



Discussion paper

Effects of franchising on industry competition: The moderating role of the hospitality industry

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ABSTRACT

This study investigates the impact of an industry's involvement in franchising on its competitive condition. Findings show that, for services industries in general, franchising involvement (a) discourages industry instability and dynamic competition, and (b) has a non-significant impact on industry concentration. However, in the hospitality industry, the negative effects of franchising on industry instability and dynamic competition are weaker: franchising decreases industry instability and dynamic competition less in the hospitality industry than in other services industries. These findings open up a new discussion of how franchising influences the competitive environment at the industry level.

1. Introduction

Franchising is an important strategic practice in services industries; this hybrid organizational system has proven to be a successful contractual mechanism for business expansion (Marvel, 1995; Winter et al., 2012). In various research streams, scholars have investigated the hybrid nature of franchising arrangements in relation to the operational features of the system (e.g., Brickly and Dark, 1987; Combs and Ketchen, 2003; Hsu and Jang, 2009; Lafontaine, 1992; Koh et al., 2009; Roh, 2002). Researchers have defined a franchising system as an organizational form established through agreements between the owner (i.e., franchisor) of a brand and business model, and many individuals/groups (i.e., franchisees) who pay a fee to use the franchisor's brand and model to operate their own businesses. Although many scholars have investigated business outcomes of franchising at the firm level, they have paid limited attention to the association between franchising and the business environment more generally, such as that of an entire industry or a national economy. According to Jacquemin (1987), a firm's strategy and business environment are closely linked. Specifically, the business environment is always changing due to macro-economic factors as well as firms' competitive actions/reactions (D'Aveni, 1994). This implies that, as a strategic action, franchising may alter the environmental factors that firms must recognize and manage to ensure business success. To address this gap in the literature, the aim of this study is to explore the impact of franchising on business market conditions.

This research draws on two major theoretical perspectives:

transaction cost economics (TCE) and the resource/knowledge-based view (RBV/KBV). Transaction cost economics (TCE) (Williamson, 1979) provides the theoretical framework for organizational boundary decisions aimed at minimizing costs associated with specific investments and opportunistic behaviors of partners when completing transactions. Arguably defined as a hybrid structure, a franchise system can help firms (franchisors) achieve efficient market coordination by deriving benefits from the financial investments made by their partners while establishing control over partners' business operations. Thus, franchisors can gain market power by using relatively little of their own capital (Michael, 2003). Second, from an RBV/KBV perspective (Barney, 1991; Kogut and Zander, 1992), a franchising system can provide franchisors with opportunities to access external resources and knowledge. Since franchisees are efficiently bundled sources of the managerial and informational capital required to ensure franchisors' business success (Stanworth et al., 2004), franchising can make it easier for firms to obtain competitive advantages in the market. Combining the arguments grounded in these two theoretical perspectives, it can be asserted that franchising increases franchisors' competitive power and advantages, which can introduce new competitive dynamics into the market. Hence, the competitive condition within an industry can be an important environmental outcome shaped by an individual firm's engagement in franchising.

In the existing literature, scholars have identified three dimensions of competition: the competition structure, changes to the competition structure, and the nature of competition (Dess and Beard, 1984; Sharfman and Dean, 1991). The competition structure is specified as

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industry concentration and represents the distribution of competitive power among market players (Shepherd, 1972). Changes to the competition structure reflect an unstable distribution of power (Caves and Porter, 1978) (i.e., industry instability). The nature of competition can be characterized as either static or dynamic; these two types of competition depend on firms either depreciating existing assets or producing new strategic assets to outperform rivals (Thomas, 1996). The aim of this research is to investigate how franchising alters these three dimensions of competition – industry concentration, industry instability, and the nature of competition – at the industry level.

Since the services industry is not homogenous, the influence of franchising on industry competition can be contingent on the industry-specific characteristics. In particular, due to the capital intensity and the nature of work performed by franchisees in the hospitality industry, the relationships between franchising and the three dimensions of competition could have different levels of importance, or even different valences in the hospitality industry compared to other services industries. In this vein, the current study aims to investigate how the influence of franchising on industry competition is different in the hospitality industry from in other services industries.

The findings of this study enrich the literature in several ways and have important implications for practitioners. First, by verifying the reverse direction of causality in the Bain/Mason structure-conduct-performance (S-C-P) paradigm, this study reveals impacts on industry-wide competitive conditions as another outcome of franchising. Second, the finding that the relationships between franchising and competitive condition are industry-specific introduces new research considerations about strategy and related environmental outcomes across industries. The noteworthy finding about the different effects of franchising in the hospitality industry compared to other services industries is likely to spark interesting discussions among hospitality scholars. Third, findings from this study could provide managers with practical guidance on which competitive conditions are shaped by franchising, which may help them make better decisions.

