SIBLING RIVALRY VS. COUSIN SOLIDARITY: HOW OWNERSHIP AND CO-LOCATION INFLUENCE PERFORMANCE IN A FRANCHISE CHAIN

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ABSTRACT

This study examines the performance implications of unit co-location, defined as the presence of several units affiliated with the same multiunit chain in a common market. We analyze whether the performance of a corporate unit is influenced by co-located same-chain units, distinguishing the effects by ownership structure. We argue that corporate ownership and franchising entail different managerial incentives that influence the nature of within-chain interactions. We predict that a corporate unit’s revenue performance and operational efficiency benefit more from co-located franchised cousins than from co-located corporate sisters. We support our predictions using data from the hotel industry. Our study contributes to the multiunit chain and franchising literatures. We also provide insights on how firms can configure their subsidiary units.

Key words: Multiunit chains; corporate ownership; franchising; within-chain rivalry; hotel industry.

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INTRODUCTION

Firms face many decisions when considering how to configure their subsidiary units. These configuration decisions relate to the markets to enter, the intensity of the entry, and the ownership form to be used to govern units. In turn, such decisions, by affecting competition and cooperation between units (Tsai, 2002; Vroom, 2006), have performance implications, both for the overall firm as well as for individual units. Our study investigates how a firm’s configuration decisions about its subsidiary units affect unit performance. Specifically, we study whether the performance of a firm’s subsidiary unit is influenced by the number and governance of other subsidiary units of the same firm located in the same market. We examine this question by leveraging the literatures on multiunit chains and franchising. The multiunit chain literature considers how unit co-location, defined as the presence of several same-chain units in a common market, influences the performance of both the overall firm and individual units (Baum and Mezias, 1992; Kalnins, 2004; Pancras et al., 2012). The franchising literature speaks to the governance differences between franchised and corporate chain units and resulting behaviors and performance implications (Bradach, 1997; Yin and Zajac, 2004). We combine these literatures and consider how the performance of a chain’s unit is influenced by other same-chain units located in the same market, distinguishing corporate units and franchised units.

Specifically, the multiunit chain literature discusses the tensions between competition and coopetition among co-located same-chain units. Within this work, some scholars find evidence of competitive interactions in the form of sales cannibalization (Ingram and Baum, 1997a; Pancras et al., 2012). Other scholars found improved operational performance for co-located same-chain units, primarily due to enhanced monitoring (Lu and Wedig, 2013) and positive knowledge spillovers (Greve, 2003; Alcácer and Delgado, 2016; Rawley and Seamans, 2015). In parallel, the franchising literature examines how cooperation and competition interactions among same-chain
units arise from the units’ ownership, distinguishing corporate ownership and franchising. On the cooperation side, this work highlights the existence of knowledge transfers between same-chain franchised and corporate units, in that franchised units often make operational improvements to the business template, which may diffuse to the whole chain (Bradach, 1997; Kalnins and Mayer, 2004; Knott, 2003; Yin and Zajac, 2004). Other scholars found evidence of competition interactions between co-located same-chain corporate and franchised units, highlighting that encroachment and resulting sales cannibalization may harm the units’ revenues (Kalnins, 2004; Kalnins and Lafontaine, 2004; Perryman and Combs, 2012). Overall, the received literature indicates that cooperation and competition interactions are evident when same-chain corporate and franchised units co-exist in a common market. However, few studies have investigated the net impact of this coexistence on unit performance. A notable exception is a study by Butt and colleagues (2018), who have recently shown that for mature units, benefits from within-chain knowledge transfers are offset by increased competition. Butt and colleagues thus found that the revenues of mature corporate outlets is relatively unaffected by nearby outlets. This study, however, has not examined whether the performance of a focal chain unit is influenced in the same way by co-located same-chain corporate and franchised units. We address this question in our study.

