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**COMPETITIVE DYNAMICS AND STRATEGIC PRICING DECISIONS:
OBSERVATIONS FROM THE LODGING INDUSTRY**

A Dissertation in

Hotel, Restaurant, and Institutional Management

by

YongHee Kim

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The dissertation of YongHee Kim was reviewed and approved* by the following:

John O'Neill
Associate Professor of Hospitality Management
Dissertation Adviser
Chair of Committee

Anna Mattila
Professor of Hospitality Management
Professor-in-Charge of Graduate Programs in Hotel, Restaurant, and Institutional Management

Amit Sharma
Assistant Professor of Hospitality Management

Don Hambrick
Smeal Chaired Professor of Management

*Signatures are on file in the Graduate School.

ABSTRACT

The fundamental question posited by this study was “how do competitors’ pricing changes affect organizations’ strategic pricing behavior?” In answering this question, this study focused on local hotel managers’ competitive pricing decisions. The effectiveness of organization’s strategies and marketing often depends on how the organization responds to its competitors’ strategic movements (e.g., Day & Reibstein, 1997; Reibstein & Wittink, 2005). Therefore, it is critical for an organization to take competitors into account in developing strategic plans.

The hospitality pricing literature has been largely focused on customer-based pricing, where room price was based on customer segmentation strategy (i.e., yield management). Hotel pricing research, however, has not paid close attention to the direct effects of competitors’ pricing on hotel manager’s pricing decisions. This study fills the gap in the hospitality pricing literature by diagnosing the influence of competitors on hotels’ strategic pricing behavior.

Many studies regarding the competitive interactions among firms in price and advertising have been done at the corporate (or brand) level. In spite of the increasing competition and the importance of competitor effects on strategies and performance of local hotels, empirical research regarding the issue is limited. This study fills this gap in the literature by providing insights into the effects of competitive interactions on hotels’ strategic pricing behavior at the local property level.

This study found that competitors’ price changes had a significant influence on hotel managers’ strategic pricing decisions. Specifically, hotel’s room rates were more likely to be influenced by rate changes of competing hotels that were similar in market segment, had a strong

market position and a credible commitment to the changes. Local hotel managers were likely to match rate decreases of their rivals that were similar in market segment and had a strong market position. In the case of the rivals' rate increases, the managers tended to follow the increases when the rate increasing rivals were similar in market segment and had a stronger market position and a credible commitment to the increases. Hotel managers' outdoing their rivals' rate changes (either increases or decreases) were unlikely. The managers surpassed their rivals' rate changes only when certain conditions were met. A greater similarity in market segment between focal and rival hotels, strong brand power of rivals, and higher market demand were the conditions for outdoing rivals' rate increases, while a greater similarity in market segment, strong brand power of rivals, and their own hotels' cost leadership strategy were for conditions outdoing rivals' rate decreases.

This study offers substantial contributions to the hospitality strategy and pricing literature and the competitive dynamics literature by examining the influences of specific characteristics of competitors on strategic pricing decisions of an organization (i.e., a local hotel). The findings of this study should assist hotel managers in developing more effective pricing strategies. This study also provided several recommendations for future studies regarding competitive pricing strategies in the lodging industry.

TABLE OF CONTENTS

List of Tables	viii
List of Figures	ix
Acknowledgements	x
 CHAPTER 1. INTRODUCTION	 1
Study Objectives and Significance of the Study	2
Research Questions	7
Organization of the Dissertation	9
 CHAPTER 2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK	 10
Competitive Dynamics	10
Competitive Reactions	12
Reactor Characteristics	13
Action Characteristics	14
Actor Characteristics	15
Competitive Pricing Decisions	17
Types of Competitive Pricing Decisions	19
Conceptual Framework	20
Strategic Similarities	22
Strategic Similarities and Matching Price Increase	24
Strategic Similarities and Matching Price Decrease	26
Commitment Credibility	27
Ownership Form and Commitment Credibility	29
Management Form and Matching Price Increase	31
Management Form and Matching Price Decrease	31
Market Position	32
Competitor's Market Position and Matching Price Increase	34
Competitor's Market Position and Matching Price Decrease	36
Competitor's Market Position:	
Strategic Similarities and Matching Price Increase/Decrease	37
Generic Strategies: Moderator	38
Environmental Condition: Moderator	40
Market Demand for Hotel Rooms	40
Magnitude of Competitive Pricing Behaviors:	
Outdoing a Competitor's Change	42
 CHAPTER 3. METHODOLOGY	 44
Sample	44
Data Collection	45
Daily Rates	45
Data of Hotels	47

Measurement	47
Strategic Similarities.....	47
Similarity in Size.....	47
Similarity in Price.....	48
Similarity in Physical Distance.....	48
Similarity in Market Segment.....	48
Market Position.....	49
Brand Power.....	49
Commitment Credibility.....	49
Management Form.....	49
Generic Strategy.....	49
Environmental Conditions.....	50
Dependent Variables.....	50
Responsiveness.....	50
Tendency of Matching and Outdoing Price Increase/Decrease.....	54
Control Variables.....	56
Manager Industry Experience.....	56
Analysis for Hypotheses Testing.....	56
 CHAPTER 4. RESULTS	 58
Sample Hotels.....	58
Pricing Behaviors of Hotels.....	60
General Tendency of Price Movement.....	60
General Tendency of Competitive Pricing Responses.....	61
Hypotheses Testing.....	63
Competitor Characteristics and a Hotel's Responsiveness to the Rival's Price Change.....	67
Strategic Similarities and Responsiveness.....	69
A Focal Hotel's Strategic Orientation and Responsiveness.....	70
Market Demand and Responsiveness.....	70
Competitor Characteristics and a Hotel's Tendency of Matching the Rival's Price Increase.....	71
Strategic Similarities and Matching Increase.....	72
Commitment Credibility and Matching Increase.....	74
Competitor's Brand Power and Matching Increase.....	75
A Focal Hotel's Strategic Orientation and Matching Increase.....	75
Market Demand and Matching Increase.....	77
Competitor Characteristics and a Hotel's Tendency of Matching the Rival's Price Decrease.....	78
Strategic Similarities and Matching Decrease.....	78
Competitor's Brand Power and Matching Decrease.....	80
A Focal Hotel's Strategic Orientation and Matching Decrease.....	81
Market Demand and Matching Decrease.....	81
Competitor Characteristics and a Hotel's Tendency of Outdoing a Rival's Price Change.....	82

Outdoing a Rival's Price Increase	83
Outdoing a Rival's Price Decrease	85
CHAPTER 5. CONCLUSIONS	87
Summary of Findings and Discussion.....	87
Hotel's Competitive pricing Pattern	87
Primary Competitor and Responsiveness	88
Competitor Characteristics and Types of a Hotel's Response to a Rival's Price Changes.....	90
Matching Increase/Decrease	90
Outdoing Increase/Decrease	92
Role of a Focal Hotel's Strategic Orientation and Environmental Condition	95
Market Demand	96
Generic Strategy.....	96
Implications	96
Implications to the Literature.....	96
Implications for Managers	99
Limitations	101
Recommendations for Future Research	102
Conclusions	104
REFERENCES	106
Appendix: SAMPLE HOTELS AND MARKET AREAS	117

LIST OF TABLES

Table 4.1. AAA Ratings of Sample Hotels	58
Table 4.2. Market Segment of Sample Hotels.....	59
Table 4.3. Room Rate Changes	61
Table 4.4. Descriptive Statistics.....	67
Table 4.5. Logistic Regression: Responsiveness.....	68
Table 4.6. Matching Increase: Correlation Matrix.....	73
Table 4.7. Multiple Regression: Matching Increase.....	74
Table 4.8. Matching Decrease: Correlation Matrix.....	79
Table 4.9. Multiple Regression: Matching Decrease.....	80
Table 4.10. Multiple Regression: Outdoing Increase.....	83
Table 4.11. Multiple Regression: Outdoing Decrease.....	85

LIST OF FIGURES

Figure 2.1. A Conceptual Illustration of Research Stream in Competitive Dynamics.....	11
Figure 2.2. Types of Competitive Pricing Behaviors.....	20
Figure 2.3. Proposed Model: Competitor and Competitive Pricing Decisions.....	23
Figure 2.4. Prisoner’s Dilemma Game Model	25
Figure 2.5. Strategic Similarities and Competitive Pricing Decisions	27
Figure 2.6. Management Form and Competitive Pricing Decisions.....	32
Figure 2.7. Market Position and Competitive Pricing Decisions	38
Figure 2.8. Role of Strategic Orientation and Environmental Condition	42
Figure 3.1. Room Rate Data Collection Process.....	46
Figure 3.2. Matching and Outdoing	54
Figure 4.1. Rate Change Frequency	60
Figure 4.2. Rate Matching Frequency.....	61
Figure 4.3. Competitive Pricing Response Pattern	63
Figure 4.4. Empirical Model and Hypotheses.....	64

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DEDICATION

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CHAPTER 1

INTRODUCTION

Organizational strategy literature proposes three approaches that may assist organizational owners and managers with generating competitive advantage, implementing effective and efficient strategies, and attaining relatively high market performance: (1) market structure, (2) internal organizational resources, and (3) relationships with other organizations (Kim & Oh, 2004). The five-force approach by Porter (1980) emphasizes the power of the industry in which an organization operates and the generic strategic positions (i.e., product differentiation, cost leadership, and focus) as the primary sources of an organization's high market performance (Porter, 1980, 1985). The resource-based approach (Barney, 1991) turns the focus to the resources within the company. More recently, the relational approach suggests that value-adding resources can be created through inter-firm linkages such as strategic alliances and joint-ventures (Dyer & Singh, 1998).

Organizations do not exist in a vacuum. They are inherently interdependent (Kim & Oh, 2004; Preble, Reichel, & Hoffman, 2000). The effectiveness of a particular strategy may depend on the strategies pursued by other organizations in the same market (Mazzeo, 2002). Armstrong and Collopy (1996) reported that many business professors, students, and managers believe that a competitor-oriented strategy is desirable and would enhance firm performance. Furthermore, a number of strategy and marketing scholars have acknowledged that the impact of strategies and marketing often depends on how an organization responds to its competitors' strategic actions (e.g., Day & Reibstein, 1997; Reibstein & Wittink, 2005). Therefore, it is critical for an organization to take account of others competing in the marketplace.

Study Objectives and Significance of the Study

The fundamental question posited by this dissertation is “how do competitors’ pricing changes affect organizations’ strategic pricing behavior?” In answering this question, this dissertation focuses on ‘competitive dynamics’ and ‘pricing strategy’ in the lodging industry.

“Competitive dynamics” are the actions and reactions taken by organizations vis-à-vis their rivals (Canina et al., 2005; Fosfuri & Giarratana, 2009; Smith et al., 2001). An action can be defined as a specific and detectable competitive move initiated by an organization, such as introducing a new product or entering a new market, which may lead to the organization’s acquiring its rivals’ market share or reducing their anticipated returns (Chen & Hambrick, 1995). A response is a specific and detectable countermove, prompted by an initial action, that an organization takes to defend or improve its share or profit position in its industry (Chen & Hambrick, 1995; Chen & MacMillan, 1992).

Competitive dynamics literature suggests that competitive interactions among organizations are a function of (a) the characteristics of the organization taking the action (e.g., market share, size, reputation, top management team (TMT) characteristics: Bowman & Gatignon, 1995; Chen & Hambrick, 1995; Steenkamp, Nijs, Hanssens, & Dekimpe, 2005; Venkataraman, Chen, & MacMillan, 1997), (b) the characteristics of the action (e.g., radicality, scope, magnitude, threat; Chen et al., 1992; Dickson & Urbany, 1994; Leeflang & Wittnink, 1992, Smith, Ferrier, & Ndofor, 2001), (c) the characteristics of the rival (e.g., size, performance, desired reputation, organizational sensory systems; Gatignon & Reibstein, 1997; Smith et al., 1989), and (d) environmental characteristics (e.g., turbulence, market growth, industry concentration: Pelham & Wilson, 1996; Slater & Narver, 1994; Ramaswamy et al., 1994; Robinson, 1988). This dissertation focuses on the characteristics of rivals.

An organization's competitive reaction is derived from *awareness* of an action, *motivation* to react, and *ability* to react (Smith et al., 2001). An organization would be more or less aware of an action and more or less motivated to react depending on who is taking the action. Chen and Hambrick (1995) and Steenkamp et al. (2005) examined the impact of relative market position among organizations on their competitive action/reaction behaviors. Chen and Hambrick (1995) found that a firm's size compared to its competitors determined its basic propensity to initiate competitive moves and its responsiveness to direct competitive attack. They reported that firms are more responsive when attacked by large firms. In their study of a firm's competitive reactions to advertising and promotion attacks, Steenkamp et al. (2005) revealed that the intensity of reaction to a competitive action increases with the market power (i.e., market share) of the acting firm. Actions by larger or high market share firms may be more visible and threatening, which enhances the reaction intensity of the responding firms (Smith et al., 2001). The characteristics of the acting firm affect both the action characteristics and the reacting firm's awareness and motivation.

I attempt to extend this stream of research in competitive dynamics by identifying competitor characteristics that significantly affect an organization's competitive pricing decisions in the U.S. lodging industry. The best organizations are those who understand their opponents and design effective response strategies in the light of these specific opponents (Meyer & Banks, 1997). Therefore, an organization needs to understand specific characteristics of each individual rival. The organization also needs to respond effectively to each of the rival's price changes. Previous studies on competitive dynamics have been focused on size and market share of a competitor in relation to an organization's competitive strategic behavior. This study examines how other competitor characteristics besides the two well-known characteristics (i.e.,

size and market share) influence a hotel's competitive pricing behavior. Thus, the results of this study will assist hotel managers in understanding better how to design more effective competitive pricing strategies in the light of specific competitors.

In this study, the U.S. lodging industry is used to empirically examine the relationship between competitor characteristics and competitive interactions among firms. The present study is at the local hotel property level (i.e., an individual hotel property: 'hotel' hereafter), rather than at the national corporate level because competition in the hotel industry is largely a local phenomenon (Vroom & Gimeno, 2007).

Hotels tend to cluster around particular geographic locations because of natural advantages associated with the locations (Canina et al., 2005). The intensive competition due to the physical proximity among hotels makes it very important for hotel operators to carefully watch the strategic movements of other hotels competing in the same geographic area. A number of scholars acknowledged the significant influences of competitors on market entry and location decisions and financial performance of a hotel (e.g., Baum & Mezias, 1992; Chung & Kalnins, 2001; Canina et al., 2005; Enz, Canina, & Lomanno, 2009; Kalnins & Chung, 2004; Urtasun & Gutiérrez, 2006). However, market entry or location decisions are not under the control of local hotel managers. Corporate headquarters/owners usually make such broad-based strategic decisions. Therefore, competitive dynamics studies in regard to market entry and location decisions may not effectively reflect the competitive behavior of local hotel operators. In spite of the increasing competition and the importance of competitor effects on strategies and performance of local hotels, empirical research regarding the issue is limited.

I focus on pricing strategy in this dissertation although there are many other strategies associated with hotel operations, such as marketing and human resource management. Pricing decisions are considered one of the key decision areas for hoteliers (Ninemeier, 2005) and are significantly influenced by competition (Enz et al., 2009).

Competitor effects on pricing in the hotel industry have not yet received significant attention in the literature. The majority of pricing literature related to the hotel industry has focused on customer effects using the concept of ‘reservation price (the maximum price the customer will pay for a product)’ (Shoemaker & Mattila, 2008). Most of the pricing models focusing on customer value creation have failed to incorporate competitive factors (Leone et al., 2006). However, competitors’ decisions to drop or raise price are a key input for pricing decisions in the hotel industry (Enz et al., 2009). Moreover, in interviews with hotel managers, I have found that competitors’ pricing strategies have substantial influence on the managers’ pricing decisions.

Recently, Enz et al. (2009) investigated the effects of a hotel’s competitive pricing (i.e., pricing compared to a competitive set) on its demand and revenue. They found that lower room rates compared to the competitors increase the occupancy but decrease the revenue (i.e., RevPAR). Based on those findings, Enz et al. (2009) suggested that hotels should charge more than their competitors to generate more revenue. However, in reality, there are a great number of hotels that still charge less than their competitors, trying to boost their businesses (occupied guest rooms). Enz et al. (2009) did not effectively incorporate what actually happens in the real-world.

Enz et al. (2009) assumed that a hotel’s response to other hotels’ pricing in its competitive set is the same regardless of the specific attributes of each hotel in the set. Although

hotels in a competitive set may have some similarities, they may also be heterogeneous in other characteristics. Then, a hotel's response to its competitors' pricing may differ by the competitor to which it responds. For example, hotel A may set its room rate lower than hotel B but higher than hotel C even though hotel B and C are both in A's competitive set. Also, hotel A may follow the strategic move of hotel B but not that of hotel C because hotel B is considered the leader in the set while C is a follower. Although Enz et al. (2009) revealed a significant influence of competitors on a local hotel's pricing strategy and financial performance, their study did not offer insights into *how* competitors affect hotel manager's pricing decisions. This study attempts to fill the gap in the hotel pricing literature by exploring how a hotel's pricing decision is influenced by specific competitors interacting in the market.

A hotel manager's pricing decision is influenced not only by competitors, but also by the environmental conditions (e.g., local demand for hotel rooms) of the market and the hotel's generic strategy. This study also investigates how these two factors interact with competitor characteristics in determining hotels' competitive pricing behavior, which provides a more complete and realistic picture of the subject matter.

Several streams of research have addressed, directly or indirectly, the question of competitor analysis for firms within an industry. Strategy researchers have drawn extensively from industrial organization (IO) economics (Barney, 1986; Porter, 1980), which holds that firms that exist in the same industry are *de facto* competitors. This assumption has been challenged by strategic-group literature, whereby authors argue that there are different groups of firms within an industry that share some common attributes with each other (Chen, 1996). Many firms may not be direct or primary competitors. Thus, it is a prerequisite for a firm to identify a set of

competitors with whom it is directly or primarily competing (i.e., competitive set). Two firms will have little motivation to engage each other competitively if they are not in the same competitive set.

The traditional methods used to determine the competitive set of hotels are product-tier classifications based on service, features, and amenities (e.g., luxury, mid-scale, and economy). Kim and Canina (2009), however, found that competition occurs across product tiers when two hotels in different product tiers charge similar prices. Hotel managers I interviewed stated that they may consider a hotel as a direct competitor simply because it is physically very proximate. Classifying competitive sets in the hotel industry is complex. Thus, this dissertation began with the question of who are the primary competitors of a hotel. Then, it examined the influences of competitors on a hotel manager's pricing decisions.

Research Questions

Given the essential objective of this dissertation to empirically investigate how hotels' pricing behavior is influenced by competitors, the research questions that this study attempts to answer are the following:

- (1) Who are the primary competitors for a hotel?
- (2) How do competitors influence hotels' pricing behavior?
 - a. How do characteristics of a rival influence the hotel's tendency of responding to the rival's price changes?
 - b. How are the reaction types influenced by specific characteristics of rivals?

(3) What are the roles of other factors not related to competitor attributes, namely a hotel's generic strategy and environmental conditions, in determining the hotel's competitive pricing behaviors?

To answer the research questions, daily room rates of hotels competing in eight U.S. markets were analyzed. It appeared that rivals similar in market segment were the ones that most influence hotel managers' competitive pricing decisions. That is, hotel managers were more likely to match their rivals' rate increases and decreases when the rivals' target market segments were similar to their own. The likelihood of hotel manager matching rate increases of a rival similar in market segment was enhanced when the rival had a strong market position and a credible commitment to the increases. The likelihood of matching decrease was enhanced when the similar rivals had strong market positions. Outdoing competitors' price increases/decreases occurred far less frequently. This result implies that outdoing competitors' price changes may be a relatively riskier decision.

Overall, hotels using a cost leadership strategy were found to focus more on how much their competitors charge for a room. The cost leadership hotel managers were more responsive to their rivals' rate changes than those using a differentiation strategy. When there was a greater demand for hotel rooms in the market, hotel managers were less likely to respond to their rivals' rate changes, either increases or decreases.

This study enhances the understanding of both academia and hotel operators about the influences of competitors on pricing decisions in the lodging industry. This study is one of few studies that examined the competitor effects on hotel manager's pricing decisions. Thus, this study provides a substantial contribution to the hospitality pricing literature which has not paid

much attention to competitor effects on managers' pricing decisions but focused on the demand-side influence. For the hotel managers, this study assists them in better understanding how to interact with competitors in deciding room rate changes and designing a more effective competitive pricing strategy.

Organization of the Dissertation

This dissertation is organized as follows. In chapter 2, the literature of organizational dynamic competition and competitive pricing is reviewed. Specific hypotheses developed based on the literature are also presented in chapter 2. Chapter 3 discusses research methodology; sample, data collection procedure, and statistical analyses to examine the hypothesized relationships are presented. Results of the analyses are presented in chapter 4. Finally, chapter 5 discusses implications of the study results, study limitations, and recommendations for the future study.

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

In this section, I discuss relevant literature and develop hypotheses. First, the literature regarding competitive dynamics of firms and organizational competitive pricing decisions are reviewed and the contributions of this dissertation to the literature are identified. Then, factors that influence pricing strategies of firms (local hotels, in particular) and the role of competitors in managers' pricing decisions are discussed. Finally, specific hypotheses are developed based on literature regarding competitive dynamics, pricing, and marketing strategy.

Competitive Dynamics

A series of actions (moves) and reactions (countermoves) among firms in an industry create competitive dynamics (Enz et al., 2005; Smith et al., 2001). These action/reaction dynamics reflect the normal and innovative movement of firms in pursuit of profits. The study of competitive dynamics concerns how a firm action affects competitors, competitive advantage, and performance (Smith et al., 2001).