2. Literature review and hypotheses development

2.1. Dimensions of industrial and organizational environments

Scholars have used several approaches to conceptualize the industrial environment in industrial organizational economics and strategic management research (Sharfman and Dean, 1991). In the industrial environmental literature, researchers conceptualize business environment as either an objective reality or as a managerial perception, and describe it as having three integrated dimensions: complexity, instability and munificence (Dess and Beard, 1984; Sharfman and Dean, 1991). Complexity represents the heterogeneity of the market and captures how the market is structured (Thompson, 1967). Instability relates to the difficulty in predicting future market conditions; changes in market patterns are regarded as a central source of instability. The last dimension, munificence, concerns the extent to which a competitive market has resources that enable continued growth (Aldrich, 1979); a resourceful business environment provides organizations with growth opportunities and therefore encourages competition (Dess and Beard, 1984).

This theoretical framework provides the dimensions of the industrial environment for this study on the influence of franchising on the competitive business environment. The first dimension of the framework, complexity, is applied to competition structure because complexity indicates the diversity of market structures in which a firm operates (Dess and Beard, 1984; Zahra, 1991). The second dimension of the framework, instability, which reflects industry-level change dynamics (Dess and Beard, 1984; Zahra, 1991), is directly linked to changes to the competition structure in this research. The third dimension of the framework, munificence, reflects whether an industry encourages a type of competition that generates new business

opportunities (Miller and Friesen, 1983). This feature can be represented by the nature of competition between firms (i.e., static vs. dynamic) (Bengtsson and Marell, 2006). The nature of competition within each industry determines the amount of resources in the market and represents the munificence of the industry's business environment. Rooted in this theoretical framework, this research examines the three dimensions of industry competition.

2.2. Hypotheses development

The Bain/Mason S-C-P theoretical framework is based on the notion that structure influences conduct, which in turn influences performance; however, this study is based on the reverse perspective, that a firm's strategy can influence market structure. Jacquemin (1987) suggested that causality does not move in only one direction (i.e., from markets to firms), but is characterized instead by several layers of feedback loops. The interdependence between structure and conduct may imply that an organization's strategy can influence its business environment. Specifically, a firm's strategic actions directly impact competitors' actions and reactions, and indirectly affect the strategic actions of other firms in the market (Ferrier et al., 1999). Such actions can create a business trend that must be considered before the focal firm takes additional actions in the future. The reshaped business environment thus can be considered as an outcome of strategic actions at the firm level.

2.2.1. Franchising and competition structure

The inquiry of the first hypothesis relates to how franchising strategy influences the distribution of power within the industry competition structure. In the industrial organization literature, competitive power is defined as a firm's ability to influence the actions of others in a market (Porter, 1980), and is based upon a firm's relative position within a market, normally reflected by its market share (Shervani et al., 2007). Drawing on the TCE perspective (Williamson, 1979), it is argued that a franchising strategy can influence an individual firm's (franchisor's) competitive power, and consequently influence the power distribution.

The core concept of TCE is that organizational boundary decisions about operational mode (i.e., market, hierarchical, or hybrid) are made to minimize costs related to specific investments and opportunistic behaviors when completing transactions. Arguably, a franchise system can be categorized as a hybrid operational mode because it has characteristics of both the hierarchical and market modes. Specifically, because franchisees' business outcomes are closely linked to the franchisor's business performance and contribute to the franchisor's market position, franchisors control franchisees' operations to minimize opportunistic behaviors (hierarchical mode). However, at the same time, a franchise contract defines franchisees as independent business partners in that franchisees invest their own capital to initiate and manage their businesses. The financial capital contributed by franchisees can be considered low asset-specific investments (market mode). Through this relational mechanism between hierarchies and markets, franchisors are able to improve market coordination efficiency, which increases their ability to gain competitive advantages.

In particular, a market mode of operation enables franchisors to use capital investments from franchisees to decrease the capital burden associated with entering new markets, making it possible for them to obtain better market position while using relatively little of their own capital (Gonzales-Diaz and Solis-Rodriguez, 2012; Park and Jang, 2017). By lowering barriers to entry, franchisors can efficiently build market power and obtain competitive advantages. From an industry-wide perspective, franchising attracts more firms into markets, which become crowded with competitors and thus less concentrated. Based on this argument:

H1. An industry's involvement in franchising leads to a decrease in

industry concentration in services industries.

2.2.2. Franchising and changes to the competition structure

The second argument of this research relates to the influence of franchising on changes to the competition structure. The competition structure evolves due to continuous changes in competitive power, which can be affected by the innovation capability of an industry (Acs and Audretsch, 1990; Mazzucato, 2000). In other words, as more firms engage in innovative activities to improve their own capabilities, intra-industry dynamics related to competitive power increase, leading to structural instability at the industry level.