Overall, our study attempts to tease out the cooperation and competition effects at the unit level. We develop an argument based on managerial incentives, distinguishing incentives used in corporate ownership from those used in franchising. The franchising literature contends that by governing managerial action, managerial incentives influence unit performance. We extending this view to co-located same-chain units and claim that a manager’s incentives, by governing within-chain competition and cooperation interactions, also have a crucial impact on the performance of
other same-chain units established in the same market. Specifically, we argue that franchisees’ incentives lead them to cooperate with managers of nearby corporate units, whereas managers of co-located corporate units are incentivized to be more competitive. Thus, we hypothesize that a focal corporate unit benefit more from co-located same-chain franchised “cousin” units than from co-located corporate “sibling” units. We find empirical evidence to support our logic through an analysis of sales and cost data for 369 corporate hotels affiliated with the same hospitality chain.

We provide several important contributions to the strategic management literature. We extend agglomeration research by considering both revenue and efficiency outcomes, as well as by incorporating ownership structures. In essence, we find that co-located corporate units have competitive interactions while franchisees provide co-located corporate units with positive agglomeration effects. Further, we contribute to the multiunit chain and franchising literatures by showing that the incentives given to a unit manager influence not only the unit’s performance but also the performance of co-located same-chain units. We also extend this literature by specifying the impact of unit co-location on two crucial metrics of unit performance: revenue performance and operational efficiency. In addition, our work provides nuances to research on how an individual manager reacts to proximate fellow managers, distinguishing those she would consider to be close personal rivals and those who do not pose a career threat. This has important implications for cooperation and competition within firms and governance-mode decisions.

**THEORETICAL BACKGROUND**

Research traditionally uses agglomeration theory to examine interactions between firms established in the same local market (Marshall, 1920; see also McCann and Folta, 2008, 2009). This theory asserts that market co-location heightens demand by reducing customer search costs. It also provides production enhancements by giving access to specialized labor and supplies and
by fostering interfirm knowledge spillovers. This theory adds that the extent to which market co-location influences the performance of co-located firms depends on differentiation. Baum and Mezias (1992) thus show that the intensity of competition among hotels depends on their similarity in terms of size, prices, and geographic location (see also Kalnins, 2016). Agglomeration theory also suggests that resource-constrained firms benefit more from co-location than well-endowed firms, who have comparatively more to lose when their resources spill over to competitors (Alcácer and Chung, 2007; Knott, Posen, and Wu, 2009; Shaver and Flyer, 2000). Drawing upon this view, scholarly work on the hotel industry traditionally suggests that a hotel experiences higher revenues when its market contains more large and more high-end hotels as these establishments have amenities and conduct advertising that attract extra customers to the market (Chung and Kalnins 2001; Canina, Enz, and Harrison, 2005).

Although agglomeration theory offers key insights on market co-location in general, it is limited in explaining benefits for chains that operate several units in the same local market, since this theory assumes that co-located rivals are independent firms, offering heterogeneous products (Chung and Kalnins, 2001; Canina et al., 2005; Kalnins and Chung, 2004). But, same-chain units are part of the same supra-ordinate organization, thereby offering homogenous products (Kosová and Lafontaine, 2012). The multiunit chain literature has examined some implications of unit co-location, such as noting that co-located same-chain units often engage in price-based competition, which ultimately decreases unit performance. For instance, Ingram and Baum (1997a) look at the survival rate of Manhattan hotels during 1898-1980, a time period characterized by an over-representation of chains owning all of their hotels. They find that, although chain affiliation improves unit survival, the number of co-located same-chain hotels decreases it, because of fiercer intra-chain competition and ensuing sales cannibalization. Other work shows that co-located same-
chain units have efficiency-related interactions, in the form of sharing operational practices (Baum and Ingram, 1998; Ingram and Simons, 2002; Lu and Wedig, 2013; Kalnins and Mayer, 2004). This localized diffusion of tacit knowledge about operational practices may help co-located same-chain units enhance operational efficiency.