Smith et al. (2001) identified three distinguishing characteristics of competitive dynamics research: (1) the focus on the specific and real actions of firms, (2) the focus on competitive interdependence, and (3) the causes and consequences of action and reaction. The first stream of competitive dynamics research examines characteristics of actions and reactions such as scope, magnitude, and timing (Ketchen, Snow, Hoover, 2004; Chen et al., 1992; Smith et al., 1991; Lee et al., 2000). The second stream of research explores the dynamic actions/reactions context where firm performance is not simply a function of the strategies and actions a firm undertakes

but it is understood relative to the strategies and actions of rivals (Smith et al., 2001). Research in this stream has focused on construction of samples of firms that are interacting with one another (e.g., Smith et al., 1991; Young, Smith, and Grimm, 1996). Finally, much competitive dynamic research has attempted to explain the determinants and consequences of firms' dynamic actions and reactions, with particular emphasis on their performance consequences, i.e., effectiveness of a specific action (Steenkamp et al., 2005) and return on assets (Payne, Kennedy, & Davis, 2009).

Figure 2.1 illustrates the components of competitive dynamics and the relationships among them as conceived by Smith, Grimm, and Gannon (1992) and Smith et al. (2001). I subsequently discuss how these components are associated with each other focusing on their effects on a firm's competitive reactions in particular.

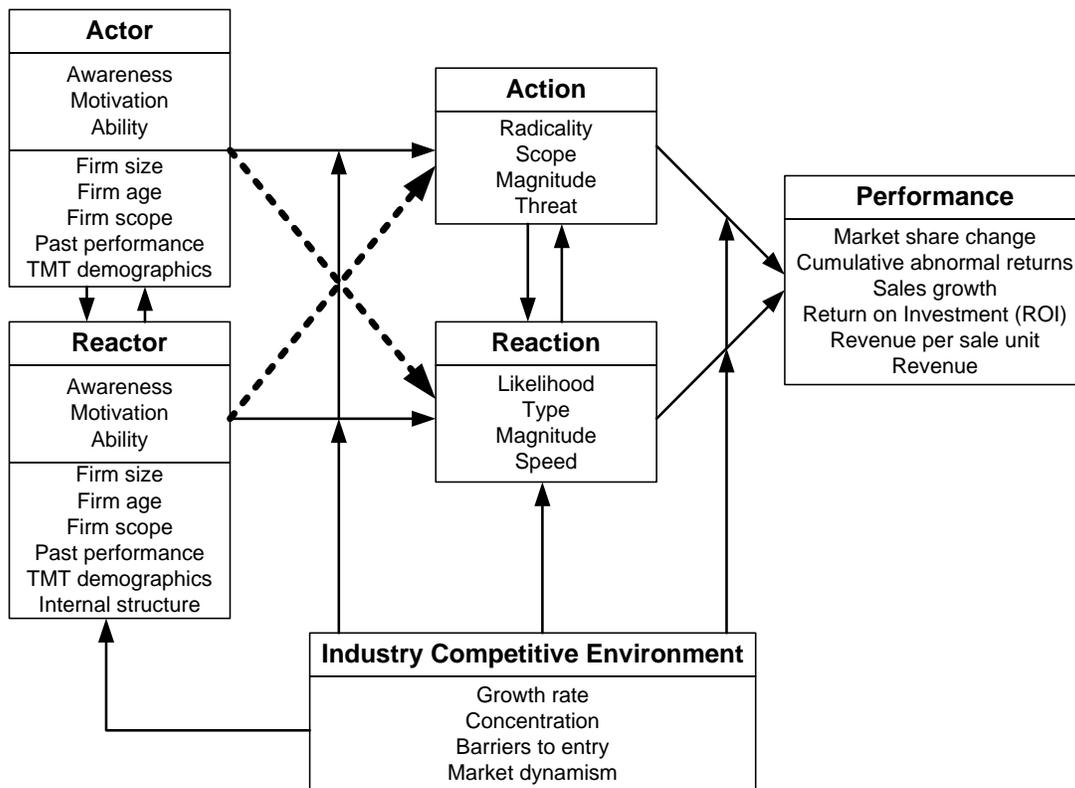


Figure 2.1. A Conceptual Illustration of Research Streams in Competitive Dynamics

Competitive Reactions

A competitive action is defined as an externally directed, specific, and observable competitive move initiated by a firm to enhance its relative competitive position (Chen et al., 1992; Chen & Hambrick, 1995; Ferrier et al., 1999; Smith et al., 1991, 1992). A competitive reaction, on the other hand, is a clear-cut, discernable counteraction carried out by the firm to defend or improve its position with regard to one or more competitors' initiated actions (Porter, 1980).

This study focuses on a 'competitive *pricing* reaction' which is defined as a specific and detectable shift in hotel's room rates, prompted by its competing hotel's rate changes, to defend or improve its profit position in the market. Consider that a hotel operator decides to change its room rates when (s)he acknowledges a competing hotel's price change. Then, the competing hotel's price change noticed by the focal hotel operator is considered an *action* while the focal hotel's price change motivated by the competing hotel's price change is a *reaction*.

In this study, I examine three dimensions of a hotel's competitive pricing behavior: (a) the responsiveness (hotel operator's propensity to take a competitive pricing reaction); (b) direction (whether to increase or decrease the room rates reacting to the competitors' price change) and; (c) the magnitude (how much to change the room rates reacting to the competitors' price change). These three dimensions will be discussed in detail later.

As shown in Figure 2.1, a firm's competitive reaction to an action is derived by its own characteristics (i.e., reacting firm's resources), acting firm's characteristics, nature of the action, and the environmental conditions. The following sections review existing literature regarding these four factors influencing a firm's competitive reaction.

Reactor Characteristics

There are three underlying behavioral drivers for a firm to engage in a competitive reaction; *awareness* of the competitive action, *motivation* to react, and *ability* to react (Chen, 1996; Steenkamp et al., 2005). Noticing an action of its competitor is a fundamental necessity for a firm to react to the action. Second, since most organizations tend to follow pre-established routines and procedure, there must be an incentive to respond that has crossed the attention threshold of managers (Venkataraman, Chen, & MacMillan, 1997). Finally, given the presence of such an incentive, the firm must also have the ability to respond.

The literature suggested that organizational characteristics and attributes such as firm size influence the three behavioral drivers of competitive reaction. Larger firms in general have greater ability to respond to competitive actions than smaller firms (Venkataraman et al., 1997). Venkataraman et al. (1997) proposed that firms with decreasing performance are expected to be more responsive to competitive actions because such actions may pose a further threat to these firms' already inferior performance. The size of a firm is often used as a measure of its resource reservoir (Venkataraman et al., 1997). Larger firms tend to have excess resources of human capital, liquidity, facilities, equipment and services, and other resources, which allow them greater ability to respond to competitive actions than smaller firms (Smith et al., 2001). In their study of competitive dynamics in the airline industry, Venkataraman et al. (1997) found that the size of a reacting firm is the second best predictor of competitive reaction after the action type (price vs. non-price related actions).

Action Characteristics

Competitive dynamics research has explored the antecedents and consequences of competitive actions across several different industries. Research on *competitive action-reaction dyads* has shown that the characteristics of an action are significant predictors of competitive reaction (Chen et al., 1992; Smith et al., 1992).

Four dimensions of an action can affect the degree of a reaction: scope, threat, radicality, and magnitude (Grimm et al., 2006; Smith et al., 2001). The *scope* of an action refers to the number of competitors that can be potentially affected by the action and is determined by the rivals' physical proximity to one another (Grimm et al., 2006). An action may be more or less *threatening* than another action depending on the impact of the action on the rivals' market share even though the two actions' scope is similar (Chen et al., 1992; Grimm et al., 2006; Smith et al., 2001). *Radicality* of an action refers to the extent to which the action departs from previous competitive moves in an industry (Grimm et al., 2005; Grimm & Smith, 1997). Finally, the action *magnitude* concerns the amount of resources that are necessary to implement the action (Smith et al., 2001). Increasing scope and threat of an action are more likely to provoke more and speedy responses. However, as the radicality and magnitude of an action increase, rivals find it increasingly difficult to respond because of less information available and greater resources necessary to react (Grimm et al., 2005; Smith et al., 2001).

In addition to the four dimensions above, behavioral theory suggests that the effectiveness of a competitive action may also affect the likelihood and the type of competitive reactions. Managers often use a case-based reasoning heuristics, where they reach decisions by referring to examples of similar problems whose solutions are already known (Meyer & Banks, 1997). Thus, if a manager perceives a competitor's action is successful, (s)he will be more likely

to react to the action in a matching fashion. When Hotel A's price increase works well, Hotel B, a rival, will be likely to react to Hotel A by increasing its price hoping the increase also works well for Hotel B.

Actor Characteristics

Characteristics of acting firms determine the nature of their actions and hence influence their rivals' reactions to the actions. For example, actions of larger firms are more likely to induce quicker responses than actions of smaller firms, because larger firms' actions are more visible and pose greater threats to the market share of affected rivals (Venkataraman et al., 1997).

More recent research in competitive dynamics focuses on relative position among competing firms. A series of articles has examined actions and reactions by industry leaders and challengers (Ferrier et al., 1999; Smith et al., 2001). Firms with a strong market position (i.e., higher market share compared to a competitor) are watched closely by rivals and are considered leaders in that they have demonstrated successful actions in the past and are able to effectively react to competitors. Rival managers often attribute a competitor's high market share to skilled leadership and ability (Grimm et al., 2006). In the study of a firm's competitive reaction to advertising and promotion attacks, Steenkamp et al. (2005) revealed that the intensity of reaction to a competitive action increased with the market power (i.e., market share) of the acting firm.

This study is in line with the competitive dynamics literature; it examines how a hotel's response to a rival hotel's price change is influenced by the rival's characteristics (as depicted as broken lines in Figure 2.1). The reaction of a focal firm to its rival's competitive moves should be different depending on who the individual rival is (Grimm et al., 2006). Firm size and market

share are the most widely used actor characteristics variables affecting the likelihood and types of competitive reactions (e.g., Steenkamp et al., 2005; Venkataraman et al., 1997).

Besides size and market share, this dissertation proposes several other actor characteristics that may have significant effects on the competitive pricing reactions of a hotel operator such as strategic similarities between acting and reacting hotels and market position and credibility of the acting hotel's commitment to the action. As previously indicated, the acting hotel refers to a hotel whose price change is noticed by a competing hotel whereas the reacting hotel, the focal hotel of this study, is the one that react to the price change of the acting hotel.

Despite the importance of adjusting reaction behaviors based on the type of individual competitor, relatively limited studies have examined the effects of individual competitor on pricing decisions of hotel managers. Therefore, it is necessary to conduct a systematic empirical research to explore how hotel's competitive pricing behavior is dependent on individual competitor which it responds to. This dissertation will broaden our knowledge of competitive dynamics of pricing. Also, the results of this dissertation will assist hotel managers in better understanding how to design more effective competitive pricing strategies.

As discussed above, a firm's competitive reaction is also affected by its own characteristics and environmental conditions. Industrial organization (IO) theory suggests that the market environment constrains firm strategy (Porter, 1979), which means that the characteristics of competitive environment or industry also influence the firm's awareness, motivation, and ability to carry out actions and reactions (Smith et al., 1992, 2001; Grimm et al., 2006). Local hotel's pricing is heavily affected by its own strategic orientations and financial conditions (Canina et al., 2005) and market conditions such as fluctuating market demand for hotel rooms (Kimes, 2008). Therefore, this study also takes account of the roles of reactor

characteristics and the environmental conditions in determining a hotel operator's competitive pricing reactions.

So far, I have reviewed streams of research on competitive strategic behavior of organizations and identified research gaps. As stated earlier, this study is particularly interested in competitive *pricing* decisions of local hotels because managers perceive that a competitor's action has a greater impact on pricing than on other strategic areas such as advertising and market entry decisions (Montgomery, Moore, & Urbany, 2005). The following section discusses various competitive pricing decisions that managers can make in responding to its rival's price changes.

Competitive Pricing Decisions

The pricing literature (e.g., Canina & Carvell, 2005; Enz et al., 2009; Kimes, 2008; Hayes & Ninemeier, 2005; Shoemaker & Mattila, 2008) and hotel governance literature (Vroom & Gimeno, 2007) imply that a hotel operator's pricing decision relies heavily on market demand and its centralized corporate-level pricing system. Studies on pricing at the hotel property level (Canina & Carvell, 2005) suggest that competing properties' room rates are also an important determinant of the focal hotel's room rates. Furthermore, in practice, competitive pricing is widely used among hotel managers (Kimes, 2008). With competitive pricing, managers decide how much to charge based on what their competitors charge. Competitive pricing has become even more important with the growth in the online travel market (Green, 2006). Customers can easily compare prices among competitors by going to any of the large Internet travel sites. Managers also have easy access to the information about their competitors' prices.

As more information about competitors' pricing becomes available, managers become more sensitive to such information because they know that customers will use the information to decide which hotel to stay. Armstrong and Collopy (1996), in their laboratory experiments found that managers become more competition-oriented in their pricing decisions when information about competitors is provided.

There are two lines of research regarding hotel pricing: an economics approach and a marketing approach. The economics approach mainly focuses on the demand-supply function of hotel rooms suggesting variables like price elasticities of demand and fluctuating demand for hotel rooms as determinants of hotel room rates (Cournoyer, 1972; Gu, 1997; Shaw, 1984). Cost structure (high fixed, low variable costs) was also considered an important factor affecting hotel manager's pricing decisions (Kotas, 1980). The marketing approach, on the other hand, is interested in customer-based pricing where room price is set based on customer segmentation strategy (i.e., yield management). Studies have been interested in the customers' viewpoint that the yield management practice is fair (Lewis, 1986; Hanks, Robert & Moland, 1992; Kimes, 1994).

Hotel pricing research, however, relatively underexplored the direct effect of competitors' pricing on hotel managers' pricing decisions. Canina and Carvell (2005) is one of few studies that examined the effects of competitors' prices on a hotel's price. They examined various economic factors in relation to lodging demand for urban hotel properties located in major metropolitan markets between 1989 and 2000. They reported significant influences of current income, expectations of future income, the focal hotel's price, and the price of competitors on lodging demand. The significant association between room-nights demanded in

the focal hotel and the room rates at other hotels in the market implies that a hotel's profits are significantly influenced by its competitors' prices. Hence, hotel managers need to monitor and respond to competitors' price movements. Recently, Enz et al. (2009) investigated the effects of hotel's competitive pricing (i.e., pricing compared to a competitive set) on its demand and revenue. They found that lower room rates compared to the competitors increase the occupancy but decrease the revenue (i.e., RevPAR).

Although these two studies (Canina & Carvell, 2005; Enz et al., 2009) showed a significant influence of competitors on hotel's pricing and profits, they did not offer insights into *how* the hotel's pricing is affected by its competitors' prices. I attempt to fill this gap by examining how a hotel changes its price in responding to price shifts of its competitors.

Types of Competitive Pricing Decisions

Each firm can increase or decrease price. Extensive previous studies on competitive reactivity have focused on the reaction elasticities and examined whether the reactor follows or does not follow the actor's price changes (Steenkamp et al., 2005). However, positive (or negative) reactions may have different strategic implications. For example, as in Figure 2.2, a positive reaction can be either an aggressive "competitive" behavior (in which both firms cut price) or "cooperative" behavior between two competitors (in which both firms increase their price), as indicated by types A and B, respectively (Ramaswamy et al., 1994). Thus, it is necessary to model two types of competitive reactions, following price increase and price decrease, separately. The other two cases (types C and D) represent situations in which a focal firm's price changes are in opposite directions or the firm is passive regarding the competitor's price changes. This situation occurs if a firm decreases or does not change its price when a

competitor increases its own level (type C: non-cooperative), and vice versa (type D: price leading). These cases represent a situation in which one of the competitors takes advantage of the other (type D) and the other reduces its competitive stance (type C).

		<u>Focal Firm</u>	
		Price Increase	Price Cut
<u>Competitor</u>	Price Increase	<u>TYPE B</u> MATCHING INCREASE Positive Reaction (Cooperative)	<u>TYPE C</u> Negative Reaction (Non-Cooperative)
	Price Cut	<u>TYPE D</u> Negative Reaction (Price Leading)	<u>TYPE A</u> MATCHING DECREASE Positive Reaction (Competitive)

Figure 2.2. Types of Competitive Pricing Behaviors (Ramaswamy et al., 1994, p. 47: modified)

If a firm decides whether to follow its competitor’s price change, it needs to decide the magnitude of the reaction. In other words, the firm can either match its competitor’s price increases or decreases or it can outdo its competitor’s price changes by increasing (decreasing) its price even more than the competitor did. Consequently, in this study, I consider four types of competitive pricing behaviors that reflect both the direction and the magnitude of managers’ competitive pricing decisions: (1) matching price increase; (2) matching price decrease; (3) outdoing price increase and; (4) outdoing price decrease.

Conceptual Framework

The basic premise of the proposed framework in this dissertation stems from the hotel industry insights obtained from hotel manager interviews and the literature regarding

organizational strategy, competitive dynamics, market orientation, and pricing strategy for assessing influences of competitors on hotel managers' competitive pricing decisions. The competitor-related attributes are categorized into three sets of conditions describing the competitor and the relative position between the focal firm (i.e., reacting firm) and the competing firm: (1) strategic similarities between a focal hotel and a competing hotel, (2) competitor's market position, and (3) competitor's commitment credibility. Strategic similarities refer to the overlap of the competing firms' market domain. Market position indicates the relative position or power between firms competing in the market. Commitment credibility is about the reliability of a firm's commitment to its price changes.

My contention is that competitive pricing behavior of hotel managers is significantly influenced by these conditions. Specifically, the basic proposition is that a hotel manager's competitive pricing decision is influenced by pricing behavior of a strategically similar hotel competing in the market. I also propose that the effects of strategic similarities between a focal and competing hotels on the focal hotel's competitive pricing are contingent on the two other competitor attributes, namely market position and commitment credibility.

Besides competitor characteristics, the environmental conditions and a focal hotel's strategic orientation also determine the motivation for the hotel to invest in responding to its competitors' price shifts. Therefore, the role of the two factors in affecting a hotel manager's competitive pricing decision is also examined.

To develop hypotheses, I combine predictions from literature regarding competitive dynamics, pricing, game theory, and marketing strategy and the local hotel-level awareness-ability-motivation framework. Specific hypotheses are developed for a focal hotel's

responsiveness and the likelihood of engaging in the four types of competitive pricing behavior discussed previously.

A focal hotel's 'responsiveness' to rival's price changes refers to the focal hotel's propensity to change its room rate when the rival's room rate changes. 'Matching' reflects the direction of a focal hotel's price change being the same as that of its rival's price change while 'outdoing' is related to the magnitude of the focal hotel's price change being greater than that of its rival's. For example, a hotel matches its rival's rate change if it increases (decreases) its room rate when its rival's room rate increases (decreases). The hotel does outdo its rival's rate changes if the magnitude of its rate increases (decreases) is greater than the rival's increases (decreases). Due to limited literature on 'outdoing' a competitor's price changes, the effects of competitors on the hotel's likelihood of outdoing a rival's price increase/decrease are investigated in an exploratory fashion with no specific hypotheses developed a priori. Figure 2.3 illustrates the competitive pricing dynamics to be empirically examined in this study.

Strategic Similarities

Agglomeration studies in the hotel industry (Baum & Haveman, 1997; Baum & Mezas, 1992; Urtasun & Gutiérrez, 2006) revealed that hotels more similar to one another in terms of size, geographic location, price, and market segment tend to compete more intensely than hotels that are less similar in these dimensions.

According to strategic, economic, and ecological models, similarity in resource requirements (e.g., market demand) is a major determinant of the potential for competition among firms: the more similar in resource requirements, the greater the potential for competition (Aldrich, 1979; Hannan & Freeman, 1977, 1989; Scherer & Ross, 1990). When firms are similar

in their market domain, the similarity in resource requirements will increase and so will the competitive intensity. For example, competition between two hotels targeting the economy and luxury segments, respectively, may be less intense than the competition between two economy hotels or between two luxury hotels.

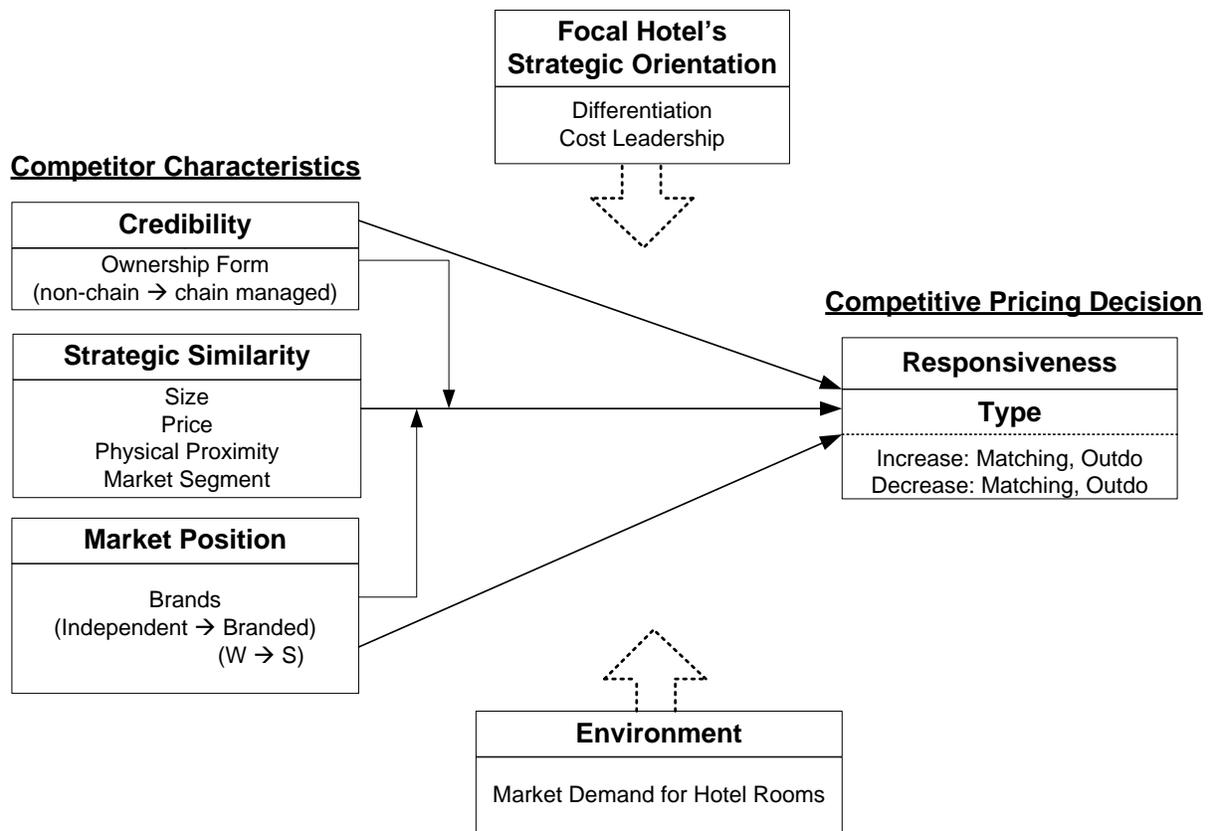


Figure 2.3. Proposed Model: Competitor and Competitive Pricing Decisions

Competitive moves by a strategically similar competitor will be perceived to have a greater impact on a focal firm's business due to the greater competitive intensity (Smith et al., 2001). Therefore, the focal firm will be more motivated to respond to the competitors' price changes when the competitor has high strategic similarities in terms of size (measured in number

of rooms available), price (ADR: Average Daily Rate), physical distance (measured in miles), and market segment they serve.

