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FRANCHISING AND THE DYNAMICS OF COMPETITION
IN THE SERVICE INDUSTRY

A Dissertation in
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by

Kyung-A Sun

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The dissertation of Kyung-A Sun was reviewed and approved* by the following:

Seoki Lee
Associate Professor of Hospitality Management
Dissertation Advisor
Chair of Committee

Hubart B. Van Hoof
Professor of Hospitality Management

Amit Sharma
Associate Professor of Hospitality Management

Wenpin Tsai
John Arnold Professor of Management

Anna S. Mattila
Professor of Hospitality Management
Professor-in-Charge of the Graduate Program

*Signatures are on file in the Graduate School.
ABSTRACT

Franchising is a business partnership between franchisors and franchisees and franchisors benefit from the franchising system by acquiring external resources and knowledge, which assist in a firm’s business expansion and increase its competitive advantage. As franchising increasingly becomes an essential business practice, especially in the service industries, it is important to examine how a firm’s use of the franchising system affects competitive market conditions, and the purpose of this dissertation is to investigate how franchising alters the competitive condition of the business environment.

This dissertation conducts two-levels of investigation, industry-wide and firm-specific, in order to examine the influences of franchising on three specific dimensions of competition: competition structure, change in the competition structure, and the nature of competition. In addition, it explores the moderating role of the hospitality industry, in particular on the relationship between franchising and the three dimensions of competition.

The dissertation employs two-stage OLS (2SLS) estimation to test the proposed hypotheses. First, based on the industry-level analysis, the study finds that the degree of the franchising involvement of an industry decreases industry concentration, changes in industry competition structure, and the dynamic competition of the industry. In the hospitality industry, as compared to other service industries, these negative effects of franchising on both the changes in the industry competition structure and the dynamic competition disappear, and actually turn positive.
Second, based on firm-level analysis, this dissertation finds that the more and faster a firm’s involvement in franchising is, as compared to its competitors, the higher the competitive power is that the firm faces within a market. In addition, a firm’s increased involvement in franchising as compared to its competitors increases its dynamic competition.

The present study’s inquiry into the relationship between franchising and competition contributes to the theoretical knowledge about how franchising influences the dynamics of competition by supporting the resource/knowledge based view. It contributes to the strategic management literature by reinforcing the importance of the relative strategic actions taken to create competitive advantage in the market and by supporting the concept of hyper-competition. The study further provides several practical implications for business managers and policy-makers. With the findings of this dissertation, business managers may have a better understanding of how they can influence competitive market conditions when engaging in a franchising strategy and policymakers might find the results interesting because it is important for them to create a competitive situation that maximizes consumers’ utility and welfare.
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CHAPTER 1

INTRODUCTION

Franchising holds a central place among the strategic characteristics of the service industry and this hybrid organizational system has proven to be a successful contractual mechanism for business expansion (Marvel, 1995; Norton, 1995; Winter, Szulanski, Ringov, & Jensen, 2012). Franchising has been of interest to various research streams that are investigating the hybrid nature of franchising arrangements in relation to the operational features of the system (e.g., Brickly & Dark, 1987; Combs & Ketchen, 2003; Klein, 1977; Lafontaine, 1992; Norton, 1995; Rubin, 1978). Previous studies (e.g., Brickly & Dark, 1987; Combs & Ketchen, 2003; Klein, 1980; Lafontaine, 1992; Norton, 1995; Rubin, 1978) define a franchising system as an organizational form involving the owner (the franchisor) of a brand and business model and many individuals/groups (the franchisees) who use the franchisor’s brand and model to operate their own businesses. The agreement between the franchisor and the franchisees allows the franchisees to use the business model and brand in return for a fee.

Beyond this simple definition, studies have also found that there are different reasons for and outcomes to the use of the franchising system (Brickly & Dark, 1987; Combs & Ketchen, 2003; Lafontaine, 1992; Roh, 2002). Specifically, the franchising literature has developed frameworks for investigating the franchising mechanism (e.g., antecedents and consequences of the individual firm’s franchising implementation) based on various theoretical backgrounds, such as the theory of the firm (Coase, 1937), agency
theory (Jensen & Meckling, 1976), the resource-scarcity point of view (Hunt, 1973) and the risk-sharing point of view (Martin, 1988). This research has enriched our understanding of how the franchising system benefits individual companies in the business world (e.g., Brickely & Dark, 1987; Combs & Ketchen, 2003; Koh, Lee, & Boo, 2009).

However, while attention has been paid to connecting franchising with an individual firm’s business outcomes, limited attention has been paid to the association between franchising and the business environment at large, such as the business environment of an entire industry or a national economy. The strategic management literature acknowledges that a firm’s strategy and business environments are closely connected (Jacquenmin, 1987). Specifically, according to D’Aveni (1994), business environments are always changing as a result of macro-economic factors and a firm’s competitive actions/reactions. This implies that, as a strategic action, franchising may alter the environmental factors that firms must recognize and manage well their business to succeed. Addressing this research opportunity of examining the association between franchising and the business environment at large, this study aims to explore the impact franchising has on business market conditions.

The resource/knowledge-based point of view (Barney, 1991; Kogut & Zander, 1992) posits that a franchising system helps firms achieve a competitive advantage in the market by providing them with opportunities to acquire resources and knowledge. The resources and knowledge gained from external sources (franchisees) enable businesses to expand and thereby increase their competitive power in the market (Michael, 2003). In fact, since franchisees are considered as efficiently bundled sources of financial,
managerial, and informational capital to franchisors’ business success (Stanworth, Stanworth, Watson, Purdy & Healeas, 2004), engaging in franchising can be an efficient path for franchisors to create competitive advantages in the market. As a result, franchisors become able to out-perform their rivals and bring the dynamics of competition into the market. Hence, the current study contends that the competitive condition (hereafter called the dynamics of competition) is an important environmental factor affected by an individual firm’s engagement in franchising.

Specifically, based on previous research, the study identifies three dimensions of the dynamics of competition that franchising can influence: competition structure, change in the competition structure, and the nature of competition (Child, 1972; Dess & Beard, 1984; March & Simon, 1958; Mintzberg, 1979; Sharfman & Dean, 1991). First, the competition structure represents the distribution of competitive power among the players within a market (Shepherd, 1972). This power distribution can be influenced by the franchising system because the external resources acquired from franchisees enable a franchisor to enlarge the distribution of his/her brand without making his/her own capital investments, which, in the end, lowers entry barriers into new local markets (Michael, 2003; Pilling, Henson, & Yoo, 1995).

Second, change in the competition structure denotes the instability of the power distribution (Caves & Porter, 1978). By improving a franchisor’s capacity to expand his/her business (Combs, & Ketchen, 2003; Michael, 2003), franchising can also encourage greater changes in each firm’s competitive power and thereby generate an unstable market condition (Caves & Porter, 1978).
Third, the nature of competition can be characterized as either static or dynamic (Thomas, 1996). Firms in a static competition situation are known to try to defend their current market position and outcompete competitors by pursuing price cuts or by creating a more efficient cost structure (Bengtsson & Marell, 2006), which, as a result, depreciate the firms’ existing strategic assets (Thomas, 1996). Dynamic competition, on the other hand, tends to encourage firms to find a niche market by exploring new strategic assets (Irvine & Pontiff, 2009; March, 1991; Jacobson, 1992; Schumpeter, 1942), which bring new streams of cash flow into the firm (Thomas, 1996). Franchisors may be able to discover new ideas through interactions with their franchisees, and thereby bring dynamic competition into the markets. These three dimensions (i.e., competition structure, change in the structure, and the nature of the structure) delineate the features of competition that franchising can influence and therefore are the primary factors examined in the current study.

To conduct a comprehensive investigation of the relationship between franchising and the three dimensions of competition, the study develops two different levels of investigation: industry-level investigation and firm-level investigation. On one hand, the industry-level investigation argues that a franchising strategy has a critical influence on the evolution of the competitive structure within industries, and therefore focuses on the influence of franchising on the three dimensions of the industry-wide competition: industry concentration, industry instability, and the dynamic competition within industry (Caves & Porter, 1978; Hou & Robinson, 2006; Shepherd, 1972; Thomas, 1996). These features are closely related to entry barriers into industries, to business expansion within
industries, and to new strategic assets of the members within an industry, which can be
influenced by an industry’s overall engagement in franchising.

On the other hand, the firm-level investigation focuses on an influence of
franchising on the three dimensions of the firm-specific competition: condition of rivalry,
market share fluctuation, and dynamic competition of a firm (Chen, 1996; Cool &
Dierickx, 1993; Porter, 1980; Thomas, 1996). These three competitive dimensions at the
firm level are closely related to the three dimensions of the industry-wide competition
mentioned earlier and are based on the same basic theoretical background. Specifically,
the two different levels of investigation (i.e., industry- and firm-level investigations) posit
that the franchising strategy reestablishes the competition structure (industry
concentration and a firm’s condition of rivalry), boosts market instability (industry
instability and a firm’s market share fluctuation), and promotes dynamic competition
(within an industry and for a firm).

The industry-level investigation further attempts to examine that the influence of
the franchising strategy on industry-wide competition can be stronger for the hospitality
industry as compared to other service industries. The hospitality industry is recognized
for its extensive engagement in franchising, and the current study argues that this
phenomenon may be due to the capital-intensive nature of the hospitality industry (Lee,
Koh, & Kang, 2011; Sheel, 1994; Tang & Jang, 2007). Since capital-intensity represents
a great need for capital, specifically related to the construction of buildings and food-
production facilities needed to create a new outlet, hospitality firms may experience
greater resource-scarcity than other service firms for their business expansion. An IFA
(International Franchising Association)’s report (2006) indicates that hospitality
franchising contracts require franchisees to provide a higher level of initial investment than other industries’ contracts, which provides evidence for the hospitality industry being capital-intensive and for its need for a large amount of resources in business expansion. The study posits that hospitality firms may experience more difficulties when expanding their business, and using the franchising strategy will have a greater impact on industry-wide competition in the hospitality industry than in other service industries.

The firm-level investigation addresses the importance of the relative measures to expand the depth of our understanding: how the franchising strategy can produce different results in the firm-unique competition for an individual firm when many competitors also conduct the same strategy within the markets. According to Chen and Miller (2015), competition is created by the market members’ relative actions. This implies that relative strategic actions of a focal firm on the franchising implementation can generate differences in the firm’s competitive power. In addition, D’Aveni (1994) proposed ‘hyper-competition’, which generates the quick creation and erosion of an individual firm’s competitive advantages. In a hyper-competitive market, a firm may manipulate its unique degree and speed of involvement in franchising to effectively react to its competitors’ actions (Michael, 2003; Vermeulen & Barkema, 2002). A firm’s higher degree and speed of involvement in franchising, as compared to its competitors, may help it insure more benefits from the strategy and bring greater possibilities to preoccupy a superior position than its rivals, and consequently lead the firm to outcompete its rivals (Ferrier, Smith, & Grimm, 1999; Michael, 2003; Vermeulen & Barkema, 2002).
Statement of purpose and research objectives

The purpose of this study is to answer the question of how franchising alters the competitive condition of the business environment, incorporating both industry-wide competition and firm-specific competition. As a significant business practice in the service industry (Winter et al., 2012), franchising offers service firms an efficient bundle of resources and knowledge, which can possibly promote an individual firm’s competitive advantages and also affect the overall competitive conditions of the markets (Michael, 2003; Porter, 1980). Specifically, the study aims to investigate the influence of franchising on the three dimensions of competition (i.e., competition structure, change in the competition structure, and dynamic competition) at both the industry level and the firm level. In addition, for the industry-level investigation, the study attempts to discover the moderating effect of the hospitality industry on the proposed relationship between franchising and competition.

Research objectives

The research objectives of this study are:

(1) To examine how franchising affects the three dimensions of the industry-wide competition (i.e., industry concentration, industry instability, and dynamic competition with industries);

(2) To investigate how an individual firm’s franchising implementation influences the three dimensions of the firm-specific competition (i.e., condition of rivalry, market share fluctuation, and dynamic competition of each firm);
To investigate the moderating effect of the hospitality industry on the relationship between franchising and the three dimensions of the industry-wide competition, industry concentration, industry instability and dynamic competition with industries.

**Significance of the study**

In a hyper-competitive market, business environments are always changing as a result of macroeconomic factors and the firms’ competitive actions/reactions (D’Aveni, 1994). In other words, firms continuously create their surrounding environment and therefore business environments can be an important outcome of a firm’s strategic actions. Accordingly, as an effective expansion strategy, franchising maybe considered as having the ability to influence competitive business conditions (Michael, 2003). Thus, it is essential for firms to understand that by implementing a franchising strategy they affect the competitive conditions of the market where they are engaging to out-compete their rivals.

Regarding the relationship between franchising and competitive condition, this study conducts two levels of investigation: industry-wide and firm-specific. By providing a comprehensive look at the relationship between franchising and competition, the two-levels of investigation will enhance the reliability of the results and enrich our understanding of the influence of franchising on competition. The industry-level investigation includes all the service industries in order to examine the overall impact of franchising on industry-wide competition within the service industries. It also links
specific features of the hospitality industry to the proposed association between franchising and industry-wide competition. The firm-level investigation employs relative measures of an individual firm’s franchising implementation as compared to its rivals, based on the theoretical background of the hyper-competitive market conditions (D’Aveni, 1994). Employing these measures enable the current study to investigate the relationship between an individual firm’s franchising implementation and firm-specific competition in a more refined manner.

Based on the investigation, the current study makes the following contributions to the literature on the topic: First, it supports the resource/knowledge point of view (Barney, 1991; Kogut & Zander, 1992) by providing evidence that pursuing a franchising strategy can help firms (franchisors) become well-equipped with resources and/or knowledge from their partners (franchisees) and thereby create a competitive advantage. Second, the study also enriches the franchising literature by discovering an unexplored link between franchising and competition. Providing a new perspective to the competitive condition as another outcome of franchising, the study enhances our understanding of the various business outcomes franchising can generate. Third, by using relative measures (i.e., relative degree and relative speed) for an individual firm’s franchising involvement, the study highlights the theoretically derived factors from previous strategic management research; competition is formulated/generated by relative actions/reactions (Chen & Miller, 2015) and by the process by which competitive advantages are created in a hyper-competitive market (D’Aveni, 1994).

Furthermore, each of the two-levels of investigation enables the study to provide detailed practical implications to business managers and industry policy makers. On the
one hand, the industry-level investigation can provide business managers with information on how an entire industry is influenced by its members’ engagement in franchising. This is valuable information and can help business managers gain a better understanding of the status of their industry’s competition and thus make better strategic decisions. Second, the examination of the moderating effect of the hospitality industry on the association between franchising and competition can provide hospitality business managers with the industry-specific information that may help them understand the hospitality market better. Third, the industry-level investigation also provides significant information to policy-makers on how franchising re-establishes competitive market conditions. From the policy-maker’s point of view, the competitive structure is a critical monitoring factor that can assist them to create the competitive market conditions that will maximize consumers’ utility and welfare.

The firm-level investigation also offers managerial implications to practitioners. First, the investigation informs business managers that engaging in franchising can change their competitive advantages among their close competitors and thereby the competitive conditions surrounding them. Results of the investigation will help them understand what specific competition-related outcomes they can achieve by means of implementing franchising and by incorporating this information into planning their next strategic actions. Second, using the relative measure, the firm-level investigation shows the impact of an individual firm’s strategic actions regarding franchising on firm-specific competition. This investigation provides managers with practical guidance on how to conduct franchising (i.e., more and/or faster engagement than others into the franchise system) in order to gain competitive advantages. Last, from the firm-level specific
investigation, the practical implications on the connection between franchising and financial performance is available to managers. Since the positive relationship between the competitive advantages and financial performance is well established in the literature, (e.g., Porter, 1980) finding the association between a firm’s franchising implementation and competitive power can provide an insight in how franchising may affect a firm’s financial performance.

**Definitions of key words and variables**

**Industry** – The study defines a particular industry by following the 6-digit NAICS industry categorization. The scope of this research is defined as the service industry, based on the 6-digit NAICS code.

**Industry-level investigation** – To find the overall impact of the franchising strategy on industry-wide competition and the moderating effect of the hospitality industry on the relationship between franchising and competition, the study conducts the investigation employing an industry-level dataset. Specifically, the sample of this level of investigation includes the service industries as defined by the 6-digit NAICS code categorization.

**Firm-level investigation** – To find the firm-specific relationship between franchising and competition, the study conducts the investigation employing a firm-level dataset. The sample of this level of investigation consists of the individual firms categorized within the service industry based on their 6-digit-NAICS categorization.
Industry-wide franchising involvement – As an independent variable for the industry-level investigation, this measure represents the extent to which an industry is engaged in franchising. As a measure of the strategic action, the study considers how many firms are involved in franchising by calculating the proportion of the number of firms that are engaged in franchising over the total number of firms within an industry.

Degree/Speed of the franchising involvement of an individual firm – In this study, an individual firm’s franchising involvement is based on its degree and speed of involvement. Specifically, the degree of involvement is recognized by how many franchised outlets a firm has. The speed of involvement is determined by (1) how fast, on average, a firm has implemented the franchising strategy to date and by (2) how fast a firm has conducted the franchising strategy each year.

Relative degree/speed of a firm’s franchising involvement – To capture the difference in the degree/speed of the franchising involvement among firms, the study employs the relative degree and speed of a firm’s franchising involvement as independent variables for the firm-level investigation. These are calculated by subtracting a focal firm’s degree/speed of franchising involvement from the average degree/speed of its competitors. The competitors of each firm are defined following Hoover’s competitor set database.

Competition structure – as the first dimension of the competitive condition, the competition structure denotes the distribution of the competitive powers among firms within each industry. For the industry-level investigation, this is operationalized by
industry concentration, the Herfindahl index, which is defined as the sum of the squared market shares of all firms within an industry.

\[
Concentration = \text{Herfindahl}_j = \sum_{i=1}^{t} s_{ij}^2
\]

where \( s_{ij} \) is the market share of firm \( i \) in industry \( j \). For the firm-level investigation, this study adopts condition of rivalry (Cool & Dierickx, 1993), which is the measure of rivalry for a given firm, which is operationalized by excluding its own share from the overall industry Herfindahl index.

\[
CR = RIV_{ij} = \left( \sum_{i=1}^{t} s_{ij}^2 \right) - (s_{ij})^2
\]

where \( s_{ij} \) is the market share of firm \( i \) in industry \( j \). However, the study replaces the Herfindahl index of an industry defined by 6-digit NAICS code with a Herfindahl index of a firm-specific market defined by the competitor set based on Hoover’s database.

**Change in the competition structure** – as the second dimension of the competitive condition, the change in the competition structure denotes the instability of the industry and/or a firm-specific market. For the industry-level investigation, the instability index, devised by Hymer and Pashigian (1962), is employed to operationalize this construct. The measure is calculated by the sum of the magnitude of every firm’s market share change within each industry.

\[
\text{Instability}_j = \sum_{t=1}^{t} (|s_{itj} - s_{i,t-1,j}|)
\]

where \( s_{ij} \) is the market share of firm \( i \) at time \( t \) in industry \( j \). For the firm-level investigation, market share fluctuation, derived from Hymer and Pashigian’s (1962)
instability index, is employed. Market share fluctuation is measured by the absolute value of the change in firm i’s market share between time $t$ and $t-1$.

$$Fluctuation_t = |s_{it} - s_{it-1}|$$

where $s_{it}$ is the market share of firm $i$ at time $t$. The two measures, *Instability* and *Fluctuation*, capture the dynamics in the competition power changes within each market.