As an organizational form, the franchising system effectively promotes continuous innovation because it provides franchisors with access to human capital and localized knowledge from external sources (i.e., franchisees) (Winter et al., 2012). From an RBV/KBV perspective (Barney, 1991; Kogut and Zander, 1992), possessing valuable, rare, inimitable, and non-substitutable (VRIN) resources enables a firm to gain and sustain competitive advantages. It can be argued that the resources and knowledge transferred from franchisees to franchisors have VRIN attributes, because they are typically provided by high quality of human resource who possess a self-motivated work ethic and share the franchisor's identity. More importantly, the market knowledge of self-motivated franchisees is essential for franchisors to establish successful market-specific strategies. Several studies have shown that franchisees provide VRIN resources in the form of new strategic ideas, which are key competitive resources (Cox and Mason, 2007; Dada and Watson, 2012). In particular, the human resources and knowledge transferred from franchisees enable franchisors to develop new strategies and innovative business routines (Ketchen et al., 2011). It can be argued that such innovative actions enable individual firms to gain competitive advantages and thus encourage the entire industry to be more innovative, thereby driving changes in the competitive structure (i.e., higher instability) within the industry.

H2. An industry's involvement in franchising leads to an increase in industry instability in services industries.

2.2.3. Franchising and dynamic competition in the market

The nature of competition is another important dimension of industry competition. According to Thomas (1996), recent economic development and globalization have introduced two types of competition: static competition and dynamic (or Schumpeterian) competition. Static competition is based on charging low prices and maintaining an efficient cost structure (Bengtsson and Marell, 2006), which leads to depreciation of existing strategic assets and reduced cash flow. On the other hand, dynamic (or Schumpeterian) competition encourages exploration of new ideas and product or process innovation (Jacobson, 1992; March, 1991). These innovative efforts create new strategic assets that generate new revenue streams (Schumpeter, 1942; Thomas, 1996). As a result, firms introduce diverse strategic assets into markets, which leads to an increase in dynamic resources within an industry and highly variable performance among firms (Bengtsson and Marell, 2006; Thomas and D'Aveni, 2009).

The nature of competition within an industry can be determined by firms' abilities to create new strategic assets (Thomas, 1996). It can be argued that franchising can generate dynamic resourcefulness and thus lead to more dynamic competition within each industry. From an RBV/KBV perspective, franchising can be recognized as an effective mechanism for knowledge transfer from franchisees to franchisors (Winter et al., 2012). The transferred knowledge encourages franchisors to pursue new business endeavors and modify existing business practices. Indeed, Flint-Hartle and de Bruin (2011) showed that almost all of the franchisees in their study demonstrated innovative ways of doing business in addition to the innovative system processes implemented by franchisors. Moreover, through local adaptation efforts, franchisees

develop new market offerings and transform existing ones (Kaufmann and Eroglu, 1999). Furthermore, by organizing coalitions, franchisees use their collective power to influence franchisors and its management processes. Franchisees presumably can pressure a franchisor to innovate business processes. As a result, franchising can increase both resourcefulness and dynamic competition at the industry level.

H3. An industry's involvement in franchising leads to increased dynamic competition within markets in services industries.

2.2.4. Influence of franchising on the competition in the hospitality industry

Since services industries consist of several sub-sectors, the use of franchising varies depending on the business features of each service sector. For example, franchising networks are used extensively in the retailing industry to facilitate the distribution of manufactured goods to customers (i.e., product distribution franchise). However, the franchise system also is popular in the hospitality industry, in which franchisees provide both goods and services, using a franchisor's business concept and know-how (i.e., business format franchise). Brookes and Altinay (2017) compared franchising in the retail and hospitality industries in terms of knowledge transfer and isomorphism, and identified differences in the franchise practices. Their results suggest that franchising induces heterogeneous processes and outcomes in each sub-industry.

In this vein, this study focuses on the uniqueness of the hospitality industry and suggest that the proposed relationships between franchising and the three dimensions of competition could have different levels of importance or valences in the hospitality industry compared to other services industries. Specifically, it is argued that the proposed relationships between franchising and industry competition are likely stronger in the hospitality industry than in other services industries for the following reasons.

First, due to reduced barriers to market entry, franchising can be considered a more effective strategy for business growth in a capital-intensive industry (i.e., the hospitality industry) than in a less capital-intensive industry (Lee et al., 2011; Sheel, 1994; Tang and Jang, 2007). Expanding hotels and restaurants requires a significant amount of capital due to the need to construct buildings and food preparation facilities. The franchise system becomes especially important in an industry comprised of small and medium-sized companies that are assumed to have a constrained ability to invest in fixed assets. Hospitality firms can utilize the franchise system to lower barriers more effectively than firms in other industries (Michael, 2003; Pilling et al., 1995), which encourages more new firms to enter the hospitality industry, and consequently decreases industry concentration more than in other services industries.

H4a. An industry's involvement in franchising leads to a greater decrease in industry concentration in the hospitality industry than in other services industries.