H1: Strategic similarities between a focal hotel and a rival hotel and responsiveness

The greater the strategic similarities (in distance, size, price, and market segment) between a focal hotel and a rival hotel, the more likely is the focal hotel to respond to the rival's price changes.

Strategic similarities and matching price increase

When a competitor increases price, the focal firm may not follow the increase for the following reasons. Being a perfect substitute means that the firm's relatively low price may be able to attract the competitor's customers and enhance its share in the market. Thus, the focal firm may be passive or even decrease its price when a close rival increases price as the kinked demand curve theory (Hall & Hitch, 1938) suggests. The Prisoner's Dilemma in game theory supports the non-cooperative pricing behaviors. As depicted in Figure 2.4, Firm A can get \$13K or \$8K when it chooses \$80 (i.e., discounted price) while it gets \$10K or \$4K if it chooses \$100 (i.e., fair price). Although Firm A may get more payoffs by choosing the fair price (\$10K versus \$8K), it tends to choose the discounted price because of the uncertainty of Firm B's behavior. If Firm B chooses the discounted price when Firm A is charging the fair price, Firm A only gets \$4K. Therefore, it would always be better for Firm A to choose the discounted price, especially when Firm B charges the fair price (Ho & Weigelt, 1997). In an oligopolistic competition, competitors inevitably follow any firm's strategy of price discount because they do not want to lose payoffs, but they hardly follow any firm's strategy of price increase because they can gain

more payoffs without increasing prices (Chung, 2000). Wolf and Smeers (1997), using the game theory approach, asserted that firms in the almost homogeneous market could gain more payoffs when they discount the price. Furthermore, the unique cost structure of the hotel industry (i.e., relatively low variable costs but high fixed costs) may aggravate hotels' non-cooperative pricing behavior of not matching competitors' price increases. Dolan (1981) found that high fixed costs promote non-cooperative pricing behaviors to gain market share. As the market served by hotel A and B is more homogeneous, the positive impact of hotel A's price increase on hotel B's market share is greater; hence, more non-cooperative reactions from hotel B can be anticipated.

		Firm B	
		Fair Price (\$100)	Discounted Price (\$80)
Firm A	Fair Price (\$100)	10K, 10K	4K, 13K
	Discounted Price (\$80)	13K, 4K	8K, 8K

Figure 2.4. Prisoner's Dilemma Game Model (Chung, 2000)

Note. Left one of each cell: Firm A's payoff; Right one of each cell: Firm B's payoff.

However, a conflicting prediction for the focal firm's tendency of matching a rival's price increase is also possible. Chen (1996) argued that a firm is less likely to initiate an attack against rivals with high strategic similarities than those with low strategic similarities, attempting to avoid the risk of being harshly retaliated by the competitors. Non-cooperative behaviors of a firm to a competitor's price increase can be viewed by the competitor as initiating an attack to encroach on the market share. Therefore, the focal firm may be likely to follow price increases of competing firms similar in strategies.

Given the opposing arguments regarding strategic similarities and the tendency of matching price increase, I examine the effects of the strategic similarities on the hotel's tendency of matching a rival's price decrease in an exploratory fashion by setting the hypotheses bi-directional. Also, I propose that this relationship is contingent on two other competitor characteristics, namely commitment credibility and market position. The moderating role of the two competitor characteristics that clarifies this confusing relationship between strategic similarities and the hotel's tendency of matching a rival's price increase will be discussed later.

H1-2: Strategic similarities and matching price increase

The greater the strategic similarities (in distance, size, price, and market segment) between a focal hotel and a rival hotel, the more (less) likely is the focal hotel to match the rival's price increases.

Strategic similarities and matching price decrease

When two hotels are physically proximate and offer similar quality of services at similar prices, customers may perceive these two hotels to be almost perfect substitutes. Thus, in the case of one hotel's price cut, the other hotel may be likely to decrease its price too because it may otherwise lose its market share. Moreover, according to the inter-firm rivalry literature, when a firm is attacked by its competitor with high strategic similarities, its reaction will be more immediate and aggressive because the firm would view the attack as more threatening (Chen, 1996). Therefore, to secure its market share, a focal firm will be more likely to follow a competitor's price decrease when the competitor has more overlapping strategies with its own.

Figure 2.5 summarizes the predicted relationships between the strategic similarities and hotel manager's competitive pricing behavior.

H1-3: Strategic similarities and matching price decrease

The greater the strategic similarities (in distance, size, price, and market segment) between a focal hotel and a rival hotel, the more likely is the focal hotel to match the rival's price decreases.

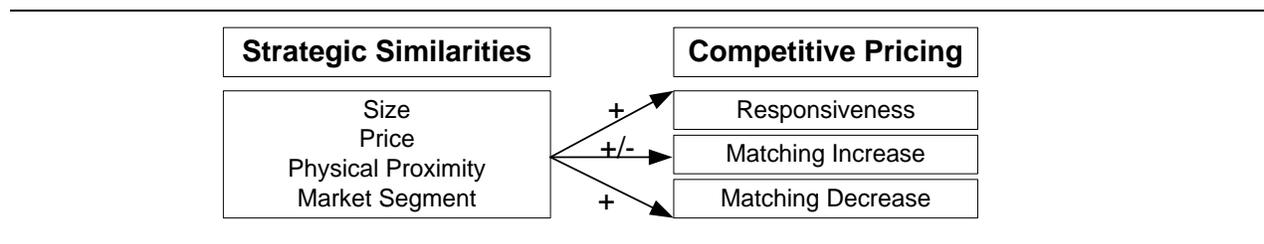


Figure 2.5. Strategic Similarities and Competitive Pricing Decisions

Commitment Credibility

According to kinked demand curve theory (Hall & Hitch, 1938), firms tend to follow competitors' price cuts but not follow price increases. Increasing price causes customer loss (Hall & Hitch, 1938). Later empirical findings suggest that a response to a price cut is immediate but a response to a price increase is motivated only if other competitors follow the initiator first (Dickson & Urbany, 1994). Schelling (1960) further suggested that firms only follow a rival's price increase if the rival's commitment to the increase is credible.

One's commitment to an action is considered credible when he/she is unwilling or unable to discontinue the action. Shepsle (1991) stresses that one's commitment to an action is credible in either motivational or imperative senses. A commitment is motivationally credible if

he/she continues to want to honor the commitment at the time of performance, due to incentives associated with the performance. One's commitment is credible in the imperative sense if he/she cannot act otherwise because performance is coerced or discretion is disabled (North, 1993). For example, a hotel manager increases room rate from \$100 to \$150. If the manager is unable or unwilling to change the room rate back to \$100, his/her commitment to the action (i.e., \$50 rate increase) is credible. The hotel manager's unwillingness or lack of ability to overturn the action is determined by (1) his/her reputation and (2) the potential reversibility of the action (Robertson, 1995).

Reputation as used in competitive dynamics research has been defined as the positive or negative attribute ascribed by one rival to another based on past competitive behavior (Wilson, 1985). When firm's historical actions are consistent and predictable, other firms ascribe certain tendencies or reputational characteristics to the firm. The true strategic and behavior characteristics of competitors can never be fully known without the competitors honestly disclosing the relative information (Chen & MacMillan, 1992). A firm, thus, must seek signals from the competitors' past or current behavior to infer the competitors' "true type" (Rasmusen, 1990). Therefore, reputation reflects information on the credibility of the firm as a competitor (Smith et al., 2001).

When a firm is less certain of its competitor's (an actor) true type, the action irreversibility can be an important signal of the competitor's commitment credibility (Chen & MacMillan, 1992). An actor may back down if it stands to lose more from a competitor's reaction than it does from not taking action (Chen & MacMillan, 1992). However, in backing down, the actor incurs a reversal cost. The greater the cost of reversing a move, the more likely it

is that the actor will stay put. Therefore, the cost of the actor reversing its move is a signal to the reactor of the actor's commitment not to back down (Chen & MacMillan, 1992).

This study is more interested in the action irreversibility in determining the credibility of a competing hotel's commitment to room rate increases. In this study, it is proposed that hotel management form imposes conditions that make overturning the action (room rate increase) difficult or impossible on hotel managers.

Management form and commitment credibility

Ownership form can determine the credibility of a firm's commitment to price increase (Vroom & Gimeno, 2007). Franchisees are entitled to decide all aspects of its business except for those that the contract with the franchisor explicitly delimits. Moreover, franchise contracts cannot legally specify prices at the unit level (Lafontaine, 1999). Whereas franchisees have substantial autonomy to set prices, local managers operating chain-owned units are subject to much more control and monitoring from chain operators than franchised stores (Yin & Zajac, 2004). The manager of a chain-owned unit must operate within the rules and guidelines set by corporate headquarters (Vroom & Gimeno, 2007).

The rules and guidelines in a corporate ownership context can enable the chain-owned unit to credibly commit to setting relatively high prices (Vroom & Gimeno, 2007). Chains typically develop pricing policies within which local managers have to operate. Corporate headquarters habitually use annual budgets. These budgets are finalized after some form of internal negotiation with the local units (Vroom & Gimeno, 2007). The obligation to act according to the described administrative system, consisting of a pricing policy and an annual budget, significantly restricts a local manager's autonomy (Bradach, 1998). This restriction on a

pricing policy is difficult to change because of the administrative costs incurred by potential re-budgeting, re-negotiation, etc. (Vroom & Gimeno, 2007). In sum, price increases of chain-owned units may be difficult to reverse unless the corporate headquarters approves. However, restrictions of corporate headquarters are also hard to reverse because of the potential administrative costs, at least in the short term. This difficulty to reverse makes the chain-owned units' commitment to price increase credible.

Franchised units, on the other hand, face a completely different situation. A franchisee may want to commit to setting higher prices, yet he/she cannot credibly do so. The franchisee can change prices and offer discounts at any time in response to customer and competitive demands. Franchisees may be strongly tempted to lower prices and increase sales, especially when fixed costs are high and capacity is not fully utilized (Vroom & Gimeno, 2007). The autonomy of the franchisees and less interference by corporate headquarters undermines the credibility of the franchisees' commitment to price increase (Vroom & Gimeno, 2007).

Franchised hotels can be managed by a chain corporation (i.e., management contract). Managers of hotels in this category (chain managed and professionally managed under management contracts) tend to face to the same issues as those of chain-owned hotels in setting prices: lack of autonomy, rules set by the chain corporations, and the costs associated with management contracts or subscribing corporate pricing services. Therefore, in the hotel industry, it is the management form that determines the credibility of a hotel's commitment to price increase rather than the ownership form. In this study, I propose that chain-managed hotels (i.e., chain-owned and professionally managed units) are more likely to be credibly committed to increasing price than are non-chain-managed hotels (i.e., franchised not professionally managed and independent units)

Management form and matching price increase

Firms follow a rival's price increase only when the rival's commitment to the increase is credible (Schelling, 1960; Vroom & Gimeno, 2007). As previously discussed, chain-managed units are more able to credibly commit to increasing price compared to non-chain-managed units. Therefore, it is expected that a hotel manager is more likely to follow a competitor's price increase when the competing hotel is a chain-managed unit than when it is a non-chain-managed one.

For the situation of a rival's price decrease, I expect that the focal hotel is likely to follow the price decrease regardless of the rival's commitment credibility. When the focal firm decreases its price, competitors' residual demand decreases, which generally causes direct competitors to decrease prices, too (Bulow, Geanakoplos, & Klemperer, 1985).

H2: A focal hotel's tendency of matching a rival's price increase is higher when the rival hotel is a chain-managed unit than a non-chain-managed unit.

Management form: strategic similarities and matching price increase

Also, the management form is expected to moderate the relationship between the strategic similarities and the behavior of matching price increase. The tendency of a matching response increases when the action has stronger impact on the focal firm's performance and the commitment is credible (Chen & MacMillan, 1992). Price changes of a rival with high strategic similarities have a stronger impact on the focal hotel's performance (Steenkamp et al., 2005). A chain-managed hotel's commitment to a price increase may be considered more credible. Therefore, the focal hotel is expected to be more likely to follow the high strategic similarities

rival's price increases when the rival is a chain-owned unit. Figure 2.6 summarizes the proposed influences of the competitor's management form on hotel manager's pricing behavior.

H3: The positive (negative) influence of strategic similarities (in distance, size, price, and market segment) between a focal hotel and a rival hotel on the focal hotel's tendency of matching the rival's price increases becomes stronger (weaker) when the rival is a chain-managed unit than a non-chain-managed unit.

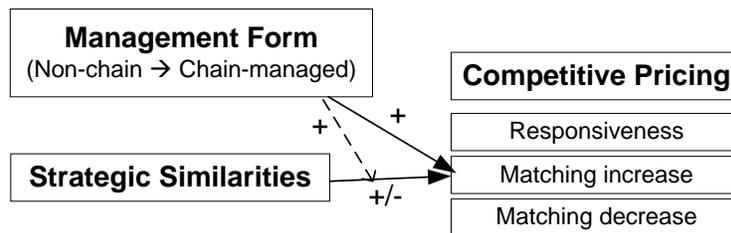


Figure 2.6. Management Form and Competitive Pricing Decisions

Market Position

Firms' relative position in the market represents the power asymmetry between a focal firm and a competitor. The marketing and strategy literature suggest that market power can be reflected by brands (Steenkamp et al., 2005).

A hotel can be operated under a national brand name ('branded hotel' hereafter: e.g., Marriott) or a private name ('independent hotel' hereafter: e.g., Atherton Hotel). Extensive branding literature in the hospitality industry has acknowledged the importance of brands in building a strong market position through enhanced awareness and recognition (e.g., Kim, Kim, & An, 2003; O'Neill & Xiao, 2006; Prasad & Dev, 2000). Competitive actions of a firm with a strong market position are more visible. For example, a high market share hotel's price cut will

be noticed more easily through heavier exposure or through more on-line distributors' websites (e.g., Orbitz, Expedia, etc.). For example, a branded hotel's price-cut will be noticed more easily through heavier exposure to media or on-line distributors' websites (e.g., Orbitz, Expedia, etc.). Also, Steenkamp et al. (2005) argued that a competitive move by a national brand may be seen as more threatening by private labels, compared to a competitive move by a private label.

Not all branded hotels enjoy an equally strong market position. Brands that have better reputation than others among customers provide the affiliated hotels with stronger position to compete with other hotels operating in the market (O'Neill & Mattila, 2008). Therefore, it is also expected that, among branded hotels, price changes by those carrying stronger brands (with better reputation) will be more visible and perceived more threatening than the changes by hotels carrying weaker brands, which predisposes a focal hotel to be more responsive to the price changes.

In sum, a focal firm's enhanced awareness of a competitive action and the large threat posed by a powerful competitor with a stronger brand constitute a strong motivation to react (Steenkamp et al., 2005). Therefore, it is expected that the focal hotel is more likely to react to price changes of a hotel carrying a strong brand.

H4-1: Competitor's market position and responsiveness

A focal hotel is more likely to respond to a rival's price change when the rival is affiliated with a strong brand than a weak brand.

Competitor's market position and matching price increase

For a rival's price increase, on the other hand, a firm may not follow (i.e., being passive or decreasing price) the increase, but may attempt to take the rival's share as discussed earlier. However, when the price increasing rival has a stronger market power, firms may be likely to match the increase (i.e., cooperative pricing behavior). Non-cooperative behavior may cause intense retaliation by the strong rival (Steenkamp et al., 2005). The strong rival's counterattack to the focal firm's non-cooperative reaction may bring price wars. The focal firm should not engage in price wars against the strong rival. The inferior market power will restrain the capability of the focal firm to survive the wars.

The literature regarding a 'credible defender' supports the prediction of more cooperative behavior of the low-market power firms. A 'credible defender' is a firm that has a reputation for being willing and able to fight for one's markets (Clark & Montgomery, 1998). Firms are less likely to attack credible defenders due to the defenders' great abilities and motivations to fight back. Successful firms (measured as total market share of a business unit) are more frequently seen as credible defenders because successful firms typically have greater resources to expend in the future, making it more likely that they can retaliate effectively against an attacking firm (Clark & Montgomery, 1998). Therefore, it can be expected that to avoid harsh retaliation, a firm will be more cooperative with its rival's price increases when the rival has great market power than the firm.

As discussed earlier, if a rival increases its price, a focal firm can achieve increased sales volume by not following the increase (Hall & Hitch, 1938). An underlying assumption is that the customers of the rival will switch to the focal firm because of the increased price of the rival. However, this assumption breaks down when the rival has loyal customers (Sudhir, 2001). Loyal

customers are less price sensitive (O'Neill & Xiao, 2006; Ambler, Edell, Keller, Lemon, & Mittal, 2002) and hence less likely to leave because of the price increase. Also, the theory of switching costs (Klemperer, 1987) suggests that the rivalry is less intense for loyal customers (Sudhir, 2001).

A strong brand creates loyal customers who are emotionally attached to the name and the products (O'Neill, 2008). Especially for the hotel industry where products are highly intangible, a brand is more important in customers' purchasing decisions because it acts as tangible evidence reducing the risks of experiencing otherwise unknown products and services (O'Neill & Xiao, 2006). Thus, the potential for a hotel to gain more market share by means of aggressive non-cooperative behavior (i.e., not following the rival's price increase) may be lower when the price increasing hotel is a branded one than when it is an independent property, due to the higher customer loyalty to the branded hotel. For the same reasons, a hotel may be more likely to follow price increases of a stronger-brand-hotel than that of a weaker-brand-hotel. Therefore, the following relationships between the competitors' market position (determined by brand power) and hotels competitive pricing behavior are expected. Figure 2.6 summarizes the predicted relationship between the market position and hotels' competitive pricing behavior.

H4-2: Competitor's market position and matching price increase

A focal hotel is more likely to match a rival's price increase when the rival is affiliated with a strong brand than a weak brand.

Competitor's market position and matching price decrease

Social conflict theory posits that the greater the perceived threat posed by an actor, the greater the motivation of other actors to react in kind (Deutsch, 1969). Similarly, in strategy research, Dutton and Jackson (1987) proposed that competitors are motivated to take stronger competitive reactions if they view the action as threatening.

Economic theory posits that competitor response to a firm's change in price is governed by cross-elasticities (how strongly the firm's share is affected by the competitor's move) and self-elasticities (how easily the firm can recover lost share: Ailawadi, Lehmann, & Neslin, 2001). Firms should react more competitively to preserve their market shares if their cross-elasticities are high (Leeflang & Wittink, 1996). Also, firms compete more aggressively when they have strong self-elasticities (Putsis & Dhar, 1998).

A hotel's cross-elasticity is higher when a competing hotel has strong brand power. For example, a hotel may be more likely to lose its customers to a price decreasing rival hotel when the rival carries a strong brand than it does a weak brand. Stronger brand signals better quality (O'Neill & Mattila, 2004). Customers will be likely to switch to a price decreasing hotel equipped with better quality. Thus, it is expected that a hotel is more likely to follow a rival's price-cut when the price decreasing rival is affiliated with a strong brand.

H4-3: Competitor's market position and matching price decrease

A focal hotel is more likely to match a rival's price decrease when the rival is affiliated with a strong brand than a weak brand.

Competitor's market position: strategic similarities and matching price increase/decrease

Rival hotel's market position measured by its brand power is expected to moderate the relationship between the strategic similarities and a focal hotel's tendency of matching its rival's price decreases/increases. Price changes of a rival with high strategic similarities have a stronger impact on the focal hotel's performance (Steenkamp et al., 2005) and hence increase the focal hotel's motivation to respond to the price changes. Furthermore, greater cross-elasticity and switching costs, as discussed earlier, increase the focal firm's motivation to match the similar rival's price decrease or increase when the rival has a strong brand power. Therefore, a positive influence of a rival hotel's brand power on the relationship between strategic similarities and a focal hotel's tendency of matching the rival's price decreases/increases is expected.

H5-1: The positive influence of the strategic similarities between a focal hotel and a rival hotel on the focal hotel's tendency of responding to the rival's price changes becomes stronger when the rival is affiliated with a strong brand than a weak brand.