**The nature of competition** – as the third dimension of the competitive condition, this is defined based on the two aspects of competition: static or dynamic. From the static point of view, firms compete to defend their achieved positions and competitive advantages using existing strategies, which depreciates existing strategic assets and decrease future cash flows (Caves & Porter, 1977; Porter, 1980; Thomas, 1996). In contrast, from the dynamic point of view, firms continuously search for new ideas and engage in innovation to find new strategic assets and market position, which generate future cash flows (Bengtsson & Marell, 2006; Schumpeter, 1942; Thomas, 1996). Based on this theoretical background, for the industry-level investigation, the study measures dynamic competition by calculating the variance of Tobin’s q within each industry since dynamic competition generates diverse new strategic assets within the firms, which increases the variance of firm performance within industries.

$$Var (q_i)_j$$, where $q_i$ is Tobin’s q of firm $i$ in industry $j$

For the firm-level investigation, the study employs the firm’s *advertising expenditures* as a proxy for the dynamic competition because it has been found to produce new strategic assets promoting cash-inflows into the firm (Comanor & Wilson, 1979; Jacobson, 1992; Thomas, 1996; Thomas & D’Aveni, 2009).
CHAPTER 2

LITERATURE REVIEW

The current section’s aim is to review both the previous franchising and industry competition literatures and to synthesize the existing knowledge with these two fields of literature. Specifically, in the first half of this section, by providing an incorporated review of the literature on franchising, the study reveals the process of research development in the franchising area and uncovers the questions that have yet to be answered. The second half of this section includes a review of the literature relevant to industry competition structure and its dynamics, and then connects these topics to hyper-competitive market conditions. This review will provide scholars the opportunity to look into the history of franchising research and into the future for more questions connecting franchising to competitive market conditions.

Overall review of franchising research from the 1980s to the present

The nature of franchising

Franchising is a contract in the practice of business wherein two players (i.e., franchisor and franchisee) work together based on the stipulation of the contract (Combs & Ketchen, 2003; Mathewson & Winter, 1985). Franchisors provide their business concept and trademark to franchisees, and thereby expand their business at the expense of the franchisee (Combs & Ketchen, 2003). On the other side of the contract, franchisees
pay up-front and pay ongoing fees to franchisors in return for the use of the franchisors’
established brand identity and business system in order to operate their own business
(Combs & Ketchen, 2003). Both participants in the contract benefit from the franchising
mechanism because they have common interests in operating the business under the same
brand. Therefore, these advantages of the franchising contract have motivated firms and
small business owners to adopt the franchising strategy for their own businesses (Brickly,

In academia, the mechanism of franchising has been a research topic for
economics, finance, and strategic management research, based on various theoretical
approaches. Its conceptual framework, definition, theories, and criteria have been
examined from multi-faceted and multi-disciplinary franchisor perspectives.
Traditionally, the theory of the firm, externalities (Coase, 1937), and transaction cost
concepts were at the basis of franchising research, which led to protecting trademark and
brand equity issues (Caves and Murphy II, 1976; Shelanski & Klein, 1995; Williamson,
1976). Caves and Murphy II (1976, p. 572) characterized franchising in line with the
traditional economics theory, considering franchising within “the nature of the firm” and
connecting its incorporation process to “arm’s length transactions.” In the 1960s and the
1970s, franchising research started incorporating a multitude of theories, such as agency
theory, resource allocation/constraint theory, information asymmetry, and vertical
integration issues (Caves & Murphy II, 1976; Hunt, 1972; Lafontaine & Kaufmann,
1994; Oxenfeldt & Kelly, 1969; Tatham, Douglass, & Bush, 1972; Walker & Etzel,
1973). Among these theories, franchising research has employed two of the dominant
theoretical backgrounds, agency theory and resource scarcity theory, as the basis for understanding the franchising mechanism.

Agency theory (Jensen & Meckling, 1976) is one of the most employed theories to explain motivations to franchise (Lafontaine, 1992; Rubin, 1978; Shane, 1998) and it has been supported by a great deal of empirical results (Brickley & Dark, 1987; Brickely et al., 1991; Hsu, Jang, & Canter, 2010). According to this theory, an agency problem occurs because of the conflicts of interest between managers (agents) and firms (principals) (Lafontaine, 1992). Since management compensation is fixed, it is hard for firms to induce the best efforts from its managers. Therefore, firms need to pay monitoring costs to make sure that managers are performing in the firms’ best interests. However, the franchising contract can overcome this problem. Franchisees and firms (franchisors) have their own best interests in common when managing their operations because the franchisees’ income is based directly on how well they manage and on how much they earn from operations. Thus, within the agency theory’s domain, firms are motivated to franchise in order to reduce their monitoring costs by making use of the franchising contract (Brickley & Dark, 1987; Brickely et al., 1991; Hsu, Jang, & Canter, 2010).

The resource scarcity theory highlights the mechanism of franchising from a different perspective. Franchisors can obtain a variety of resources from franchisees in return for allowing franchisees to use their trademark and business system. Thus, franchisors utilize the franchisees’ resources to expand their business. This advantage is superficial for franchisors, especially when franchisors are restricted by a shortage of resources such as capital and knowledge of the specific local area (Hunt, 1973; Hunt &
Nevin, 1974; Norton, 1995; Oxenfeldt & Thompson, 1968). As a result, resources provided by franchisees help franchisors to accelerate growth as well as reserve cash and gain specific knowledge for future growth (McGuire & Staelin, 1983; Minkler, 1992; Norton, 1988; Shane, 1998). Based on this conceptual framework, franchising is a successful business strategy for resource-strapped franchisors.

1980s — Franchising Contract Structure

Scholars investigated the effective franchising contract structure in the 1980s when franchising gained attention mainly in economics (e.g., Mathewson & Winter, 1985). As establishing a contract is the first step for practitioners, it was also the main topic for this initial phase of franchising research. In practice, the franchise contract contains unique features in its structure and mechanism (Rubin, 1978). A franchise contract requires franchisees to adhere to specific regulations such as maintaining a certain level of quality of products and services and standard business hours. The contract also entails adhering to the regulations for franchisors, such as providing national advertisement and training programs. However, the power to terminate the franchising agreement is mostly held by the franchisor in the contract. Moreover, unlike other simple employment contracts, the franchise contract is constructed on the basis of profit sharing, which makes it possible to spur the best efforts from both parties in the contract. These features of franchising attracted scholars to start looking into the nature of this contract structure (Lafontaine, 1992; Mathewson & Winter, 1985; Rubin, 1978).

Among the studies examining the most effective franchise contract, Mathewson and Winter’s (1985) is representative in discovering the best franchising fee structure.
By modeling a mathematical equation of the best-structured franchising fee, the study proposes that the profit sharing mechanism between franchisors and franchisees successfully functions as an incentive tool. In addition, to establish the best contract structure, a variance in the royalty fee, a type of ongoing fee imposed by the franchisor based on the sales generated from a franchisee operation, should be positively linked to a variance in local market conditions and market demand. In regions where the business environment is unstable and competitive, the franchising fee structure should be formulated in more diverse ways among companies as compared to regions where the market is less dynamic. However, Mathewson and Winter (1985) also find that the franchise contract cannot be perfect, which means both sides (franchisors and franchisees) have the chance for a free ride by shirking on their input into the franchising system. The results provide the insight that, even though the profit sharing mechanism can best motivate each side to work toward the same goal, the conflicts appear to initiate a type of moral hazard problem within the contract.

Following the analytical modeling research of Mathewson and Winter (1985), empirical investigations were also conducted. Using archival data collected from 548 franchising firms, Lafontaine (1992) empirically examined the factors determining the franchising fee structure in various industries. Based on the results of the regression analysis, Lafontaine (1992) suggested that a two-sided moral hazard problem could arise in the franchising contract and these results are consistent with Mathewson and Winter’s (1985) study. These two studies address the beneficial features (i.e., profit sharing function) as well as concerns (i.e., moral hazard problems) of the franchising contract from both theoretical and empirical point of views.
However, challenges exist in both studies. Analytic research requires strict assumptions which do not completely reflect real world situations. The Mathewson and Winter’s (1985) study is not free from this limitation. They assumed that franchisors are risk-neutral and franchisees are risk-aversive. These assumptions cannot be applied to all franchisors and franchisees. Thus, the results derived from the assumptions make it difficult to explain all different franchising relationships in the real world without employing some modifications.

Lafontaine’s (1992) empirical work reflects such a real world phenomenon because the data collected and analyzed in the study directly mirror what happens in the real world. These results help us to understand how the current franchising fee structure is working and what kinds of problems exist between franchisors and franchisees in the real world. However, Lafontaine (1992) focused only on the point of view of the franchisor, which is limited to only one side of the franchise contract.

1990s — Motivation to franchise

In the 1990s, as franchising became more extensively implemented in business, researchers became curious about the factors that motivated firms to employ the franchise system (e.g., Brickly et al., 1991), specifically on the questions of why franchising was initiated and on why firms kept implementing the strategy (e.g., Brickley et al., 1991; Combs & Ketchen, 1999, 2003; Combs et al., 2011; Kalnins & Lafontaine, 2004). Using archival data, many empirical studies were conducted in an attempt to answer these questions (Brickley et al., 1991; Combs et al., 2011; Hsu et al., 2010; Kalnins & Lafontaine, 2004). Agency theory, resource scarcity theory, and risk-sharing theory
provided a solid research framework for the examination of the motivations to franchise.

Based on the agency theory, the most significant motivation to franchise was to reduce monitoring costs from the franchisor’s perspective (Brickley & Dark, 1987). Following the perspective of the agency problem, using franchisees’ resources and sharing risk with franchisees were regarded as the important motivations for franchisors (Hsu et al., 2010; Lafontaine & Kaufmann, 1994; Roh, 2002). Although development of the motivation research introduced a variety of theoretical backgrounds, the three perspectives, agency theory, resource scarcity, and risk-sharing, were been well received as explanations for the franchising motivation in the past franchising literature.

Reducing monitoring costs derived from the agency theory and facilitating the resources of others to expand the business derived from the resource scarcity theory are known as the best benefits for franchisors (Brickley et al., 1991; Combs & Ketchen, 1999, 2003; Combs et al., 2011; Kalnins & Lafontaine, 2004). Combs and Ketchen (1999) conducted seminal work examining the motivation to franchise from both of these two theoretical perspectives – agency theory and resource scarcity theory. Using the data of 91 publicly traded restaurants within the period of 1989 to 1993 as well as surveying data from hospitality educators in 1994, they employed hierarchical regression using the control variables of firm size and age. The study found that the motivations from both agency theory and resource scarcity theory were significant. As a result, the study contributes to the existing franchising literature by empirically confirming a new theoretical background, resource scarcity theory, in addition to agency theory.

About four years later, Combs and Ketchen (2003) revisited the topic regarding the factors affecting the decision to franchise. They reviewed previous literature and
confirmed the validity of the existing hypotheses regarding motivations for franchising by conducting a meta-analysis of forty-four studies from 1970 to 2000. The results show the positive impact of geographic dispersion and the negative effects of franchisor input and outlet size on the use of franchising. However, the effects of age, firm size, growth rate, capital scarcity, local expertise, franchising fees, and royalty rate were non-significant. In their study, it is worthy to note that none of the evidence from the resource scarcity theory was significant. The results were not consistent with their previous work, and they suggested that measurement error could have been problematic in the previous research.

The risk-sharing point of view also explains the motivation to franchise. According to Combs and Castrogiovanni (1994) and Martin (1988), firms are likely to decide to franchise outlets, located in regions of expected higher risks to business or where future performance is difficult to forecast, and consequently share the business risks with franchisees. Moreover, relatively stable income received from franchising fees and royalties mitigate the franchisors’ risks by reducing fluctuations in cash flow (Roh, 2002). An important point to note is that the restaurant industry has the reputation of vulnerability to volatile markets, and it has been characterized as unstable and risky (Slattery & Olsen, 1984). This unstable business environment may influence restaurant franchisors to be risk-averse, and therefore, sharing risks with franchisees could represent an important motivation to franchise (Hsu et al., 2010; Roh, 2002).

Along with the motivations to initiate franchising, the reasons why firms continue to increase the degree of franchising outlets over the total outlets were also an interesting topic in research. For example, Kalnins and Lafontaine (2004) investigated the factors
affecting the decision of franchisors to grant franchisees multi-unit ownership. Nested logistic regression analysis provided results demonstrating that franchisors are more likely to grant a new unit to franchisees when: 1) a new unit is geographically closer to a franchisee’s existing unit, 2) a new unit is located in demographically similar markets to that of franchisees and 3) a new unit is located in an urban area or in large African-American communities. The study shed light on the topic of multi-unit ownership and revealed the tendency of franchisors to allocate new units to existing franchisees rather than to newcomers.

However, careful interpretation is needed for the studies discussed above for several reasons. First, the studies mentioned above looked only into the motivations from the franchisors’ perspective, one side of the franchising relationship. Combs and Ketchen’s study (2003) tried to overcome this limitation by including the franchisees’ point of view; however, the view toward franchising is still mixed between the franchisor’s viewpoint versus the franchisee’s viewpoint. Second, the other Combs and Ketchen’s study, conducted in 1999, used two different sets of data (i.e., archival data and survey data); however, the time periods of the data sets do not match. Specifically, archival data was collected in the period between 1989 and 1993, whereas the survey data was collected in 1994. Using different datasets and time periods could incorporate unexpected effects in the process of the investigating relationships, possibly resulting in biased casual relationships. Third, the previous work did not consider the possibility that several of the motivations to franchise may not work individually in the real world. Instead, they could be related to each other and jointly influence the decision to franchise.

The 2000s to Present — Franchising Outcomes and Diversity of Interests
Mostly in the 2000s and up until now, scholars have been interested in the outcome of the franchising strategy and have tried to answer the question of whether or not franchising results in better financial performance (e.g., Michael, 2003; Sorenson & Soensen, 2001). Roh (2002) demonstrates that firms with a high proportion of franchised units have a lower variation on operating cash flow because of the royalties, which fluctuate less due to the economic conditions. The results imply that the franchising system mitigates franchisors’ business risk and thus possibly leads to better performance. On the other hand, Michael (2003) finds a positive effect of franchising on firm financial performance. According to the study, by facilitating franchisee resources, franchisors can quickly increase their market share and succeed in rapid growth, and thus possibly achieve better performance than non-franchisors. Overall, franchising is traditionally considered as having a positive impact on a firm’s financial performance.

In a related vein, other scholars addressed the point that the relationship between franchising and its financial performance is not simply linear (e.g., Combs, Ketchen, & Hoover, 2004; Hsu, & Jang, 2009; Koh et al., 2009; Sorenson & Soenson, 2001). Combs, Ketchen, and Hoover (2004) examined the effect of franchising on firm performance based on agency theory and resource scarcity theory and found that franchisors are heterogeneous, which means a non-linear relationship exists within franchising, its antecedents, and performance (e.g., return on assets, sales growth, and market-to-book ratio). Specifically, combining archival data for financial numbers and survey data for agency costs, the study employed cluster analysis and the results indicate that the agency related strategic group (i.e., agent franchisors and agency minimizers) outperforms the resource scarcity strategic group. Sorenson and Søensen (2001) also
suggest a non-linear relationship (an inverted U-shape) between the propensity to franchise and firm performance. Based on organizational learning and knowledge transfer perspectives, the study finds that the influence of company-owned outlets and franchised outlets to firm performance is different depending on the nature of each market. For example, if a market is homogeneous, increasing company-owned units has a positive impact on firm performance. On the other hand, if a market is heterogeneous, the benefits on the performance from company-owned units decline rapidly. As a result, the study suggests that the nature of the market is a moderator in the relationship between franchising and its financial performance, thus suggesting that there is a non-monotonic influence of franchising on a firm’s financial performance.

More recently, franchising research has become more established, and a number of scholars have investigated the specific characteristics of the franchise system. Research interests are now deviating from traditional questions and are pursuing the more specific characteristics of franchising in multi-disciplinary fields (e.g., Meiseberg & Dant, 2015; Merrilees & Frazer, 2013; Weaven, Grace, Dant, & Brown, 2014). A recent interesting research topic is the role of brand identity in the relationship between franchisors and franchisees. On the basis of the internal branding concept, Merrilees and Frazer (2013) examine the dynamics between franchisors and franchisees. They surveyed 140 franchisees from service and retail industries in Australia and found that the main factors that affect franchisees’ positive attitudes toward a franchisor’s brand include franchisee commitment, franchisor marketing supports, and the culture within the system. Furthermore, the franchisors’ leadership plays a moderating role if they are transformational leader types. The study provides a contribution to the franchising
research by looking into the issue of internal branding in the franchising strategy and by adding the new construct, the leadership of franchisors, as a factor affecting internal branding.

**Extending the View to Industry Competition and its Dynamics**

**Franchising and competition literature**

Since diverse fields of research have attempted to discover how franchising is related to competition (e.g., Caves & Murphy, 1976; Chen & Chiu, 2014; Lee, 1984; Smiley, 1990; Pilling et al., 1995), it is difficult to establish a clear-cut definition of competition that is commonly accepted within and across several different disciplines, such as industrial organizational economics, strategic management, micro economics, and marketing (Boone, Van Ours, & Wiel, 2007). For example, in their analytical modeling to generalize the influence of franchising on the competition, studies in microeconomics conceptualize the degree of competition as the elasticity of demand or the levels of a firm’s price and cost (e.g., Lee, 1984; Smiley, 1990), while in the marketing research, Pilling et al. (1995) perceive competition as challenges to take as many resources as possible from the limited base among the economic units of total population based on the population ecology point of view. Among the varied perceptions of competition, the current study focuses on the conceptualization of competition in the IO and the strategic management fields as presented in the next section.

**Dimensions of Industrial and Organizational Environments**
Theoretical attempts to conceptualize the industrial environment have been made by multiple approaches in IO and strategic management research (Sharfman & Dean, 1991). Industrial environmental literature has emphasized that the business environment should be treated as an objective reality or as a managerial perception and, as a result, has developed three integrated dimensions to describe the business environment: complexity, instability and munificience (Child, 1972; Dess & Beard, 1984; March & Simon, 1958; Mintzberg, 1979; Sharfman & Dean, 1991). Complexity represents the heterogeneity of the market (Thompson, 1967) capturing how the market is structured (Child, 1972). Instability relates to the difficulty in predicting future market condition, and changes in market patterns are regarded as a central source of instability. Munificience concerns the extent to which a competitive market offers resources for a firm to continue its growth (Aldrich, 1979). This dimension implies that a resourceful business environment can encourage organizations to become involved in competition by providing growth opportunities (Child, 1972; Dess & Beard, 1984; Mintzberg, 1979).

This dissertation adopts this theoretical framework of the industrial environment along with these three dimensions in order to investigate the influence of franchising on the competitive business environment as a competition structure, a change in the structure, and as the nature of competition. In general, the concepts of industrial environments and competitive environments are regarded as being interchangeable in strategic management research (e.g., Keats & Hitt, 1988; Prescott, 1986; Zahra, 1996). In addition, dimensions of competitive environments in the current research are also rooted along the same line. The first dimension of the framework, ‘complexity,’ is applied to ‘competition structure’ in the current research because complexity indicates the level of
diversity of market structures in which a firm operates (Dess & Beard, 1984; Zahra, 1991). The second dimension of the framework, ‘instability,’ which indicates the dynamics of change in the industry (Dess & Beard, 1984; Zahra, 1991), is directly linked to ‘change in the competition structure’ in this research. The third dimension of the framework, ‘munificence,’ points to a feature a market condition of whether or not an industry encourages competition that generates new business opportunities (Miller & Friesen, 1982). This feature can be represented by the ‘nature of competition’ that firms involve in, between a static and a dynamic type of competition (Bengtsson & Marell, 2006; Thomas, 1996). Thus, the nature of the competition within industries determines the amount of resources in markets and presents the munificence of the competitive environment. In this sense, rooted in the framework of the dimensions of competitive environments, the three dimensions of industry competition (competition structure, change in the structure, and nature of competition) are identified and employed in this research.

