, while pricing below the competitors does not necessarily stimulate sufficient market demand to give the hoped-for revenue boost to make up for the lower rates (Enz, Canina and Lomanno, 2009).

One particular pricing strategy hotel managers may find useful in dealing with price transparency's impacts is known as value-based pricing. Nagle, Hogan and Zale (2010) termed value as “the overall satisfaction that a customer receives from using a product or service offering”. Value-based pricing is the practice to set prices according to customer perceived value of a product or a service (Nagle et al., 2010), which is considered the most profitable pricing strategy by many researchers, especially in the service industry (Hübnerberg and

Huettmann, 2003; Dutta et al., 2003; Ding, 2007; Piercy et al., 2010). The value-based pricing strategy takes customer perceived value into account and prices according to customers' willingness-to-pay. In other words, value-based pricing is based on how much value customers *perceive* a hotel offers. Consequently, hotel managers can add value to their products and services by differentiating themselves from competition, increasing efficiency, and lowering buying costs. For example, Zhang, Ye, and Law's (2011) study shows that room quality is the most influential factor on travelers' willingness to pay for an economy hotel; when come to midscale and luxury hotels, location is always the first considering factor. Well-known objective factors such as star rating, brand name, location, and the number of rooms are also critical for pricing hotel rooms (Hung, Shang and Wang, 2010). For example, bigger hotels that have more employees in housekeeping or front office staff members for each room are usually associated with higher room prices; the more rooms a hotel has, the higher prices it is able to charge (Hung, Shang and Wang, 2010). Hotels near business districts or tourist areas are able to charge significantly higher as compared to the ones that are located out of a main area. Bull's (1994) study revealed that the room rates decrease as the hotel's distance from the town center increases or the room rates decrease as the hotel's star rate decreases. Star rating and corporate affiliation also affect hotel-pricing decisions (Bull, 1994). For example, a full service hotel with bed and breakfast accommodations charges higher than a limited service hotel (Monty and Skidmore, 2003). Extra amenities such as hot tubs, private baths, and a larger room can be significant determinants of prices (Espinet, Saez, Coenders, and Fluiva, 2003).

#### **4. CONCLUSION**

The most significant finding of this study is to reveal a theoretical framework where differentiation is taking the central role for hotel managers to improve their pricing power, even

though price transparency influences many factors in an exogenous fashion. It appears that increasing customers' willingness-to-pay by value-adding differentiation strategies tends to lead to higher RevPAR. For example, hotels can soften competition and increase their profits by offering different products, either different price-quality combinations or different non-quality attributes (color, decor) (Hotelling, 1929; Salop, 1979; Gabszewicz and Thisse, 1979, 1980; Shaked and Sutton, 1982, 1983; Perloff and Salop, 1985). Creating the service value that customers are looking for and at the same time the competitors lack would enable hotels stay competitive in the market.

Moreover, hoteliers should also understand that price transparency could add value to a hotel (Figure 1). They should take advantage of price transparency and make it easier for customers to search either by prices or by room features. For example, adding room search engine and introducing search engine optimization on their websites would likely attract more consumers to check hotel rooms on their websites and, therefore, increase demand. Since firms can influence the level of competition by controlling different types of information that is accessible on websites or transparent to search engines (Lal and Sarvary, 1999), hotels should also pay attention to proper exposure of information that would bring the benefits of value-adding differentiation.

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