H5-2: The positive (negative) influence of the strategic similarities between a focal hotel and a rival hotel on the focal hotel's tendency of matching the rival's price increases becomes stronger (weaker) when the rival is affiliated with a strong brand than a weak brand.

H5-3: The positive influence of the strategic similarities between a focal hotel and a rival hotel on the focal hotel's tendency of matching the rival's price decreases becomes stronger when the rival is affiliated with a strong brand than a weak brand.

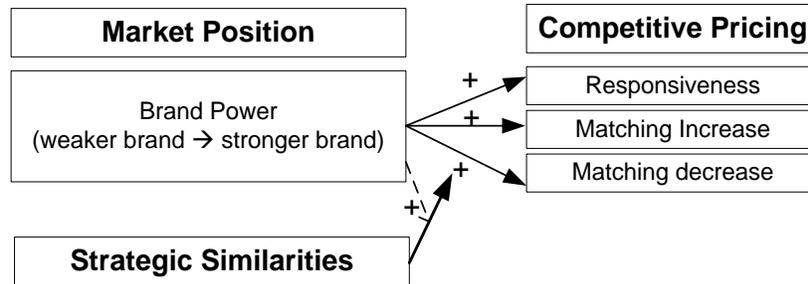


Figure 2.7. Market Position and Competitive Pricing Decision

Generic Strategies: Moderator

The choice and the type of competitive pricing should depend on whether hotels are low-cost leaders or, alternatively, differentiators, as the products provided and hence resources associated with each of these two strategic orientations differ. Porter (1980) proposed three strategies aimed to outperform other firms in an industry: (1) overall cost leadership, (2) differentiation, and (3) focus. Overall costs leadership, not neglecting quality, service, and other areas, emphasizes low cost relative to competitors (Dess & Davis, 1984). Differentiation requires that the firm create something, either a product or a service, that is recognized industry-wide as unique, thus permitting the firm to command higher than average prices (Dess & Davis, 1984). Firms using the focus strategy concentrate on a particular group of customers, geographic markets, or product line segment. Focus strategy firms can also achieve either cost leadership or product differentiation within the focused market (i.e., cost focus and differentiation focus: Buhalis, 2000). Accordingly, in this study, I only consider differentiation and cost leadership as these two strategic orientations may incorporate both cost and differentiation focus.

Low cost leadership involves offering a basic, standardized product at a lower price through creating a production system more efficient than the competitors' (Porter, 1985; Walsh, Enz, & Canina, 2008). When products are seen as standardized, customers can compare

alternative options offered by competitors relatively easily, which results in intense price competition (Ramaswamy et al., 1994). Differentiation, on the other hand, entails creating a unique, customized product or service for which firms can charge a price premium (Porter, 1985; Walsh et al., 2008). Differentiation is achieved when value-added activities are carried out to achieve perceived superiority along dimensions of customers' purchase criteria (Ramaswamy et al., 1994), which ultimately should result in customers' willingness to pay a price premium (Porter, 1985).

In sum, firms using the differentiation strategy do not compete in terms of how much they charge but the quality and the uniqueness of their products and services, while cost leadership firms' competition should be the opposite. Thus, it is anticipated that hotels using a cost leadership strategy will be more motivated to react to the price changes of competitors and match the competitors' rate decreases, but less motivated to match the rate increases.

H6-1: The positive influence of (a) strategic similarities and (c) a rival's brand power on a focal hotel's tendency of responding to the rival's price changes becomes stronger, when the focal hotel uses a cost leadership strategy than a differentiation strategy.

H6-2: The positive (negative) influence of (a) strategic similarities, (b) rival's management form, and (c) rival's brand power on the focal hotel's tendency of matching the rival's price increases becomes weaker (stronger), when the focal hotel uses a cost leadership strategy than a differentiation strategy.

H6-3: The positive influence of (a) strategic similarities and (c) a rival's brand power on the focal hotel's tendency matching the rival's price decreases becomes stronger, when the focal hotel uses a cost leadership strategy than a differentiation strategy.

Environmental Conditions: Moderator

Competitive interaction occurs within the context of a given environment. The characteristics of a competitive environment are thought to influence the firm's awareness, motivation, and ability to carry out action/reaction (Smith et al., 2001). A number of studies on market conditions and competitive dynamics have suggested that a competitive environment moderates the relationship between an organization's sensitivity to changing market conditions and strategic orientation (e.g., Slater & Narver, 1994; Ailawadi et al., 2001).

Market demand for hotel rooms

Firms' ability and motivation to maintain price collusion is influenced by demand conditions (Staiger & Wolak, 1992). Scherer and Ross (1990) argued that the profitable tacit collusion (i.e., covert agreements among organizations to set price higher: Scherer, 1980) breaks down when business conditions turn sour. The non-cooperative pricing behavior surges when orders are lumpy and infrequent (Scherer & Ross, 1980, 1990). Under the uncertain environment, firms may be more prone to defend their own shares. Thus, the instability in market demand leads to more intense competition and relatively unsuccessful price collusion (Staiger & Wolak, 1992). Especially with the presence of capacity constraints as in the hotel industry, the effects of demand conditions on the profitable price collusion increase (Staiger & Wolak, 1992).

Pelham and Wilson (1996) proposed that a management perception of an increasingly tough market environment could influence the managers to increase emphasis on externally oriented activities designed to monitor competition. With the increasing awareness of competitors' price movements, a firm may be more likely to react to the rivals' price changes when demand is lower. When higher market demand is present, on the other hand, a firm may be less likely to react to its competitors' price movement because the favorable market condition may allow the firm to achieve its desired profit without significant efforts monitoring its competitors. Thus, it is expected that the influence of a competitor's price change, either an increase or a decrease, on hotel managers' pricing decisions is smaller when market demand is higher.

H7-1: As market demand for hotel rooms increases, the positive influence of (a) strategic similarities and (c) rival's brand power on the focal hotel's tendency of responding to the rival's price changes becomes weaker.

H7-2: As market demand for hotel rooms increases, the positive (negative) influence of (a) strategic similarities, (b) rival's management form, and (c) rival's brand power on the focal hotel's tendency of matching the rival's price increases becomes weaker (stronger).

H7-3: As market demand for hotel rooms increases, the positive influence of (a) strategic similarities and (c) rival's brand power on the focal hotel's tendency of matching the rival's price decreases becomes weaker.

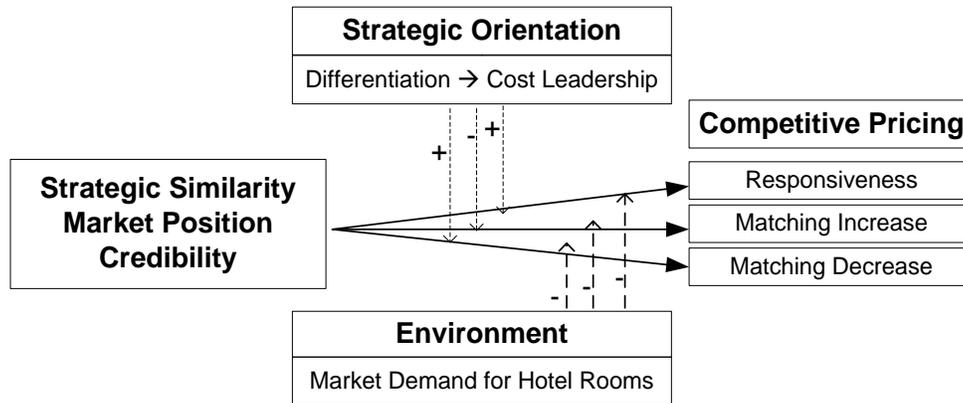


Figure 2.8. Role of Strategic Orientation and Environmental Condition

Magnitude of Competitive Pricing Behavior: Outdoing a Competitor's Change

So far, situations where hotel managers decide to 'match' competitors' price increases/decreases have been discussed. The underlying assumption was that in most cases hotel managers are not likely to increase or decrease room rates more than their competitors do. Behavioral theory suggests that this is not an unreasonable assumption because decision makers are averse to risks (Tversky & Kahneman, 1991). Outdoing competitors' price increases/decreases is relatively riskier than matching their price moves. In the case of outdoing a competitor's price increase, a manager may have to take the risk of losing customers because of his/her higher rates. When outdoing a competitor price decrease, on the other hand, there is the risk of losing revenue or the beginning of a price war (Meyer & Banks, 1997). Outdoing competitors' price increases (decreases) may be more profitable: greater revenue generated by the higher price and greater sales volume generated by the discount. However, behavioral theory suggests that managers tend to assign greater weight to negative than positive consequences (Tversky & Kahneman, 1991). Therefore, hotel managers tend to match their competitors' price

moves unless there are certain conditions that push them to make more forceful competitive pricing decisions.

Then, what are such conditions? A focal hotel's generic strategies and environmental conditions combined with competitor characteristics (strategic similarities and market position in particular) may provide motivations for hotel managers to outdo competitors' price increases/decreases despite the risks associated with such strong decisions. As discussed previously, strategic similarities and strong brand power motivate hotel managers to match rivals' rate increases and decreases. It can be expected that the managers may outdo their rivals' rate increases/decreases when the following conditions are met in addition to the strategic similarities and the rivals' strong brand power: (1) high market demand for hotel rooms and (2) the focal hotels' cost leadership strategy. The managers may increase room rates more than the rivals when market demand is high enough to lessen their concerns of unsold rooms due to a higher rate. They may decrease more than the rivals if the hotels' core competitive advantage is a lower price (if they use a cost leadership strategy, in other words).

In this chapter, the literature regarding competitive actions/reactions and competitive pricing was reviewed. Based on the literature, hypotheses regarding the effects of competitors and the moderating effects of the hotel's generic strategic orientation and the market conditions on hotel managers' pricing decisions were developed. The methodologies to empirically examine the proposed effects are discussed in the next chapter.

CHAPTER 3

METHODOLOGY

Sample

The sample of this study is hotels competing in urban areas in Northeastern states in the U.S. First, the four cities of New York, NY, Washington, DC, Detroit, MI, and Boston, MA have been selected because they are among the top 25 lodging markets identified by Smith Travel Research (STR), a leading hospitality research and consulting firm.

Initially, hotels in relatively small suburban areas were also included to secure generalizability of the results across various regions. However, these hotels rarely changed their room rates unless the arrival (check-in) dates were near. For one month of observation, hotels in smaller areas (e.g., college towns) changed their room rates only once or twice when the “advance purchase” special offer became no longer available as the arrival dates were near. Due to extremely limited variation in their rate changes, the hotels in small suburban areas were excluded. The issue of infrequent rate changes of the hotels in smaller areas will be discussed in the recommendations for future study section.

Then, hotels in airport and downtown areas of those cities have been selected. The selected market areas are John F. Kennedy International Airport and LaGuardia Airport in NY, Dulles International Airport and Reagan National Airport in DC, Detroit Metro Airport and Detroit Downtown in MI, and Boston Logan Airport and Boston Downtown in MA. A leading online hotel search engine, Orbitz, was used to identify the areas and the hotels in each area. For example, hotels that Orbitz shows when searching for hotels around the John F. Kennedy Airport in New York were considered competitors in that specific area (i.e., a competitive set). These

hotels shown in Orbitz were the ones that potential consumers will most likely consider for booking. Therefore, it is reasonable to assume that the hotels shown in the search engine are potential competitors. The resulting sample comprises 150 hotels in eight airport and downtown areas within the four selected cities.

Hotels serving a very distinct market segment, such as extended stay, were excluded because they are less likely to compete with conventional hotels. The excluded extended stay hotel brands were: Homestead Studio Suites, Extended Stay America, Homewood Suites, and Residence Inn by Marriott. In addition, hotels with an extremely low rating according to the American Automobile Association (AAA) were excluded. Hotels with one or no diamonds were excluded because they are not seen as direct competition with two, three, and four-diamond hotels. One diamond hotels in the selected eight areas tended to set their room rates at the relatively lowest level, regardless of what other hotels charge. I observed that they rarely changed the initially set lowest room rates, even though other hotels in the market may substantially increased or decreased their room rates.

After excluding disqualified hotels from this study, the sample consisted of 116 hotels competing in eight areas. The average number of hotels competing in an area was 14.5 (minimum 12 and maximum 19). The sample hotels are located within seven miles of the center of the areas as defined by the online hotel search engine.

Data Collection

Daily Rates

The daily rates of a standard room (1 king bed, non-smoking) for each of the 116 sample hotels were collected using the hotels' on-line reservation systems. For each hotel, the daily rates

of a king bed, non-smoking room for 22 future arrival dates were collected for approximately 20 to 50 days prior to the arrival dates. For example, rates for a one-night stay on June 16, 2010 were collected from May 8 to one day before the arrival date of June 16 (for 40 days). Room rate collection period varied depending on the arrival date. Room rates for each arrival date were observed from April 19 to June 10. However, for those arrival dates earlier than June 10, room rates were collected until one day before the arrival dates. Thus, the room rate collection started at the same date for all 22 future arrival dates, while the collection ended at different dates for each future arrival date, particularly for those earlier than June 10. Room rates were collected for 30 days for the earliest arrival date of May 19, while the room rates for the latest arrival date of July 6 were collected for 50 days.

Refer to Figure 3.1 for an illustration of the room rate data collection process. The 22 future arrival dates included seven week days (WD: Monday through Thursday), six weekend days (WE: Friday and Saturday), three Sundays, two holidays, and four days before and after holidays.

<i>Room Rate Data Collection Process</i>	Room Rate Collection Start	Room Rate Collection Period (30-50 days)	Arrival (Check-in) Date
<i>Example</i>	May 8	40 days	June 16 (Room Rate Collection ended on June 15)

Figure 3.1. Room Rate Data Collection Process

Discussion with hotel managers regarding their room rate decisions revealed that hotel managers set initial room rates for a certain night approximately 10 to 50 days ahead. Then, they keep checking market demand and competitor pricing and modified the initial room rates

accordingly. Therefore, the data collection method employed in this study reflects actual industry practices.

Data of Hotels

Data about the hotels needed in this study were size, price, market segment, management form, and brand power; data were collected through surveying and interviewing hotel managers. Some necessary data were also provided by STR. Measurement of variables and data sources are discussed below.

Measurement

Strategic Similarities

Strategic similarities indicate how close two competing hotels are in terms of size (i.e., number of rooms), price (Average Daily Rate: ADR), distance (physical distance in miles), and market segment (their target market). Size, distance, and market segment data were provided by STR. The ADR was collected through surveying and interviewing hotel managers. Specific measurements of strategic similarities are discussed next.

Size was based on the number of rooms available. Similarity in size was measured as the difference in the number of rooms between a focal hotel and a competing hotel. The absolute values of the size differences were transformed to negative values (i.e., multiplied by negative one) to make the interpretation more convenient. As a result, a higher value indicates greater similarity in size between two competing hotels.

Price was based on average daily rate (ADR). Similarity in price was measured as the difference in ADR during the first quarter of 2010 between a focal hotel and a competing hotel. The absolute values of the price differences were then transformed to negative values (i.e., multiplied by negative one) to make the interpretation more convenient. As a result, a higher value indicates greater similarity in price between two competing hotels.

Physical Distance was based on driving distance in miles. Physical distance between a focal hotel and a competing hotel was measured using an online driving direction search engine (i.e., maps.google.com). The values of physical distance between hotels were transformed to negative values (i.e., multiplied by negative one) to make the interpretation more convenient. As a result, a higher value indicates closer distance between two competing hotels

Market Segment was based on the hotel classification of STR. STR classifies hotels into six categories: economy, mid-scale without food and beverage facilities (F&B), mid-scale with F&B, upscale, upper-upscale, and luxury. Each category was given a numeric value (e.g., economy=1 and luxury=6). The difference in the numeric values between a focal hotel and a competing hotel represents the market segment similarity between the two hotels. The absolute values of the market segment differences were transformed to negative values (i.e., multiplied by negative one) to make the interpretation more convenient. As a result, a higher value indicates greater similarity in market segment between two competing hotels.

Market Position

Market position in this study refers to a relative strength or power between two competing hotels in a market in which they operate. The strength of brands that hotels are affiliated with was used to measure the market position of the hotels. Hotel's brand power data was collected using *Consumer Reports'* hotel brand ratings.

Brand Power was based on customer evaluation of a brand. *Consumer Reports* releases ratings of hotel brands based on customer evaluations in terms of price, satisfaction, value, service, upkeep, and problems. The latest ratings released in July 2010 were used to determine the brand power of a hotel. Independent hotels not affiliated to any national brands received 'zero'.

Commitment Credibility

Management Form was based on whether hotel managers' pricing decisions were managed by a chain corporation (i.e., chain-managed) or not (i.e., non-chain-managed). Chain-managed hotels included chain-owned hotels and franchised or independent hotels managed by chain corporations or professional hotel management companies; non-chain-managed hotels included franchised or independent hotels not under management contracts with chain corporations or professional hotel management companies. Data about the management form was provided by STR and was dummy-coded: 1= chain-managed and 0= non-chain-managed.

Generic strategy

Measurement of hotels' *Generic Strategic Orientation* followed Walsh et al., (2008); the strategic orientation of each hotel, either low-cost leadership or differentiation, was measured by

the hotel property's classification as a limited-service or full-service hotel. Limited-service hotels tend to offer a basic product (i.e., room) with limited onsite food and beverage services. These properties distinguish themselves through their price (Walsh et al., 2008). Full-service hotels, alternatively, offer more complete on-site food and beverage services and distinguish themselves through their services, facilities, and amenities (Walsh et al., 2008).

Environmental Conditions

Measurement of *Market Demand for Hotel Rooms* followed Walsh et al. (2008). Average occupancy percent (i.e., number of rooms sold) in May, June, and July 2009 for each area was used as a proxy for market demand for hotel rooms.

Dependent Variables

The *Responsiveness* is a focal hotel's propensity to change its room rate when a rival hotel's room rate changes. First, percentage changes in daily room rates were calculated for each hotel in a competitive set as illustrated in equation (1). Percentage changes instead of dollar changes were used, because with percentage changes, it is more effective to control the different starting points of the rate changes (e.g., \$200 → \$250 vs. \$100 → \$150). When room rate changes occurred, approximately 4.6 hotels per market area changed their room rates in a day, on average.

$$(1) A_t = (R_{At} - R_{At-1}) / R_{At-1}$$

where A_t = rate change percent of hotel A,
 R_{At} = Hotel A's room rate at time t,
 R_{At-1} = Hotel A's room rate at time t-1.

Focal hotel's percentage changes in daily rates were regressed on the percentage changes in daily rates of another hotel in the competitive set. The significant regression coefficients implied the focal hotel's rate changes were significantly influenced by the rival hotel's rate changes. The focal hotel may show immediate response to the rival's rate change by changing its rate on the same day the rival changes room rates. However, the focal hotel may also delay its response to the rival's rate change by changing its rate more than one day after the rival's rate change. To capture the lagging response cases, the regression model also included five lag variables of the rival's rate change percent as in equation (2). If the regression coefficients for one of the lag variables were significant, the effects of the rival's rate change on the focal hotel's rate change were considered significant.

$$(2) A_t = \beta_0 + \beta_1 B_t + \beta_2 B_{t-1} + \beta_3 B_{t-2} + \beta_4 B_{t-3} + \beta_5 B_{t-4} + \beta_6 B_{t-5} + \varepsilon$$

where A_t = rate change percent of hotel A (a focal hotel) on day t,
 B_t = rate change percent of hotel B (a competing hotel) on day t,
 B_{t-1} = rate change percent of hotel B on day t-1,
 B_{t-2} = rate change percent of hotel B on day t-2,
 B_{t-3} = rate change percent of hotel B on day t-3,
 B_{t-4} = rate change percent of hotel B on day t-4,
 B_{t-5} = rate change percent of hotel B on day t-5.

A focal hotel's rate increase/decrease can also be due to its occupancy level. To control for the effects of occupancy (i.e., demand for the focal hotel rooms) on the rate changes, the focal hotel's expected occupancy percent in May, June, and July 2010 was included in the regression model. The occupancy percent data were gathered by interviewing and surveying hotel managers.

$$(3) A_t = \beta_0 + \beta_1 B_t + \beta_2 B_{t-1} + \beta_3 B_{t-2} + \beta_4 B_{t-3} + \beta_5 B_{t-4} + \beta_6 B_{t-5} + OCC_{At} + \varepsilon$$

where A_t = rate change percent of hotel A (a focal hotel),
 B_t = rate change percent of hotel B (a competing hotel),
 B_{t-1} = first order lag of Hotel B's rate change percent,
 B_{t-2} = second order lag of Hotel B's rate change percent,
 B_{t-3} = third order lag of Hotel B's rate change percent,
 B_{t-4} = fourth order lag of Hotel B's rate change percent,
 B_{t-5} = fifth order lag of Hotel B's rate change percent.
 OCC_{At} = Occupancy percent of Hotel A at time t.

Twenty-two arrival dates consisted of different types of days such as weekdays, weekends, Sundays and holidays. Arrival date dummy variables were also included in the regression model to control for the possible influence of various date types on a hotel's rate change decisions.

$$(4) A_t = \beta_0 + \beta_1 B_t + \beta_2 B_{t-1} + \beta_3 B_{t-2} + \beta_4 B_{t-3} + \beta_5 B_{t-4} + \beta_6 B_{t-5} + OCC_A + ARdatetype + \varepsilon$$

where A_t = rate change percent of hotel A (a focal hotel),
 B_t = rate change percent of hotel B (a competing hotel),
 B_{t-1} = first order lag of Hotel B's rate change percent,
 B_{t-2} = second order lag of Hotel B's rate change percent,
 B_{t-3} = third order lag of Hotel B's rate change percent,
 B_{t-4} = fourth order lag of Hotel B's rate change percent,
 B_{t-5} = fifth order lag of Hotel B's rate change percent.
 OCC_{At} = occupancy percent of Hotel A at time t,
 $ARdatetype$ = dummy coded type of arrival date.