**Research Streams of Industry Competition**

This section reviews research streams of IO and strategic management addressing dimension of industry competition. Since the late 1970s, industry competition and dynamics has been one of the major research areas in traditional IO economics. The investigation of industrial dynamics initially developed into two broad lines of research: (1) dynamics of market structure and (2) industry evolution. Further, the examination of the role of innovation and technology also improved both areas of research (i.e., (1) dynamics of market structure and (2) industry evolution). Between the two areas, the literature on (1) dynamics of market structure includes both (1-1) the structural
dimensions of industry competition and (1-2) the dynamics within industry competition. Specifically, (1-1) the structural dimensions of industry competition are concerned with industrial demography, firms’ growth and size distributions, concentration, and persistence in asymmetric firm performances (Demsetz, 1973; Kamerschen, 1968; Mazzucato, 2000; Round, 1975; Shepherd, 1972). The line of research on (1-2) dynamics of the structure within industry is concerned with the dynamic changes within the frame of the industry fluctuation incorporating firms’ entry, exit, and size change as well as product and process innovation (e.g., Dunne, Klimek, Roberts, & Xu, 2013; Ericson & Pakes, 1995; Klepper, 1996; Klepper & Graddy, 1990; Malerba, 2007). The (2) industry evolution combines these two views (i.e., (1-1) structural dimensions of industry competition and (1-2) the dynamics within industries) with a broader look at industry structure and its evolution over time (e.g., Nelson & Winter, 2002).

Another stream of research on industry competition, an Austrian school of thought, initiated a new paradigm to comprehend competition and interactions among firms (e.g., Schumpeter, 1934), opposing the traditional IO perspectives on the competition that provide static views toward competition analyses based on the framework asserting that firms within the same industry are facing homogenous competition (e.g., Bain, 1951; Caves & Porter, 1977; Porter, 1980, 1981). Specifically, criticizing the limitation of the existing microeconomic view that might not embrace the dynamic environment brought on by technological change (Nelson & Winter, 1982), the new paradigm offers a framework that enables researchers to investigate firms’ strategic movement focusing on change, uncertainty, and disequilibrium within the competitive environment.
**Competition structure**

The concept of industry competition structure has been developed based on the firm’s market share as suggested by neoclassical economists, Bain’s entry barriers framework in the 1950s, and firm size and advertising in the 1960s (Porter, 1980). Among the several ways to conceptualize the industry competition structure, concentration, as defined by the distribution of each firm’s market share, is one of the most recognized features of the market structure (Bain, 1951; Schmalensee, 1989; Shepherd, 1972). The level of concentration in each market is known to provide the measures with which to evaluate the level of the severity of the competition within each market (Shepherd, 1972; Yin & Shanley, 2008). Specifically, in high levels of concentration, a few leading firms will be able to unite their activities, especially for pricing and output. In contrast, in low levels of concentration, the industry will be characterized by relatively autonomous and competitive firm behaviors, leaving the oligopolistic behavior of the firm’s pricing and output scattered and weak. Therefore, investigating the level of concentration of industries can offer a direct path to examining the level of competition within each industry.

The determinants of industry concentration have been investigated in the realm of IO economics. Specifically, the aspects of industry business conditions, such as barriers to entry and a stochastic process, have been mainly covered in the studies of industry concentration (Ornstein, Weston, Intriligator, & Shrives, 1973). Entry barriers are usually determined by two factors, the capital requirement of the industry and the incumbents’ economies of scale (Ornstein et al., 1973; Porter, 1980). The requirement of a high level of capital to initiate new movement into the market, specifically for example,
physical assets as well as for advertising or research development (R&D), imposes a burden on potential players even if they are able to finance the prerequisite capital from the capital market (Porter, 1980; Shepherd, 1972). Therefore, under the uncertainty for success in the new market, the high level of capital requirement makes it inherently risky for prospective entrants to initiate new business. Furthermore, incumbents, who have already achieved a certain level of economies of scale, also prevent the potential entrants from moving into a new arena. Existing players’ lower costs and an efficient operational process provide strong advantages for them, which require new entrants to come in at a large scale to succeed because otherwise it would be difficult for them to compete with the incumbent players.

The other determinant of concentration, the cumulative stochastic process, has initiated studies looking into the concentration change with an extended period of time and focusing on the variability of growth rates among firms within industries (e.g., Hart & Prais, 1956; Hymer & Pashigian, 1962; Simon & Bonini, 1958). According to Hymer and Pashigian (1962), firm-level differing growth rates possibly temporarily alter the distribution of the market share. However, the changed distribution can be maintained over an extended period of time if the firm is able to protect its increased share. Also, industry-level differing growth rates can explain the difference in concentration among industries. Kamerschen (1968) suggests that industry growth rate could alleviate the level of industry concentration. Thus, in IO economics, it is widely accepted that the cumulative stochastic process of firm growth and industry growth significantly determines the level of industry concentration and consequently the competitive condition in each industry.
Change in the competition structure

New interests in the empirical studies of market structure criticize the traditional research point of view, which focuses on the level of market structure, and insist that investigating the static competition structure has not kept up with the theory of industrial organization (Marlow & Wright, 1987). This new line of research, called the dynamic concept of market structure, highlights another important feature of market competition, the instability of market shares that reflect the nature of disturbances within markets (e.g., Cave & Porter, 1978). Scholars further note that such reflections improve the understanding of the relationship between market structure and oligopolistic behavior (i.e., a type of the behaviors firms can accommodate in limited competition) (Cave & Porter, 1978; Marlow & Wright, 1987). Moreover, a variation in the firms’ market share reveals that market structure does not stay unchanged and that the movements are derived from firms’ behaviors (Bellofiore & Ferri, 2001). The findings of the studies suggest that a variation in the firms’ market share can explain the process and dynamics of market structure evolution.

Market structure instability is an essential process for industry evolution, being led by innovation. Klein (1977) suggests that when technology and markets are evolving, market share tends to fluctuate more and be less concentrated because newcomers tend to have advanced technologies. Therefore, it is easier for newcomers to grow and to be more successful than existing firms. Moreover, the importance of the market structure is also documented in Mazzucato (2000). Based on the dynamic theories, the study suggests replacing static indices, which focus on the level of concentration at a certain point in time, with dynamic indices of competition, which emphasize the evolution of
market structure. Beyond the concept of the structure (i.e., how a market is shaped), this stream of research contributes to the market competition literature by establishing the concept of the development process of structure incorporated with an industry evolution process.

Along with the measures (i.e., market instability), advanced statistical analyses have also improved the market dynamics investigation. To this end, market share data has played an important role in empirically testing industry competition and its dynamics (e.g., Caves & Porter, 1978; Eckard, 1991; Gallet & List, 2001; Hymer & Pashigian, 1962; Sandler, 1988), and the findings of the studies provide evidence that instability of market shares demonstrates the dynamics of market competition. Further, Nelson and Plosser (1982) initiate employing the time-series analysis technique for testing market share instability and they accomplish statistical advances in the area of market dynamic research. Specifically, by testing for the presence of a unit root in the market structure, time-series data enables researchers to empirically test for market share convergence and to examine if shocks to market shares are temporary or permanent (e.g., Gallet & List, 2001). All in all, market instability research concludes that changes in relative position within markets are crucial to the examination of market competition dynamics.

**Nature of competition**

Schumpeter’s vision of competition, described as the process of ‘creative destruction,’ has led to diverse research efforts focusing on the market process of how firms discover new ways to disrupt the market and achieve abnormal profits. Thomas (1996) examines the influence of the dynamic competitions on growth of an industry
average stock market value and finds that the relationship between the degree of dynamic competition and industry performance is an inverted-U shape. A qualitative work conducted by Bengtsson and Marell (2006) developed the conceptual model that differentiates static and dynamic competition. By distinguishing dynamic competition from static, this line of research enriched our understanding of the continuous interaction among firms and the effect of the interaction on industry performance.

Recent studies on dynamic competition focus more on a firm’s organizational configuration, strategic groups, and competitors (Baum & Korn, 1996). The main interest of this school of thought is how a firm’s distinctive strategies can produce differing outcomes regarding firm performance. Instead of looking into industry (i.e., market)-level competition, this line of research concentrates on the level of competition from an individual firm-level point of view (e.g., Cool & Dierickx, 1993; McGee & Thomas, 1986; Thomas & Venkatraman, 1988). One seminal work, Cool and Dierickx (1993) emphasizes that each firm faces a different condition of rivalry (i.e., level of competition) even when competing within the same market, and finds that the individual condition of rivalry clearly uncovers the relationship between the membership of strategic groups and firm profitability. The study contributes to a long-debated relationship between strategic group membership and firm profitability, and contributes to the literature of the dynamics of competition by bringing interests into the firm-specific competition rather than focusing on aggregate industry-level competition. The conceptualization of competition for individual firms was elaborated on by Chen (1996), who suggested that the degree of competitive tension each firm encounters depends on the extent to which the firm would or would not consider a given competitor as a key
competitor. Thus, it is noted that the individual firm’s level of competition does not function the same as industry-level competition, and that firm-specific competition structure should be examined for firm-level strategic investigation.

From the dynamic perspective, firm-specific rivalry needs to be considered based on an extended period of time because both competitors’ capabilities and the focal firms’ capabilities change over time (Helfat & Peteraf, 2003), but each at a different pace. Within rapidly changing markets, time-varying capabilities evolve and create competitive advantages for each firm, but are sustained for a short period of time (Bettis & Hitt; 1995). Therefore, it is important to note that the rates at which firms grow drive the market evolutionary process (Klepper & Graddy, 1990). Eisenhardt and Martin (2000) refined the concept of dynamic capabilities, the best-conceptualized tools to manipulate each firm’s resource configurations when each is adapting to a rapidly changing environment. With the varying speed of developing dynamic capabilities, an individual firm within the industry interacts with its competitors, who also continue configuring their own capabilities over time. As a result, each firm experiences unique patterns (i.e., degrees) of market competition.

D’Aveni (1994; 1995) puts forth the idea of hyper-competitive markets where competitive advantages are quickly created and eroded. Under this hyper-competitive market condition, competition involves dynamic competitive actions. Specifically, competition is created by firms’ relative actions (Chen & Miller, 2015), which are determined based on each firm’s dynamic capabilities (Eisenhardt & Martin, 2000). A fundamental difference between dynamic capabilities and hyper-competition is that hyper-competition is a concept derived from the features of competing, such as its speed,
complexity, relative interactions, and aggressiveness while dynamic capabilities are concerned with routines and practices that enable firms to manipulate the firm’s resources in order to achieve competitive advantages. In the hyper-competitive market, furthermore, firms can only enjoy immediate benefits from their superior strategies at a certain point in time because sustainable advantages no longer exist (MacMillan, 1989). In sum, an individual firm’s dynamic capabilities are creating time-sensitive advantages, and other firms are required to respond to such actions of their competitors within a limited period of time. These active interactions possibly illustrate that hyper-competition can lead to a fast-moving condition of rivalry in the market.

**Hypotheses Development**

The review of the two research fields, franchising and industry competition dynamics, encourages the investigation of the relationship between franchising and competitive business environments. In the current research, this suggested opportunity has been developed to examine the impact of the franchising strategy on competition dynamics. To conduct a more thorough examination of the proposed association, the study employs two different levels of investigation: industry-level and firm-level investigation. The industry-level investigation questions how the franchise system influences the three dimensions of industry-wide competition (i.e., industry concentration, market instability, and dynamics of competition). The firm-level investigation looks into the relationship between franchising and firm-specific competition attributes (i.e., condition of rivalry, market share fluctuation, and dynamic
competition of a firm). These two levels of examination will enhance the robustness of the results of the study as well as help us better understand how the franchising system alters industry competitive conditions and how an individual firm contributes to the change of the environment.

Inconsistent with the Bain/Mason’s S-C-P theoretical framework, (i.e., the notion that structure influences conduct, and consequently conduct influences performance), this study takes the reverse look at supposition that a firm’s strategy can influence market structure based on the strategic management researchers’ premises. For example, Jacquemin (1987) suggests that the causation between the structure of the market and the conduct of firms does not move in only one direction, but is characterized instead by several layers of feedback loops. The interdependence between structure and conduct may imply that individual organizations can influence their business environment. Specifically, a firm’s strategic actions have an impact on its competitors’ actions and reactions (Chen, Su, & Tsai, 2007; Chen, Smith, & Grimm, 1992), and also indirectly promote any movement of other firms within the market (Ferrier et al., 1999). Consequently, such actions can produce a certain type of business trend that the focal firm also needs to take into account prior to its own next movement. Based on this point of view, the current study focuses on how franchising strategy creates an influence on the market competitive environment.

Franchising has been used extensively within the service industry over the last few decades and has brought about many changes to the service industry’s business practices (Anwer, 2011; Brickley & Dark, 1987; Combs et al., 2011). Based on the resource/knowledge-based point of view (Barney, 1991; Kogut & Zander, 1992), it can
be argued that franchising helps firms (franchisors) achieve competitive advantages by providing them with opportunities to acquire resources and knowledge for their business expansion. Specifically, by providing opportunities to cooperate with business partners (i.e., franchisees), franchising enables firms to engage in a more aggressive expansion and to actively react to its competitors’ expansion (Combs & Ketchen, 2003; Fladmoe-Lindquist, 1996; Michael, 2003; Pilling et al., 1995). Consequently, the interactions promoted by the franchise system can influence the distribution of competition power (Shepherd, 1972) as well as influence the pace of the changes within the power distribution (Ferrier et al., 1999). In addition, the interactions with franchisees promote opportunities for franchisors to gain diverse knowledge (Winter et al., 2012), which can improve the dynamic competitions within markets (Ketchen, Short, & Combs, 2011). Therefore, it is worthwhile to note that the franchising system contributes to these three aspects of competition: development of the competition structure, changes in power distribution, and dynamic competition.

The following sections specifically address the research arguments and develop hypotheses based on the three dimensions of the dynamics of competition: competition structure (i.e., concentration and condition of rivalry), changes in the structure (i.e., market share instability and market share fluctuation), and the nature of the market competition (i.e., dynamic vs. static) (Malerba & Orsenigo, 1996; Thomas, 1996).

Franchising and competition structure

The first argument of this research lies in the inquiry of how the franchising strategy influences the structure of competitive power distribution. A firm’s competition
power is traditionally estimated by its market share (Shepherd, 1972), which is based on the assumption that the amount of output generated by the firm reflects the firm’s relative position within a market. Based on the resource/knowledge-based view (Barney, 1991; Kogut & Zander, 1992), the study argues that if a firm engaged in franchising, it has the opportunity to make use of external resources, such as financial and human capital and operational knowledge, which enables a firm’s capabilities to be more productive than its capacity indicates. By employing the franchising strategy, existing firms can increase their production and market share and, at the same time, new firms can enter the market at lowered entry costs (Michael, 2003; Pilling et al., 1995). Therefore, theoretically, it is reasonable to assume that the franchising system has contributed to the development of the competitive structure by helping firms promote their capabilities to increase market share and to initiate business in the new market.

This study developed a hypothesis to investigate the impact of the franchise system on the industry-wide competition structure by employing a construct, industry concentration, which is generally defined as the sum of the squared market shares of all firms within a market (Hou & Robinson, 2006). The role of franchising for developing industry concentration can be explained based on these two different points of view: whether the franchising system is more likely to accommodate the expansion of existing large firms or more likely to stimulate the growth of entrants and small firms.

If the franchising system enables existing firms to expand their business, it is likely to be easier for large firms to promote their brand and system and consequently, to attract more franchisees, because large firms are more likely to possess an established brand image and business system (Lenox & King, 2004; Mazzucato, 2000). Moreover,
According to Klepper (1996), firm size can represent the organization’s capabilities to initiate innovative efforts, which may imply that large firms are more able to promote the franchise system for their business expansion. In this sense, the franchising system can elevate the power of existing large firms, and this increase in the use of this system will lead to increasing industry concentration.

On the other hand, the resource/knowledge-based view (Barney, 1991; Kogut & Zander, 1992) offers theoretical evidence for the argument that the franchise system lowers entry barriers that hinder potential entrants from starting their business, and, therefore, facilitates the entrance of new firms into the market. For example, capital requirements to enter a market are recognized as an important determinant of entry barriers (Geroski & Pomroy, 1990; Kraft, 1989; Ornstein et al, 1973). Using franchisees’ resources to enter a new market, instead of investing the franchisors’ own resources, lessens the franchisors’ capital needed to enter the market, and thus the franchisor can initiate new business with lowered barriers (Michael, 2003). If the franchising system lowers entry barriers for potential entrants, it becomes easier for them to initiate their business in the markets, and therefore, a growing number of new firms become competitors within the markets. In such a case, the industry concentration will decrease.

Based on both arguments from existing large firms’ and small new entrants’ points of view, this study proposes that if firms are involved in franchising, the concentration in each industry will be influenced by the amount of franchising involvement. In other words, the degree of involvement in the franchise system within each industry will affect the competition power distribution within that industry. The more firms that are franchising in an industry, the more likely the concentration in the
industry will increase or decrease. The impact of franchising on industry concentration is hypothesized as follows:

\textit{H1: An industry's franchising involvement has a significant influence on industry concentration.}

In the firm-level investigation of the relationship between franchising and competition structure, the study employs a construct, condition of rivalry, which represents the environmental factor each firm faces (Chen, 1996; Cool & Dierickx, 1993). Cool and Dierickx (1993) emphasized the firm-specific competitive condition, suggesting that each firm faces a different degree of competitive tension even when competing within the same market. Furthermore, the firm-level investigation attempts to expand the depth of our understanding of a firm’s franchising implementation by considering each firm’s relative actions regarding franchising. In the hyper-competitive market (D’Aveni, 1994), competition can be created by relative actions (Chen & Miller, 2015), which means relative strategic actions can result in differences in the competitive power among the firms. Reacting to competitors’ actions, firms could manipulate the degree and the speed of their involvement in the strategy from the dynamic point of view (Michael, 2003; Vermeulen & Barkema, 2002). Therefore, it is reasonable to argue that a firm’s relative degree and speed in franchising implementation compared to its competitors will provide a critical link to competitive power distribution.