The multiunit chain literature, exemplified by Baum and Ingram’s seminal studies on the Manhattan hotel industry (Ingram and Baum, 1997a, 1997b; Baum and Ingram, 1998), has generally assumed a common, corporate ownership for all units. In contrast, the franchising literature considers a mix of corporate and franchised units within a system and even within a single market. In essence, this line of research asserts that franchising is preferred for units established in locations that are unfamiliar to the franchisor due to different demographics, regulations, culture, and other characteristics (Blair and Lafontaine, 2005; Combs et al., 2011). As such, the overall franchise system will include a mix of corporate and franchised units, with the objective to optimize system-wide performance. However, firms can and do operate both franchised and corporate units in a common local market (Kalnins and Lafontaine, 2004). Michael (2009) suggests that a franchisor does this to show commitment to a new market by operating its own outlets and thereby attracting better franchisees. Recently, Perryman and Combs (2012) argue that a mix of co-located corporate and franchised outlets actually is the result of a failed attempt at multiunit franchising. The franchisor would have preferred a franchisee to operate several units, but when this does not occur, the franchisor takes over, resulting in mixed ownership for that location. Ater and Rigbi (2015) claim that franchisors should have at least one corporate unit in each of the markets in which they are present, as a way to control the prices set by franchised units.

Further, the franchising literature finds significant performance differences between same-chain corporate and franchised units. On the revenue side, it suggests that prices and sales volumes
of franchised units are on average higher than those of corporate units (Ater and Rigbi, 2015; Blair and Lafontaine, 2005; Lafontaine and Slade, 1997). Kosová, Lafontaine, and Perrigot (2013) show that endogenizing the ownership choice eliminates any observed price and sales volume differences between corporate and franchised hotels. Kalnins (2017) puts this work forward, distinguishing market segments based on levels of quality. He shows that, even after accounting for ownership endogeneity, corporate units exhibit higher prices than franchised units within high-quality chains, whereas franchised units price higher than corporate units in lower quality chains. On the efficiency side, scholarly work emphasizes that the costs of operations are generally higher in corporate units than in franchised units (Shelton, 1967; Kaufmann and Lafontaine, 1994; Krueger, 1991). With respect to quality, the effect of the ownership structure is less straightforward. On one hand, a franchised unit might provide higher quality than a corporate unit if the costs of higher quality are offset by greater revenues. On the other hand, a franchisee may free-ride on the franchisor’s reputation and decrease costs by lowering service quality (Jin and Leslie, 2009; Michael, 2000). Yet, recent research emphasizes that such a free-riding behavior of franchisees, although theoretically sound, actually is an infrequent, short-term strategy since “the prospect of additional outlets gives multi-outlet franchisees a strong incentive to maintain standards” (Perryman and Combs (2012: 375; see also Gillis et al., 2011).

The franchising literature posits that the incentives affiliated with ownership structure are what drive the differences in revenue performance and operational efficiency between corporate and franchised units. Corporate managers are motivated to move up the corporate ladder and compete with fellow divisional managers (Yin and Zajac, 2004). Promotion decisions are typically based on how well managers use practices specified by the franchisor, as well as performance goals, such as achieving benchmarks for sales, costs, and market share (Bradach, 1997; Vroom
and Gimeno, 2007). Among these, revenue performance is a key metric, given the high levels of fixed costs in the industries that are dominated by multiunit, franchise chains. Thus, corporate managers have strong incentives to increase revenues. However, these managers do not have the incentives to deeply understand the local market, as they rarely remain at the same location for an extended time. Thus, they may not be able to increase local demand. However, they do generally have some discretion to change prices and make discounts, as long as they remain within the price range specified by headquarters (Lafontaine, 1999). They may therefore increase sales volumes via discounts when demand is price-elastic, which is typically the case in lower-quality market segments (Enz, Canina, and Lomanno, 2009; Kalnins, 2017). Being the residual claimant to the profits from the hotel’s operations (net of royalties and other fees to the franchisor), a franchisee also seeks to increase revenues. Yet, he is unlikely to seek to increase revenues by decreasing prices. As Vroom and Gimeno (2007: 904) state, “because the franchisees bear the full unit costs but only capture a portion of unit revenues, their incentives to cut prices to generate additional volumes and revenues is reduced.” Rather, a franchisee may seek to increase revenues by increasing volumes via leveraging his local market knowledge, such as through investing in local ad campaigns or sponsoring local events. Moreover, franchisees are committed to the local market, as they are likely to remain in that location, potentially growing through buying additional units (Kaufmann and Lafontaine, 1994; Perryman and Combs, 2012; Gillis et al., 2011).