A_t and B_t in Equation (4) indicate the situation where the two competing hotels, A and B, changed their room rates on the same day, t. If β_1 was significant, then hotel A was assumed to be significantly responding to hotel B's rate changes. By doing this, it was assumed that any rate changes made by Hotel A were always responses to Hotel B's rate changes that occurred either on the same day of or on earlier days than Hotel A's change.

A Hotel A's rate change can be a reaction to a Hotel B's rate change that occurred on the same day, if the Hotel B's change occurred earlier than Hotel A's. The Hotel A's rate change can be an action that motivated the Hotel B's rate change occurred on the same day, if the Hotel A's change occurred earlier than the Hotel B's. However, in this case, the Hotel A's rate change can also be a reaction to a Hotel B's rate change occurred days ago. When Hotel A and Hotel B changed their room rates on the same day, it could not be observed which of the hotel changed its room rate earlier than the other. However, as discussed above, Hotel A's rate changes can always be reactions to Hotel B's rate changes that occurred at some point (either on the same day of Hotel A's rate change or on earlier days), regardless of the sequence of the same day changes by Hotel A and Hotel B. If Hotel A's rate change was a reaction to Hotel B's rate change that occurred on the same day of Hotel A's change, it would be reflected in β_1 (a regression coefficient for B_t). If Hotel A's rate change was a reaction to Hotel B's rate change that occurred days ago, it would be captured in β_2 through β_6 (regression coefficients for the lag variables).

However, it may still be arbitrary who was responding to whom when the changes occurred on the same day. An additional analysis was conducted to verify if the results were consistent, when a Hotel A's rate change that occurred on the same day of a Hotel B's rate change was not considered a Hotel A's response to the Hotel B's rate change. Thus, in the additional analysis, Hotel A was considered responsive to Hotel B's rate changes, only when Hotel A's rate changes were significantly influenced by Hotel B's rate changes that occurred at least one day earlier than the Hotel A's changes. In other words, Hotel A was considered irresponsible to Hotel B's rate changes, if only β_1 was significant but none of the β_2 , β_3 , β_4 , β_5 , and β_6 was significant. The results of hypotheses test in this additional analysis with the newly measured responsiveness variable were consistent with the results in the original analysis where

rate changes by two competing hotels occurred on the same days were also included in measuring one hotel's responsiveness to the other hotel's rate changes.

Finally, the responsiveness was dummy-coded. If any of β_1 through β_6 was significant at $\alpha = .05$, the responsiveness received the value of '1', otherwise '0'.

The total number of the 'focal-rival' dyads was 1,644, and 712 dyads received '1', which indicates that there were 89 significantly interacting dyads in each market area (=712/8 market areas). As presented previously, each market area consisted of 14.5 hotels on average. Thus, an average hotel interacted with approximately six hotels (=89/14.5) in terms of room rate decisions.

Tendency of Matching and Outdoing Price Increase/Decrease

'Matching' refers to the direction of a focal hotel's price change being the same as that of its rival's price change. 'Outdoing' refers to the magnitude of the focal hotel's price change being greater than that of its rival's. Thus, focal hotel's matching and outdoing price increases/decreases of a rival hotel is defined as in Figure 3.2, where the focal hotel is denoted as A and the rival as B. As described in Equation (1), percent changes were used in determining focal hotel managers' matching and outdoing pricing behavior.

Matching	Increase → if $B > 0$ and $A > 0$;
	Decrease → if $B < 0$ and $A < 0$;
<hr/>	
Outdoing	Increase → If $B > 0$, $A > 0$, and $A > B$;
	Decrease → If $B < 0$, $A < 0$, and $A < B$.

Figure 3.2. Matching and Outdoing

The tendency of matching increases/decreases refers to the tendency that a focal hotel's price change follows the direction of its rival's price shifts when the focal hotel decides to respond to the rival's rate change. Thus, the tendency of matching increase (decrease) is measured as the ratio of a focal hotel's total number of rate increases (decreases) to the focal hotel's total number of rate changes given a rival's room rate increases (decreases). For example, Hotel A changes room rates 100 times (either increase or decrease) when its rival Hotel B increases room rates. Assume that 80 times out of the 100 times of Hotel A's responses to Hotel B's (the rival) rate increases were rate increases (i.e., matching the direction of the rival's price movement). Then, the tendency of Hotel A's matching price increase of Hotel B is 0.8 ($=80/100$).

The tendency of outdoing increases (decreases) relates to the magnitude of a focal hotel's rate increase (decrease) when the hotel decides to follow a rival's rate increase (decrease). Thus, the tendency of outdoing increase (decrease) is measured as the ratio of a focal hotel's total number of outdoing increases (decreases) to the focal hotel's total number of matching increase (decrease). Total number of matching and outdoing increases (decreases) were measured based on the framework in Figure 3.2. For example, Hotel A, as in the example above, matched its rival, Hotel B's rate increases 80 times. Assume that 20 out of the 80 times of matching increases, the magnitude of Hotel A's increases was greater than Hotel B's. Then, the tendency of Hotel A's outdoing price increases of Hotel B is 0.25 ($=20/80$).

Control Variables

Manager industry experience

Research in competitive managerial decision-making has been dominated by the economic frame (i.e., game theory) and challenged by the behavioral frame. The economic frame assumes rational behavior of all players (i.e., focal actor and competitors). That is, managers are assumed to make rational decisions that lead to an optimal outcome. However, managers are not always rational; they sometimes make unprofitable decisions. For example, in 1993, USAir and Continental Airlines decided to offer major discounts in responding to Southwest Airlines' prices, although they were not financially equipped to engage in a pricing battle with Southwest (Meyer & Banks, 1997). Behavioral research argues that managers often make irrational decisions due to their own personal biases, such as loss aversion and temporal myopia, and hence research in competitive managerial decision-making should take such biases into account (Meyer & Banks, 1997).

Consequently, this attempts to rule out the influence of such biases on a hotel's competitive pricing decisions by including hotel manager's experience (i.e., number of years working in the hotel industry) as a control variable.

Analysis for Hypotheses Examination

Hypotheses regarding the relationships between competitor characteristics and the hotel's tendency of response to a rival's price change were tested using logistic regression. Hypotheses regarding the effects of competitor characteristics on a hotel's matching and outdoing a rival's price increase/decrease were examined through a series of multiple regressions.

A hotel's responsiveness to its rival's rate change (a dependent variable) was dummy coded, where '1' being responsive and '0' being nonresponsive. Thus, a logistic regression was appropriate to examine the effects of the rival's characteristics on the hotel's tendency of changing its room rates in responding to the rival's rate changes.

Multiple regressions were conducted to examine the competitor influences on the hotel's tendency of matching its rival's rate increases and decreases. As presented previously, this study comprises 1164 'focal-rival' dyads. Among the 1164 dyads, only 712 dyads, where the focal hotel's rate change was significantly influenced by the rival hotel (i.e., responsiveness = 1), were included in the regression analysis. 'Matching' is associated with the direction of response when the focal hotel decides to respond to the rival's rate change. Thus, it is not reasonable to examine the response direction when the focal hotel does not respond to the rival's rate change.

CHAPTER 4

RESULTS

The purpose of this study is to investigate the effects of competitors on hotel managers' pricing decisions. This chapter presents results of statistical analysis of the relationship between competitor characteristics and hotels' pricing behavior and the role of the hotel's strategic orientation and environmental conditions in the managers' competitive pricing decisions. First, the characteristics of sample hotels and their pricing behaviors are presented. Second, the results of testing each hypothesis are presented.

Sample Hotels

This study comprised a total of 116 hotels, limited to those having two to four diamonds based on AAA ratings to control for the possible influence of the quality level on the hotel's pricing decisions (i.e., hotels with one or five diamonds were excluded). More than half of the sample hotels (66.3%) had three diamonds (Table 4.1). The target market segment, about a quarter of the sample hotels (23.3%), were mid-scale without F&B properties and about one third (32.8%) were upper upscale properties, based on STR chain scale segment.(Table 4.2).

Table 4.1. AAA Ratings of Sample Hotels

Diamonds	Frequency	Percent
2	23	19.8
3	77	66.4
4	16	13.8
Total	116	100.0

Table 4.2. Market Segment of the Sample Hotels

Market Segment	Frequency	Percent
Economy	8	6.9
Mid-Scale without F&B	27	23.3
Mid-Scale with F&B	10	8.6
Upscale	24	20.7
Upper Upscale	38	32.8
Luxury	9	7.7
Total	116	100.0

Most of the hotels (93.1%) were branded hotels; only eight of the 116 hotels were independent properties. As discussed in Chapter 3, brand power was measured using a customer survey conducted by *Consumer Reports*, in terms of price, satisfaction, value, service, and problems of a hotel brand. Average brand power was 72.5 (maximum 100); almost 80 percent of the hotels were affiliated with brands whose power was above the average of 72.5. About 35 percent of the sample hotels were managed by professional hotel management companies. Approximately one third of the sample hotels were limited service properties and considered to use a cost leadership strategy (Walsh et al., 2008).

On average, the sample hotels were 19 years old with 239 rooms and \$115.00 of ADR. The average distance among hotels was 2.58 miles and the average difference in size and price were 175 rooms and \$80.16 respectively.

Pricing Behavior of Hotels

General Tendency of Price Movement

Hotels were likely to change their room rates most frequently beginning approximately 10-15 days ahead of the arrival (i.e., check-in) date. Almost 90 percent of rate changes were made during the 15 days before the arrival date. More than half of the room rate changes occurred during the 10 days before the arrival date (Figure 4.1).

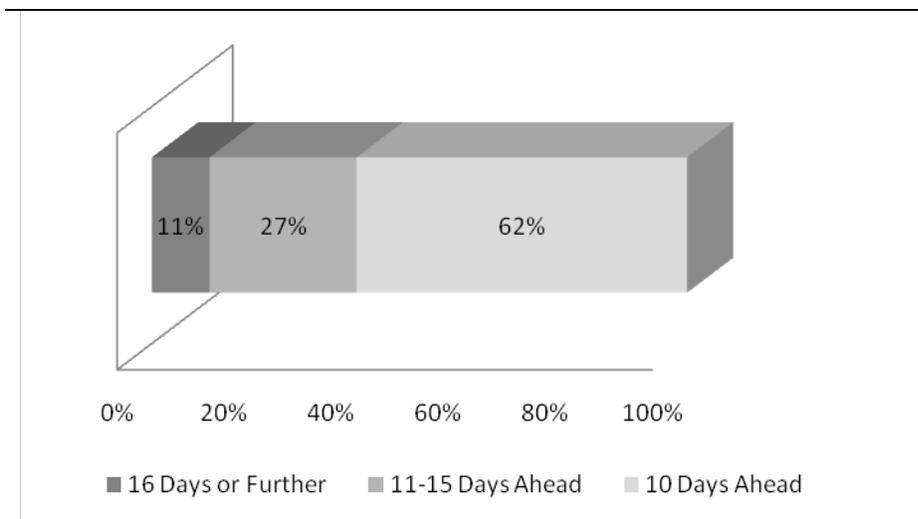


Figure 4.1. Rate Change Frequency

The hotels changed their room rates by \$27.20 on average; the greatest dollar change was \$370.00 and the smallest change was \$1.00. The greatest rate decrease was \$330.00 and the greatest rate increase was \$370.00 (Table 4.3). Hotels in this study were more likely to follow rivals' rate increases than rate decreases. As shown in the graph below, about 50 percent of the time, when rivals increased their room rates, hotels followed the increases, whereas hotels followed only a quarter of the rivals' rate decreases (Figure 4.2).

Table 4.3 Room Rate Changes

	Min	Max	Mean
Absolute Dollar Change	\$1.00	\$370.00	\$27.20
Absolute Percent Change	0.01%	38.75%	19.34%

	Max Decrease	Max Increase
Dollar Change	-\$330.00	\$370.00
Percent Change	-0.90%	38.75%

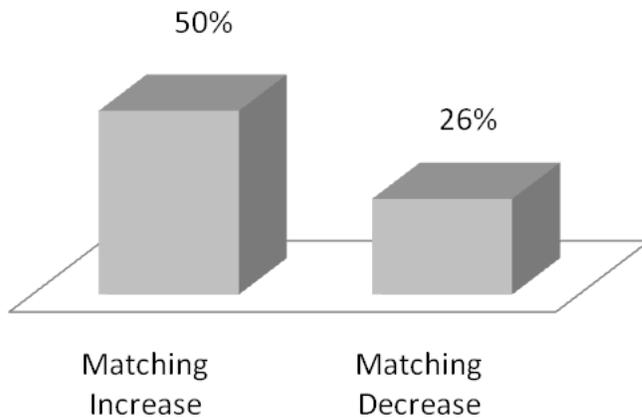


Figure 4.2. Rate Matching Frequency

General Tendency of Competitive Price Responses

As discussed in Chapter 3, hotel managers did not respond to all of the hotels in the market area. Instead, hotel managers interacted with approximately six hotels competing in the market in terms of room rate decisions.

Also, hotel managers did not respond to every rate change of a rival hotel. They responded to approximately 46 percent of the rate changes of a rival. That is, when a rival changed its room rates ten times, a focal hotel manager changed room rates of his/her own hotel approximately 4.6 times in responding to the rival's rate changes.

For the types of the competitive pricing responses, hotel managers followed approximately 69 percent of rivals' rate increases, while they followed less than half (43 percent) of the rivals' rate decreases. Regarding the magnitude of the responses, about 50 percent of the responses to rivals' rate increases and 27 percent of the responses to rivals' decreases were 'exact matching (focal hotel's rate increase/decrease percent was exactly same as a rival's)'. 'Outdoing (focal hotel's rate increase/decrease percent was greater than a rival's)' or 'underdoing (focal hotel's rate increase/decrease percent was smaller than a rival's)' were far less frequent (Figure 4.3). On average, hotel managers surpassed only 17 percent of rivals' rate increases and five percent of decreases. Less than ten percent of the price responses were underdoing (three percent for increases and five percent for decreases).

Due to the limited number of observations for underdoing responses (36 cases for underdoing increases and 55 for decreases), the statistical examination, in this study, is limited to outdoing responses regarding the magnitude of competitive price responses. Although thorough statistical analysis of underdoing responses were not feasible due to limited number of cases, a descriptive analysis was conducted to provide at least preliminary insight into the underdoing competitive pricing behavior of hotel managers.

Among those underdoing their rivals' rate increases, approximately 64 percent used 'cost-leadership' strategy. The hotels for which focal hotel managers underdo rate increases were all branded properties. Underdoing focal hotels tended to have higher ADR and to serve higher market segments. Considering that rate percent change (instead of dollar change) was used in this study, it may be reasonable that higher ADR or upper scale hotels' rate increase percentage is smaller than that of lower ADR or lower scale hotels. The percent increase in higher ADR or upper scale hotels' room rates will be smaller than the percent increase in lower ADR or lower

scale hotels' room rates, even though they all increase their room rates by the same dollar amount.

In the case of underdoing rival's rate decreases, the focal hotel tended to be larger than the rival in terms of size than the rival (the mean difference was 194 rooms). Also, the rate increasing rival's brand power found to be greater than the underdoing focal hotel's brand power. These results imply that a stronger position in the market may limit rivals' capabilities to compete with the focal hotel in terms of lower price.

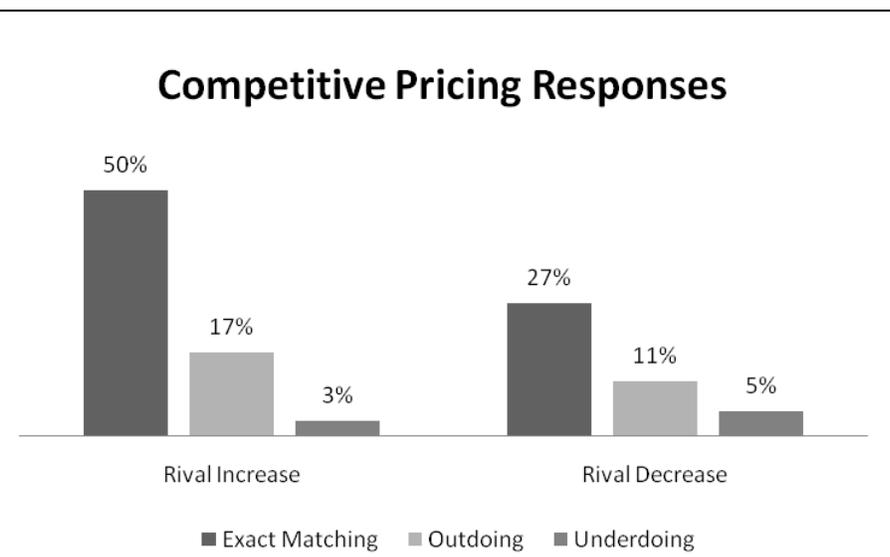


Figure 4.3. Competitive Pricing Response Pattern

Hypotheses Testing

The purpose of this study is to examine how competitors affect local hotel managers' strategic pricing behavior. The empirical model is presented in Figure 4.3 and the research questions and specific hypotheses are summarized below:

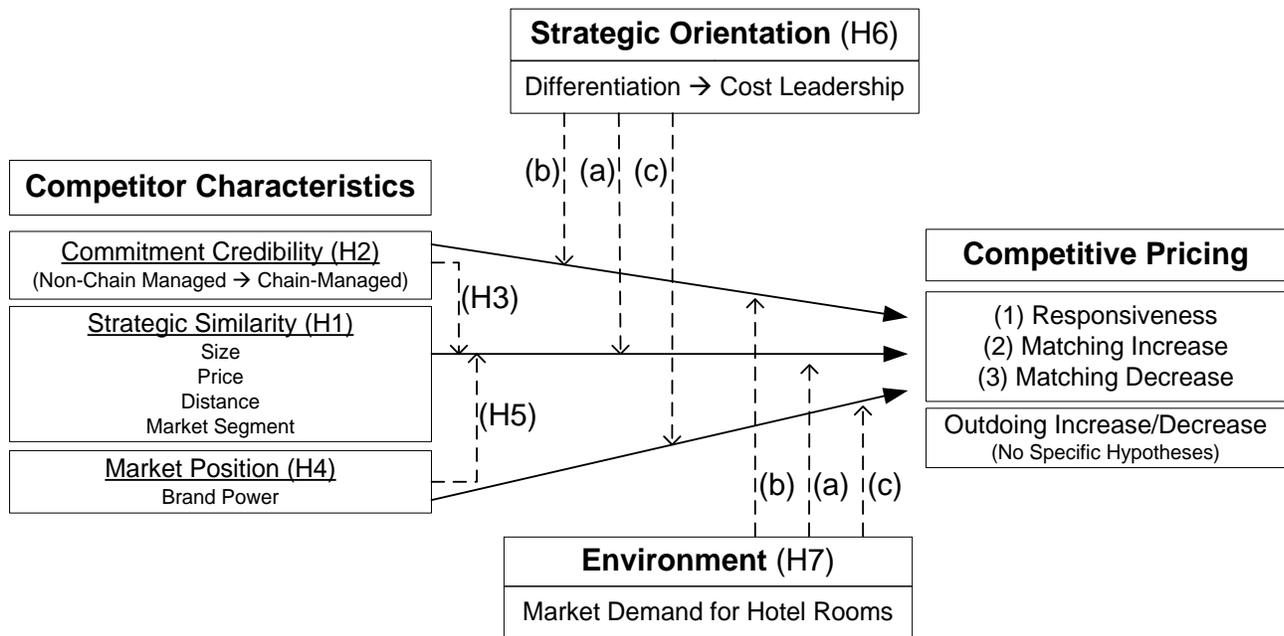


Figure 4.4. Empirical Model and Hypotheses

Research Question 1: Who are the primary competitors for a hotel?

Research Question 2: How do competitors influence a hotel's pricing?

- How do characteristics of a rival influence the hotel's tendency of responding to the rival's price changes?

H1-1: The greater the strategic similarities (distance, size, price, and market segment) between a focal hotel and a rival hotel, the more likely is the focal hotel to respond to the rival's price changes.

H4-1: A focal hotel is more likely to respond to a rival hotel's price change when the rival is affiliated with a strong brand than a weak brand.

H5-1: The positive influence of the strategic similarities between a focal hotel and a rival hotel on the focal hotel's tendency of responding to the rival's price changes becomes stronger when the rival is affiliated with a strong brand than a weak brand.

- How are the reaction types influenced by specific characteristics of the rivals?

Reaction: matching increase

H1-2: The greater the strategic similarities (in distance, size, price, and market segment) between a focal hotel and a rival hotel, the more (less) likely is the focal hotel to match the rival's price increases. (Bi-directional)

H2: A focal hotel's tendency of matching a rival's price increase is higher when the rival is a chain-managed unit than a non-chain-managed unit.

H3: The positive (negative) influence of the strategic similarities between a focal hotel and a rival hotels on the focal hotel's tendency of matching the rival's price increases becomes stronger (weaker) when the rival is a chain-managed unit than a non-chain-managed unit.

H4-2: A focal hotel is more likely to match a rival's price increase when the rival is affiliated with a strong brand than a weak brand.

H5-2: The positive (negative) influence of the strategic similarities between a focal hotel and a rival hotel on the focal hotel's tendency of matching the rival's price increases becomes stronger (weaker) when the rival is affiliated with a strong brand than a weak brand.

Reaction: matching decrease

H1-3: The greater the strategic similarities (distance, size, price, and market segment) between a focal hotel and a rival hotel, the more likely is the focal hotel to match the rival's price decreases.

H4-3: A focal hotel is more likely to match a rival's price decrease when the rival is affiliated with a strong brand than a weak brand.

H5-3: The positive influence of the strategic similarities between a focal hotel and a rival hotel on the focal hotel's tendency of matching the rival's price decreases becomes stronger when the rival is affiliated with a strong brand than a weak brand.