Specifically, the relativity of strategic implementation can produce significantly different results especially in each firm’s competition power because the market share within a market can be determined based on this relativity among the players. In this
sense, more involvement in the franchising strategy compared to its competitors will help franchisors enjoy more benefits from the franchise system. The resource/knowledge-based point of view (Barney, 1991; Kogut & Zander, 1992) suggests that the greater amount of resources and knowledge the firm has, the more likely the firm is to preoccupy a superior position within the market. For example, franchisees, who paid into the advertising fund under the contract, force their franchisor to conduct nation-wide advertising, which will improve the brand power in the market. Therefore, from a focal firm’s (franchisor’s) perspective, more engagement in franchising than its competitors will result in reducing its condition of rivalry in the markets.

\[ F-H1a: \text{A higher degree of franchising involvement compared to its competitors decreases the condition of rivalry.} \]

The speed of strategy implementation is also important for the firms’ success in hyper-competitive markets (D’Aveni, 1994; Ferrier et al., 1999). Two reasons could explain why the speed of conducting the existing strategy is relevant to the condition of rivalry (Ferrier et al., 1999) and based on the fact that the franchising market consists of two layers of customers. To begin with, one layer is the end-consumer market, where real customers are purchasing the goods and services from a brand. Expanding the business by rapidly opening franchised outlets in this end-consumer market can be the most effective way to enlarge market power (Derfus, Maggitti, Grimm, & Smith, 2008; Ferrier et al., 1999) because this strategy of a speedy expansion through franchising may not give competitors enough time to optimally respond (Oxenfeldt & Kelly, 1969). The second layer of the markets in franchising is the franchisee-market, where franchisees are paying a fee for the use of the brand and business concepts of the franchisors. Franchisees can
be regarded as an important resource, which enables franchisors to improve their business (Barney, 1991; Kogut & Zander, 1992). As in all other resources, a limited number of qualified-franchisees exist in this layer of the markets. Therefore, if a firm expands more speedily than others, it may be able to preempt the opportunities to recruit more talented or better-prepared franchisees in the market. It is obvious that the franchisor will become more competitive and the competitive advantages induce greater competitive market power. Taking into consideration these rationales, the current study hypothesizes that the speed of franchising implementation will decrease the focal firm’s condition of rivalry.

F-H1b: A higher speed of franchising involvement compared to its competitors decreases the condition of rivalry.

**Franchising and change in the competition structure**

The second argument of this research comes from a discussion of the influence of the franchising system on the change in the competitive structure. The competitive structure evolves from continuous changes among the competitive power of the players, and the speed of the changes depends on how fast a firm can achieve the capacity to produce its desired level of output (Mazzucato, 2000). Improving a firm’s capacity by providing necessary resources and knowledge for the business expansion (Combs & Ketchen, 2003; Michael, 2003), franchising can be assumed to encourage greater changes in each firm’s competitive power (i.e., market share fluctuation). Further, the changes in the competitive power among firms produce changes in the competition power distribution (i.e., market instability) within each market (Cave & Porter, 1978). Based on
this rationale, the current research developed hypotheses about the impact of franchising on industry-level market instability and on firm-level market share fluctuation.

Based on the industry-level point of view, the changes in the market structure can be influenced by the nature of each market. According to IO economics and the strategic management literature, market instability is closely connected to industry-specific factors, such as the industry members’ ability to innovate (Acs & Audretch, 1990; Malerba, Orsenigo, & Peretto, 1994), and the capital-intensity of an industry (Malerba & Orsenigo, 1996). Specifically, the findings of the previous research (e.g., Acs & Audretch, 1990; Malerba, Orsenigo, & Peretto, 1994) suggest that innovation generally brings competitive advantages to firms, and firms can enjoy the increasing competitive power. If a market consists of a greater number of firms being involved in innovative efforts, the market is likely to experience more changes in its competitive structure, which results in higher instability. The Malerba and Orsenigo’s (1996) study proposes another important industry-specific factor, capital-intensity of an industry, which also promotes market instability. It suggests that low capital-intensity affects firms’ growth within an industry and thus causes high instability in the market.

The current study argues that those industry-specific factors encouraging changes in the competition structure (i.e., ability to innovate and capital-intensity) can be influenced by industry-unique business practices, especially by the franchising system. From the resource/knowledge-based view (Barney, 1991; Kogut & Zander, 1992), the franchising system can be considered as an effective organizational form for continuing innovations in that franchisors are acquiring diverse knowledge from external sources (i.e., from franchisees) (Winter et al, 2012). The transferred knowledge can help
franchisors to investigate and try out new strategic actions or business models (Ketchen et al., 2011). Eventually, such innovative actions encourage the entire industry to be more innovative, and consequently produce more changes in the market structure. In addition to this effect on industry, the franchising system also affects the capital-intensity of an industry because financial resources from franchisees, such as up-front fees, royalties, and real estate investments, lower the entry barriers for franchisors to initiate new business or to enter new markets (Hunt, 1973; Norton, 1995). Thus, franchisors may need less capital to operate their business, and if an increasing number of firms are conducting the franchising strategy, the overall capital-intensity of the industry that each franchisor might feel is decreased. The lowered capital-intensity caused by the franchising system promotes the growth of the firms in the industry, and thereby leads to greater changes in the competitive structure within the industry. In this sense, the current study hypothesizes that the franchising involvement of an industry positively affects the industry’s instability.

**I-H2: An industry’s franchising involvement increases industry instability.**

Based on the firm-level point of view, the study contends that each firm’s change in competition power (i.e., market share fluctuation) contributes to changes in market structure (i.e., market instability). As the role of the franchising system for an individual firm’s expansion has been explained (Combs & Ketchen, 2003; Michael, 2003), franchising boosts firms’ business output by connecting them with business partners (i.e., franchisees) who are very likely to provide the human as well as financial capital and to produce the output for the focal firms (i.e., franchisor’s) brand. Therefore, it can be argued that it takes less time and presumably less effort to increase market share if firms
employ the franchising system in cooperation with their business partners (i.e., franchisees). In other words, each franchisor can accumulate its competitive power relatively easily and quickly when employing the franchising system.

Stewardship theory (Davis, Schoorman, & Donaldson, 1997) also provides theoretical evidence for the influence of franchising on an individual firm’s change in its competitive power (i.e., market share fluctuation). According to this theory, since franchisees are expected to operate their business in accordance with the franchisor’s interests under the contract, franchisors may only need to make an effort to deliver the business system and know-how to their franchisees. The expectation that franchisees are doing their best for the success of the shared business partnership helps franchisors conserve their time and resources in order to monitor any types of moral hazard problems. Thus, relatively little time is needed to establish new business facilities and thereby enlarge the business than is needed in any other firms. A master franchising strategy is a particularly efficient type of franchising system because a sub-franchisor (which is also a franchisee) is self-committed to distributing outlets of the franchisor’s brand within the designated local area (Alon, 2006). This type of franchising system exponentially increases a franchisor’s business and efficiently penetrates the markets without any need for the franchisor’s direct efforts. Consequently, it is very likely to be easier and faster for franchising firms to enlarge their business. For firms employing the franchising system, changes in market structure occur more often and more quickly, which leads to a higher level of market share fluctuation.

As addressed in the argument on the relationship between the franchise system and an individual firm’s competitive environment, this study also makes the point that the
influence of the franchising strategy on the firms’ change in its competition power needs to be considered based on the focal firm’s relative action in comparison to its competitors’ actions. Since the franchising strategy has been extensively conducted among the service firms (Anwer, 2011), in order for each firm to enjoy the benefits from employing this strategy, each firm needs to be more engaged in the franchising strategy compared to its competitors’. Since competitive power is created by the difference in the power among the members of a market (Chen & Miller, 2015), it can be reasonably assumed that changes in the competitive power also can be created by the difference in the franchising involvement among the firms. In other words, when a firm is more engaged in franchising, it can grow and thereby enlarge its competitive power and consequently experience greater change in its market share fluctuation.

*F-H2a: A higher degree of franchising involvement compared to its competitors increases market share fluctuation.*

The study also addresses the aspect that speedy involvement in the franchising system as compared to competitors has a significant influence on the firm’s changes in the competition power (i.e., market share fluctuation). First, speed has been recognized as one of the critical factors to induce the best results from a firm’s strategic action in a hyper-competitive market condition (D’Aveni, 1994; Eisenhardt, 1989, 1990; MacMillan, McCaffery, & Van Wijk, 1985). It implies that the influence of the speed of franchising involvement on the change in competition power should be examined. Also, when it comes to change in the competitive power as a result of being involved in the franchise system, a firm’s speed needs to be compared to its competitors’ speed in order to find the direct relationship between the degree of change and the level of involvement.
According to Porter (1980), an essential characteristic of competition is that firms are mutually interdependent, and the outcome of a competitive action by one firm is contingent, at least to some extent, on the reactions of its rivals. Thus, it is important to note that the faster the engagement in the franchise system as compared to rivals, the more time the franchising strategy has to bring an increase in share to the firm until its competitors enter the market as well. As a result, the competitive power of the firm will continue to increase.

\textit{F-H2b: A higher speed of franchising involvement compared to its competitors increases market share fluctuation.}

\textbf{Franchising and dynamic competition in the market}

Along with the structure and the change in the structure, the nature of competition itself also highlights an important component of market competition characteristics. According to Thomas (1996), recent economic development and globalization have brought two types of competition to the markets: static competition and dynamic (or Schumpeterian) competition. Since static competition pursues price cuts and efficient cost structure to outcompete competitors (Bengtsson & Marell, 2006), it leads to depreciation of a firm’s existing strategic assets, impairment of a firm’s cash flow, and finally decline in its profits. Hence, it is argued that static competition hinders innovation (Schumpeter, 1942). On the other hand, dynamic (or Schumpeterian) competition encourages a firm to explore new ideas and untried ways of competing (Jacobson, 1992; March, 1991) and challenges a firm to innovate its product or process (e.g., marketing, distribution, logistics, and the use of new media). These innovative efforts create
different strategic assets that bring in new streams of cash flow (Irvine & Pontiff, 2009; Schumpeter, 1942; Thomas, 1996). As a result, dynamic competition introduces more diverse strategic assets in markets and more diverse strategic assets per firm, which produce diverse performances within the markets. Therefore, for the industries where dynamic competition dominates, the cross-firm variance in performance becomes higher than in the industries where static competition prevails (Bengtsson & Marell, 2006; Irvine & Pontiff, 2009; Thomas & D’Aveni, 2009). Based on this argument, it is expected that the two different types of competition, static and dynamic competition, deliver different results of competitive outcomes to firms.

From the industry-level point of view, the distinction between the two opposed outcomes of static vs. dynamic competition is generated by the ability of an industry to create new strategic assets, which are expected to generate future cash flow (Jacobson, 1992; Schumpeter, 1942; Thomas, 1996; Thomas & D’Aveni, 2009). In reality, since each industry arguably possesses a different level of ability to create new strategic assets, the unique level of the ability of an industry could determine the dominant type of competition within each market. Previous studies suggest that the following three industry factors drive dynamic competition: (1) the features of demand and/or supply, (2) the knowledge base of an industry, and (3) the entry conditions to the market (Bengtsson & Marell, 2006; Beneito, Coscolla-Girona, Rochina-Barrachina, & Sanchis, 2015; Dada & Watson, 2012; De Bondt & Vandekerckhove, 2012; Kraft, 1989; Thomas, 1996; Thomas & D’Aveni, 2009). Specifically, those factors can be readdressed based on the influences coming from customers (Bengtsson & Marell, 2006), the capacity of the workforce to innovate (Dada & Watson, 2012; Kraft, 1989), and low entry barriers to the
market that can drive or nurture innovation within an industry (Bengtsson & Marell, 2006; Beneito et al., 2015; Kraft, 1989). The industry composed of these three conditions is called a dynamic resourceful industry (Thomas, 1996).

Based on the described factors promoting dynamic competition within each industry, this study contends that dynamic resourcefulness can be found through initiating and conducting franchising, and thus, the franchising system itself leads markets to become dynamic. First, franchisees are one type of customer to franchisors because they purchase the franchisor’s brand and the system to run their own business. By organizing a coalition of franchisees, this type of customer can accumulate the power to influence the franchising system and the franchisor’s management process. Franchisees’ pressure presumably can force the parent firm (franchisor) to innovate its business processes. Indeed, according to Ketchen et al. (2011), franchisors are known to innovate their brands, create business models, and develop organizational processes and innovations to create value for the customer in a way that generates a profit for themselves in the end.

Second, from the resource/knowledge-based view (Barney, 1991; Kogut & Zander, 1992), the franchising system can be recognized as an effective knowledge transfer system between franchisors and franchisees (Winter et al., 2012). Especially the knowledge transfer from franchisees to franchisors encourages the organization to discover new business endeavors and to modify existing business practices, which can as a result improve the franchisor’s ability to create new strategic assets. During this transfer process, franchisees play an essential role in improving the franchisors’ ability to create the innovative behaviors (Ericson & Pakes, 1995; Flint-Harttle & Bruin, 2011;
Kaufmann & Eroglu, 1999), and as a result, the franchise system encourages more dynamic competition in industries.

Last, by lowering entry barriers into the market and helping firms with limited resources initiate business, the franchise system can also promote dynamic competition (Beneito et al, 2015). Specifically, it is expected that the franchising strategy encourages firms to enter the market and makes firms less dependent on each other. According to Bengtsson and Marell (2006), under this market condition, firms need to outperform each other by offering new products derived from innovation, and enhance dynamic competition within industries. Based on these arguments, the study hypothesizes that franchising increases dynamic competition within the market.

I-H3: Franchising increases dynamic competition within markets.

The current study argues that the influence of the franchising strategy on the firm-level ability to innovate produces dynamic competition. Thus, firm-level investigation focuses more on the resource-based view, highlighting the importance of the internal financing for an organization’s innovation. Kraft (1989) suggests that innovation’s largest need is mostly internal financing. The consequences of the innovative trials are always hard to be predicted due to market uncertainty, and therefore, borrowing financial capital for innovation is not easy at best. In addition, it is also suggested that borrowing also requires disclosure of information about the firms’ new actions, and this could be a risk for the firm because the shared information can leak out to the firm’s competitors (Kraft, 1989). Thus, the conclusion can be made that innovations are expensive and therefore require a lot of resources. The current study argues that the franchise system
can help the firms overcome the internal funding limitation for innovation by providing some slacks in the continuing franchise fees. Those provided resources could lessen the financial pressure for innovation and help firms build new strategic assets. Furthermore, to be more successful in creating new strategic assets than its rivals, a large number of trials are necessary, which requires even more internal resources. So, a higher degree of involvement in the franchising strategy than its competitors could enable firms to conduct more dynamic competition.

\textit{F-H3a: A higher degree of franchising involvement compared to its competitors increases a firm’s dynamic competition.}

Extensive competition market conditions can also be argued to emphasize the importance of a firm’s speed of franchising implementation in order to promote the firm’s innovation. As franchisees are considered critical sources for bringing new knowledge into the firms at the industry-level (Ericson & Pakes, 1995; Flint-Harttle & Bruin, 2011; Kaufmann & Eroglu, 1999; Winter et al., 2012), they may play an essential role in the individual firm’s innovation. For producing more successful strategic assets, which can secure future cash in-flows, the current research argues that it is important for an individual firm to preempt opportunities to recruit better-qualified franchisees for more innovative actions than its rivals in this hyper-competitive market. Fast involvement in franchising will bring more opportunities to encounter a better quality of resources to increase a firm’s ability to conduct dynamic competition within the markets. Therefore, this study hypothesizes that a higher speed of franchising involvement compared to its competitors increases a firm’s dynamic competition.
F-H3b: A higher speed of franchising involvement compared to its competitors increases a firm’s dynamic competition.

Moderating effect of the hospitality industry – Industry-level investigation

This study further proposes that the influence of the franchising strategy on the industry competition will be stronger for the hospitality industry than other service industries because of the hospitality industry’s unique characteristic of capital-intensity (Lee et al., 2011; Sheel, 1994; Tang & Jang, 2007). The expansion of hotels and restaurants requires a significant amount of capital due to the need for the construction of buildings and food-production facilities. This capital-intensive nature of the hospitality industry is reflected in the high level of the initial investment required for their franchisees in the franchising contract (IFA, 2006). Therefore, understanding this condition of the hospitality industry, it would be more difficult and expensive for hospitality firms to expand their business with their own capital investment than firms in other service industries. Accordingly, the franchising strategy will have a greater influence on hospitality firms’ business expansion and thereby their market share increase than firms in other service industries. Therefore, this study proposes that the influence of the franchising strategy on the three dimensions of investigating industry competition (i.e., concentration, instability, and dynamic competition) will be stronger in the hospitality industry than in other service industries. Based on this rationale, the study proposes three hypotheses for the moderation effect of the hospitality industry:

I-H4a: The relationship between the industry franchising involvement and the industry concentration is stronger in the hospitality industry compared to other service industries.
I-H4b: The relationship between the industry franchising involvement and the industry instability is stronger in the hospitality industry compared to other service industries.

I-H4c: The relationship between the industry franchising involvement and the dynamic competition within the industry is stronger in the hospitality industry compared to other service industries.

**Figure 1. Research model for the industry-level investigation**

**Figure 2. Research model the firm-level investigation**
CHAPTER 3

METHODOLOGY

Two separate sets of data analyses are conducted for testing the industry-level hypotheses (i.e., I-H1, I-H2, I-H3, and I-H4a, I-H4b, and I-H4c) and the firm-level hypotheses (i.e., F-H1a and F-H1b, F-H2a and F-H2b, and F-H3a and F-H3b). Specifically, the study employs two sets of panels: Panel 1 for the investigation of the influence of franchising on industry-wide competition and Panel 2 for the investigation of the influence of franchising on firm-level competition.

Data

Both investigations (i.e., industry- and firm-level) collected data from: (1) the firm annual reports (10K) from the U.S. Securities and Exchange Commission, (2) the COMPSTAT database, (3) the U.S. Bureau of Labor Statistics for consumer price index’s (CPI) data, (4) the U.S. Census Bureau for industry-wise economic data, and (5) Hoover’s database for firm-specific defined competitor sets. The information related to firm-franchising implementation was collected from the 10Ks. These included statistics such as whether or not a certain firm was engaged in franchising in each industry and information regarding the revenue generated by the franchising system in each industry. Also included were numbers regarding the number of outlets operated by franchisees.
and/or by franchisors to allow for the operationalization of the degree of franchising involvement within each industry and within an individual firm.

From the COMPUSTAT database, information from U.S. publicly traded firms’ financial statements allowed for measuring various variables by providing financial data, such as total assets, total revenues, liabilities, etc. This study used CPI data, collected from the U.S. Bureau of Labor Statistics, to adjust a firm’s total revenues for inflation. In order to represent market size, industry total sales were collected from the U.S. Census Bureau (for industry-level investigation) and market total revenue was collected by summing of all firm’s revenue within the market the focal firm was competing in. For the industry-level investigation, the sample included all service industries based on the 6-digit NAICS industry categorization, but excluded finance and insurance industries because financial service and insurance firms are known to have unique characteristics, such as strict governmental regulations and unique accounting policies that distinguish them from other service industries (Damodaran, 2011). For example, banking institutions are heavily regulated by governmental policies in their business expansion (Mitcher & Wheelock, 2013). Thus, the nature of the banking firm’s business expansion is not comparable to other service firms’ expansion because such regulations can generate additional influence on the banking firms’ strategic actions, which are not a requirement for other service firms. In addition, the unique accounting rules for finance and insurance service firms affect recording of their earnings and their asset value, and therefore it is not acceptable to compare variables calculated by the financial information of these types of firms with variables calculated by other service firms’ financial information. Based on
these idiosyncratic features of the finance and insurance industries, this dissertation excluded the two industries from the sample.

For firm-level investigation, the sample included individual firms conducting the franchising strategy within the service industries. The range of the sampling period for both studies was from 1991 to 2015.

Variables

Industry-level investigation

**Independent variable: Degree of industry-wide franchising involvement**

To operationalize the degree of franchising involvement within each industry, the study used a measure focusing on a firm’s strategic action that resulted from its strategic choices within an industry. The measure was calculated by the proportion of the number of firms, which were engaging in franchising over the total number of firms within an industry.