The franchising literature also suggests that the incentives used in corporate ownership and franchising explain why franchised units often have higher operational efficiency than corporate units. Being residual claimants, franchisees can fully appropriate any gains from operational improvements; they are thus highly motivated to use efficient operational practices, which is less important to corporate managers (Freedman and Kosova, 2014; Gillis et al., 2014). As Lafontaine
and Kaufmann (1994: 102) state, “franchised units provide innovative ideas and reality checks on
decisions that might remain unchallenged under the authority-based management of company-
owned chains.” As such, franchisees are free to experiment and change practices to best fit the
local context, likely achieving higher operational efficiency than corporate units (Bradach, 1997;
Krueger, 1991; Shelton, 1967; Sorenson and Sørensen, 2001). Corroborating this view, Kashyap
and Murtha (2017) find that franchisees often go beyond formal contractual requirements and
exhibit a willingness to take initiative, as a way to take into account local market conditions.
Ultimately, such a rule breaking often enhance unit performance, “even if at the expense of the
franchisee–franchisor relationship” (Kashyap and Murtha, 2017: 141). In contrast, the practices of
a corporate unit are an amalgamation of practices from across the chain, addressing common
problems, but not tailored to a specific market, thus likely resulting in lower operational efficiency
for a particular local unit. Overall, the franchising literature emphasizes that franchisees often
make valuable operational enhancements based on the specificities of the local context, whereas
corporate managers are encouraged to adhere to the franchisor’s practices, which often do not have
a perfect fit with the local market conditions. In turn, the varying practices across governance result
into higher operational efficiency for franchised units than for corporate units.

In sum, the extant literature suggests that distinct incentives in corporate ownership and
franchising explain why corporate managers seek to increase revenues by competing on prices,
whereas franchisees commonly undertake actions aimed at increasing demand. Distinct incentives
in corporate ownership and franchising also explain why franchised units engage in more
customized practices, resulting in higher operational efficiency, than corporate units. Overall,
research provides key insights about the impact of incentives on actions and performance in
corporate and franchised units, Yet, it has not closely examined how the performance of a focal
unit is influenced by the revenue-related and efficiency-related actions of other same-chain corporate and franchised units established in the same market. We next address this issue by examining how a corporate unit’s revenue performance and operational efficiency are influenced by co-located same-chain units, distinguishing corporate sisters and franchised cousins.

**HYPOTHESIS DEVELOPMENT**

Building upon recent research on localized within-chain rivalry (Butt et al., 2018; Lu and Wedig, 2013; Rawley and Seamans, 2015), we presume in this study that upper-level executives choose locations and governance modes of individual units to benefit the entire chain. We thus follow extant research and assume that the local mix of same-chain corporate and franchised aims to maximize system-wide performance. Ceteris paribus, we would also expect a beneficial effect of unit co-location at the unit level. However, it is difficult to balance system-wide versus unit-level performance, especially since corporate ownership and franchising entail distinct incentives, resulting into distinct revenue-related and efficiency-related actions, as summarized previously. With these assumptions in mind, we next examine the extent to which the revenue performance and operational efficiency of a focal corporate unit are influenced by co-located same-chain corporate and franchised units.

**Unit co-location and revenues**

We first posit that the revenue-related actions of corporate managers are likely to result into competitive interactions between co-located same-chain corporate units. We mentioned in our literature review that the career-based incentives of corporate managers often lead them to engage into revenue-related actions. In particular, they are likely to seek to increase sales volumes via discounts, especially in lower-quality market segments where the demand is price-elastic. However, such a behavior may eventually create a prisoner’s dilemma at the local level.
Maintaining prices would be the best strategy for all co-located corporate units, but all corporate managers are likely to make discounts, anticipating that such a competitive action would result in higher sales and higher revenues, and thus into better career advancement prospects. Eventually, all managers of co-located corporate units may experience a decrease in their revenue performance, driven by reduced unit prices.