Second, the nature of tasks performed by franchisees could affect how franchising influences competition in the hospitality industry (Yeap, 2006). Unlike other services businesses, hospitality establishments must deliver tangible components such as quality meals and ambience, in addition to high quality customer service (Carman and Langeard, 1980; Ekeledo and Sivakumar, 1998). The dual role of production and service in the hospitality industry not only requires franchisees to possess more intensive business knowledge applicable to complex production and service processes, but also increases opportunities to share their knowledge with franchisors (Winter et al., 2012). Franchisees in the hospitality industry are therefore better positioned to offer suggestions and play a more critical role in improving business processes than franchisees in other industries. Equipped with more knowledge, hospitality firms are more likely to be able to engage in innovative activities than other service firms, which can introduce additional changes and increase instability in the industry's competitive landscape. Furthermore, as discussed previously, due to the capital-

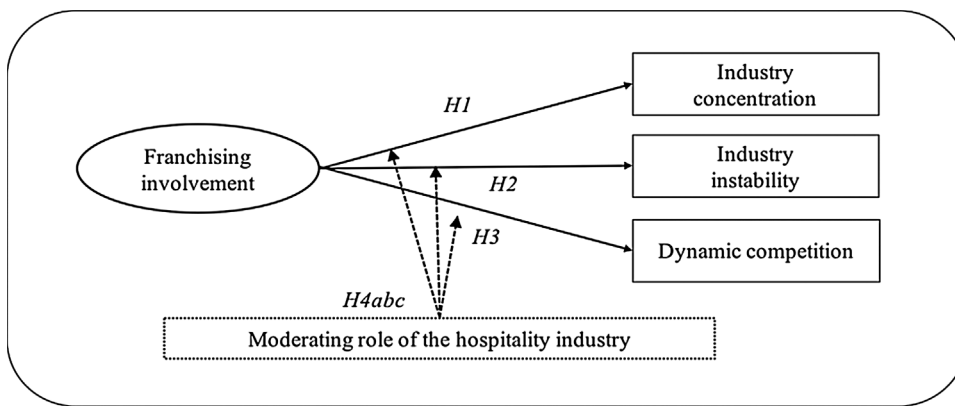


Fig. 1. Model of the influence of franchising on industry competition.

intensive nature of the hospitality industry, franchising has a greater influence on instability in other services industries. Franchising reduces market entry barriers more for hospitality firms than for other service firms, which can result in not only less industry concentration, but also more competitive fluctuations in the hospitality industry. Thus:

H4b. An industry’s involvement in franchising leads to a greater increase in industry instability in the hospitality industry than in other services industries.

Third, the dual aspects of work (i.e., production and service) in the hospitality industry exacerbate the influence of franchising on dynamic competition in the industry. As discussed previously, a great deal of knowledge from franchisees makes it possible for hospitality firms to explore diverse new ideas and attempt to create new strategic assets (Ketchen et al., 2011). As a result, hospitality firms could possess divergent business models, and innovation could be prevalent throughout the industry. Innovative activities can lead to increased resourcefulness and encourage more dynamic competition in the hospitality industry than in other services industries. Therefore:

H4c. An industry’s involvement in franchising leads to greater dynamic competition in the hospitality industry than in other services industries (Fig. 1).

3. Methodology

3.1. Data

The study is based on: (a) firm-level data from annual reports (Form 10 K) submitted to the U.S. Securities and Exchange Commission, (b) firm-level financial data from the COMPUSTAT database, (c) Consumer Price Index (CPI) data from the U.S. Bureau of Labor Statistics, and (d) industry-wide economic data from the U.S. Census Bureau. The study period is from 1991 to 2015.

The sample includes all services industries based on 6-digit NAICS industry classifications, but excludes the finance and insurance industries because financial services and insurance firms are known to have unique characteristics, such as strict governmental regulations and specific accounting policies that distinguish them from other services industries (Damodaran, 2011). For example, since the expansion of banking institutions is heavily regulated (Mitcher and Wheelock, 2013), it is not comparable to the expansion of other service firms because such regulations can influence the banking firms’ strategic actions. In addition, the unique accounting rules for finance and insurance firms affect how they record their earnings and asset values, rendering these variables incomparable to those for other service firms.

3.2. Variables

3.2.1. Degree of industry-wide franchising

The degree of franchising within each industry is operationalized as the ratio of the number of firms engaged in franchising to the total number of firms within an industry.

3.2.2. Industry concentration

For H1, industry concentration is measured using the Herfindahl index, which is defined as the sum of the squared market shares of all firms within a market:

$$Concentration = Herfindahl_j = \sum_{i=1}^I s_{ij}^2$$

where s_{ij} is the market share of firm i in industry j . The Herfindahl index is calculated each year for each industry. According to Hou and Robinson (2006), the Herfindahl measure includes the entire distribution of industry market share information, which provides a complete picture of industry concentration.

3.2.3. Industry instability

For H2, an instability index devised by Hymer and Pashigian (1962) is used to measure industry instability. The instability index tracks changes in market share over time:

$$Instability_j = \sum_{i=1}^I (|s_{ij} - s_{i,t-1,j}|)$$

where s_{ij} is the market share of firm i at time t in industry j . The instability index is calculated each year for each industry. Greater instability reflects greater change in market share in each industry (Sandler, 1988).