**Dependent variables**

*Industry concentration.* To measure the industry-wide competition structure for I-HI, industry concentration was operationalized by using the Herfindahl index, which is defined as the sum of the squared market shares of all firms within a market,

\[
Concentration = \text{Herfindahl}_j = \sum_{i=1}^{l} s_{ij}^2
\]

where \( s_{ij} \) is the market share of firm \( i \) in industry \( j \). Each year for each industry the Herfindahl index is calculated. According to Hou and Robinson (2006) specifically, the
Herfindahl measure includes the entire distribution of industry market share information in order to obtain a complete picture of industry concentration. Notably, it is a widely used measure of market structure with respect to the firm-composition of markets. Small values of the Herfindahl index indicate that the market is occupied by many competing firms while large values indicate that the market is dominated by a few large firms (Hou & Robinson, 2006).

**Market instability.** To measure the market instability for I-H2, the study adopted an instability index, devised by Hymer and Pashigian (1962). The market instability index facilitates the tracking of changes in market share over time,

$$ Instability_j = \sum_{t=1}^{t'} (|s_{i,t,j} - s_{i,t-1,j}|) $$

where $s_{i,t,j}$ is the market share of firm $i$ at time $t$ in industry $j$. Each year for each industry the instability index is calculated. The measure reflects that greater instability in market share coincides with greater rivalry in the industry because greater volatility in temporal market share is indicative of intense rivalry (Eckard, 1991; Sandler, 1988).

**Dynamic competition of an industry.** For testing I-H3, according to Thomas (1996), the nature of dynamic competition is recognized as having a high variance in performance across all firms in the industry. In dynamic competitive industries, each firm tries to find new products and new processes that become new and unique strategic assets for the firm. Therefore, the performance of each industry is decentralized, which increases the variance of performance within industries. Performance is measured by firm value, *Tobin’s q*, which is defined as the ratio of the market value of a firm with the
replacement cost of its assets. The ability of each firm to create new strategic assets is recognized by investors, and therefore reflected in the firm’s value in the market. Based on this rationale, the study calculated the variance of Tobin’s q within each industry for measuring the dynamics of competition. Following Chung and Pruitt (1994), the approximate Tobin’s q is measured by:

\[
\text{Approximate Tobin’s } q = \frac{(\text{MVE} + \text{PS} + \text{DEBT})}{\text{TA}},
\]

where MVE is the product of a firm’s share price and the number of common stock shares outstanding. PS stands for the liquidating value of the firm’s outstanding preferred stock, DEBT represents the value of short-term liabilities, the net of its short-term assets plus the book value of the firm’s long-term debt, and TA is the book value of the firm’s total assets (Chung & Pruitt, 1994).

\[
\text{Var } (q_i), \text{ where } q_i \text{ is Tobin’s } q \text{ of firm } i \text{ in industry } j
\]

**Moderating variable**

To test the moderating effect of the hospitality industry on the relationship between the franchising involvement of an industry and the three dimensions of industry competition, the study used an indicator variable assigning 1 for the hospitality industry as defined in 6-digit NAICS industry categorization and 0 for all other service industries. According to the 6-digit NAICS industry categorization, 9 hospitality industries are specified. Three of them (721110, 721120, and 721211) are specifically categorized under “Accommodation,” and six of them (722310, 722410, 722511, 722513, 722514, and 722515) are identified in the “Food services and Drinking Places” categorization.

**Control variables**
In order to mitigate the confounding effect behind the main relationships of interests, several variables are included in the models. Industry revenue controlling for market size (Ornstein et al., 1973), the number of firms within each industry controlling for the number of competitors (Klepper & Graddy, 1990; Ornstein et al., 1973), and the industry GDP controlling for industry-specific economic capacity (West & Olsen, 1989) were employed. The study also considered the possibility that the three dependent variables, describing industry-level competition attributes were related to each other. To control for the confounding effects among the variables, the study included the two other dependent variables as control variables for each hypothesis testing.

**Firm-level investigation**

**Independent variables**

*Relative degree of franchising involvement.* The current study employed the relative degree of the franchising involvement of each firm compared to its competitors’ degree of involvement. First, this study measured the absolute number of franchised outlets as a proxy for a firm’s degree of franchising involvement based on the rationale that if a firm has a larger number of franchised outlets, that firm is more likely to obtain more resources and knowledge from its partners. To capture the difference in the franchising involvement among firms, which was expected to result in different competitive powers, each firm’s relative degree of involvement was measured as the difference between a focal firm’s degree and its competitors’ average degree of involvement. Competitors were defined from the competitor set of Hoover’s database.
Relative speed of franchising involvement. The current study employed two types of speed: the relative average speed and the relative instantaneous speed of each firm compared to its competitors. Average speed was measured by the number of franchised outlets divided by the years from the time the firm started franchising (Vermeulen & Barkema, 2002). This measure indicates how fast, on average, a given firm has annually implemented the franchising strategy to date. Instantaneous speed was measured by the number of franchised outlets opened within each year. This measure can be a proxy for how fast a firm conducted the franchising strategy in that given year. Then, each firm’s relative average/instantaneous speed of franchising involvement was calculated as compared to the average average/instantaneous speed of its competitors. Competitors were defined from the competitor set of Hoover’s database.

Dependent variables

Condition of rivalry. In order to measure the firm-specific condition of rivalry for testing \( F-H1a \) and \( F-H1b \), this study adopted the Cool and Dierickx (1993) rivalry index. According to Cool and Dierickx (1993), the degree of rivalry a particular firm encounters within a given industry can be measured by excluding the firm’s own market share from the traditional concentration measures (Shepherd, 1972).

\[
CR = RIV_{ij} = \left\{ \sum_{i=1}^{l} (\text{market share of firm } i)^2 \right\} - (\text{market share of firm } i)^2
\]

More specifically, based on the Cool and Dierickx’ (1993) definition, the measure of rivalry for a given firm can be operationalized by excluding its own share from the overall industry Herfindahl index. However, instead of identifying competitors as all other firms categorized within the same NAICS industry code, the current study defined
competitors according to Hoover’s database for an individual firm’s competitors. This approach to define competitors can reflect each firm’s own perception to recognize its competitors based on the consideration that, in reality, firms might not consider all others categorized in the same NAICS industry as their competitors. In other words, it is possible, in reality, that a focal firm’s competitors include the firms categorized in other NAICS industry codes that are competing with the focal firm. Therefore, in this measure, segment \( j \) does not represent a specific industry defined by the 6-digit NAICS industry code, but more likely represents a firm-specific market where the firm and its real competitors are interacting with each other. For example, from Hoover’s competitor set, Domino Pizza (DPZ) recognizes Mc Donald’s (MDC) as its competitor, however, the two firms are not categorized in the same NAICS code: DPZ in the 722511 and MCD in the 722513. Thus, using the NAICS code for identifying competitor sets causes the mis-specification that MDC may not be considered as a DPZ’s competitor even though, from DPZ’s point of view, it needs to be included in the set. Identifying the firm-unique competitor set and thereby identifying each firm-specific market consisting of the firm’s competitors based on this approach will reduce measurement errors for the relative measure and enhance the reliability of the results of the study.

**Market share fluctuation.** To test hypotheses \( F-H2a \) and \( F-H2b \), market share fluctuation was measured by the absolute value of the change in firm \( i \)’s market share between time \( t \) and \( t-1 \).

\[
Fluctuation_i = |s_{it} - s_{it-1}|
\]
This measure, $Fluctuation_i$, is derived from Hymer and Pashigian’s (1962) measure of the industry-level market instability. $Instability_{ij}$, which is calculated by the sum of the magnitude of all firm’s market share change within each industry and captures the dynamics in the competition power changes within each market. In the same line with $Instability_{ij}$, the measure, $Fluctuation_i$, captures a focal firm’s market share change, and thereby the magnitude of a focal firm’s competition power change, which consists of the $Instability_{ij}$ measure. In this measure, as identified in the condition of rivalry, a firm-specific market is employed based on Hoover’s definition of competitor set.

**Dynamic competition of a firm.** Hypotheses $F-H3a$ and $F-H3b$ test the influence of the franchise system on an individual firm’s dynamic competition. The study employed a firm’s advertising expenditure as a proxy for a firm’s involvement in dynamic competition, which produces new strategic assets promoting future cash-inflow into the firm (Jacobson, 1992; Thomas, 1996; Thomas & D’Aveni, 2009). Advertising expenditure is traditionally considered as a type of cost that is incurred by a firm’s actions to differentiate its products and services from others in the market (Bain, 1956; Comanor & Wilson, 1979) and thereby to make the products and services to be perceived as unique or special (Berman, Wicks, Kotha, & Jones, 1999). These differentiated products and services can create a unique market in which a firm has monopolistic power and accomplishes future cash-inflow. Accordingly, advertising can be an action that helps the firm to generate future cash inflows. In this regard, this study expects that the more and the faster a firm employs franchising as compared to its rivals, the more dynamic competition the firm is involved in (i.e., the more advertising expenditure it incurs).
For control variables, the study included firm size, market size, the number of a firm’s competitors, industry GDP, and two other dependent variables among the three variables (i.e., condition of rivalry, market share fluctuation, and advertising expenditure). Firm size, measured by the log of total assets (Hsu & Jang, 2009; Madanoglu, Lee, & Castrogiovanni, 2011; Pfeffer & Salancik, 1978; Thompson, 1967), is considered as having a significant confounding effect between the relative degree of and speed of franchising involvement and the three dimensions of firm-specific competition. Market size was measured by the total revenue in each market (Campbell & Hopenhayn, 2005) to control for the market specific influence on the proposed relationships between franchising and an individual firm’s competition. In this measure (market size), each market is defined by the Hoover’s competitor sets for each firm. The number of competitors within a market in which each firm is competing is included to control for the influence on rivalry within each market (Dranove, Peteraf, & Shanley, 1998; Mas-Ruiz & Ruiz-Moreno, 2011). The industry GDP was used to control for industry-specific economic capacity (West & Olsen, 1989).

Table 3.1 Summary of the variables

<table>
<thead>
<tr>
<th>Industry-level</th>
<th>IVs</th>
<th>Degree of franchising involvement</th>
<th>The number of firms conducting franchising in an industry Total number of firms within an industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitality industry</td>
<td>Assigned 1 for the hospitality industries (6-digit NAICS code)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVs</td>
<td>Industry concentration</td>
<td>$Herfindahl_j = \sum_{i=1}^{i} s^2_{ij}$</td>
<td></td>
</tr>
<tr>
<td>DVs</td>
<td>Industry instability</td>
<td>$Instability_j = \sum_{i=1}^{i} (</td>
<td>s_{it,j} - s_{it-1,j}</td>
</tr>
</tbody>
</table>
### Dynamic competition of an industry

<table>
<thead>
<tr>
<th>Firm-level</th>
<th>IVs</th>
<th>Relative degree of franchising involvement</th>
<th>Difference b/t (a firm’s number of FR-outlets) and (the average of the competitors’ number of FR-outlets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVs</td>
<td></td>
<td>Relative speed of franchising involvement</td>
<td>Difference b/t (a firm’s average speed) and (the average of the competitors’ average speed)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*average speed = the number of franchised outlets divided by the number of years from the time the firm started the franchising strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Difference b/t (a firm’s instantaneous speed) and (the average of the competitors’ instantaneous speed)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*instantaneous speed = the number of franchised outlets opened within each year</td>
</tr>
</tbody>
</table>

### Condition of rivalry

\[
CR_y = \{\sum_{i=1}^{l} (market share of firm i)^2\} - \frac{\{\sum_{i=1}^{l} (market share of firm i)^2\}}{(market share of firm i)^2}
\]

### Market share fluctuation

\[
Fluctuation_i = |s_{it} - s_{it-1}|
\]

### Dynamic competition of a firm

\[
Advertising expenditure_{it}
\]

---

### Econometric estimation

Since the association between the conduct of firms and their competitive environment is intertwined, the nature of the propositions in this research presents empirical tests vulnerable to endogeneity issues. Specifically, while a firm’s strategic action in franchising can influence the competitive environments that surround the firm as proposed by the current research, the environment can also concurrently influence the firm’s action. This inter-related association makes it difficult to find empirical results capturing the one-way directional causation as hypothesized. To circumvent the problem, the current study employed two-stage least-squares (2SLS) estimations (Greene,
2011; Wooldridge, 2009). In the first stage, the study used two instrumental variables of the economic recession period along with industry categorization to predict the degree of franchising involvement of an industry and the degree and speed of franchising involvement of a firm. The economic recession period was operationalized by an indicator variable assigned 0 for the business contraction years identified by the US National Bureau of Economic Research. This instrumental variable was selected because the macroeconomic condition reflects the health of the overall economy, thus affecting a firm’s decision for its strategy. However, this is not likely to affect the competitive condition of an industry due to the homogeneous condition that all firms face within the industry (Bascle, 2008). According to Bascle (2008), the use of the macroeconomic instrument has generally been introduced by previous research (e.g., Campa & Kedia, 2002; Mackey, 2006; Villalonga, 2004) based on the assumption that the macroeconomic instrument satisfies the two conditions needed for an instrument to be valid (i.e., relevance and exogeneity). The industry categorization was operationalized by indicator variables based on the 2-digit NAICS code for the industry-level analysis and the 3-digit NAICS code for the firm-level analysis. This instrumental variable was selected based on the rationale that each industry is characterized by its own unique degree of business complexity. As a result, this differentiates the ease of using franchising among industries (Kaufmann & Eroglu, 1999).

However, the complexity of business is not likely to affect the competitive condition within each industry because all firms within an industry are homogeneous in terms of their general business. In the second stage, the study tested the effect of the predicted franchising involvement on the dimensions of competition along with the
control variables. Furthermore, to mitigate the unobserved effects among entities and years and to correct deflated standard errors possibly generating problems in the panel data sets, the study used the robust standard errors clustered by industry (for the industry-level analysis) or firm (for the firm-level analysis) (Peterson, 2009).

**Analyses models**

**Industry-level investigation**

Model 1-1: (for I-H1a and I-H1b)

\[ \text{Herfindahl} = \beta_{10} + \beta_{11} \text{Degree of Industry FR} + \beta_{12-16} \text{Controls} + \epsilon \]

Model 1-2: (for I-H2)

\[ \text{Instability} = \beta_{20} + \beta_{21} \text{Degree of Industry FR} + \beta_{22-26} \text{Controls} + \epsilon \]

Model 1-3: (for I-H3)

\[ \text{Var}(q) = \beta_{30} + \beta_{31} \text{Degree of Industry FR} + \beta_{32-36} \text{Controls} + \epsilon \]

Model 1-4: (for I-H4a, I-H4b, and I-H4c)

\[ \text{Herfindahl, Instability, or Var}(q) = \beta_{40} + \beta_{41} \text{Degree of Industry FR} + \beta_{42} \text{HOSPITALITY} + \beta_{43} \text{Degree of Industry FR} \times \text{HOSPITALITY} + \beta_{44-48} \text{Controls} + \epsilon \]

where *Herfindahl Index* represents industry concentration, *Instability* represents market share instability in each industry, *Var(q)* represents the variance of Tobin’s q within each industry, *Degree of Industry FR* represents the degree of franchising involvement in each industry, and *HOSPITALITY* represents an indicator variable assigned 0 for the hospitality industry and 0 otherwise. *Controls* contains 5 control variables, industry
revenue, the number of firms within each industry; industry GDP, and two other dependent variables.

**Firm-level investigation**

Model 2-1: (for F-H1a and F-H1b)

\[
\text{Condition of Rivalry} = \beta_{510} + \beta_{511} \text{Rel. Degree} + \beta_{512-517} \text{Controls} + \epsilon
\]

\[
\text{Condition of Rivalry} = \beta_{520} + \beta_{521} \text{Rel. Speed} + \beta_{522-527} \text{Controls} + \epsilon
\]

Model 2-2: (for F-H2a and F-H2b)

\[
\text{Fluctuation} = \beta_{610} + \beta_{611} \text{Rel. Degree} + \beta_{612-617} \text{Controls} + \epsilon
\]

\[
\text{Fluctuation} = \beta_{620} + \beta_{621} \text{Rel. Speed} + \beta_{622-627} \text{Controls} + \epsilon
\]

Model 2-3: (for F-H3a and F-H3b)

\[
AD = \beta_{710} + \beta_{711} \text{Rel. Degree} + \beta_{712-717} \text{Controls} + \epsilon
\]

\[
AD = \beta_{720} + \beta_{721} \text{Rel. Speed} + \beta_{722-727} \text{Controls} + \epsilon
\]

where *Fluctuation* represents market share fluctuation, *AD* represents advertising expenditure, *Rel. Degree* represents the relative degree of franchising involvement, and *Rel. Speed* represents the relative speed of franchising involvement. *Controls* includes firm size, market revenue, the number of competitors, industry GDP, and two other dependent variables.
CHAPTER 4

RESULTS

This chapter reports the results of two sets of statistical analyses for the industry-level investigation and firm-level investigation in order to examine the influence of franchising on the dynamics of competition. Two different panel datasets (Panel 1 and Panel 2) were used in each set of analyses since the two sets of analyses (i.e., industry-level analyses and firm-level analyses) required separate datasets. Therefore, the results are reported separately for each analysis. For both datasets, first, the structure of the samples and the descriptive statistics of the variables are presented. Second, the data exploration includes the results of a normality check of the variables. Third, the results of univariate analyses follow and fourth, the results of the main analyses will provide evidence for hypotheses testing.

Structure of Samples and Descriptive Statistics

Panel 1: industry-level analyses

Sample structure of Panel 1

Panel 1 consisted of repeated observations of 285 service industries as defined based on the 6-digit NAICS industry categorization over the period from 1991 to 2015. As mentioned earlier in the methodology chapter, the sample excluded the finance and insurance industries categorized as 52 in the 2-digit NAICS code based on the reasons...
that make finance and insurance service business differ from other business sectors. Specifically, finance and insurance service firms are heavily regulated and recorded earnings and asset value of these firms are influenced by unique accounting rules (Damodaran, 2011).

Table 4.1 summarizes the structure of the sample in Panel 1. Overall, Wholesale Trade (NAICS code 42) and Retail Trade 1 and 2 (NAICS code 44 and 45) industries composed 31.44% of the sample, and Professional, Scientific and Technical Services (NAICS code 54) and Information (NAICS code 51) industries constituted 11.05% and 10.89% of the sample, respectively. Among the 285 service industries, 102 industries, including 6 hospitality industries, are reported as the industries where franchising is used. The unbalanced panel yielded 5071 observations in total, which was composed of 1560 observations (30.8% of total observation) collected from the industry where franchising is used. Among 1560 observations collected from the industries where franchising is conducted, 99 observations (6.35% of franchising related observations) were collected from the hospitality industry and 1,461 observations were collected from the other service industries.

Table 4.1 Structure of Panel 1

<table>
<thead>
<tr>
<th>2-digit NAICS</th>
<th>Freq. 6-digit NAICS</th>
<th>Total observations</th>
<th>Non-franchising</th>
<th>Franchising</th>
<th>2-digit NAICS definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq.</td>
<td>(%)</td>
<td>Freq.</td>
<td>(%)</td>
<td>Freq.</td>
</tr>
<tr>
<td>42</td>
<td>38</td>
<td>696</td>
<td>13.70%</td>
<td>693</td>
<td>19.73%</td>
</tr>
<tr>
<td>44</td>
<td>31</td>
<td>561</td>
<td>11.04%</td>
<td>205</td>
<td>5.86%</td>
</tr>
<tr>
<td>45</td>
<td>18</td>
<td>341</td>
<td>6.70%</td>
<td>173</td>
<td>4.94%</td>
</tr>
<tr>
<td>48</td>
<td>21</td>
<td>399</td>
<td>7.84%</td>
<td>307</td>
<td>8.76%</td>
</tr>
<tr>
<td></td>
<td>Franchising Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>0.75%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>10.89%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>5.45%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>11.05%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>9.68%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>3.02%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>9.39%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>4.22%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>2.88%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>3.11%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Descriptive statistics of Panel 1**

The sample of Panel 1 had 5071 observations in total. The mean value of franchising involvement measured by the proportion of the number of firms conducting the franchising strategy over the total number of firms in each industry (Fr.inv.n in Table
3) was 0.1142. This means that, on average, 11.42% of the firms within each service industry was engaged in franchising. Three dependent variables, industry concentration, market share instability, and variance of q, had the mean values of 0.4419, 0.1458, and $573,159.7.