We also mentioned that incentives explain why franchisees commonly seek to increase revenues by leveraging their local market knowledge, such as through investing in local ad campaigns or sponsoring local events. However, customers likely cannot identify the unit at the origin of such actions (Freedman and Kosova, 2014). As a result, any demand-generating actions that franchised units may undertake to increase their revenues will eventually benefit all co-located same-chain units. This means that a focal corporate unit with franchised cousins nearby may ultimately benefit from an increased number of customers, achieving higher sales volumes, and thus higher revenues.

Overall, we claim that personal career incentives lead co-located corporate sisters to engage in a ‘sibling rivalry’, which leads them to compete on price, and this effect will be intensified with a greater number of nearby corporate units. In contrast, the profit-based incentives of franchising lead co-located franchised cousins to exhibit ‘cousin solidarity’ toward a focal corporate unit. They often undertake demand-generating tasks that increase volume demand for all. Likewise, this effect will be more pronounced as there are a greater number of co-located franchised units who will all tend to cooperate to increase demand. Assuming that the units’ location and governance benefit the entire chain, we predict:

_Hypothesis 1a: The beneficial effect of same-chain co-location upon revenues for a corporate unit is weaker, the greater the number of nearby corporate units._
Hypothesis 1b: The beneficial effect of same-chain co-location upon revenues for a corporate unit is stronger, the greater the number of nearby franchised units.

Unit co-location and efficiency

We emphasized in our literature review that the franchisor’s system-wide practices generally do not perfectly fit with local market conditions. Thus, managers of chain units often seek to maximize operational efficiency by tweaking operational practices, which is done via exploitation for corporate managers and via exploration for franchisees (Sorensen and Sorenson, 2000). We also mentioned that franchisees have more nuanced knowledge about what locally drives operational efficiency and how to improve it than corporate managers, since they are the residual claimants and often have a longer tenure in any particular market (Kennedy and Fulford, 1999). It follows that franchisees are generally able to make better local adaptations than corporate managers. Somewhat ironically, corporate managers often have a poor understanding of the intricacies of the whole business template, which regularly leads them to make template modifications that turn out to be deleterious to operational efficiency (Szulanski et al., 2004; Winter et al., 2012). We next draw upon these ideas and claim that the operational efficiency of a focal corporate unit benefits more from co-located franchised cousins than from co-located corporate sisters.

A corporate manager seeking to maximize its unit’s operational efficiency by tweaking the operational template is constrained by his limited understanding of local market conditions and resulting drivers of operational performance. Research thus claims that unit managers constantly scrutinize same-chain units located in the vicinity and often replicate the changes implemented by their peers, both corporate and franchise units (Darr, Argote, and Epple, 1995; Darr and Kurtzberg 2000, Kalnins and Mayer, 2004). As Baum and Ingram (1998) highlight: “Copying other hotels is common practice, and considered vital to success in the industry. One article describing methods
to improve hotel effectiveness warned, ‘any hotel man who does not visit and inspect at least ten hotels a year is slipping. When I say inspect the hotels, I mean that you must start at the roof and go to the basement and listen to the good points the manager has to offer’ (Hotel Monthly, October, 1939: 38)”. However, research claims that franchised units often have more efficient operational practices than corporate units. It follows that a corporate unit is more likely to be able to undertake operational improvements by replicating template modifications made by co-located franchised cousins than by imitating co-located corporate sisters.