Research Question 3: What are the roles of other factors not related to competitor attributes, namely a hotel's generic strategy and environmental conditions, in determining the hotel's competitive pricing behavior?

- Role of the hotel's generic strategy

H6-1: The positive influence of (a) strategic similarities and (c) the rival's brand power on the focal hotel's tendency of responding to the rival's price changes is stronger, when the focal hotel uses a cost leadership strategy than a differentiation strategy.

H6-2: The positive (negative) influence of (a) strategic similarities, (b) rival's management form, and (c) rival's brand power on the focal hotel's tendency of matching the rival's price increases is weaker (stronger), when the focal hotel uses a cost leadership strategy than a differentiation strategy.

H6-3: The positive influence of (a) strategic similarities and (c) a rival's brand power on the focal hotel's tendency of matching the rival's price decreases becomes stronger, when the focal hotel uses a cost leadership strategy than a differentiation strategy.

- Role of market demand

H7-1: As market demand for hotel rooms increases, the positive influence of (a) strategic similarities and (c) a rival's brand power on the focal hotel's tendency of responding to the rival's price change becomes weaker.

H7-2: As market demand for hotel rooms increases, the positive (negative) influence of (a) strategic similarities, (b) rival's management form , and (c) rival's brand power on the focal hotel's tendency of matching the rival's price increases becomes weaker (stronger).

H7-3: As market demand for hotel rooms increases, the positive influence of (a) strategic similarities and (c) rival's brand power on the focal hotel's tendency of matching the rival's price decreases becomes weaker.

Competitor Characteristics and a Hotel's Responsiveness to the Rival's Rate Change

The descriptive statistics of continuous variables are presented in Table 4.4. A logistic regression was conducted (Table 4.5) to examine the primary competitor of a hotel and the effects of competitor characteristics on a hotel's responsiveness to the rival's rate changes.

Table 4.4. Descriptive Statistics

	Mean	Std. Dev.
Distance	3.04miles	3.00
Difference in Price	\$77.14	79.70
Difference in Size	153.09 rooms	172.79
Difference in Market Segment	1.41	1.18
Manager's Industry Experience	15.90years	11.87
Market Demand for Hotel Rooms	68.78	13.71
Competitor's Brand Power	76.43	15.46
Occupancy Change	.03%	.13
N (Number of Dyads)	1644	

Table 4.5. Logistic Regression: Responsiveness

Variables	β	Exp(β)	Hypothesis	Expected
Strategic Similarity				
Distance	.149	.862	H1-1	+
Price	.007	1.007		
Size	.004	1.004		
Market Segment	1.455**	4.285		
Market Position				
C BrandP ^a	.028	1.028	H4-1	+
Credibility				
C_MForm ^b	-.694	.499		
STR_ORT ^c	2.974**	19.575		
Market Demand	.005	1.005		
M_Experience ^d	.000	1.000		
Similarity \times Market Position				
Distance \times BP	.002	1.002	H5-1	+
Price \times BP	.000	1.000		
Size \times BP	.000	1.000		
Market Segment \times BP	.013**	1.013		
Similarity \times Market Demand				
Distance \times MD ^e	-.001	.999	H7-1a	-
Price \times MD	.000	1.000		
Size \times MD	.000	1.000		
Market Segment \times MD	-.016**	.984		
Similarity \times Strategic Orientation				
Distance \times STR_ORT	.024	1.024	H6-1a	+
Price \times STR_ORT	.007*	.993		
Size \times STR_ORT	.003*	1.003		
Market Segment \times STR_ORT	.496**	1.642		
Brand Power \times STR_ORT	.033*	1.033	H6-1c	+
MForm \times STR_ORT	.156	1.168		
Brand Power \times MD	.000	1.000	H7-1c	-
MForm \times MD	-.015	.986		
-2LL	215.290	Cox & Snell	.315	Hosmer and Lemeshow Test
χ^2	24.978**	Nagelkerke R ²	.420	102.910***

*** p<.01; ** p<.05; * p<.10

^a C_BrandP: Competitor Brand Power, also BP^b C_MForm: Competitor Management Form^c STR_ORT: Focal Hotel's Strategic Orientation^d M_Experience: Manager's Industry Experience^e MD: Market Demand for Hotel Rooms

Strategic Similarities and Responsiveness

The goodness-of-fit of the logistic model was acceptable. The chi-square test compares the constant-only (null) model with the proposed model with multiple variables added (Hair et al., 2005). The results ($\chi^2=24.978$, $p<.05$) showed that including the proposed variables significantly increased the model fit. The significant Hosmer and Lemeshow test rejected a null hypothesis of ‘there is no difference between the observed and the predicted values of the dependent variables (i.e., the logistic model fits good)’. However, the Hosmer and Lemeshow goodness-of-fit test is a chi-square based measure and thus sensitive to sample size, enabling this measure to find small differences statistically significant when the sample size is large (Hair et al., 2005). Thus, the significant Hosmer and Lemeshow test may be considered a result of the large sample size of this study, rather than a reflection of poor fit of the logistic model.

Among four variables regarding strategic similarities, only the similarity in *Market Segment* had a significant positive effect on the hotel’s tendency of responding to a rival’s rate change. Therefore, hypothesis 1-1 was supported, but only for the similarity in market segment, not for the other strategic similarity variables of distance, price, and size.

Interactions between the strategic similarity variables and other variables were statistically significant, again only for the similarity in market segment but not for the other three similarity variables. Hypotheses 5-1, 6-1a, and 7-1a, regarding the moderating effects of a rival’s market position (measured as the brand power), a focal hotel’s strategic orientation, and market demand on the relationship between the strategic similarities and the focal hotel’s responsiveness, were supported only for the similarity in market segment.

A Focal Hotel's Strategic Orientation and Responsiveness

A focal hotel's strategic orientation was dummy-coded where '1' was cost leadership and '0' was differentiation. Hotels using a cost leadership strategy were found to be more responsive to their rivals' rate changes, as was consistent with the previous literature (Walsh et al., 2008).

Interactions with similarities in market segment had significant influences on the hotel's tendency of responding to its rival's rate changes. Interactions with other strategic similarity variables such as price and size had only marginally significant ($.05 < p < .10$) effects on a hotel's responsiveness to a rival's rate change. Therefore, hypothesis 6-1a was supported only for the similarity in market segment.

Hypothesis 6-1c about an interaction effect of brand power and strategic orientation on the hotel's tendency of responding to a rival's rate change was marginally supported ($p < .10$). Hypothesis 7-1c regarding an interaction effect of brand power and market demand was not supported. This marginal significance and the lack of significance were again due to the limited variation in brand power and market demand.

Market Demand and Responsiveness

The lack of significance of the main effect of market demand on the hotel's tendency of responding to a rival's rate change was due to limited variation in market demand. However, the interaction with the similarity in market segment had a significant, negative influence on a hotel's responsiveness to its rival's rate changes. Interactions with the other three strategic similarity variables were not significant. Thus, hypothesis 7-1a was supported only for the similarity in market segment.

In summary, among four strategic similarity variables, only market segment had a significant influence on the hotel's tendency of responding to its rival's rate change. Physical proximity and similarities in price and size did not have significant influences on the hotel's responsiveness. Also, market segment similarity was the only variable having a significant effect on the hotel's responsiveness when interacting with other variables such as brand power, market demand, and strategic orientation. A hotel's room rate was more likely to be influenced by a rival hotel similar in market segment. For example, an economy hotel was more responsive to its rival's rate change when the rival was a mid-scale hotel than when it was an upscale one. The positive influence of the rival similar in market segment on the hotel's rate changes was enhanced when the rival's affiliated brand was strong or the hotel used a cost leadership strategy. However, the positive influence was weakened as market demand for hotel rooms increased.

Competitor Characteristics and the hotel's tendency of Matching a Rival's Rate Increase

A multiple regression was conducted (Table 4.7) to examine the competitor influences on the hotel's tendency of matching the rival's rate increases. As presented in Chapter 3, this study comprised 1,164 'focal-rival' dyads. Among the 1,164 dyads, only 712 dyads, where the focal hotel's rate change was significantly influenced by the rival hotel (i.e., responsiveness = 1), were included in the regression analysis. 'Matching' is associated with the direction of response when the focal hotel decides to respond to the rival's rate change. Thus, it is not reasonable to examine the response direction when the focal hotel does not respond to the rival's rate changes.

In the logistic regression discussed previously, it was found that a hotel's room rate was not significantly influenced by a rate change of a rival similar in size, price, and distance. Only market segment similarity had a significant effect on a hotel's competitive pricing decision.

Consequently, among four similarity variables, only the market segment was included in the regression model.

The correlations of continuous variables included in the regression analysis are presented in Table 4.6. The variables, especially the interaction terms, were highly correlated. Accordingly, all interaction variables were mean-centered to address the multicollinearity issue. VIF values for variables were within the range of one to nine (Table 4.7). A common cutoff threshold for multicollinearity is a VIF value of 10 (Hair, Black, Babin, Anderson, & Tatham, 2005). Hair et al. (2005) suggest that the researcher be more restrictive in the VIF cutoff threshold when sample sizes are relatively smaller. Considering the fairly large number of cases (N=712), VIF values under 10 were considered acceptable.

Strategic Similarities and Matching Increase

A bi-directional hypothesis was developed (H1-2) for the relationship between the similarity in market segment and the hotel's tendency of matching its rival's rate increase. In this study, hotels were found to be more likely to move in the direction of competing hotels' rate increases when the rivals were similar in target market segment. This positive influence of market segment similarity on the hotel's tendency of matching its rivals' rate increases implies that an economy hotel may be more likely to follow its rival's rate increases when the rival is a mid-scale hotel than when it is an upscale one.

Table 4.6. Matching Increase: Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MAT_INC														
2. MS	.511**													
3. BP	.417**	.011												
4. MForm	.423**	.037	.098**											
5. SO	-.107**	-.159**	.100**	-.091**										
6. MD	.032	-.054	.170**	-.049	.123**									
7. ME	-.029	.085*	-.170**	-.039	-.107**	-.307**								
8. MS × BP	.341**	.839**	-.298**	-.010	-.143**	-.095**	.099**							
9. MS × MForm	.040*	.456**	-.068**	-.527**	-.100**	-.005	.053	.471**						
10. MS × SO	.277**	.567**	.003	-.004	-.618**	-.070*	.075*	.484**	.385**					
11. MS × MD	.490**	.975**	-.007	.041	-.167**	-.202**	.106**	.837**	.444**	.568**				
12. BP × SO	-.028	-.103**	.241**	-.092**	.931**	.164**	-.109**	-.198**	-.089**	-.517**	-.118**			
13. MForm × SO	.113**	-.154**	.031	.401**	.449**	.028	-.068*	-.159**	-.468**	-.386**	-.153**	.405**		
14. BP × MD	.390	-.004	.934**	.089**	.140**	.479**	-.230**	-.294**	-.080	-.020	-.069*	.274**	.069*	
15. MForm × MD	.423	.029	.133**	.984**	-.080*	.044	-.063*	-.032	-.529	-.012	.021	-.061	.411	.148**

** p<.01; *p<.05

1. MAT_INC: Matching Increase; 2. MS: Similarity in Market Segment; 3. BP: Competitor Brand Power; 4. MForm: Competitor Management Form;
5. SO: Focal Hotel's Strategic Orientation; 6. MD: Market Demand; 7. ME: Manager Industry Experience;
8. MS × BP: Market Segment × Competitor Brand Power; 9. MS × MForm: Market Segment × Competitor Management Form;
10. MS × SO: Market Segment × Focal Hotel's Strategic Orientation; 11. MS × MD: Market Segment × Market Demand;
12. BP × SO: Competitor Brand Power × Focal Hotel's Strategic Orientation;
13. MForm × SO: Competitor Management Form × Focal Hotel's Strategic Orientation; 14. BP × MD: Competitor Brand Power × Market Demand;
15. MForm × MD: Competitor Management Form × Market Demand

Table 4.7. Multiple Regression: Matching Increase

	β	VIF	Hypothesis	Expected
Market Segment	.081**	7.486	H1-2	+/-
C_BrandP ^a	.002*	7.285	H4-2	+
C_MForm ^b	.288**	6.625	H2	+
STR_ORT ^c	-.152***	4.038		
Market Demand	-.001	8.824		
Manager Experience	.000	1.199		
Market Segment \times C_BrandP	.001***	6.440	H5-2	+
Market Segment \times C_MForm	.028**	2.326	H3	+
Market Segment \times STR_ORT	-.026**	2.836	H6-2a	-
Market Segment \times Market Demand	-.001	8.789	H7-2a	-
Brand Power \times STR_ORT	.001**	7.214	H6-2c	-
C_MForm \times STR_ORT	.090***	1.906	H6-2b	-
Brand Power \times Market Demand	.000	7.401	H7-2c	-
C_MForm \times Market Demand	-.002	6.922	H7-2b	-

F=71.075***
R²=.588

*** p<.01; ** p<.05; * p<.10

^a C_BrandP: Competitor Brand Power, also BP

^b C_MForm: Competitor Management Form

^c STR_ORT: Focal Hotel's Strategic Orientation

Commitment Credibility and Matching Increase

As expected, commitment credibility measured as the management form (1=professionally managed) had a significant positive effect on the hotel's tendency of matching increase. The positive effect of market segment similarity on the hotel's tendency of matching increase was enhanced when the rate increasing rival was professionally managed. Thus, hypotheses 2 and 3 were supported; a hotel was more likely to match its rival's rate increases when the rival was professionally managed (i.e., the rival's commitment to the increase is

credible). This result is consistent with Vroom and Gimeno's (2007) argument regarding an organization's pricing behavior and commitment credibility of price increasing rivals.

Competitor's Brand Power and Matching Increase

The main effect of competitor brand power on the hotel's tendency of matching a rival's room rate increase was marginally significant ($p < 10$). However, the positive influence of market segment similarity was enhanced when the rate increasing hotel was affiliated with a strong brand than a weak brand. Hypothesis 4-2 was marginally supported and hypothesis 5-2 was supported. Hotels appeared to be more likely to follow their rivals' rate increases when the rivals were affiliated with strong brands (i.e., stronger market position) than with weak brands.

A Focal Hotel's Strategic Orientation and Matching Increase

It was expected that hotels using a cost leadership strategy would be less likely to match their rivals' rate increases, compared to those using a differentiation strategy. The most important competitive advantage for hotels using a cost leadership strategy is lower price. Thus, cost leadership hotels were expected to be less likely to follow competitors' price increase to maintain the competitive advantage.

The interaction between market segment similarity and a focal hotel's strategic orientation had a significant negative effect on the hotel's tendency of matching rival's rate increase. Hypothesis 6-2a was supported. Hotels became less likely to match the rate increases of their rivals similar in market segment when their strategic orientation was a cost leadership.

Interestingly, however, the hotels using a cost leadership strategy were more likely to match their rivals' rate increases as the rivals had a strong brand power. The interaction between

the rival's management form and the focal hotel's strategic orientation also had a significant positive influence on the focal hotel's matching rate increase. Thus, hypotheses 6-2b and 6-2c were not supported and the algebraic signs were the opposite of what was expected. These counter intuitive results do not necessarily mean that hotels using a cost leadership strategy dismiss their competitive advantage of lower price. Rather, the positive interactions among brand power, management form, and strategic orientation imply that hotels operating with a cost leadership strategy may be more sensitive to their competitors' rate movements, even rate increases.

Hotels using a differentiation strategy do not compete in terms of how much they charge as much as in the quality and the uniqueness of their products and services. Thus, differentiation hotels would be expected to be less sensitive to competitors' rate changes (either increase or decrease) than cost leadership hotels. In other words, cost leadership hotels are more likely to respond to powerful and credible rivals' rate increases while differentiation hotels tend to be indifferent to rivals' rate increases. Rate increases of hotels that have a strong market position or a credible commitment to the increases encourage other hotels competing in the market to follow the increases (Steenkamp et al., 2005; Vroom & Gimeno, 2007). Thus, when it is expected that other competing hotels in the market are also likely to increase their room rates, the greater sensitivity to the competitors' rate changes motivates the cost leadership hotels to follow the rivals' rate increases.

In short, hotels were more likely to match rivals' rate increases as the rivals were affiliated with stronger brands (hypothesis 4-2). Also, hotels tended to match rivals' rate increases when the rivals' commitment to the increases was credible (i.e., when the rivals were professionally managed: hypothesis 2). These positive effects were stronger when the focal hotel

used a cost leadership strategy than when it used a differentiation strategy, because of greater sensitivity of cost leadership hotels to their rivals' price movements.

Market Demand and Matching Increase

None of the hypotheses regarding market demand, hypotheses 7-2a, 7-2b, and 7-2c, was supported. As in the logistic regression above, this lack of statistical significance of the three interaction effects was due to limited variation in market demand. For hypotheses 7-2a and 7-2b, the algebraic signs of the regression coefficients were as expected, although the coefficients were not significant.

In summary, hotels were more likely to match their rivals' rate increases when the rivals' target market segments were similar to their own. The tendency of a hotel's matching a rate increase of a rival similar in market segment was enhanced when the rival had a stronger market position and a credible commitment to the increase, while it was diminished when the hotel's strategic orientation was a cost leadership. The positive moderating effects of the focal hotel's strategic orientation on the relationships between the competitor brand power and the focal hotel's tendency of matching increases, and between the competitor management form and the focal hotel's tendency of matching increases, were the opposite of the expectation. These unexpected results might be due to a cost leadership hotel's greater sensitivity to the rate changes of a rival who had a strong market position and/or a credible commitment to the changes.

Competitor Characteristics and the hotel's tendency of Matching a Rival's Rate Decrease

A multiple regression was conducted (Table 4.9) to examine the competitor influences on the hotel's tendency of matching its rival's rate decreases. As in the analysis for competitor characteristics and the hotel's tendency of matching increase above, only the 712 dyads, where the focal hotel's rate change was significantly influenced by the rival hotel (i.e., responsiveness = 1), were considered in this regression analysis. Also, only the market segment, among four similarity variables, was included in the regression model.

The correlations of continuous variables included in the regression analysis are presented in Table 4.8. The variables, especially the interaction terms, were again highly correlated. Accordingly, all interaction variables were mean-centered to address the multicollinearity issue. VIF values for variables were within the range of five to nine (Table 4.9), which was considered acceptable.

Strategic Similarities and Matching Decrease

Hypothesis 1-3 was supported. Hotels were more likely to follow their rivals' rate decreases when the rivals' target market segments were similar to their own. Rate decreases of rivals similar in market segment may have a greater impact on focal hotels' performance (e.g., revenue and profit). The positive effect of market segment similarity on a hotel's matching decrease was enhanced by the rate decreasing rival's strong brand power and the focal hotel's cost leadership strategy.

Table 4.8. Matching Decrease: Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MAT_DEC														
2. MS	.428**													
3. BP	.221**	.011												
4. MForm	.026	.037	.098**											
5. SO	.384**	-.159**	.100**	-.091**										
6. MD	-.054	-.054	.170**	-.049	.123**									
7. ME	.011	.085*	-.170**	-.039	-.107**	-.307**								
8. MS × BP	.339**	.839**	-.298**	-.010	-.143**	-.095**	.099**							
9. MS × MForm	.179**	.456**	-.068*	-.527**	-.100**	-.005	.053	.471**						
10. MS × SO	.047	.567**	.003	-.004	-.618**	-.070*	.075*	.484**	.385**					
11. MS × MD	.422**	.975**	-.007	.041	-.167**	-.202**	.106**	.837**	.444**	.568**				
12. BP × SO	.408**	-.103**	.241	-.092**	.931**	.164**	-.109**	-.198**	-.089**	-.517**	-.118**			
13. MForm × SO	.159**	-.154**	.031	.401**	.449**	.028	-.068*	-.159**	-.468**	-.386**	-.153**	.405**		
14. BP × MD	.184**	-.004	.934**	.089**	.140**	.479**	-.230**	-.294**	-.080*	-.020	-.069*	.274**	.069*	
15. MForm × MD	.025	.029	.133**	.984**	-.080*	.044	-.063*	-.032	-.529	-.012	.021	-.061	.411	.148**

** p<.01; *p<.05

1. MAT_INC: Matching Increase; 2. MS: Similarity in Market Segment; 3. BP: Competitor Brand Power; 4. MForm: Competitor Management Form;
5. SO: Focal Hotel's Strategic Orientation; 6. MD: Market Demand; 7. ME: Manager Industry Experience;
8. MS × BP: Market Segment × Competitor Brand Power; 9. MS × MForm: Market Segment × Competitor Management Form;
10. MS × SO: Market Segment × Focal Hotel's Strategic Orientation; 11. MS × MD: Market Segment × Market Demand;
12. BP × SO: Competitor Brand Power × Focal Hotel's Strategic Orientation;
13. MForm × SO: Competitor Management Form × Focal Hotel's Strategic Orientation; 14. BP × MD: Competitor Brand Power × Market Demand;
15. MForm × MD: Competitor Management Form × Market Demand

Table 4.9. Multiple Regression: Matching Decrease

	β	VIF	Hypothesis	Expected
Market Segment	.094***	7.486	H1-3	+
C_BrandP ^a	.002	8.285	H4-3	+
C_MForm ^b	-.002	8.625		
STR_ORT ^c	.149***	4.038		
Market Demand	-.003	5.824		
Manager Experience	.000	1.199		
Market Segment \times C_BrandP	.001***	5.440	H5-3	+
Market Segment \times C_MForm	.010	2.326		
Market Segment \times STR_ORT	.025**	2.836	H6-3a	+
Market Segment \times Market Demand	-.001	8.789	H7-3a	-
Brand Power \times STR_ORT	.001*	6.214	H6-3c	+
Mform \times STR_ORT	.037	1.906		
Brand Power \times Market Demand	-.001	8.401	H7-3c	-
Mform \times Market Demand	.000	7.922		
F=41.042***				
R ² =.452				

*** p<.01; ** p<.05; * p<.10

^a C_BrandP: Competitor Brand Power, also BP

^b C_MForm: Competitor Management Form

^c STR_ORT: Focal Hotel's Strategic Orientation

Competitor's Brand Power and Matching Decrease

The main effect of competitor brand power on a hotel's matching decrease was not significant. Hypothesis 4-3 was not supported. The interaction between market segment similarity and competitor brand power had a significantly positive effect on the hotel's tendency of matching decrease, supporting hypothesis 5-3. Hotels did not follow their rivals' rate decreases simply because the rivals had stronger market positions. When the stronger rivals' target market segments were similar to the focal hotels', however, the focal hotels were likely to decrease their room rates following the rivals. The rate decreases of a rival more similar in

market segment and with a stronger position in the market may be perceived to be more threatening.