Table 4.2 Descriptive statistics of Panel 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Obs</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.inv_n</td>
<td>5071</td>
<td>0.1142</td>
<td>0.2359</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>CON</td>
<td>5071</td>
<td>0.4419</td>
<td>0.2519</td>
<td>0.0274</td>
<td>1</td>
</tr>
<tr>
<td>MS_inst</td>
<td>5071</td>
<td>0.1458</td>
<td>0.1774</td>
<td>0.00001</td>
<td>1.9984</td>
</tr>
<tr>
<td>VAR(q)</td>
<td>5071</td>
<td>573159.7(thou)</td>
<td>22,000,000</td>
<td>0.0000</td>
<td>1,340,000,000(thou)</td>
</tr>
<tr>
<td>I.Rev</td>
<td>5071</td>
<td>21888.02(thou)</td>
<td>68248.74</td>
<td>0</td>
<td>921024.6(thou)</td>
</tr>
<tr>
<td>Num.Firm</td>
<td>5071</td>
<td>11.98</td>
<td>34.081</td>
<td>1</td>
<td>647</td>
</tr>
<tr>
<td>I.GDP</td>
<td>5071</td>
<td>576273.2(mill)</td>
<td>358801.6</td>
<td>39005(mill)</td>
<td>2247682(mill)</td>
</tr>
<tr>
<td>I.GDP</td>
<td>5071</td>
<td>1: Hospitality industries, 0: other service industries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CON: industry concentration; MS_inst: industry instability; VAR(q): variance of Tobin’s q; Fr.inv.n: franchising involvement measured by the proportion of the number of firms conducting the franchising strategy over the total number of firms within each industry; I.Rev: industry total revenue; I.GDP: industry GDP; Num.Firm: the number of firms within each industry; HOS: hospitality industry

Panel 2: Firm-level Analyses

Sample structure of Panel 2

Panel 2 is composed of repeated observations based on the two dimensions, firm and year. The sample has 497 observations in total, collected from 43 firms, which used franchising, categorized in the 18 6-digit NAICS industries over the period of 1991 to 2015. The sample for Panel 2 was finalized based on the data availability from the variable calculation process. Among the 7,541 firms in the service industry as defined based on the 6-digit NAICS code, 306 firms were identified as using franchising. The
operationalization of the degree and speed of franchising involvement, first, requires specific information on the number of franchised outlets and the number of years since a firm first initiated the franchising strategy. Among the 306 firms using franchising, 135 firms provided information on the number of franchised outlets each year. Furthermore, incorporation of the number of years of conducting franchising to calculate the speed of involvement resulted in 56 firms out of 135. Second, Hoover’s definition of each firm’s competitors was incorporated to operationalize the relative measures for both degree and speed of franchising involvement and 43 firms out of 56 became the final sample based on Hoover’s competitor identification data.

Table 4.3 shows the overall structure of the sample of Panel 2. As Table 4.3 presents, among the total 497 observations, 326 observations were collected from 25 hospitality firms, which encompasses 65.59% of the sample, and the remaining 125 observations (which are 34.41% of the sample) were collected from non-hospitality firms.

Table 4.3 Structure of Panel 2

<table>
<thead>
<tr>
<th>2-digit NAICS</th>
<th>6-digit NAICS</th>
<th>Number of Firms</th>
<th>Total observations</th>
<th>2-digit NAICS definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>4</td>
<td>6</td>
<td>59</td>
<td>11.87% Retail Trade 1</td>
</tr>
<tr>
<td>45</td>
<td>2</td>
<td>2</td>
<td>21</td>
<td>4.23% Retail Trade 2</td>
</tr>
<tr>
<td>53</td>
<td>3</td>
<td>6</td>
<td>58</td>
<td>11.67% Real Estate and Rental and Leasing</td>
</tr>
<tr>
<td>56</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>2.01% Administrative and Support and Waste Management and Remediation Services</td>
</tr>
<tr>
<td>61</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0.60% Educational Services</td>
</tr>
</tbody>
</table>
Descriptive statistics of Panel 2

Table 4.4 describes the basic statistics of the variables for the firm-level data analyses. Relative degree of franchising involvement (Re.deg) had a mean of -159.3874 with a minimum of -14117.3 and a maximum of 30863.7. Relative average speed of franchising involvement (Rel.asp) and relative instantaneous speed of franchising involvement (Rel.isp) had a mean of 9.1995 with a minimum of -478.635 and a maximum of 4646.33 and a mean of -22.3369 with a minimum of -1431.25 and a maximum of 2103, respectively. Mean values of Condition of Rivalry (CR), Market Share Fluctuation (MS.fluc), and Advertising Expenditure (AD) are 0.4347, 0.0077, and $83,087.00.

Table 4.4 Descriptive statistics of Panel 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Obs</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rel(deg)</td>
<td>497</td>
<td>-159.3874</td>
<td>6961.513</td>
<td>-14117.3</td>
<td>30863.7</td>
</tr>
<tr>
<td>Rel.asp</td>
<td>497</td>
<td>9.1995</td>
<td>332.3569</td>
<td>-478.635</td>
<td>4646.33</td>
</tr>
<tr>
<td>Rel.isp</td>
<td>497</td>
<td>-22.3369</td>
<td>360.7167</td>
<td>-1431.25</td>
<td>2103</td>
</tr>
<tr>
<td>CR</td>
<td>497</td>
<td>0.4347</td>
<td>0.2270</td>
<td>0</td>
<td>0.9993</td>
</tr>
<tr>
<td>MS.fluc</td>
<td>497</td>
<td>0.0077</td>
<td>0.0323</td>
<td>0</td>
<td>0.4692</td>
</tr>
<tr>
<td>AD</td>
<td>421</td>
<td>83.087(thou)</td>
<td>173.3592</td>
<td>0.117(thou)</td>
<td>808.4(thou)</td>
</tr>
<tr>
<td>F.Size</td>
<td>497</td>
<td>2038.623(thou)</td>
<td>5521.403</td>
<td>5.989(thou)</td>
<td>36626.3(thou)</td>
</tr>
</tbody>
</table>
Data Exploration

To check the distribution of the dependent variables, which are assumed to be normally distributed in order to fit the regression function (Kutner, Nachtsheim, Neter, & Li, 2005), four diagnostics (i.e., boxplot, histogram, normal probability plot, and Shapiro-Wilk test) were applied for each panel.

Panel 1: Industry-level Analyses

For the industry-level analyses, three dependent variables, industry concentration, market share instability, and variance of q, were evaluated for normality based on the results of the four diagnostics. As APPENDIX A-1, A-2, and A-3 (a, c, and e in each Figure) show, the original variables do not seem to be normally distributed, and consequently, log transformation was conducted for each variable. Moreover, in order to mitigate the extraneous influence of extreme values on the estimation, the variables were winsorized at the levels 1% and 99%. Even though the Shapiro-Wilk tests for the transformed and winsorized variables rejected the null hypothesis that they were normally distributed (z = 13.49 for industry concentration, z = 12.84 for market

| M.Rev. | 497 | 100268.1(thou) | 195748.7(thou) | 491.067(thou) | 1000000(thou) |
| Num.Com | 497 | 4.9698 | 1.8797 | 0 | 8 |
| I.GDP | 497 | 564344.7(mill) | 466189.5 | 74486(mill) | 2247682(mill) |

Rel.deg: relative degree of franchising involvement compared to competitors’; Rel.asp: relative average speed of franchising involvement compared to competitors’; Rel.isp: relative instantaneous speed of franchising involvement compared to competitors’; CR: condition of rivalry; MS_fluc: market share fluctuation; AD: advertising expenditure; F.Size: a firm’s size measure log(total assets); M.Rev: market total revenue; Num.Com: the number of competitors within each market; I.GDP: industry GDP
instability, and \( z = 14.4 \) for variance of \( q \), the diagnostics of the log-transformed and winsorized variables showed results that help the data to be closer to normal distribution.

**Panel 2: Firm-level Analyses**

To evaluate the dependent variables (i.e., condition of rivalry, market share fluctuation, and advertising expenditure) for the firm-level analyses, three diagnostics (box plots, histograms, and normal probability plots) were conducted. As APPENDIX B-1, B-2, and B-3 indicate, overall log-transformed and winsorized (at the level 1% and 99%) variables provided better results for normality except in condition of rivalry. The results of the diagnostics show that the log-transformed condition of rivalry (b) in APPENDIX B-1, B-2, and B-3 worsen the normality of the data, and therefore the determination is to use the winsorized condition of rivalry ((a-1) in APPENDIX B-1, B-2, and B-3) in the firm-level data analyses. For the other variables (market share fluctuation and advertising expenditure), log-transformed and winsorized values were used for the data analyses. Even though the Shapiro-wilk tests rejected the null hypothesis that they were normally distributed (\( z = 5.294 \) for condition of rivalry, \( z = 4.128 \) for log-transformed and winsorized market share fluctuation, and \( z = 4.364 \) for log-transformed and winsorized advertising expenditure), it is believed that using the selected data provided more reliable results for the main analyses.

**Univariate Analyses**

**Panel 1: Industry-level Analyses**
In the preliminary analyses, Pearson correlation tests were conducted to check the univariate relationships between variables. As Table 4.5 presents, correlations between the independent variable, Fr.inv.n (degree of franchising involvement measured by the number of franchised outlets) and the dependent variables (industry concentration, market share instability, and variance of q) were statistically significant at the level of 0.05 ($p = 0.000, 0.000, \text{and} \ 0.000, \text{respectively}$) even though two of the relationships showed opposite directions of the relationships that were hypothesized. Between the explanatory variables there did not seem to be highly correlated variables (maximum value is 0.283 between industry revenue and the number of firms within each industry), thus yielding the conclusion that multicollinearity would not significantly distort the results of the statistical estimation.

Table 4.5 Pearson correlation in Panel 1

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CON</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. MS_inst</td>
<td>-.417**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. VAR(q)</td>
<td>-.101**</td>
<td>.054**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Fr.inv_n</td>
<td>.057**</td>
<td>-.052**</td>
<td>-.081**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I.Rev</td>
<td>-.231**</td>
<td>-.028*</td>
<td>.150**</td>
<td>-.054**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I.GDP</td>
<td>-.057**</td>
<td>-.100**</td>
<td>.071**</td>
<td>-.051**</td>
<td>.077**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7. Num.Firm</td>
<td>-.293**</td>
<td>.090**</td>
<td>.286**</td>
<td>-.077**</td>
<td>.283**</td>
<td>.062**</td>
<td>1</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01
CON: industry concentration; MS_inst: market share instability; VAR(q): variance of Tobin’s q; Fr.inv.n: franchising involvement measure by the number of franchised outlets; I.Rev: industry total revenue; I.GDP: industry GDP; Num.Firm: the number of firms within each industry

Panel 2: Firm-level analyses
Table 4.6 indicates the results of the Pearson correlation tests of the variables in Panel 2. Correlations between independent variables and dependent variables are statistically significant at the level of 0.01 and the directions of the relationships were consistent with the hypothesized relationships. Among the explanatory variables there were a few correlation coefficients that seemed to have relatively high values and therefore these might unduly influence OLS estimates due to a possible multicollinearity problem. Specifically, the relative degree of franchising involvement (Rel.deg) was highly correlated with the other two independent variables, the relative average speed of franchising involvement (Rel.asp) and the relative instantaneous speed of franchising involvement (Rel.isp) at the significance level of 0.01 ($\rho_{\text{Rel.inv, Rel.asp}} = 0.546$ and $\rho_{\text{Rel.inv, Rel.isp}} = 0.591$). However, in the main data analysis, because the study included each of the three independent variables into the analysis models separately, the high correlations among the three variables did not influence the estimation. On the other hand, firm size, a control variable, had a high correlation with two other variables. The correlation coefficient between firm size (F.size) and the relative degree of franchising involvement (Rel.deg) was 0.545 and statistically significant at the level of 0.01. Firm size was also highly correlated to advertising expenditure ($\rho_{\text{AD, F.Size}} = 0.892$) at the level of 0.01. To ensure that these high correlations did not produce unstable OLS estimates, tests for multicollinearity were conducted using an analysis model that included the highly correlated variables together. Table 4.7 lists the results of the diagnostics. All VIF (Variance Inflation Factors) values are less than 10 (all tolerance values are greater than 0.1) and the condition number is less than 30, which indicate that variances of OLS estimates are not severely inflated and the results of the main analyses will be reliable
(Kutner et al., 2005). These multicollinearity issues are discussed further in the following section of Main analyses: Hypotheses testing.

Table 4.6 Pearson correlation in Panel 2

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. MS_fluc</td>
<td>-.305**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. AD</td>
<td>-.368**</td>
<td>.577**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Rel.deg</td>
<td>-.304**</td>
<td>.283**</td>
<td>.535**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Rel.asp</td>
<td>-.166**</td>
<td>.189**</td>
<td>.265**</td>
<td>.546**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Rel.isp</td>
<td>-.232**</td>
<td>.221**</td>
<td>.359**</td>
<td>.591**</td>
<td>.229**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. F.Size</td>
<td>-.504**</td>
<td>.568</td>
<td>.892**</td>
<td>.545**</td>
<td>.299**</td>
<td>.378**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. M.Rev</td>
<td>.153**</td>
<td>-.531**</td>
<td>-.047</td>
<td>.068</td>
<td>.020</td>
<td>.043</td>
<td>-.082</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Num.Com</td>
<td>-.441**</td>
<td>-.179**</td>
<td>.123*</td>
<td>.088</td>
<td>-.140*</td>
<td>.074</td>
<td>.125**</td>
<td>.162**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10. I.GDP</td>
<td>-.073</td>
<td>-.257**</td>
<td>-.187**</td>
<td>.006</td>
<td>.239**</td>
<td>-.002</td>
<td>-.121**</td>
<td>.301**</td>
<td>.141*</td>
<td>1</td>
</tr>
</tbody>
</table>

*p<.05, **p<0.01
CR: condition of rivalry; Fluc: market share fluctuation; AD: advertising expenditure; Rel.deg: relative degree of franchising involvement compared to competitors'; Rel.asp: relative average speed of franchising involvement compared to competitors'; Rel.isp: relative instantaneous speed of franchising involvement compared to competitors'; F.size: firm size measured by log(total assets); M.Rev: market total revenue; Num.Com: the number of competitors within each market; I.GDP: industry GDP

Table 4.7 Collinearity diagnostics for Panel 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>VIF</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rel.deg</td>
<td>1.57</td>
<td>0.6378</td>
</tr>
<tr>
<td>F.Size</td>
<td>7.31</td>
<td>0.1368</td>
</tr>
<tr>
<td>M.Rev</td>
<td>1.76</td>
<td>0.5677</td>
</tr>
<tr>
<td>Num.Com</td>
<td>1.21</td>
<td>0.8249</td>
</tr>
<tr>
<td>I.GDP</td>
<td>1.37</td>
<td>0.7282</td>
</tr>
<tr>
<td>MS_fluc</td>
<td>2.75</td>
<td>0.6359</td>
</tr>
<tr>
<td>AD</td>
<td>6.13</td>
<td>0.8370</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>2.16</td>
<td></td>
</tr>
</tbody>
</table>
Main Analyses: Hypotheses Testing

Panel 1: Industry-level analyses

The results of two-state least squares (2SLS) estimation for the industry-level hypotheses testing are provided in Tables 4.8, 4.9 and 4.10. Table 4.8 presents the results of statistical testing for the relationship between franchising involvement and industry concentration and the moderating effect of the hospitality industry on this relationship. In Table 4.8, as a base line, column 1 shows how the control variables explain the dependent variable, Industry Concentration (CON). In column 2, the coefficient of franchising involvement (Fr.inv.n) is negative ($\beta = -0.4264$) and statistically significant at the level of 0.01. The result suggests that there is a negative relationship between franchising involvement and industry concentration, which supported I-H1. For the moderating effect of the hospitality industry (I-H4a), column 3 contains the results of the analyses. The interaction between franchising involvement (Fr.inv.n) and the hospitality industry is not statistically significant at the level of 0.05. This result suggests that the magnitude of the relationship between franchising involvement and industry concentration is not different in the hospitality industry as compared to other service industries and therefore Hypothesis I-4a (I-H4a) was not supported.

Table 4.8 Results of Panel 1: Industry-level analyses (DV: Industry concentration)

<table>
<thead>
<tr>
<th>DV: CON</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column 1</td>
<td>Column 2</td>
<td>Column 3</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Fr.inv.n</td>
<td>-0.4264**</td>
<td>-0.1175</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0837)</td>
<td>(0.0856)</td>
<td></td>
</tr>
<tr>
<td>HOS</td>
<td></td>
<td></td>
<td>-03785**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0985)</td>
</tr>
<tr>
<td>HOS×Fr.ivn.n</td>
<td></td>
<td></td>
<td>0.0404</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.1838)</td>
</tr>
<tr>
<td>I.Rev</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>I.GDP</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>Num.Firm</td>
<td>-0.0057**</td>
<td>-0.0058*</td>
<td>-0.0056**</td>
</tr>
<tr>
<td></td>
<td>(0.0006)</td>
<td>(0.0006)</td>
<td>(0.0006)</td>
</tr>
<tr>
<td>MS_inst</td>
<td>-0.1773**</td>
<td>-0.1773**</td>
<td>-0.1755**</td>
</tr>
<tr>
<td></td>
<td>(0.0056)</td>
<td>(0.0058)</td>
<td>(0.0057)</td>
</tr>
<tr>
<td>VAR(q)</td>
<td>-0.0003</td>
<td>-0.0020</td>
<td>-0.0008</td>
</tr>
<tr>
<td></td>
<td>(0.0025)</td>
<td>(0.0026)</td>
<td>(0.0026)</td>
</tr>
<tr>
<td>cons</td>
<td>-1.2514**</td>
<td>-1.2021**</td>
<td>-1.2174**</td>
</tr>
<tr>
<td></td>
<td>(0.0221)</td>
<td>(0.0250)</td>
<td>(0.0247)</td>
</tr>
<tr>
<td>F-stat</td>
<td>363.54**</td>
<td>292.06**</td>
<td>239.11**</td>
</tr>
<tr>
<td>Num.of obs</td>
<td>5071</td>
<td>5071</td>
<td>5071</td>
</tr>
</tbody>
</table>

( ) contains robust standard errors.

†p>0.1
*p>0.05
**p>0.01

CON: industry concentration; MS_inst: market share instability; VAR(q): variance of Tobin’s q; Fr.inv.n: franchising involvement measure by the number of franchised outlets; I.Rev: industry total revenue; I.GDP: industry GDP; Num.Firm: the number of firms within each industry.

The results of the data analyses on the relationship between franchising involvement and market share instability are presented in Table 4.9. The coefficient for the relationship between franchising involvement and market share instability are negative ($\beta = -0.7928$) and statistically significant at the significance level of 0.01 in column 2. Consequently, because it showed the opposite direction to Hypothesis I-2 (I-
H2), Hypothesis I-2 (I-H2) was not supported. On the other hand, the test on the moderating effect of the hospitality industry provided a positive ($\beta = 0.8761$) and a statistically significant result at the level of 0.05 in column 3, which supported Hypothesis I-4b (I-H4b).