In sum, a corporate manager may gain more valuable knowledge about how to improve her operational practices from nearby franchised cousins. Operational practices affected by within-chain knowledge sharing include procurement processes, employee job descriptions and compensation requirements, renovation and refurbishment activities, and routines related to day-to-day operations such as energy use, advertising and promotion, and administrative practices. Any change in these operational practices is likely to influence a hotel’s cost efficiency. Again, we built on extant research and assume that the units’ location and governance benefit the entire chain. Thus, we predict:

\textit{Hypothesis 2: the operational efficiency of a focal corporate unit benefit more from co-located franchised cousins than from co-located corporate sisters}

**EMPIRICAL ANALYSIS**

**Research Setting and Data**

This study uses data from the hotel industry. This is an appropriate context for our study due to the prevalence of multiunit franchise chains and geographic clustering. Numerous studies of localized rivalry have used the hotel industry as an empirical setting (e.g., Baum and Ingram, 1998; Canina et al., 2005; Freedman and Kosová, 2012; Kalnins, 2016; 2017; Kalnins and Chung, 2004). Despite an extensive number of studies, this work has either investigated chain-level or
unit-level performance using survival or revenue as a dependent variable. To date, no study has examined cost efficiency or unit-level profitability, likely due to a lack of data. Further, this work has generally treated same-chain units, units affiliated with other chains, and independent units as having the same effects on the intensity of localized rivalry.

This paper uses a unique proprietary dataset from a large hotel chain headquarteried in Asia, which operates thousands of hotels in dozens of countries around the world. The chain provided us with fine-grained revenue and cost data on the complete population of 369 hotels that it operates in a single OECD country, either directly or through a management contract when the physical property is owned by financial investors. Following Kosová et al. (2013), we assumed that hotels operated via a management contract are akin to hotels operated directly: we refer both types of hotels to as corporate units. Our observations do not contain any franchised hotels since these units do not disclose cost data. Our data include hotels of three brands of the economy segment: most of the 135 Brand-A hotels do not operate food and beverage facilities; the 217 Brand-B hotels often have an on-site restaurant; and the 17 Brand-C hotels tend to have some basic guest services and amenities, such as pool, gym, and transfer services. This brand portfolio, which has been built through acquisitions undertaken in the 1990s, allows the firm to enjoy the traditional benefits of a multi-brand strategy, such as keeping consumers seeking variety who may otherwise switch to another firm’s brand.

The dataset spans seven years, from 2008 to 2014. The data consist of several hotel-level characteristics, including the number of rooms available, the number of rooms sold, the average daily rate, quality score, establishment date, and geographic location. The data also include hotel-level accounting data of revenues, costs, and profits. We used public data sources to obtain

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1 The U.S. hotel categorization based on economy, midscale without F&B, midscale with F&B, upscale, upper upscale, luxury is not used in this country.
information on the geographic markets in which each of our sampled hotels is located, including the number of franchised hotels affiliated with the chain, the number of rivals (hotels affiliated with other chains and independent hotels), and other market-level characteristics.

Studies of localized competition in the hotel industry generally capture local markets with administrative units defined by the government and characterized by separate institutions, such as counties or metropolitan areas (e.g., Kalnins and Chung, 2004; McCann and Vroom, 2010; Kosová et al., 2013; Vroom and Gimeno, 2007). The average land area of the administrative units used in our study is 1,685 km², which is a little more than the half of the average land area of a U.S. county. The country under investigation has 323 of these administrative units. In this study, we looked at the 152 markets where the firm has at least one corporate unit. These markets have on average 4.5 corporate units (min = 1; max = 14) and 2.9 franchised units (min = 0; max = 12). Besides, the firm is present in 149 markets through franchised units only. These markets, which we did not considered in the study, have on average 2.5 franchised units (min = 1; max = 11). The firm is totally absent from 22 markets in the country. Overall, the chain has about an equal number of corporate and franchised units in the country under investigation, with 52% being corporate-owned and the rest franchised.

Variables

**Dependent Variables**

We assessed a hotel’s revenue performance with the RevPAR (revenues per available room) and its cost efficiency with the CPOR (costs per occupied room). These measures are the traditional measures used in the hospitality industry and in academic research to assess a hotel’s revenue performance and cost efficiency. The RevPAR is the product between the hotel’s occupancy rate and average daily rate and the CPOR is the hotel’s total costs divided by the number
of rooms sold. For completeness purposes, we also examined whether the profits of a focal
corporate unit are influenced by co-located same chain corporate and franchised units. We
computed our *Profits* variable by subtracting the hotel’s costs to its revenues (converted in millions
of the local currency).