3.2.4. Dynamic competition in an industry

According to Thomas (1996), dynamic competition is associated with high performance variance across all firms in an industry. In industries with dynamic competition, each firm tries to create new products and processes that become unique strategic assets for the firm. Since the performance of each industry is decentralized, intra-industry performance variance increases. Performance is measured using Tobin’s q , which is defined as the ratio of a firm’s market value to the replacement cost of its assets. To test H3, the variance of approximate Tobin’s q (Chung and Pruitt, 1994) is calculated within each industry to measure dynamic competition:

$$\text{Approximate Tobin’s } q = (MVE + PS + DEBT)/TA,$$

where MVE is the product of a firm’s share price and the number of common stock shares outstanding. PS is the liquidating value of the firm’s outstanding preferred stock, DEBT represents the value of short-term liabilities (i.e., the net of its short-term assets plus the book value

Table 1
Composition of the sample.

Industry and 2-digit NAICS	N ^a	Total observations		Non-franchising		Franchising	
		N	%	N	%	N	%
Wholesale trade – 42	38	696	13.70%	693	19.73%	3	0.19%
Retail trade 1 – 44	31	561	11.04%	205	5.86%	356	22.81%
Retail trade 2 – 45	18	341	6.70%	173	4.94%	168	10.76%
Transportation – 48	21	399	7.84%	307	8.76%	92	5.90%
Warehousing – 49	3	38	0.75%	13	0.37%	25	1.60%
Information – 51	26	554	10.89%	502	14.31%	52	3.34%
Real estate, rental and leasing – 53	17	277	5.45%	131	3.75%	146	9.36%
Professional, scientific, and technical services – 54	33	562	11.05%	417	11.89%	145	9.29%
Administrative and support, waste management and remediation services – 56	28	492	9.68%	342	9.74%	150	9.63%
Educational services – 61	8	154	3.02%	78	2.22%	76	4.88%
Health care and social assistance – 62	25	478	9.39%	381	10.83%	97	6.22%
Arts, entertainment, and recreation – 71	13	215	4.22%	125	3.56%	90	5.77%
Accommodation and food services – 72	9	146	2.88%	47	1.34%	99	6.35%
Other services (personal, repair, laundry) – 81	15	158	3.11%	97	2.76%	61	3.90%
Total	285	5071	100%	3511	100%	1560	100%

^a Based on 6-digit NAICS

of long-term debt), and TA is the book value of the firm's total assets (Chung and Pruitt, 1994). The variance of approximate Tobin's q is measured as:

$$\text{Var}(q_i),$$

where (q_i) is the approximate Tobin's q of firm i in industry j

3.2.5. Control variables

To mitigate the confounding effect behind the main relationships of interest, this study includes several control variables 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 and Graddy, 1990); and industry GDP, controlling for industry-specific economic capacity (West and Olsen, 1989). It is also possible that the three dependent variables describing industry-level competition attributes are related to each other. To further control for confounding effects among the variables, two other dependent variables are included as control variables when testing each hypothesis.

3.3. Econometric estimation

Since firms' activities are inherently intertwined with their competitive environments, the empirical tests for this research are vulnerable to endogeneity issues. Specifically, while a firm's strategic actions (e.g., franchising) can influence its competitive environment (as proposed in the current research), the competitive environment can concurrently influence the firm's actions. This inter-related association makes it difficult to empirically capture the hypothesized one-way directional causation.

Several techniques were used in this study to help circumvent this problem. First, the sample consists of all services industries, including industries without franchise systems. Including these industries in the sample should weaken the possible simultaneous influence of franchising and an industry's competitive environment. Second, two-stage least-squares (2SLS) estimations (Wooldridge, 2009) were employed. In the first stage, two instrumental variables (i.e., economic recession period and an industry's franchising involvement in the previous year) were used to predict the degree of franchising in an industry based on the relevant literature (Villalonga, 2004; Yogo, 2004).

First, the economic recession period was operationalized using an indicator variable assigned a value of 1 for the business contraction years identified by the U.S. National Bureau of Economic Research. This instrumental variable was used because macroeconomic conditions reflect the health of the overall economy, and thus affect firms' strategic

decisions. However, an economic recession is not likely to affect the competitive condition of an industry since all firms are exposed to the same condition (Bascale, 2008). Scholars have used this macroeconomic instrument in previous research (e.g., Campa and Kedia, 2002; Villalonga, 2004) based on the assumption that it satisfies the two conditions of instrument validity (i.e., relevance and exogeneity).

Second, an industry's involvement in franchising in the previous year, which is a lagged endogenous regressor, was operationalized based on suggestions in the literature that current changes to some variables will be uncorrelated with all outcomes (Yogo, 2004). It is worth mentioning that the business environment in a given year cannot be correlated with the industry's involvement in franchising in the previous year because firms decide what to do "based on a completely unpredictable random variable that indexes all the information available in that year that was not incorporated in the planning process the year before." (Hall, 1988, p. 340). This argument provides a theoretical basis for using a lagged endogenous variable as another instrument in this investigation.

Together, these instruments provide a strong and valid way to estimate the 2SLS (Murray, 2006). In the second stage, the effects of predicted franchising involvement on the dimensions of competition were tested, along with the control variables. Furthermore, to mitigate the unobserved effects among entities and years and to correct deflated standard errors that could generate problems in the panel data sets the White/Huber robust estimator of the variance-covariance matrix was used (Petersen, 2009).