Table 4.9 Results of Panel 1: Industry-level analyses (DV: Market share instability)

<table>
<thead>
<tr>
<th>DV: MS_inst</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.inv.n</td>
<td>-0.7928**</td>
<td>-0.5557**</td>
<td>(0.1691)</td>
</tr>
<tr>
<td></td>
<td>(0.1966)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOS</td>
<td>-0.6287**</td>
<td></td>
<td>(0.1810)</td>
</tr>
<tr>
<td>HOS×Fr.inv.n</td>
<td>0.8761*</td>
<td></td>
<td>(0.3458)</td>
</tr>
<tr>
<td>I.Rev</td>
<td>-0.00000**</td>
<td>-0.00000**</td>
<td>-0.00000**</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>I.GDP</td>
<td>-0.0000</td>
<td>-0.00000**</td>
<td>-0.00000**</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>Num.Firm</td>
<td>-0.00111**</td>
<td>-0.0013**</td>
<td>-0.0013**</td>
</tr>
<tr>
<td></td>
<td>(0.0002)</td>
<td>(0.0002)</td>
<td>(0.0002)</td>
</tr>
<tr>
<td>CON</td>
<td>-0.7684**</td>
<td>-0.7591**</td>
<td>-0.7683**</td>
</tr>
<tr>
<td></td>
<td>(0.0304)</td>
<td>(0.0305)</td>
<td>(0.0311)</td>
</tr>
<tr>
<td>VAR(q)</td>
<td>0.0130*</td>
<td>0.0098†</td>
<td>0.0107†</td>
</tr>
<tr>
<td></td>
<td>(0.0057)</td>
<td>(0.0057)</td>
<td>(0.0057)</td>
</tr>
<tr>
<td>cons</td>
<td>-3.0045**</td>
<td>-2.8875**</td>
<td>-2.9105**</td>
</tr>
<tr>
<td></td>
<td>(0.0459)</td>
<td>(0.0503)</td>
<td>(0.0517)</td>
</tr>
<tr>
<td>$F$-stat</td>
<td>179.25**</td>
<td>151.09**</td>
<td>115.69**</td>
</tr>
<tr>
<td>Num.of obs</td>
<td>5071</td>
<td>5071</td>
<td>5071</td>
</tr>
</tbody>
</table>

( ) contains robust standard errors.
†p>0.1
*p>0.05
**p>0.01

CON: industry concentration; MS_inst: market share instability; VAR(q): variance of Tobin’s q; Fr.inv.n: franchising involvement measure by the number of franchised outlets; I.Rev: industry total revenue; I.GDP: industry GDP; Num.Firm: the number of firms within each industry.
Table 4.10 contains the results of the analyses using the dependent variable, Variance of q. In column 2, the coefficient of franchising involvement (Fr.inv.n) is negative ($\beta = -2.0733$) and statistically significant at the level of 0.01. This result indicates the opposite sign of the coefficient than was hypothesized. Therefore, Hypothesis I-3 (I-H3) was not supported. In column 3, the results for the moderating effect of the hospitality industry are presented. The interaction between franchising involvement (Fr.inv.n) and hospitality industry (HOS) was statistically significant at the level of 0.01 with a coefficient ($\beta = 2.8763$), as hypothesized. Consequently, Hypothesis I-4c (I-H4c) was supported.

Table 4.10 Results of Panel 1: Industry-level analyses (DV: Variance of q)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV: VAR(q)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fr.inv.n</td>
<td>-2.0733** (0.4118)</td>
<td>-2.7519** (0.5034)</td>
<td></td>
</tr>
<tr>
<td>HOS</td>
<td>-0.3939 (0.2949)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOS×Fr.inv.n</td>
<td>2.8763** (0.6466)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I.Rev</td>
<td>0.0000** (0.0000)</td>
<td>0.0000** (0.0000)</td>
<td>0.0000** (0.0000)</td>
</tr>
<tr>
<td>I.GDP</td>
<td>0.0000 (0.0000)</td>
<td>0.0000** (0.0000)</td>
<td>0.0000** (0.0000)</td>
</tr>
<tr>
<td>Num.Firm</td>
<td>0.0258** (0.0029)</td>
<td>0.0250** (0.0029)</td>
<td>0.0248** (0.0029)</td>
</tr>
<tr>
<td>CON</td>
<td>-0.1077 (0.0869)</td>
<td>0.0001 (0.0869)</td>
<td>0.0338 (0.0878)</td>
</tr>
<tr>
<td>MS_inst</td>
<td>0.1005* (0.0439)</td>
<td>0.0821† (0.0439)</td>
<td>-0.0806† (0.0440)</td>
</tr>
</tbody>
</table>
Panel 2: Firm-level analyses

The results of the two-stage least squared (2SLS) estimation for the firm-level analyses are presented in Tables 4.11, 4.12, and 4.13. The coefficient for the relative degree of franchising involvement (Rel.deg) was positive ($\beta = 0.00003$ in column 2 in Table 4.11) and statistically significant ($p < 0.05$). This result demonstrates that a firm’s relative degree of franchising involvement increases its condition of rivalry, which is opposed to the hypothesized relationship and therefore Hypothesis F-1a (F-H1a) was not supported. The results for the two types of franchising speed, relative average speed of franchising involvement (Rel.asp) and relative instantaneous speed of franchising involvement (Rel.isp), are listed in columns 3 and 4. The coefficient for the relative instantaneous speed of franchising involvement (Rel.isp) was positive ($\beta = 0.0007$) and statistically significant at the level of 0.01. However, the coefficient for the relative average speed of franchising involvement (Rel.asp) was not statistically significant at the level of 0.05 in column 3. These results provided evidence that Hypothesis F-1b (F-H1b), that a firm’s relative speed of franchising involvement decreases its condition of rivalry, was not supported.
To ensure against the possible multicollinearity concerns, additional statistics of the relative degree of franchising involvement (Re.deg) were further examined. Greater multicollinearity possibly produces greater standard errors, larger confidence intervals, and smaller t-statistics (Kutner et al., 2005). Therefore, coefficients have to be large in order to be statistically significant, which means it is more difficult to reject the null hypothesis. In the analysis presented in column 2, a 95% confidence interval of the relative degree of franchising involvement (Rel.deg) ranges from 0.0000198 to 0.0000417 with its standard error of 0.0000 and with a z-value of 5.35. The results do not indicate that the standard error was inflated seriously enough to distort the results of the analysis. In addition, the other two highly correlated variables, firm size (F.Size) and advertising expenditure (AD), were included as control variables in each analysis, even though interpretation of the estimates and significance of the variables were not the main interests of this analysis. Based on this investigation, the study concluded that multicollinearity was not a serious concern to this analysis.

Table 4.11 Results of Panel 2: Firm-level analyses (DV: Condition of rivalry)

<table>
<thead>
<tr>
<th>DV: CR</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rel.deg</td>
<td>0.00003*</td>
<td>(0.0000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel.asp</td>
<td></td>
<td>-0.0003</td>
<td>(0.0000)</td>
<td></td>
</tr>
<tr>
<td>Rel.isp</td>
<td></td>
<td></td>
<td>0.0007**</td>
<td>(0.0001)</td>
</tr>
<tr>
<td>F.Size</td>
<td>-0.0937**</td>
<td>-0.1699*</td>
<td>-0.0919**</td>
<td>-0.1609**</td>
</tr>
<tr>
<td></td>
<td>(0.0094)</td>
<td>(0.0171)</td>
<td>(0.0095)</td>
<td>(0.0190)</td>
</tr>
<tr>
<td>M.Rev</td>
<td>0.0000**</td>
<td>0.0000</td>
<td>0.0000**</td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
</tbody>
</table>
As column 2 in Table 4.12 shows, the relationship between the relative degree of franchising involvement (Rel.deg) and market share fluctuation (MS_fluc) was not statistically significant at the level of 0.05. Therefore, Hypothesis F-2a (F-H2a), that a firm’s relative degree of franchising involvement increased its market share fluctuation, was not supported. Regarding Hypothesis F-2b, both coefficients of the relative average speed of franchising involvement (Rel.asp) and of the relative instantaneous speed of franchising involvement (Rel.isp) were not statistically significant at the level of 0.05. These results indicated that, overall, Hypothesis 2b (H2b) (a firm’s relative speed of franchising involvement increases its market share fluctuation) was not supported.
In these analyses, the high correlation between relative degree of franchising involvement (Rel.deg) and firm size (F.Size) needs to be discussed further. The 95% confidence interval of the relative degree of franchising involvement spans from -0.00006 and 0.00005 with its standard error of 0.00002 and its z-value of -0.23. The non-significance of the coefficient of this variable was possibly influenced by its relatively high correlation to firm size (F.Size) and advertising expenditure (AD). These results may suggest that the interpretation of the coefficient of the relative degree of franchising involvement (Rel.deg) requires the consideration of the multicollinearity issue.

Table 4.12 Results of Panel 2: Firm-level analyses (DV: Market share fluctuation)

<table>
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<tbody>
<tr>
<td>DV: Ms_fluc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel.deg</td>
<td>-0.0000</td>
<td>-0.0000</td>
<td>-0.0002</td>
<td>0.0006</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0003)</td>
<td>(0.0007)</td>
</tr>
<tr>
<td>Rel.asp</td>
<td></td>
<td></td>
<td>-0.0002</td>
<td>0.0006</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0000)</td>
<td>(0.0007)</td>
</tr>
<tr>
<td>Rel.isp</td>
<td></td>
<td></td>
<td></td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.0000)</td>
</tr>
<tr>
<td>F.Size</td>
<td>0.5398**</td>
<td>0.5546**</td>
<td>0.5495**</td>
<td>0.4884**</td>
</tr>
<tr>
<td></td>
<td>(0.1060)</td>
<td>(0.1292)</td>
<td>(0.1061)</td>
<td>(0.1248)</td>
</tr>
<tr>
<td>M.Rev</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>I.GDP</td>
<td>-0.0000*</td>
<td>-0.0000</td>
<td>-0.0000</td>
<td>-0.0000</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>Num.Com</td>
<td>-0.2674**</td>
<td>-0.2695**</td>
<td>-0.2836**</td>
<td>-0.2640**</td>
</tr>
<tr>
<td></td>
<td>(0.0491)</td>
<td>(0.0507)</td>
<td>(0.0536)</td>
<td>(0.0496)</td>
</tr>
<tr>
<td>CR</td>
<td>-0.4894</td>
<td>-0.5120</td>
<td>-0.5590</td>
<td>-0.4027</td>
</tr>
<tr>
<td></td>
<td>(0.4926)</td>
<td>(0.4903)</td>
<td>(0.4937)</td>
<td>(0.5020)</td>
</tr>
<tr>
<td>AD</td>
<td>0.1766*</td>
<td>0.1771*</td>
<td>0.1802*</td>
<td>0.1820*</td>
</tr>
<tr>
<td></td>
<td>(0.0848)</td>
<td>(0.0839)</td>
<td>(0.0840)</td>
<td>(0.0836)</td>
</tr>
<tr>
<td></td>
<td>(0.6824)</td>
<td>(0.7463)</td>
<td>(0.6744)</td>
<td>(0.7309)</td>
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</table>
Table 4.13 shows the results of the analyses for Hypotheses F-3a (F-H3a) and F-3b (F-H3b) with the dependent variable, advertising expenditure (AD). In column 2, the coefficient for the relative degree of franchising involvement (Rel.deg) was positive ($\beta = 0.00005$) and statistically significant at the level of 0.05. The result indicates that a firm’s relative degree of franchising involvement increases its dynamic competition and thus Hypothesis 3a (H3a) was supported. In columns 3 and 4, both coefficients for the relative average speed of franchising involvement (Rel.asp) and the relative instantaneous speed of franchising involvement (Rel.isp) were not statistically significant at the level of 0.05. The results provided evidence that the proposed relationships in Hypothesis F-3b (F-H3b) could not be supported.

In this set of analyses, additional statistics for the multicollinearity issue were also examined. The 95% confidence interval of the relative degree of franchising involvement is estimated between 0.00001 and 0.00009 with its standard error of 0.00002 and its z-value of 2.54. Even though the collinearity of this variable with firm size (F.Size) possibly generates a larger standard error and a larger span of confidence
interval, the results suggested that the interpretation of the effect of the relative degree of franchising involvement on a firm’s dynamic competition may not be seriously affected.

Table 4.13 Results of Panel 2: Firm-level analyses (DV: Advertising expenditure)

<table>
<thead>
<tr>
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<th>1</th>
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</tr>
</thead>
<tbody>
<tr>
<td>DV: AD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel.deg</td>
<td>0.0005*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0002)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel.asp</td>
<td></td>
<td>0.0002</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0002)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel.isp</td>
<td></td>
<td></td>
<td>0.0006</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0005)</td>
<td></td>
</tr>
<tr>
<td>F.Size</td>
<td>1.0858**</td>
<td>0.9716**</td>
<td>1.0741**</td>
<td>1.0473**</td>
</tr>
<tr>
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<td>(0.0361)</td>
<td>(0.0567)</td>
<td>(0.0369)</td>
<td>(0.0483)</td>
</tr>
<tr>
<td>M.Rev</td>
<td>0.0000**</td>
<td>0.0000*</td>
<td>0.0000**</td>
<td>0.0000*</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>I.GDP</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
<td>-0.0000**</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>Num.Com</td>
<td>0.0214</td>
<td>0.0373</td>
<td>0.0356</td>
<td>0.0225</td>
</tr>
<tr>
<td></td>
<td>(0.0308)</td>
<td>(0.0352)</td>
<td>(0.0350)</td>
<td>(0.0323)</td>
</tr>
<tr>
<td>CR</td>
<td>1.4002**</td>
<td>1.5623**</td>
<td>1.4571**</td>
<td>1.4908**</td>
</tr>
<tr>
<td></td>
<td>(0.2890)</td>
<td>(0.3264)</td>
<td>(0.3030)</td>
<td>(0.3159)</td>
</tr>
<tr>
<td>MS_fluc</td>
<td>0.0671*</td>
<td>0.0678†</td>
<td>0.0667*</td>
<td>0.0590†</td>
</tr>
<tr>
<td></td>
<td>(0.0335)</td>
<td>(0.0350)</td>
<td>(0.0333)</td>
<td>(0.0337)</td>
</tr>
<tr>
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<td>(0.4710)</td>
<td>(0.5114)</td>
<td>(0.4756)</td>
<td>(0.4735)</td>
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<tr>
<td>F-stat</td>
<td>499.14**</td>
<td>321.04**</td>
<td>424.50**</td>
<td>354.14**</td>
</tr>
<tr>
<td>Num.of obs</td>
<td>421</td>
<td>421</td>
<td>421</td>
<td>421</td>
</tr>
</tbody>
</table>

( ) contains robust standard errors.
†p>0.1
*p>0.05
**p>0.01

CR: condition of rivalry; MS_fluc: market share fluctuation; AD: advertising expenditure;
Rel.deg: relative degree of franchising involvement compared to competitors’;
Rel.asp: relative average speed of franchising involvement compared to competitors’;
Rel.isp: relative instantaneous speed of franchising involvement compared to competitors’;
F.size: firm size
measured by log(total assets); M.Rev: market total revenue; Num.Com: the number of competitors within each market; I.GDP: industry GDP
CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the research and presents the key findings of the study. Conclusions and implications are incorporated and limitations and recommendations follow.

Overview of the research

The study endeavored to discover how the franchising system alters competition among firms within industries. Since it was first introduced, the franchising system has enabled many firms to expand their business by helping them to become better equipped with external resources and knowledge (Combs et al., 2011; Michael, 2003), which could enhance the firms’ competitive advantages (Barney, 1991; Kogut & Zander, 1992; Porter, 1980). The current research addressed the conjecture that the increased competitive power of each firm can elevate the level of competition of an entire industry. In addition, as franchising has become a significant business practice in the service industry (Winter et al., 2012), an increasing number of firms are benefiting from this strategy and the competition induced by franchising could become even more active and dynamic.

Based on these arguments, the study examined the influence of franchising on three dimensions of competition (i.e., competition structure, change in the structure, and nature of the competition) by conducting two different levels of investigation, industry-
level and firm-level. The industry-level investigation looked at the influence of the franchising system on three dimensions of industry-wide competition: industry concentration, industry instability, and dynamics of competition. The firm-level investigation focused on the influence of the franchising system on three dimensions of firm-specific competition, condition of rivalry, market share fluctuation, and the dynamic competition of a firm. For the two levels of investigation, the study employed two separate panels (Panel 1 for the industry-level investigation and Panel 2 for the firm-level investigation) and conducted two different sets of data analyses.

**Discussion**

The empirical results provided evidence that franchising system significantly alters the industry-wide competitive condition with regard to competition structure (I-H1), industry instability (I-H2), and dynamic competition of an industry (I-H3). It found positive moderating effects of the hospitality industry on industry instability and dynamic competition (I-H4b and I-H4c). An individual firm’s involvement in the franchising system also affected the firm’s condition of rivalry (F-H1a and F-H1b) as well as dynamic competition (F-H3a). Overall, the findings suggested that a firm’s strategic actions regarding franchising critically contribute to re-establishing a competitive business environment.

**Franchising and competition structure**

Based on the industry-level investigation, the study found that the degree of the franchising involvement of an industry, as measured by the proportion of the number of
firms conducting franchising over all firms within an industry, decreases industry concentration. This decrease in industry concentration implies that, as more firms engage in franchising within an industry, the competitive power within the industry becomes more evenly distributed among the firms. Small, potential entrants can be more likely to take advantage of the franchising system, specifically by acquiring franchisees’ financial and human resources for their expansion, and will therefore enjoy lowered barriers to entering new markets (Lafontaine, 1992). This will consequently encourage more firms to enter an industry. In other words, franchising alters the industry structure in a direction towards a perfect market condition in which a large number of players are competing independently of each other by selling homogenous products to maximize their profits (Adamson, Jones, & Pratt, 1991; Bentsson & Marell, 2006; Kay & Vickers, 1988).

From the firm-level perspective, the study found some interesting results as well, including some that were the opposite to the hypothesized directions: a significantly positive relationship was found to exist between a firm’s relative actions (i.e., degree and instantaneous speed) on franchising and the competition structure that the firm faces. In more detail, empirical results showed that a firm’s relative degree and speed (instantaneous) of involvement in franchising significantly increase the firm’s condition of rivalry. The findings provide evidence for two important features regarding the association between franchising and an individual firm’s competition power. First, it is important to note that when it comes to investigating the influence of strategic actions on the competitive structure, focusing on a firm’s relative actions allows meaningful interpretation because competition is formulated by the firm’s relative actions to its
competitors (Chen & Miller, 2015). Instead of considering a firm’s absolute degree and speed of involvement into the franchise system, capturing the ‘relative’ degree and speed in the franchising involvement among the firm’s competitors will provide better explanations on the decrease or increase in the competitive pressure from the rivals.

Second, the results indicate that a firm’s greater and faster involvement in franchising as compared to its competitors’ does not help the firm in building greater competitive power. Actually, such involvement in franchising was found to decrease the firm’s competitive power, reflecting more pressure from its competitors. These results may be interpreted by means of the possible negative influences of franchising on the franchisor’s business. According to Barthélemy (2008), engaging in franchising could bring increased free-riding hazard problems of franchisees to the franchisors’ business. Compared to hired-managers, franchisees are believed to be working hard for the business success because their compensation is directly linked to the performance of their outlets. However, they can also be tempted to maximize their short-term performance rather than try to establish competitive power that more likely increases a long-term performance for all the business outlets under the same brand (Brickley & Dark, 1987). Therefore, some franchisees could free-ride on the effort of other franchisees and the benefits provided by the franchisor (Michael, 2000; Norton, 1988). In this case, a firm’s heavy involvement in franchising as compared to its rivals could result in more serious free-riding problems than those of its competitors, and consequently the firm can feel more pressure from its competitors. A firm’s faster involvement in franchising as compared to its competitors also possibly has a negative impact on the firm’s competitive power. Since knowledge diffusion within a franchise system is one of the most critical
factors for the business success (Winter et al., 2012), faster engagement in franchising could hinder a franchisor from conveying tacit knowledge to franchisees in a timely and efficient manner.