A Focal Hotel's Strategic Orientation and Matching Decrease

As expected, hotels using a cost leadership strategy were more likely to match rate decreases of a strategically similar rival. The interaction between market segment similarity and a focal hotel's strategic orientation had a significant positive influence on the focal hotel's tendency of matching decrease, supporting hypothesis 6-3a. Hotels using a cost leadership strategy may have a greater motivation to match the rate decreases of their rivals similar in market segment, because the lower price is their core competitive advantage.

Hypothesis 6-3c was marginally supported ($p < .10$). The lack of statistical significance of the interaction between competitor brand power and a focal hotel's strategic orientation might be due to limited variation in competitor brand power.

Market Demand and Matching Decrease

The lack of statistical significance of market demand on a hotel's matching a rival's rate decrease was due to limited variation in the market demand variable. Hypotheses 7-3a and 7-3c regarding interactions between market demand and market segment similarity and between market demand and competitor brand power were not supported. Although the effects were not significant, the negative algebraic signs for the main and interaction effects of market demand imply that hotels are less likely to follow rivals' rate decreases when there is a greater demand for hotel rooms in the market.

In summary, hotels were more likely to follow their rivals' rate decreases when the rivals' target market segments were similar to their own. The tendency of matching a decrease was enhanced when the similar rivals had stronger market positions and when the focal hotels employed a cost leadership strategy. On the other hand, the negative regression coefficients for the main and interaction effects of market demand implied that the tendency of matching decrease diminished as market demand for hotel rooms increased.

Competitor Characteristics and the hotel's tendency of Outdoing a Rival's Rate Change

No specific hypotheses were developed for the influence of characteristics of a rival on the hotel's tendency of outdoing the rival's rate changes. The contention was that a hotel's generic strategy and environmental conditions combined with competitor characteristics (strategic similarities and market position in particular) motivate hotel managers to outdo their rival's price increases/decreases despite the risks associated with such decisions.

A series of multiple regressions examined the combined effect of the focal hotel's strategic orientation, market demand for hotel rooms, and competitor characteristics on the hotel's tendency of outdoing its rival's rate changes. The dyads, where the focal hotel's tendency of matching increases/decreases was 'zero' were excluded from the analyses. 'Outdoing' reflects the magnitude of the increases/decreases when the focal hotel decides to follow its rival's rate increases/decreases. Thus, it is reasonable to examine the magnitude of the increases/decreases only for the hotels that have shown the competitive pricing behavior of matching their rival's rate increases/decreases.

Outdoing a Rival's Rate Increase

Market demand was divided into two groups, high and low, using a median split. A multiple regression analysis was conducted for each market demand group (Table 4.10).

Table 4.10. Multiple Regression: Outdoing Increase

	<u>High Market Demand</u>	<u>Low Market Demand</u>
	β	β
Market Segment	-.113	-.060
C_BrandP ^a	-.002*	.001
C_MForm ^b	.028	-.008
STR_ORT ^c	-.184	-.314
Manager Experience	.001*	.000
Market Segment \times C_BrandP	-.002**	.001
Market Segment \times C_MForm	.002	-.039
Market Segment \times STR_ORT	.007	.020
Brand Power \times STR_OTR	.002	.004
Mform \times STR_ORT	.145	.054

*** p<.01; ** p<.05; * p<.10

^a C_BrandP: Competitor Brand Power, also BP

^b C_MForm: Competitor Management Form

^c STR_ORT: Focal Hotel's Strategic Orientation

The interaction between market segment similarity and competitor brand power had a significant effect on the hotel's tendency of outdoing a rival's rate increase, only when market demand was high.

Hotels were less likely to outdo their rivals' rate increases when the rivals' target market segments were similar to their own. A focal hotel's reluctance to outdo a similar rival's rate increase was greater, the stronger the rate increasing rival's affiliated brand. Similarly, the focal hotel was less reluctant to outdo the rival's rate increase, the weaker the rival's affiliated brand was during high market demand. This result suggests that the greater market segment similarity

between the focal hotel and the rival hotel, the weaker brand power of the rival, and the higher market demand together motivate the focal hotel to outdo the rival's rate increase.

The interaction effects of market segment similarity, rival's brand power, and market demand on the hotel's tendency of outdoing its rival's rate increase can be explained as follows. Higher market demand allows firms to engage in the profitable tacit collusion (i.e., covert agreements among organizations to set a relatively higher price: Scherer, 1980). Although the favorable demand condition justifies the two similar hotels to increase their room rates, it may not be enough for one hotel to increase more than the other. A hotel manager still risks not being able to sell enough rooms because of higher room rates than its similar competitor, unless customers have solid reasons to accept the higher rates.

When market demand conditions allow a price increase for two competing hotels, one may be able to increase room rates even more than the other, if its management believes that its customers are not likely to switch to the rival hotel. Branding literature (e.g., Aaker, 1990; Aaker & Keller, 1990; O'Neill & Mattila, 2008) suggests that customers are less likely to switch to the rival hotel when the rival is affiliated with a weaker brand than a stronger brand. The results of this study re-emphasize the importance of strong hotel brands in charging higher room rates than competitors.

Managers' industry experience had a marginal ($p < .10$) but significantly positive influence on the magnitude of their rate responses. This result may imply that experienced managers are more sensitive to marketing conditions than inexperienced ones in making their strategic pricing decisions. When the market condition allows them to increase room rates, seasoned managers may more actively exploit the favorable market condition.

Outdoing a Rival's Rate Decrease

Data were divided into two groups according to a hotel's strategic orientation, cost leadership and differentiation. A multiple regression analysis was conducted for each strategic orientation group (Table 4.11).

The interaction between market segment similarity and competitor brand power had a significant positive effect on the hotel's tendency of outdoing its rival's rate decrease, only when the hotel used a cost leadership strategy.

A hotel's cross-elasticity is higher when a competing hotel is strategically similar and has stronger brand power. Greater cross-elasticity increases a focal hotel's motivation to follow its rival's price decreases because of the risk that the focal hotel may otherwise lose its customers due to its higher price. However, the focal hotel does not necessarily have to drop the room rates more than the rival does unless not doing that seriously harms the hotel's business.

Table 4.11. Multiple Regression: Outdoing Decrease

	<u>Cost Leadership</u>	<u>Differentiation</u>
	β	β
Market Segment	.144	.149
C_BrandP ^a	.026*	.000
C_MForm ^b	.179	-.123
Market Demand	.013	-.007
Manager Experience	-.002	-.001
Market Segment \times C_BrandP	.003***	.001
Market Segment \times C_MForm	-.025	.022
Market Segment \times Market Demand	-.001	-.002*
Brand Power \times Market Demand	.000	.000
MForm \times Market Demand	-.002	.002

*** $p < .01$; ** $p < .05$; * $p < .10$

^a C_BrandP: Competitor Brand Power, also BP

^b C_MForm: Competitor Management Form

If a hotel's only point of differentiation is lower price, it may have to lower its price more than the strong rival does (Gatignon & Reibstein, 1997). If it does not lower its price more than the rival with stronger brand power, customers may switch to the rival, seeking better quality endorsed by the stronger brand name. A hotel with a differentiation strategy, on the other hand, will be less motivated to outdo its rival's price decreases (although it may need to match the decrease) because it is not competing in terms of lower price. Therefore, in addition to strategic similarity and a rival's brand power, the cost leadership strategy may offer an extra motivation to the focal hotel for making a more forceful competitive pricing decision, namely outdoing the rival's rate decreases.

CHAPTER 5

CONCLUSIONS

The purpose of this research was to investigate the effects of competitors on a hotel's pricing decisions. The research methodology was designed to examine the relationships among these variables: characteristics of price changing competitors, the hotel's strategic orientation, market demand for hotel rooms, and the hotel manager's competitive pricing decisions. This chapter describes a summary of findings, conclusions, implications, limitations, and recommendations for future research.

Summary of Findings and Discussion

Hotels' Competitive Pricing Pattern

Hotel managers were likely to change their room rates most frequently beginning approximately 10-15 days ahead of the arrival (i.e., check-in) date. Almost 90 percent of rate changes were made during the 15 days before the scheduled arrival date. More than half of the room rate changes occurred during the 10 days before the arrival date. Although hotel managers might set up the initial room rate far ahead of time (i.e., 50 to 90 days ahead of the arrival date), the initial room rate stayed almost the same until the arrival date was very near. This finding suggests that hotel managers need to monitor their competitors' room rate changes most intensively from about 10 to 15 days before the arrival date.

Hotels were found to be more sensitive to their rivals' rate decreases than rate increases. In other words, hotel managers were more likely to change room rates (either increase or decrease room rates) when competitors decreased their room rates than when they increased their

room rates. Almost 70 percent of the total responses (either increases or decreases) of the hotels to their rivals' rate changes were made for the rivals' rate decreases. However, hotel managers were more likely to *match* their competitors' rate increases than decreases. About 50 percent of the time, when rivals increased their room rates, managers followed the increases, whereas managers followed only 26 percent of the rivals' rate decreases. The greater tendency of matching rate increases may be due to hotel guests' booking curve characteristics. Some hotel guests, such as conference attendees, tend to book hotel rooms far ahead of time, but other types of guests, such as commercial or leisure transient travelers, may book hotel rooms when the scheduled arrival dates are near, depending on their business or travel schedule. Thus, hotels generally have more rooms reserved as the arrival dates comes closer. The higher occupancy percent motivates hotel managers to increase room rates.

Primary Competitor and Responsiveness

Research Question 1: Who are the primary competitors for a hotel?

Among four variables regarding strategic similarities (i.e., distance, price, size, and market segment), only the similarity in *Market Segment* had a significant positive effect on the hotel's tendency of responding to a rival's rate changes. Also, interactions between the strategic similarity variables and other variables (i.e., competitor brand power, a focal hotel's strategic orientation, and market demand) had a significant effect on the hotel's tendency of responding to a rival's rate changes, again only for the similarity in market segment, but not for other three similarity variables. This result implies that the similarity in market segment, among the four similarity variables, is what influences a hotel manager's competitive pricing decisions the most.

In other words, rivals that serve a market segment similar to focal hotels are the ones that the focal hotel managers monitor most intensively when making pricing decisions.

There have been debates on what determine the primary competitors of hotels. The agglomeration literature (Baum & Mezias, 1992; Urtasun & Guriérrez, 2006) suggested similarities in size, price, and location (i.e., closeness in physical distance) as determinants of primary competitors. Hotel managers I interviewed stated that they may consider a hotel as a direct competitor simply because it is physically proximate.

Recently, Kim and Canina (2009) found that hotels similar in market segment (called 'product tiers' in their study) or in price are the primary competitors. The ADR that hotels command is associated with the guest's purchase choice based on the property's perceived quality and relative price. The market segment approach reflects the product type as a summary of the managers' and owners' market target. Thus, determining primary competitors based on the ADR reflects the consumers' perspective, while determining primary competitors based on the market segment similarity reflects the hotel managers' perspective (Kim & Canina, 2009). The result of this study is consistent with Kim and Canina (2009). From the hotel managers' or owners' perspective, hotels similar in market segments are primary competitors and, hence, the managers/owners monitor the rate changes of those hotels more intensively.

Competitor Characteristics and Types of Hotel's Response to a Rival's Rate Changes

Research Question 2: How are the reaction types influenced by specific characteristics of the rivals?

Matching Increase/Decrease

Hotels were more likely to match their rivals' rate increases when the rivals' target market segments were similar to their own. The tendency of a hotel's matching rate increases of a rival similar in market segment was enhanced when the rival had stronger market position and a credible commitment to the increases.

Regarding the hotel's tendency of matching a rate increase of a rival similar in market segment, a bi-directional hypothesis was developed. The *prisoner's dilemma* in the game theory literature predicts a negative influence of the market segment similarity on the hotel's tendency of matching the rival's rate increases (Hall & Hitch, 1938). The competitive dynamics literature, however, proposes the opposite relationship between the market segment similarity and the hotel's tendency of matching the rival's rate increases (Chen, 1996). The result of this study supports the competitive dynamics literature.

Chen (1996) argued that a hotel is less likely to initiate an attack against rivals with high strategic similarities than against those with low strategic similarities, to avoid the risk of being retaliated against by the competitors. Non-cooperative behaviors of a hotel to a competitor's price increase can be viewed by the competitor as initiating an attack to encroach on the market share. Therefore, the focal hotel is more likely to cooperate with the price increase of a rival when the rival's market segment is similar to its own.

The significant positive main and interaction effects of a rival's management form (1=chain-managed) on a focal hotel's tendency of matching the rival's rate increases support

Vroom and Gimeno's (2007) argument about management form, commitment credibility, and competitive intensity. Hotels in this study were more likely to match rate increases of chain-managed rivals whose commitment to the increases were perceived to be more credible than that of non-chain-managed rivals. Also, in this study, the ADR of chain-managed hotels was higher than that of non-chain-managed properties (\$218.06 and \$182.34 respectively). As in Vroom and Gimeno (2007), the chain-managed hotels tended to be price leaders. Chain-managed hotels may soften competition by being credibly committed to rate increases, which motivates competing hotels to commit to the less aggressive pricing behavior, matching the increases (Vroom & Gimeno, 2007).

Hotels were more likely to follow their rivals' rate decreases when the rivals' target market segments were similar to their own. The tendency of matching decrease was enhanced when the similar rivals had a stronger market position. The main effect of competitor brand power on the hotel's tendency of matching the rival's rate decreases was not significant. Hotels did not follow their rivals' rate decreases simply because the rivals had a strong market position (i.e., a strong brand power). When the stronger branded rivals' target market segments were similar to focal hotels, however, the focal hotels were likely to decrease their room rates following the rivals. The rate decreases of a rival more similar in market segment and with a stronger position in the market may be perceived to be more threatening than that of a rival less similar in market segment and with a weaker market position.

Outdoing Increase/Decrease

Outdoing competitors' price increases/decreases is relatively riskier than matching their price moves. In the case of outdoing competitors' price increases, a manager may have to take the risk of losing customers because of his/her higher rates. When outdoing competitors' price decreases, on the other hand, there is the risk of losing revenue or the beginning of a price war (Meyer & Banks, 1997). Behavioral theory suggests that managers tend to assign greater weight to negative than positive consequences (Tversky & Kahneman, 1991). Hotels are reluctant to surpass their competitors' rate increases/decreases, even when doing so may be more profitable. Consistent with behavioral theory, in this study, hotels' outdoing their rivals' rate increases/decreases did not occur very frequently. On average, hotels surpassed only 17 percent of rivals' rate increases and five percent of rivals' rate decreases.

Enz et al. (2009) argued that the best way for a hotel to have higher revenue performance than its competitors is to maintain higher rates; lodging demand might be inelastic in local markets. However, competitive pricing behavior of hotels in this study contrasts with their argument. Hotels did not necessarily attempt to charge higher rates than their competitors unless certain conditions were met (i.e., greater similarity in market segment, a strong brand power of competitors, and higher market demand). A hotel's outdoing its rival's rate increases to maintain its room rate higher than the rival was unlikely, which implies that lodging demand may be *elastic* in local markets in contrast to Enz et al. (2009).

No specific hypotheses were developed for the hotel's tendency of outdoing the rival's rate change. However, the contention was that there needs to be certain conditions that push hotel managers to outdo the rivals' rate changes; a hotel's generic strategy and environmental

conditions, combined with competitor characteristics (strategic similarities and market position, in particular), provide the managers with such conditions, despite the risks associated with the forceful decisions.

The main effect of the target market similarity between a focal hotel and a rival hotel on the focal hotel's tendency of outdoing the rival's rate increases was not statistically significant. However, when market demand was high, the interaction between the target market similarity and competitor brand power had a significant negative influence on the focal hotel's likelihood of outdoing the rival's rate increases. This significant interaction effect indicates that the focal hotel's reluctance to outdo a similar rival's rate increases was greater when the rate increasing rival's affiliated brand was stronger and market demand for hotel rooms was high. In other words, the focal hotel was less reluctant to outdo the similar rival's rate increases when the rival's affiliated brand was weaker, when market demand was high. The result suggests that the greater the market segment similarity between the focal hotel and the rival hotel, the weaker the brand power of the rival, and the higher the market demand, the more likely the focal hotel will outdo the rival's rate increase.

The interaction effects of market segment similarity, rival's brand power, and market demand on the hotel's likelihood of outdoing its rival's rate increases can be explained as follows. Higher market demand allows firms to engage in the profitable tacit collusion (i.e., covert agreements among organizations to set price higher: Scherer, 1980). Although the favorable demand condition justifies the two similar hotels to increase their room rates, it may not be enough for a hotel to increase more than the other. A hotel manager still risks not being able to sell enough rooms because of high rates unless customers have solid reasons to accept high rates.

When market demand conditions allow a price increase for two competing hotels, one may be able to increase room rates even more than the other, if it believes that its customers are less likely to switch to the rival hotel. Branding literature (e.g., Aaker, 1990; Aaker & Keller, 1990; O'Neill & Mattila, 2008) suggests that customers are less likely to switch to the rival hotel when the rival is affiliated with a weaker brand.

In the case of a rival's rate decrease, on the other hand, the interaction between market segment similarity and competitor brand power had a significant positive effect on the hotel's tendency of outdoing its rival's rate decreases, only when the hotel used a cost leadership strategy.

A hotel's cross-elasticity is higher when a competing hotel is strategically similar and has stronger brand power. The greater cross-elasticity increases a focal hotel's motivation to follow its rival's price decreases because of the risk that the focal hotel may lose its customers due to higher price. However, the focal hotel does not necessarily have to drop the room rates more than the rival does, unless not doing that seriously harms the hotel's business.

If a hotel's only point of differentiation is lower price, it may have to lower its price more than a strong rival (Gatignon & Reibstein, 1997). Without lowering rates more than a rival with strong brand power, customers may be likely to switch to the rival in search of better quality endorsed by the strong brand name. A hotel with differentiation strategy, on the other hand, will be less motivated to outdo its rival's price decrease (although it may need to match the decrease) because it is not competing strictly in low price. Therefore, in addition to strategic similarity and a rival's brand power, the cost leadership strategy may offer an extra motivation to the focal hotel for making a more forceful competitive pricing decision, namely outdoing the rival's rate decrease.

Role of the Focal Hotel's Strategic Orientation and Environmental Condition

Research Question 3: What are the roles of other factors not related to competitor attributes, namely a hotel's generic strategy and environmental conditions, in determining the hotel's competitive pricing behavior?

Market Demand

Most of the hypotheses regarding market demand (hypotheses 7-2a, 7-2b, 7-2c, 7-3a, and 7-3c) were not supported due to the lack of statistical significance at the .05 alpha level. The lack of statistical significance of the market demand effects on hotels' competitive pricing behavior was probably due to limited variation in market demand. The algebraic signs of the regression coefficients were as expected. The negative algebraic signs for the main and interaction effects of market demand imply that when there is greater demand for hotel rooms in the market, hotels are less likely to respond to their rivals' rate changes, either increases or decreases.

A management perception of an increasingly challenging market environment could influence the managers to increase emphasis on externally-oriented activities designed to monitor competition (Pelham & Wilson, 1996). With the increasing awareness of competitor pricing movements, a firm may be more likely to react to a rival's price changes when demand is relatively low. When higher market demand is present, on the other hand, a firm may be less likely to react to its competitor's movements because the favorable market conditions may allow the firm to achieve its desired profit without significant effort monitoring its competitors.

Generic Strategy

Overall, hotels using a cost leadership strategy appeared to focus more on how much competitors' prices were. The cost leadership hotels were more responsive to their rivals' rate changes than those using a differentiation strategy, consistent with previous literature (Walsh et al., 2008). The moderating effect of the focal hotel's strategic orientation on the relationship between the competitor brand power and the focal hotel's tendency of matching increases was significantly positive. Also, the interaction between the focal hotel's strategic orientation and the competitor management form had a significant positive influence on the focal hotel's tendency of matching increases. The previous two results regarding the moderating effect of the focal hotel's strategic orientation were the opposite of the expectation. These unexpected results may be due to the cost leadership hotels' greater sensitivity to rivals' rate changes, either increases or decreases.

Hotels using a cost leadership strategy were more likely to match the rate decreases of a strategically similar rival, as expected. The interaction between market segment similarity and a focal hotel's strategic orientation had a significant positive influence on the focal hotel's tendency of matching a decrease. Hotels using a cost leadership strategy may have a greater motivation to match the rate decreases of their rivals similar in market segment, because low price is their core competitive advantage.

Implications

Implications to the Literature

This study fills a gap in the hospitality pricing literature. The majority of studies regarding pricing strategy in the hospitality industry have focused on the demand-side influence

on an organization's pricing decisions. Studies about the influence of other hotels competing in the market on the hotel's strategic pricing behaviors have been limited.

The economics approach investigated the relationship between price elasticities of demand and fluctuating demand for hotel rooms and a hotel's room rate decisions (Cournoyer, 1972; Gu, 1997; Shaw, 1984). The marketing approach was interested in customer-based pricing, where room price was based on customer segmentation strategy (i.e., yield management). This line of studies investigated the customers' viewpoint of whether the yield management practice was fair (Lewis, 1986; Hanks, Robert & Moland, 1992; Kimes, 1994).