4. Results

4.1. Sample

The sample consists of repeated observations of 285 services industries based on 6-digit NAICS industry classifications from 1991 to 2015. As mentioned in section 3.1, the sample excludes the finance and insurance industries (2-digit NAICS code 52), because finance and insurance service businesses differ from other types of service businesses. Table 1 summarizes the composition of the sample. Overall, wholesale trade (NAICS code 42) and retail trade 1 and 2 (NAICS codes 44 and 45) comprise 31.44% of the sample, and the professional, scientific and technical services (NAICS code 54) and information (NAICS code 51) industries constitute 11.05% and 10.89% of the sample, respectively. Among the 285 services industries, 102 industries (including six hospitality industries) are reported as having franchise system. The unbalanced panel yields 5071 total observations, 1560 of which (30.8%) relate to industries with franchise systems. Among those 1560

Table 2
Descriptive statistics (N = 5071).

Variables	Mean	SD	Min	Max
Industry franchising ^a	0.1142	0.2359	0	1
Industry concentration	0.4419	0.2519	0.0274	1
Industry instability	0.1458	0.1774	0.00001	1.9984
Dynamic competition (millions)	573	22	0.0000	1340000
Industry total revenue (millions)	22	68	0	921
Number of firms	11.98	34.081	1	647
Industry GDP (millions)	576273	358801	39005	2247682

^a Measured as ratio of the number of firms involved in franchising to the total number of firms within each industry.

observations, 99 relate to the hospitality industry and 1461 relate to other services industries.

4.2. Descriptive statistics

The mean value of the degree of franchising involvement, measured by the ratio of the number of firms engaged in franchising to the total number of firms in each industry is 0.1142. This means that, on average, 11.42% of firms in each service industry are engaged in franchising. The three dependent variables – industry concentration, market instability, and dynamic competition – have mean values of 0.4419, 0.1458, and \$573 million respectively (Table 2).

As shown in Table 3, correlations between the independent variable, *industry franchising* (degree of franchising measured by the ratio of the number of firms involved in franchising to the total number of firms within each industry) and the dependent variables (*industry concentration*, *industry instability*, and *dynamic competition*) are statistically significant ($p < 0.01$). Furthermore, none of the explanatory variables are highly correlated, thus multicollinearity does not significantly distort the statistical estimation results.

4.3. Primary analyses

Table 4 presents the results of 2SLS estimation used to test the hypotheses. Six models were built, one for each dependent variable, to test the hypothesized relationships. All six models are based on 4704 observations (not the 5071 observations indicated in the descriptive statistics) because lagging the degree of industry franchising requires data to be available for the previous year. Statistically significant *F*-statistics offer evidence that all models demonstrate good fit with the data ($p < 0.001$).

The instrumental variable estimation used to test the main hypothesis requires additional statistical tests to determine instrument validity. The first-stage estimation yields 96% of R^2 , suggesting that 96% of industry franchising involvement is explained by the instruments. Thus, the instruments are valid for predicting the endogenous variable. The result of an under-identification test shows that the model is not under-identified ($p < 0.001$) (Kleibergen-Paap *rk* LM

Table 3
Pearson correlation test.

	1	2	3	4	5	6	7
1. Industry concentration	1						
2. Industry instability	-0.417**	1					
3. Dynamic competition	-0.101**	.054**	1				
4. Industry franchising ^a	.057*	-0.052**	-0.081**	1			
5. Industry total revenue	-0.231**	-0.028*	.150**	-0.054**	1		
6. Industry GDP	-0.057**	-0.100**	.071**	-0.051**	.077**	1	
7. Number of firms in industry	-0.293**	.090**	.286**	-0.077**	.283**	.062**	1

* $p < 0.05$.

** $p < 0.01$.

^a Degree of franchising in an industry measured as the ratio of the number of firms involved in franchising to the total number of firms within each industry.

statistic = 547.163). Third, a weak identification test yields a Montiel-Pflueger *F*-statistic of 41861 at the 0.05 confidence level, which exceeds a critical value when τ is 5%. Based on the result, the null hypothesis is rejected that the approximate asymptotic bias of the estimator exceeds the fraction τ of a worst-case benchmark (Pflueger and Wang, 2014). Together, these tests show that the instruments are valid for the model specification (Wooldridge, 2009).