In the service industries, it is comparatively more difficult to guarantee quality of service in franchised outlets than in company-owned outlets (Barthélemy, 2008) because tacit knowledge transfer can be accomplished more easily and efficiently through the hierarchical governance structures in company-owned outlets than through the less hierarchical structure in franchised outlets (Conner & Prahalad, 1996; Kogut & Zander, 1996). The difficulty of the fast knowledge diffusion through franchised outlets may result in less competitive power for a firm, and consequently have the firm face more competitive pressure within the industry.

However, these suggestions may require additional attention. Even though the results were found to be statistically significant in the proposed direction of the relationships, the small magnitude of the relationships ($\beta_{Rel.deg} = 0.00003$ and $\beta_{Rel.isp} = 0.00073$) may represent little practical significance for both researchers and practitioners. The results can be interpreted in such a way that a firm’s one more (faster) franchised unit increase will result in 0.003 percent (0.073 percent) greater competitive pressure from its competitors.

**Franchising and change in the competition structure**

This study found a negative influence of the degree of franchising involvement of an industry on industry instability. This result indicates that the more firms are engaged in franchising within an industry, the less change the industry experiences in its
competitive structure. In other words, franchising system generates a stable market structure in an industry. This may happen because the resources and knowledge acquired from franchisees lower entry barriers for small firms so that a great number of firms become competitors within industries. As a large number of firms engage in franchising in an industry, this business practice could become widespread and common within the industry. As a result, firms in the industry could become more homogenous and competitive tension would become pervasive. In this market condition, the structure of the industry likely stays constant without significant changes (Bentsson & Marell, 2006; Kay & Vickers, 1988).

None of the measures for the individual firm’s relative franchising actions compared to its competitors (i.e., relative degree of franchising involvement and relative speed of franchising involvement) showed a statistically significant relationship with the firm’s market share fluctuations, as proposed by the study. These non-significant findings, however, may be well aligned with the finding of the industry-level investigation on the relationship between franchising and industry instability: an industry’s franchising involvement decreases industry instability. An industry’s increased involvement in franchising implies that firms within the industry generally become similar in their business practices and therefore the implementation of a common strategy within an industry may not produce significant changes (variances) to a firm’s market share. Moreover, the measures for the relative degree and the relative speed of franchising involvement exclude the company-owned outlets from the analysis and therefore do not capture the possible influence of the company-owned outlets on the firm’s market share fluctuations. Specifically, from a firm’s perspective, it could be a
possible business plan to restructure its business by opening more franchised outlets and closing its company-owned outlets. Such a resource reallocation and shift of the strategic focus on the franchised outlets may help the firm to stabilize fluctuations of market share.

**Franchising and dynamic competition**

From the industry-level investigation, this study did not find a result to support the hypothesized relationship between an industry’s franchising involvement and its dynamic competition, particularly a positive impact of franchising on the dynamic competition. On the contrary, the results of the study indicate a negative relationship between the degree of franchising involvement of an industry and dynamic competition within an industry. Although this finding does not support the hypothesis, it invites an extended discussion. The negative impact of the degree of franchising involvement of an industry on the dynamic competition within the industry implies that as more firms are engaged in franchising, the completion in the industry is more likely to be characterized as static. This finding may suggest that, in general, engaging in franchising is more likely to help firms to achieve economies of scale rather than help them to discover new strategic assets. The economies of scale enable firms to accomplish an efficient cost structure and thereby to have a better position in the existing market by reducing their price. In this regard, the findings may be interpreted that franchising could induce less dynamic competition or more static competition in the service industries.

The study found that a firm’s relative degree of franchising involvement compared to its competitors increases its dynamic competitive position. This result supports the hypothesized relationship as well as provides a better understanding of how
franchising promotes the dynamic competitive position of a firm. According to the results, a firm with one more unit of franchised outlets than its rivals’ average number of franchised units attempts to find new strategic assets to a greater extent by spending an additional 0.05 percent of advertising expenditures. Based on the resource and knowledge based point of view, this may imply that a firm’s greater involvement in franchising as compared to its competitors possibly provides the firm (franchisor) with more resources or knowledge, which would lead the firm to engage more in dynamic competition. However, the interpretation of these results needs to be discussed with caution because the magnitude of the impact of franchising on dynamic competition ($\beta_{\text{Rel.deg}} = 0.00005$) may not be substantial enough to provide meaningful economic significance.

Both the measures for the relative speed of franchising involvement of a firm compared to its competitors, average speed and instantaneous speed, did not have a significant impact on the firm’s dynamic competition. These non-significant results may suggest that, with respect to dynamic competition of a firm, faster involvement in franchising may not be relevant to creating or pursuing new ways to compete. The resources and knowledge that a franchisor could obtain from its franchisees may not be time-sensitive enough to build the firm’s new products or processes. In addition, this finding may suggest a firm’s capacity to recognize and assimilate the resources and knowledge and the implementation of newly built strategies in a timely manner should be pre-required to achieve meaningful effects from the firm’s speedy involvement in franchising. For those firms a speedy involvement in the franchising may not generate a meaningful influence on the firm’s dynamic competition.
**Moderating effect of the hospitality industry**

The study proposes a moderating effect of the hospitality industry on the relationship between franchising and the three dimensions of the industry-wide competition. Due to the capital-intensive nature of the hospitality business (Lee et al., 2011; Sheel, 1994; Tang & Jang, 2007), it was hypothesized that the hospitality industry has stronger relationships between the degree of franchising involvement and the three dimensions of industry competition.

First, the proposed moderating effect of the hospitality industry on the association between franchising involvement and industry concentration was found to be statistically non-significant. This result may imply that a high level of capital intensity when starting or expanding a hospitality business does not promote the use of franchising and this is the same for the hospitality industry and other service industries. In other words, the influence of franchising on industry concentration does not differ in the hospitality industry as compared to other service industries. However, the results of the analysis may provide us with an opportunity to learn more about franchising and the structure of the hospitality industry. Although it was not hypothesized as such, a negative coefficient of the hospitality industry on industry concentration (see Table 4.8) suggests that industry concentration of the hospitality industry is lower than in other service industries. Accordingly, franchising may not provide an additional critical effect on the concentration, but the specific nature of the hospitality industry may generate the less concentrated structure than those of other service industries.
Second, the study found that the hospitality industry has a positive moderating effect on the relationship between an industry’s franchising involvement and its instability. Although it was found that an industry’s franchising involvement decreases the industry instability in the service industry as a whole, the influence of the franchising involvement on the industry instability becomes more positive in the hospitality industry. This means that, unlike other service industries, an increase in the franchising involvement of the hospitality industry promotes more fluctuations in the industry structure than it does in other service industries. This finding may imply that, in general, a high level of capital requirement for initiating or expanding the hospitality business (IFA, 2006; Lee et al., 2011; Sheel, 1994; Tang & Jang, 2007) possibly limits the hospitality firms’ active strategic actions, leading to effective changes within the industry’s competitive structure. However, the franchising system can help in providing financial resources and in overcoming managerial limitations for the expansion. In other words, hospitality firms may benefit from the franchising system by acquiring capital from franchisees to overcome the higher capital requirements needed to grow their business.

Third, the study also found there was a positive moderating impact of the hospitality industry on the relationship between the degree of franchising involvement and dynamic competition. Specifically, the magnitude of the positive effect of the franchising involvement on dynamic competition for the hospitality industry was greater than the magnitude of the negative effect of the franchising involvement on dynamic competition for other service industries. This result indicates that, unlike other service industries, an increase in franchising involvement promotes dynamic competition within
the hospitality industry. This finding may imply that franchising encourages more hospitality firms to create new strategic assets than other types of service firms, and consequently leads hospitality firms into experiencing more dynamic competition than firms in other service industries. A possible explanation for this finding is that, as compared to other service industries (e.g., wholesale or retail trade industry and professional services where firms may only need to concentrate their efforts on the quality of service), running a hospitality business requires managers to focus on two unique aspects. Along with delivering a high quality of service, outlet-managers in the hospitality business also engage in the production process, such as making food or preparing rooms. By providing both service and producing products, franchisee outlet-managers may have more opportunities to suggest their ideas for improving the quality of their hospitality products or services. According to previous research, franchisees are generally considered as more active managers in providing new ideas, which can benefit the business system more so than hired managers (Cox & Mason, 2007). In this regard, it can be concluded that the franchise system has a high impact on dynamic competition, especially for the hospitality industry.

Conclusions and implications

The current research aimed to discover the impact of an industry’s and a firm’s involvement in the franchising strategy on industry competition and on an individual firm facing competition. From the study’s two different levels of investigation (i.e., industry-level and firm-level investigation), it can be summarized that, overall, the degree of
franchising involvement of an industry decreases industry concentration, industry instability, and dynamic competition of the industry. However, it is interesting to address that due to franchising, the hospitality industry is more instable and produces more dynamic competition than other service industries. Second, the firm-level investigation provided empirical evidence that an individual firm’s relative degree and relative speed of franchising involvement compared to its rivals increases the firm’s condition of rivalry. On the other hand, the relative degree of franchising involvement increases a firm’s dynamic competition. These findings open up a new discussion both of how the franchise system establishes industry competition, and how it affects an individual firm’s competitive condition.

The conclusions of the study provide several theoretical implications to academia by verifying the premises from previous literature as well as by discovering newly proposed associations between franchising and competition. First, the study supports the resource/knowledge-based point of view, suggested by Barney (1991) and Kogut and Zander (1992), especially by showing that franchising can help firms (franchisors) to become better equipped with resources and/or knowledge from their partners (franchisees) and thereby possibly produce dynamic competition. In particular, it may be implied that the role of the franchising system to provide resources/knowledge for creating competitive advantages is more critical for the hospitality industry, in which small firms (that likely experience a lack of resources) are more likely to survive. By doing so, the franchising system can encourage small hospitality firms to overcome the high capital requirements needed for market entry. Most importantly, it needs to be recognized that understanding the relative degree of the franchising involvement is
critical for producing more dynamic competition of a firm. According to Barney (1991), only valuable, rare, inimitable, and non-substitutable resources can help firms to outcompete their rivals. In order to achieve such resources, firms may need to be more active than others when implementing the franchising strategy.

Second, the study also enriches the franchising literature by discovering the link between franchising and competition. Providing a new direction regarding the impact of franchising on the three dimensions of competition investigated here possibly enhances the understanding of the long-debated association between franchising and a firm’s financial performance based on the well-known presumption that a firm’s competitive power as well as the competitive market condition that the firm faces plays a critical role in affecting the firm’s financial performance (Porter, 1980). In addition, the methodological contribution could also be addressed by introducing a rivalry index, condition of rivalry (Cool and Dierickx, 1993), to the franchising research area. Condition of rivalry measures a firm-specific competitive condition, emphasizing that each firm faces a different condition of rivalry even when competing within the same market. Employing this index enables us to look into the firms’ relative positions in the markets as well as their interactions within the market, which is very possibly an important result for business practices.

Third, the study highlights the importance of the relative measures for the strategic actions with respect to competition among firms. As Chen and Miller (2015) noted, competition power is determined based on the difference in their power among the firms within a market. The findings of this study support this accepted notion in strategic management by indicating the significant influence of the relative degree in the
franchising involvement on competitive power (e.g., Chen & Miller, 2015; Vermeulen & Barkema, 2002). The importance of more active strategic action on the competitive power can be noteworthy based on the theoretical concept of hyper-competition (D’Aveni, 1994). Since in a hyper-competitive market, competitive advantages are quickly created and eroded (D’Aveni, 1994), firms need to move more actively toward the next possible advantages than their competitors in order to create advantages and to enjoy the increased power that comes from such movement.

Practical implications can also be provided to industry executives and/or to policy discussions. First, according to the findings, the use of the franchising strategy results in a less concentrated market structure, fewer changes in the structure, and fewer new strategic assets within the service industries. The results indicate how franchising influences the business environment and specifically what is taking place between the franchise system and competition within service industries. The results may imply that, as service firms immerse themselves more in the franchise system, small firms are more likely to benefit from the system and industries are more likely to engage in static competition, such as price reduction. Such a type of competition promotes a more competitive market condition, which continually drives industry profitability down (Porter, 1980; Ravenscraft, 1983; Schmalensee, 1985) and adds more pressure to the firms to defend its current position against the competitors’ attacks (Porter, 1980). In the long run firms become more homogenous and it could be harder for them to outcompete their rivals.

Second, the study provides guidance on how to conduct franchising to gain competitive advantages in order to survive the competition in which firms are now
involved. If firms aim to elevate their competitive power, more engagement in the franchise system than its competitors will be beneficial for dynamic competition. Because many firms engage in franchising in the service industries (Winter et al., 2012), a firm’s relatively more active engagement in franchising may help it to outcompete its competitors.

The study also influences policy makers. From the social planner’s point of view, competition structure is closely related to antitrust policies. Findings of this study can inform policy makers that as firms become more involved in franchising, the service industry has a less concentrated structure. This type of market condition more likely leads to perfect competition within industries, where competition becomes fiercer and stronger among competitors. Based on micro-economic theory, perfect competition improves consumers’ utility and has a positive impact on the consumers’ welfare. Therefore, policy makers could find the result of the study useful for evaluating each industry’s market condition so that they can pursue their goals to create the perfect competition market.

Limitations and recommendations for future study

There are several limitations and recommendations for future research. First, the findings of the study are limited to the sample composition and sample period of time. Specifically, the results are influenced by survival bias. The sample of the study only includes surviving and existing firms that have often out-competed their rivals and does not contain the firms that had been engaged in business but have exited the market during
the sample period. Also, the sample consists of the publicly traded firms in the US stock market where large firms are more likely to be listed. Using only firms that survived may elucidate only part of the relationship between franchising and competition (Pilling et al., 1995). In addition, the results are limited to the time period from 1991 to 2015 when the franchising data was readily available. Thus, the findings may be valid only for the most recent service business practices. Future research is encouraged to incorporate the data of private firms, delisting or closed business data, and an extended period of data for a more precise investigation of the impact of franchising on the competitive environment.

Second, limited data related to the measures for franchising implementation and a firm-specific competitor set significantly reduced the sample size. For example, limited availability of franchising revenue caused a significant drop in sample size (from 5071 to 252) for the industry-level investigation using the measure for the degree of franchising involvement of an industry. In addition, insufficient data for the number of years since a firm initiated franchising, as well as a firm-specific competitor definition by Hoover’s, lead to excluding a great number of additional firms and only 43 firms (out of 306) remained in the final sample for the firm-level investigation. Such a reduction in the sample size weakens the power of the statistical inference and requires careful interpretation of the findings. Including more data about franchising revenue will provide opportunities for future researchers to examine the proposed relationships in a more robust and precise manner.

Third, the measures for dynamic competition both in the industry-level investigation and in the firm-level investigation contain limitations. For the industry-level investigation, the study employs the variance of firms’ Tobin’s q within each
industry which is measured based on the continuum: higher variance represents dynamic competition and lower variance represents static competition. The continuum from a small to a large variance of q possibly offers a vague interpretation between static and dynamic competition. For example, it is hard to distinguish between static and less dynamic competition even though two different faces may exists within the business. Therefore, future research can refine the measurement for each type of competition by employing a separate measure for each construct more clearly suggesting the feature of competition induced by the franchising strategy. For the firm-level investigation, the study uses advertising expenditure as a proxy for the dynamic competition of a firm. Although it can be inferred that the advertising expenditure is generated as a result of a firm’s strategic action promoting dynamic competition, the cost may not account for whether or not a firm is really engaging in dynamic competition. To advance the construct validity, future research may attempt to employ measures fine-tuned to a firm’s competitive action, such as a firm’s entry into or exit from markets.

Fourth, by extending the line of the research, the study introduces future research opportunities to investigate how relative franchising involvement influences the financial performance of both an industry and an individual firm and how such a relationship changes depending on the competitive market condition. The link between franchising and a firm’s financial performance is known to be inconclusive. Employing measures for the relative franchising actions and incorporating the competitive market condition will advance investigation for the long-debated association between franchising and performance.
Last, in the franchising system, franchisees are critical components, which are important to determining the success of the business system. However, relatively little attention has been paid, thus far, to the franchisees’ competition power and thereby their business success. Franchisors cannot benefit from the system without the success of their franchisees. Factors affecting franchisees’ competition power will be well worth investigation for both franchisees and franchisors. How these two business partners interact with each other and how they produce synergistic effects to increase competition power will be another important research topic and looking at franchising from the franchisees’ perspective will improve our understanding of how franchising really works.
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APPENDIX A. Normality check for Panel 1

A-1. Box plots of the dependent variables in Panel 1

(a) industry concentration  \hspace{1cm} (b) winsorized log(industry concentration)

(c) market share instability  \hspace{1cm} (d) winsorized log(market share instability)

(e) variance (q)  \hspace{1cm} (f) winsorized log(variance (q))
A-2. Histograms of the dependent variables in Panel 1

(a) industry concentration  (b) winsorized log(industry concentration)

(c) market share instability  (d) winsorized log(market share instability)

(e) variance (q)  (f) winsorized log(variance (q))
A-3. Normal probability plots of the dependent variables in Panel 1

(a) industry concentration

(b) winsorized log(industry concentration)

(c) market share instability

(d) winsorized log(market share instability)

(e) variance (q)

(f) winsorized log(variance (q))
APPENDIX B. Normality check for Panel 2

B-1. Box plots of the dependent variables in Panel 2

(a) condition of rivalry

(b) winsorized log(condition of rivalry)

(a-1) winsorized condition of rivalry

(c) market share fluctuation

(d) winsorized log(market share fluctuation)
(e) advertising expenditure  (f) winsorized log(advertising expenditure)

B-2. Histograms of the dependent variables in Panel 2

(a) condition of rivalry  (b) winsorized log(condition of rivalry)

(a-1) winsorized condition of rivalry
(c) market share fluctuation  (d) winsorized log(market share fluctuation)

(e) advertising expenditure   (f) winsorized log(advertising expenditure)

B-3. Normal probability plots of the dependent variables in Panel 2

(a) condition of rivalry  (b) winsorized log(condition of rivalry)
(a-1) winsorized condition of rivalry

(c) market share fluctuation  (d) winsorized log(market share fluctuation)

(e) advertising expenditure  (f) winsorized log(advertising expenditure)
KYUNG-A SUN’s VITA

EDUCATION

Ph.D. in Hospitality Management
The Pennsylvania State University, University Park, PA 16801
Degree Conferred: August 2016

Master of Science in Hotel and Restaurant Management
University of Missouri, Columbia, MO 65211
Degree Conferred: May 2011

Bachelor of Business Administration, College of Economics & Business
University of Seoul, Seoul, Korea
Degree Conferred: February 2005

PUBLICATIONS


TEACHING EXPERIENCE

F 2015 – S 2016  Instructor, Hospitality Managerial Accounting HM336, at The Penn State University

F 2014  Instructor, Food Service Management taught in English at Kyung Hee University in Korea

S 2014  Instructor, Food Service Management taught in Korean at Kyung Hee University in Korea.