Hotel pricing research, however, has not paid close attention to the direct effects of competitors' pricing on hotel managers' pricing decisions. Although recent studies (Canina & Carvell, 2005; Enz et al., 2009) showed a significant influence of competitors on hotels' price and profits, they did not offer insights into *how* the hotel's price is affected by its competitors' prices. This study offers a substantial contribution to the hospitality strategy and pricing literature by diagnosing the influence of competitors on hotels' strategic pricing behavior.

Many studies regarding the competitive interactions among firms in price and advertising have been done at the corporate (or brand) level (e.g., Vilcassim et al., 1999). A number of studies of competitive interactions among firms have focused on corporate level decisions. The influences of competitors on an organization's market entry and location decisions were diagnosed extensively (e.g., Baum & Mezias, 1992; Chung & Kalnins, 2001; Canina et al., 2005; Enz, Canina, & Lomanno, 2009; Kalnins & Chung, 2004; Urtasun & Gutiérrez, 2006). However, market entry or location decisions are not under the control of local hotel managers. Corporate headquarters/owners usually make such broad-based strategic decisions. In spite of the increasing competition and the importance of competitor effects on strategies and performance of

local hotels, empirical research regarding the issue is limited. This study fills this gap in the literature by providing insights into the effects of competitive interactions on hotels' strategic pricing behavior.

Furthermore, this study is in line with research on competitive dynamics related to competition and organizational interdependency. The results of this study enhance the understanding of organizational interdependency and rivalry by providing insight into how a hotel's pricing behavior is influenced by the characteristics of its competitors. A firm's response to its rivals' competitive moves should not be the same, regardless of who the rival is, but should be adjusted based on the specific characteristics of the individual rival (Grimm et al., 2006). Firm size and market share are the most widely used competitor characteristics variables that determine a focal firm's competitive strategic decisions, such as new product development and market entry (Steenkamp et al., 2005; Venkataraman et al., 1997). This study found several other competitor characteristics that had significant effects on a hotel's competitive pricing behaviors, namely strategic similarity, competitor market position, and commitment credibility.

There have been debates on what factors determine the primary competitors of hotels. The agglomeration literature (Baum & Mezias, 1992; Urtasun & Guriérrez, 2006) suggested similarities in size, price, and location (i.e., closeness in physical distance) as determinants of primary competitors. Hotel managers I interviewed stated that they may consider a hotel as a direct competitor simply because it is physically very proximate. A recent study by Kim and Canina (2009) proposed price and market segment as determinants of a competitive set of hotels.

This study supports the debate in the literature that similarity in market segment is what determines the primary competitors that most influence a hotel's competitive pricing behaviors.

Implications for Managers

This study will enhance hotel operators' understanding regarding interacting with competitors in setting room rates. Although competitors' decisions to drop or raise rates are a key input for pricing decisions, it is not always clear why some follow competitors' price changes, but others do not (Enz et al., 2009).

The best organizations are those which understand their competitors and design effective response strategies in light of these specific opponents (Meyer & Banks, 1997). Therefore, an organization needs to understand the specific characteristics of each individual rival. The organization also needs to respond effectively to each of the rival's price changes. The results of this study should assist hotel managers in better understanding how to design more effective competitive pricing strategies.

Hotel managers should monitor their competitors' price changes most closely approximately 10 to 15 days ahead of the scheduled arrival dates. The majority of rate changes of hotels were made during that time period. Failing to reflect its competitors' room rate changes may result in losing customers due to higher rates or losing profits due to unnecessarily low rates.

Hotel managers need to be more sensitive to rate changes of rivals similar in market segment and with a strong market position. The rate changes of those similar and strong rivals are likely to have great impact on a hotel's performance (e.g., market share and revenue). It may be a more successful strategy for a hotel manager to follow the similar and strong rival's rate

increases/decreases. The strong market position of the rival is not likely to allow the focal hotel to take advantage of a lower price.

It may be more profitable to follow a rate increase of a chain-managed property than that of a non-chain-managed property. The chain-managed hotel's rate increase is unlikely to be reversed and thus their commitment to the increase is credible. The credible commitment to the rate increase of the chain-managed hotel is more likely to motivate managers of other competing hotels to follow the increase. Because other competing hotels are likely to increase their room rates, it may be a more profitable strategy for a hotel manager to follow the increase.

Outdoing a rival's price change may be a risky decision. The results of this study suggest that hotel managers should consider outdoing a rate increase of a rival similar in market segment only when the following two conditions are satisfied: (1) they have loyal customers who are unlikely to switch to other hotels because of lower prices and (2) high market demand for hotel rooms is present.

This study clearly showed that a hotel manager's decision to change room rates was influenced by pricing decisions of other hotel managers competing in a market. This finding implies that hotel manager's strategic pricing action influences not only the performance of his/her own hotel, but also pricing strategies and performance of competitors, and hence eventually it affects the performance of the market (i.e., hotels competing in a geographic region). The market performance then influences performance of the hotel that has initiated the pricing action (Grimm et al., 2006; Porter, 1979; Smith et al., 1992, 2001). Thus, a hotel manager's strategic action and reaction may contribute to the welfare of the entire market.

Hotel managers should understand their competitors' behavior and design their strategies accordingly. Hotel managers could use competitive intelligence to understand a competitor's

motive, capabilities, and potential competitive behaviors (Srinivasan et al., 2000). The results of this study should assist hotel managers in effectively developing and using their competitive intelligence.

Limitations

There are a number of limitations to this study. First, the number of independent properties was small; only eight of the 116 sample hotels were independent properties. Although this study examined the effects of competitor brand power on hotels' competitive pricing behavior, the results may be largely limited to branded hotels. This study was not able to compare the influence of rate changes of branded hotels with independent hotels due to the low number of independent hotels.

Hotels in this study were located in large, urban areas that had a relatively high market demand for hotel rooms. Therefore, the results of this study may not be generalizable to interactions among hotels in small, suburban areas; the rate change patterns of hotels in small, suburban areas may be different. While collecting rate change data for this study, I observed that rate changes of hotels in relatively small and stable markets like college towns were far less frequent. Because the rate change patterns are different, competitive pricing behaviors of hotels in small, stable markets may not be the same as those of hotels in this study.

The brand strength measurement used in this study may have limitations. Brand strength is often associated with the five categories of loyalty, perceived quality, associations/differentiation, awareness, and market behavior (Aaker, 1996). Brand strength in this study was based on a customer satisfaction survey conducted by *Consumer Reports* essentially reflecting two of the five categories, loyalty and perceived quality. Although the

brand strength measurement used in this study may have the limitation of not fully capturing the entire aspect of brand strength, the *Consumer Reports* survey was the best available source.

Overall occupancy percent was used to control for non-competitor effects (i.e., occupancy effects) on a hotel manager's pricing decision. Since room rates for king bedrooms were collected, occupancy percent of king bedrooms would more rigorously control for the occupancy effects on hotel pricing. However, considering the data available, using the overall occupancy rate was the best alternative. Although the overall occupancy percent may not perfectly control for the occupancy effects on pricing of king bedrooms, it certainly captures the non-competitor effects on a hotel manager's pricing decision.

Recommendations for Future Research

1. This study focused on *types of responses* to competitors' price changes. It would also be worth exploring various *types of competitor price changes* and their influences on a focal hotel's competitive pricing behaviors. Srinivasan et al. (2000) identified three types of price changes: (1) temporary, (2) evolving, and (3) structural. The temporary price change refers to temporary price movements around a fairly stable price level. For example, a firm can offer a 2-week price discount and then return the price to the original level. If the firm engages in a regular practice of discount policies, this is an example of an evolving price change. If the firm announces a 20 percent price-cut which leads to a new price level, this is an example of a structural price change. Srinivasan et al. (2000) found that competitors do not respond the same way to the three types of price changes. A study that takes account of competitor characteristics and the competitor price change types in determining a hotel's competitive

pricing behaviors would provide more fruitful insights into the phenomenon of competitive pricing.

2. Future research that examines the effects of competitors on the speed of a hotel's competitive pricing response could have great contributions to both the literature and the industry. Most of the hotels in this study responded immediately to their rivals' rate changes (i.e., a focal hotel's rate change in responding to a rival's rate change was made on the day of the rival's change). However, there were a number of hotels that delayed their response to their rivals' rate changes by one to three days. It has not yet been investigated what motivates some hotels to make an immediate response to rivals' rate change or why some hotels delay their responses.
3. This study focused on a hotel's *pricing* response to a rival's price change. Hotels may also make a non-pricing response to their rivals' rate changes. For example, in the case of a rival hotel's price-cut, a hotel can develop a package product (e.g., room plus breakfast) instead of dropping its room rate following the rival's price-cut. Thus, there is room for future research to explore what kinds of non-pricing responses to a rival's rate change are used by hotel managers, why the managers choose the non-pricing responses over the pricing response, or one type of non-pricing response over another.
4. This study could be expanded to hotels in various kinds of markets. As discussed in the limitations section, the results may be different for hotels competing in a relatively small and stable market. Competitive pricing behaviors of hotels in unique markets like Las Vegas and

Macau, China could also be worth examining. Hotels in such markets, where room rates are usually associated with gaming revenue, may have different competitive pricing strategies compared to the hotels in this study.

5. It was not feasible in this study to thoroughly investigating the ‘underdoing’ price responses of hotel managers using statistical models, due to a limited number of observations. Insights into why hotel managers rarely make underdoing response decisions and when they make underdoing response decisions need to be provided. Descriptive analysis with the limited number of cases was done in this study to provide future research with better insights into the phenomenon. Research examining determinants of underdoing competitive price responses will provide the academia and the industry with more complete understanding of the competitive pricing behaviors of hotel managers.

Conclusions

The fundamental question posited by this study was “how do competitors affect organizations’ strategic pricing behavior?” In answering this question, this study focused on local hotels’ competitive pricing behavior.

This study found that competitors’ pricing had a significant influence on hotel managers’ strategic pricing decisions. Specifically, a hotel’s room rates were more likely to be influenced by rate changes of competing hotels that were similar in market segment, had a stronger market position, and had a credible commitment to the changes. Local hotel managers were likely to match rate decreases of their rivals that were similar in market segment and had stronger market positions. In the case of the rivals’ rate increases, the managers tended to follow the increases

when the rate increasing rivals were similar in market segment, had a stronger market position, and/or had a credible commitment to the increases. Hotel managers' outdoing their rivals' rate changes (either increases or decreases) were unlikely. The managers surpassed their rivals' rate changes only when certain conditions were met. A greater similarity in market segment between their own hotels and the rival hotels, strong brand power of rivals, and relatively high market demand were the conditions for outdoing rivals' rate increases, while a greater similarity in market segment, strong brand power of rivals, and their own hotels' cost leadership strategy were conditions for outdoing rivals' rate decreases.

This study offers substantial contributions to the hospitality strategy and pricing literature and the competitive dynamics literature by examining the influences of specific characteristics of competitors on strategic pricing decisions of an organization (i.e., a local hotel). The findings of this study should assist hotel managers in developing more effective pricing strategies. This study also provided several recommendations for future studies regarding competitive pricing strategies in the lodging industry.

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APPENDIX: SAMPLE HOTELS AND MARKET AREAS

Market Area/Hotel Name	Total Rooms	Year Open	Affiliation	AAA Rating
Market Area 1: John F. Kennedy International Airport, NY				
Best Western Jamaica Inn	87	2003	Branded	2
Best Western Kennedy Airport	59	2003	Branded	2
Clarion Hotel Jamaica	62	2007	Branded	2
Comfort Inn & Suites JFK Airport	75	2010	Branded	2
Comfort Inn JFK Airport	59	1998	Branded	2
Courtyard by Marriott New York JFK Airport	166	2001	Branded	3
Days Inn Jamaica - JFK Airport	73	2005	Branded	2
Doubletree Hotel JFK Airport	385	1955	Branded	3
Fairfield Inn by Marriott New York JFK Airport	110	2002	Branded	3
Hampton Inn New York-JFK Airport- Jamaica Queens	216	2001	Branded	3
Hilton Garden Inn Queens/JFK	188	2005	Branded	3
Holiday Inn Express Kennedy Airport	129	2002	Branded	3
Howard Johnson Inn Jamaica JFK Airport NY	72	2001	Branded	2
La Quinta Inn & Suites JFK Airport	62	2009	Branded	2
Quality Inn Jamaica	45	2006	Branded	2
Sheraton JFK Airport Hotel	150	2008	Branded	3
<i>Total</i>	<i>1,938</i>			
Market Area 2: LaGuardia Airport, NY				
Best Western Queens Court Hotel	59	2001	Branded	3
Clarion Hotel LaGuardia Airport	169	1968	Branded	2
Comfort Inn Flushing	48	2002	Branded	2
Courtyard by Marriott New York LaGuardia Airport	288	1963	Branded	3
Crowne Plaza Hotel New York LaGuardia Airport	353	1989	Branded	3
Days Inn Elmhurst	54	2008	Branded	3
Fairfield Inn by Marriott New York LaGuardia Airport/Flushing	86	2005	Branded	3
Hampton Inn New York - LaGuardia Airport	220	2009	Branded	3
Holiday Inn Express LaGuardia Airport	81	1983	Branded	3
Holiday Inn LaGuardia Airport	214	2001	Branded	3
Howard Johnson Flushing	32	1999	Branded	2
Lexington Marco LaGuardia Hotel	81	2006	Branded	3
New York LaGuardia Airport Marriott	438	1981	Branded	3
Pan American Hotel	220	1965	Independent	2
Sheraton LaGuardia East Hotel	173	1992	Branded	3
<i>Total</i>	<i>2,516</i>			

Market Area/Hotel Name	Total Rooms	Year Open	Affiliation	AAA Rating
Market Area 3: Boston Downtown Area, MA				
Chandler Inn Hotel	56	1927	Independent	3
Courtyard by Marriott Boston Downtown/Tremont	315	1925	Branded	3
Doubletree Hotel Boston - Downtown	267	2000	Branded	3
Fifteen Beacon	60	1999	Branded	4
Hyatt Regency Boston	498	1985	Branded	4
Nine Zero	190	2002	Branded	4
Radisson Hotel Boston	356	1941	Branded	3
Taj Boston	273	1927	Branded	4
The Boston Park Plaza Hotel & Towers	941	1927	Independent	3
The Ritz-Carlton, Boston Common	193	2001	Branded	4
W Boston	235	2009	Branded	3
<i>Total</i>	<i>3,984</i>			
Market Area 4: Boston Logan International Airport, MA				
Boston Harbor Hotel	230	1987	Branded	4
Boston Marriott Long Wharf	412	1982	Branded	3
Comfort Inn & Suites Logan International Airport	208	2000	Branded	3
Courtyard by Marriott Boston Logan Airport	351	1973	Branded	3
Embassy Suites Boston at Logan Airport	273	2003	Branded	3
Fairmont Battery Wharf Boston	150	2008	Branded	4
Four Points by Sheraton Boston Logan Airport	180	1962	Branded	3
Hampton Inn Boston/Logan Airport	227	2001	Branded	3
Hilton Boston Financial District	362	1999	Branded	4
Hilton Boston Logan Airport	599	1999	Branded	4
Hyatt Harbor Side	270	1993	Branded	3
InterContinental Boston	424	2006	Branded	4
Renaissance Boston Waterfront Hotel	471	2008	Branded	4
Rodeway Inn Logan International Airport	34	1999	Branded	2
Seaport Hotel	428	1998	Independent	4
The Langham, Boston	318	1981	Branded	4
The Westin Boston Waterfront	793	2006	Branded	3
<i>Total</i>	<i>4,937</i>			

Market Area/Hotel Name	Total Rooms	Year Open	Affiliation	AAA Rating
Market Area 5: Dulles International Airport, VA				
Comfort Inn Dulles International Airport	104	1985	Branded	2
Courtyard by Marriott Herndon/Reston	146	1987	Branded	3
Crowne Plaza Hotel Dulles Airport	327	1987	Branded	3
Embassy Suites Dulles Airport	150	1998	Branded	3
Hampton Inn & Suites Herndon-Reston	96	2007	Branded	3
Hilton Washington Dulles Airport	449	1985	Branded	3
Holiday Inn Express Reston Herndon-Dulles Airport	115	1988	Branded	2
Hyatt Dulles at Dulles International Airport	316	1989	Branded	3
Hyatt Place Herndon Dulles East	151	2009	Branded	3
SpringHill Suites by Marriott Herndon/ Reston	136	1999	Branded	3
The Westin Washington Dulles Airport	314	2009	Branded	3
<i>Total</i>	<i>2,304</i>			
Market Area 6: Reagan National Airport, VA				
Best Western Pentagon Hotel -Reagan Airport	205	1959	Branded	2
Courtyard by Marriott Reagan National Airport	272	1990	Branded	3
Crowne Plaza Hotel Washington National Airport	308	1969	Branded	3
Crystal City Marriott at Reagan National Airport	343	1970	Branded	3
Crystal Gateway Marriott	697	1982	Branded	3
Doubletree Hotel Washington DC Crystal City	631	1973	Branded	3
Embassy Suites Crystal City - National Airport	267	1985	Branded	3
Hampton Inn & Suites Reagan National Airport	161	2003	Branded	3
Hilton Crystal City at Washington Reagan National Airport	386	1985	Branded	3
Holiday Inn National Airport/Crystal City	280	1972	Branded	3
Hyatt Regency Crystal City	686	1982	Branded	3
Radisson Hotel Reagan National Airport	243	1964	Branded	3
Sheraton Crystal City Hotel	408	1975	Branded	3
Sheraton National Hotel	366	1990	Branded	3
The Ritz-Carlton, Pentagon City	217	1983	Branded	4
<i>Total</i>	<i>5,470</i>			

Market Area/Hotel Name	Total Rooms	Year Open	Affiliation	AAA Rating
Market Area 7: Detroit Metropolitan Wayne County Airport, MI				
Baymont Inn and Suites Detroit Airport/Romulus	100	1987	Branded	2
Clarion Hotel Detroit Metro Airport	153	1967	Branded	3
Comfort Inn & Suites	78	2002	Branded	3
Comfort Suites Southgate	78	2001	Branded	3
Courtyard by Marriott Detroit Metro Airport	146	1987	Branded	3
Crowne Plaza Hotel Detroit Metro Airport	364	1989	Branded	3
Days Inn Detroit Metropolitan Airport	127	1986	Branded	2
Detroit Metro Airport Marriott	245	1990	Branded	3
Embassy Suites Detroit Metro Airport	151	1989	Branded	3
Fairfield Inn & Suites by Marriott Detroit Metro Airport Romulus	106	2007	Branded	3
Four Points by Sheraton Detroit Metro Airport	175	1986	Branded	3
Hilton Garden Inn Detroit Metro Airport	165	2000	Branded	3
Holiday Inn Southgate (Detroit South)	160	1967	Branded	3
Howard Johnson Metro Airport	139	1987	Branded	2
La Quinta Inn Detroit Airport Romulus	111	1999	Branded	2
La Quinta Inn Detroit/Southgate	100	1991	Branded	3
Lexington Hotel at Detroit Metro Airport	135	1988	Branded	3
Red Roof Inn Detroit Metro Airport East Taylor	111	1988	Branded	2
SpringHill Suites by Marriott Detroit Metro Airport Romulus	118	2008	Branded	3
The Westin Detroit Metropolitan Airport	404	2002	Branded	4
<i>Total</i>	<i>3,166</i>			
Market Area 8: Detroit Downtown Area, MI				
Courtyard by Marriott Detroit Downtown	260	1978	Branded	3
Detroit Marriott at the Renaissance Center	1298	1978	Branded	3
Detroit Regency Hotel	78	1999	Independent	2
Doubletree Guest Suites Fort Shelby/Detroit Downtown	203	1917	Branded	3
Hilton Garden Inn Detroit Downtown	198	2004	Branded	3
Holiday Inn Express Hotel & Suites Detroit-Downtown	241	2000	Branded	3
Inn on Ferry Street	40	2001	Independent	3
Omni Detroit River Place	108	1910	Branded	3
The Atheneum Suite Hotel	174	1992	Independent	3
The Westin Book Cadillac Detroit	453	1924	Branded	3
<i>Total</i>	<i>3,053</i>			

VITA

YongHee Kim

EDUCATION

- **Ph.D.**, Hospitality Strategic Management. 2010. School of Hospitality Management, Penn State University
- **M.S.**, Hospitality Administration. 2004. William F. Harrah College of Hotel Administration, University of Nevada, Las Vegas
- **B.A.**, English Language and Literature. 2002. College of Liberal Arts, Pusan National University, Korea (Republic of)
- **B.A.**, French Language and Literature. 2002. College of Liberal Arts, Pusan National University, Korea (Republic of)

WORK EXPERIENCE

- **Instructor**, School of Hospitality Management, Penn State University
- **Operations Consultant**, Sheetz, Altoona, PA
- **Instructor**, Gaming and Resorts, Community College of Southern Nevada
- **Assistant Manager**, Headquarter Hotel Accreditation Center, The 14th Busan Asian Games Organization Committee, Busan, Korea (Republic of)
- **Interpreter**, Freelancer, Korea (Republic of)

PUBLICATIONS

- Hanson, B., Mattila, A., O'Neill, J., & Kim, Y.H. (2009). Rebranding and rescaling: effects on hotel performance. *Cornell Hospitality Quarterly*, 50(3), 360-370. **Featured Article of the Issue**
- Kim, Y.H., Savage, K. S., Howey, R. M., Van Hoof. H. B. (2009). Academic foundations for hospitality and tourism research: a reexamination of citations. *Tourism Management*, 30(5), 752-758.

HONORS

- **Grace Henderson Scholarship (nominated)**, College of Health and Human Development, PennState University, University Park, PA, 2009
- **Fund for Excellence in Graduate Recruitment**, School of Hospitality Management, PennState University, University Park, PA, 2006-07