In Table 4, Models 1 and 4 show that in general, the degree of franchising in an industry does not have a significant effect on industry concentration, and the hospitality industry does not moderate this relationship at the significant level of 0.05. Thus, Hypotheses H1 and H4a are not supported. Model 2 shows that although the degree of franchising in an industry has a statistically significant effect on industry instability ($p < 0.05$), the effect is in the opposite direction of that proposed in Hypothesis H2. Therefore, Hypothesis H2 is not supported. Model 3 shows that although the degree of franchising in an industry has a statistically significant effect on dynamic competition ($p < 0.001$), the effect is also in the opposite direction of that proposed in Hypothesis H3. Thus, Hypothesis H3 is not supported. Models 5 and 6 show that in the hospitality industry, the negative effect of franchising on industry instability and dynamic competition is weaker than in other services industries. In other words, franchising decreases industry instability and dynamic competition less in the hospitality industry than in other services industries. In Model 5, the positive and significant coefficient of the interaction between the degree of franchising in the hospitality industry and industry instability suggests that Hypothesis H4b is supported ($p < 0.05$). In Model 6, the positive and significant coefficient of the interaction between the degree of franchising in the hospitality industry and dynamic competition supports Hypothesis H4c ($p < 0.05$).

5. Discussion and conclusions

The objective of this study was to discover how franchising influences competitive conditions at the industry level. Franchising has enabled many firms to expand by providing access to external resources and knowledge (Combs et al., 2011; Michael, 2003) that yield potential competitive advantages (Barney, 1991; Kogut and Zander, 1992; Porter, 1980). Franchising also can facilitate efficient transactions with business partners (franchisees), thereby improving market coordination (Williamson, 1979). As a result, the intra-industry competition induced by franchising could become more active and dynamic. Based on this rationale, this study explored the conjecture that the degree of an industry’s involvement in franchising can change the competitive environment of the entire industry. Specifically, the focus of this study was to examine the influence of franchising on three dimensions of the competitive environment at the industry level.

The empirical results provide evidence that franchising significantly influences the competitive environment of services industries in general, although the directions of influence are opposite to those hypothesized for two dimensions; specifically, increased involvement in

Table 4
Results (N = 4704).

	Model 1:	Model 2:	Model 3:	Model 4:	Model 5:	Model 6:
	Industry concentration	Industry instability	Dynamic competition	Hospitality industry concentration	Hospitality industry instability	Hospitality dynamic competition
Hypothesized relationship	(-)	(+)	(+)	(-)	(+)	(+)
Industry franchising ^a	0.024 [0.031]	-0.174 [*] [0.087]	-0.981 ^{***} [0.185]	0.026 [0.031]	-0.223 [*] [0.091]	-1.061 ^{***} [0.196]
Hospitality industry				-0.446 ^{***} [0.103]	-0.823 ^{***} [0.178]	-0.078 [0.328]
Industry franchising x hospitality industry				-0.031 [0.170]	0.668 [*] [0.296]	1.109 [*] [0.470]
Industry total revenue	-2.188 ^{***} [0.156]	-2.106 ^{***} [0.166]	4.037 ^{***} [0.810]	-2.187 ^{***} [0.156]	-2.111 ^{***} [0.166]	4.024 ^{***} [0.809]
Industry GDP	-0.062 [0.038]	-1.099 ^{***} [0.072]	0.864 ^{***} [0.236]	-0.062 [0.038]	-1.097 ^{***} [0.072]	0.865 ^{***} [0.236]
Number of firms in industry	-0.005 ^{***} [0.001]	-0.002 ^{***} [0.0002]	0.024 ^{***} [0.003]	-0.005 ^{***} [0.001]	-0.002 ^{***} [0.0002]	0.024 ^{***} [0.003]
Industry concentration		-0.752 ^{***} [0.032]	-0.251 ^{**} [0.091]		-0.751 ^{***} [0.032]	-0.250 ^{**} [0.091]
Industry instability	-0.171 ^{***} [0.006]		0.106 [*] [0.046]	-0.171 ^{***} [0.006]		0.104 [*] [0.046]
Dynamic competition	-0.007 ^{**} [0.003]	0.013 [*] [0.006]		-0.007 ^{**} [0.003]	0.013 [*] [0.006]	
Constant	-1.274 ^{***} [0.030]	-2.561 ^{***} [0.066]	-0.587 ^{**} [0.221]	-1.274 ^{***} [0.030]	-2.557 ^{***} [0.066]	-0.584 ^{**} [0.221]
F	150.98 ^{***}	70.69 ^{***}	41.57 ^{***}	143.45 ^{***}	67.00 ^{***}	39.47 ^{***}
R ²	0.81	0.84	0.17	0.81	0.84	0.17

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

^a Degree of franchising in an industry measured as the ratio of the number of firms involved in franchising to the total number of firms within each industry; numbers in brackets contain White/Huber robust standard errors.

franchising has a negative impact on industry instability (H2) and dynamic competition (H3). Although these findings fail to support the hypotheses, they offer evidence on how franchising can alter industry competition that could be valuable to both scholars and practitioners. In addition, results related to the moderating effect of the hospitality industry demonstrates that the negative impacts of franchising on instability (H4b) and dynamic competition (H4c) are weaker in the hospitality industry than in other services industries. These findings support our hypotheses and reveal that the influence of franchising on industry-wide competition is not identical across all services industries; rather, the effects depend on industry characteristics (e.g., capital-intensity and the dual roles of production and service in the hospitality industry).

Our findings on the relationships between an industry’s involvement in franchising and two dimensions of competitive environment (i.e., industry instability and dynamic competition) in services industries are noteworthy. The negative influence of franchising on industry instability indicates that competition structures change less in industries in which more firms are engaged in franchising. In other words, franchising generally supports a more stable market structure in services industries. The negative impact of franchising on dynamic competition at the industry level implies that increased involvement in franchising leads to a higher likelihood of static competition. Thus, it can be inferred that, rather than acquire new strategic assets, services firms are likely to use franchising to achieve economies of scale. Since economies of scale promote the establishment of efficient cost structures (Waschik et al., 2010), it can be inferred that services firms engaged in franchising tend to pursue discounting strategies to maintain market competitiveness, thereby rendering them more homogenous and less likely to engage in innovation activities. Under such market conditions, the competition structures of services industries are likely to remain stable without significant changes (Bentsson and Marell, 2006; Kay and Vickers, 1988), and dynamic competition is likely to be thwarted.

Findings of this study show that franchising may not have a uniform effect on industry competition across all service sectors due to unique characteristics of each industry. Particularly, in the hospitality industry, franchising has weaker negative effects on industry instability and

dynamic competition. First, increased involvement in franchising is associated with more fluctuation in the competition structure in the hospitality industry than in other services industries. Without franchising, the high amount of capital required to establish or expand a hospitality business (IFA, 2006; Lee et al., 2011; Sheel, 1994; Tang and Jang, 2007) might limit strategic actions that lead to effective changes within the hospitality industry’s competitive structure. However, the findings suggest that franchising provides franchisors with access to external financial resources that help them overcome industry limitations. In other words, the negative effect of franchising on industry instability is reduced for hospitality firms because investment from franchisees help them meet the higher capital requirements necessary to grow their businesses.

Second, the study also found that the negative effect of franchising on dynamic competition is weaker in the hospitality industry compared to other services industries. In other words, franchising decreases dynamic competition in the hospitality industry less than in other services industries. This finding implies that in the hospitality industry (vs. other services industries), franchising better supports the creation of new strategic assets, and as a result, negative impacts on dynamic competition are weaker. Compared to other services industries (e.g., wholesale or retail trade) in which firms may only need to concentrate their efforts on the quality of service and may not need to engage in the production process, running a hospitality business requires managers to additionally focus on delivering high quality products such as innovative menu items or hotel rooms with the appropriate ambience (Carman and Langeard, 1980; Ekeledo and Sivakumar, 1998). Franchisees may have more opportunities to suggest ideas for improving the quality of hospitality products or services, and thereby may influence business processes more than franchisees in other industries. This may demonstrate why the franchise system has a less negative impact on dynamic competition in the hospitality industry than in other industries.

In addition, findings of this study indicate that the relationship between the degree of franchising in an industry and industry concentration is non-significant. Franchising has been a popular business practice since the 1950s (Dant et al., 2011); because it decreases

barriers to market entry, all types of service firms can benefit from franchising, regardless of size. Since the practice is so widespread, the degree of franchising therefore may not have a significant influence on concentration in the services industries.

Our findings contribute theoretically to the literature by not only verifying the premises from previous literature, but also revealing new associations between franchising and industry competition. Our findings demonstrate that firms' strategic actions significantly influence market conditions, in contradiction to the Bain/Mason framework, which proposes causality in the reverse direction. The findings also support the RBV/KBV perspective (Barney, 1991; Kogut and Zander, 1992), but in an industry-specific manner, by showing that franchising can better equip hospitality firms (franchisors) with resources and/or knowledge from their partners (franchisees), thereby moderating the negative effects on industry instability and dynamic competition. In particular, it may be implied that the franchising system's role in providing resources and knowledge that create competitive advantages is more critical in the hospitality industry than in other services industries due to uniqueness industry characteristics.

The findings of this study also have several practical implications. First, a franchising strategy leads to a more stable market structure and fewer new strategic assets within services industries overall. Managers of services businesses may find that as they engage more in franchising, they become more likely to experience stable market conditions and static competition based on prices. These types of competitive conditions can create more pressure on firms to defend their current positions against attacks from competitors (Porter, 1980), which drives down industry profitability (Ravenscraft, 1983). However, the findings from this study, also show that in the hospitality industry, franchising introduces more active and dynamic competition into the market compared to other services industries. Franchising may enable hospitality managers to engage in activities aimed at innovation and implement diverse strategies with new strategic assets more than managers in other services industries. Therefore, hospitality practitioners need to establish robust communication channels with their franchisees and encourage them to make business suggestions that support innovation and diverse strategies.

This research is not free from limitations. The findings are limited by the sample composition and study period. Specifically, the results are influenced by survival bias. The sample only includes surviving and existing firms that typically out-competed their rivals and does not include firms that exited the market during the sample period. Also, the sample consists of firms that are publicly traded on the U.S. 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 period from 1991 to 2015 for which franchising data are readily available. Thus, the findings may be valid only for the most recent service business practices. In future research, scholars could incorporate data from private firms and delisted or closed business over an extended study period to investigate the impact of franchising on the competitive environment more precisely.

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