**Independent variables**

Our independent variables, *Co-located Corporate Sisters* and *Co-located Franchised Cousins*, record the number of same-chain corporate units and the number of same-chain
franchised units located in the same market as the focal corporate unit. Since the markets under
consideration offer a different number of potential guests, we captured the number of same-chain
corporate and franchised units for 50,000 inhabitants living in the market. An alternative approach
to proximity is to create circles of differing radii, such as 5, 10, or 20 miles, around each unit to
designate a unit hotel’s market. However, the actual size of a hotel’s market is primarily defined
by environmental features, such as its urban vs. rural nature, the presence of highways and other
modes of transport (train, underground), and physical geography (mountains, plains, rivers). Thus,
delineating markets using arbitrary circles with a fixed radius is not appropriate in our context.
Rather, administrative units are regularly redefined based on the unit’s number of inhabitants and
reflect the infrastructure and physical features, making this measure of local market much more
relevant for our study and consistent with prior work in this context.

**Control variables**

We included five hotel-level controls that may influence unit performance. The *Brand*
categorical variable distinguishes between Brand-A, Brand-B, and Brand-C properties. The *Age*
variable is the number of years elapsed since the establishment date. The *Rooms* variable is the

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2 Using the market’s population as a control yields substantially identical results.
hotel’s number of rooms. The Financial Investors variable captures whether the franchisor (coded 0) or a financial investor (coded 1) owns the physical property. The Restaurant dummy variable records whether the property has a restaurant. We also entered several market-level controls. The Nearby Rivals variable captures the market’s number of independent and chain-affiliated hotels, scaled by its population. The Capital Metropolitan Area dummy variable captures whether the focal hotel is located in the metropolitan area of the biggest city of the country under investigation, which represents 17% of the country’s population. We characterized the local demand with two variables: the Taxi variable, which is the number of taxi drivers registered in the local market and proxies the intensity of local business activity, and the Ratio Second Homes variable, which assesses whether the market is a popular holiday destination. While we expect these variables to have key performance implications, they also control for the fact that firms likely define purposely the number of corporate and franchised units in each local market. In the robustness test section, we describe alternative models that account for potential endogeneity-based biases.

Model Specification

Our data span seven years, from 2008 to 2014. Following empirical research on multiunit chains, we tested our hypotheses with cross-sectional time-series feasible GLS regression models (see also Canina et al., 2005; Enz, Canina, and Liu, 2008; Tsang and Yip, 2008; Yin and Zajac, 2004). This specification is well adapted to our data, since it allows estimation in the presence of heteroskedasticity across panels and panel-specific AR(1) autocorrelation.

RESULTS

Main Results

Table 1 reports descriptive statistics and pairwise correlations. Although several variables exhibit significant levels of correlation, the overall pattern does not reveal a tendency toward
multicollinearity among the measures, with the mean of VIF values being equal to 1.45. Table 2 reports the regression results. The dependent variable is RevPAR in Model 1, CPOR in Model 2, and Profits in Model 3. We entered the Co-located Franchised Cousins and Co-located Corporate Sisters independent variables in Models 1-3. In analyses available from the authors, we separately entered our independent variables in distinct models, obtaining virtually identical results.

Empirical findings provide general support to our hypotheses. On the revenue side, co-located corporate sisters decrease a focal corporate hotel’s RevPAR ($\beta = -0.959, p = 0.000$, Model 1), while co-located franchised cousins increase it ($\beta = +1.651, p = 0.000$, Model 1), bringing support to H1a and H1b. On the cost side, a hotel’s CPOR is increased by co-located corporate sisters ($\beta = +0.616, p = 0.028$, Model 2) and decreased by co-located franchised cousins ($\beta = -0.688, p = 0.034$, Model 2). It is noteworthy that H2 predicts that the operational efficiency of a focal corporate unit benefit more from co-located franchised cousins than from co-located corporate sisters. Our results actually suggest that a corporate unit’s operational efficiency is harmed by co-located corporate sisters. One potential explanation for this result can be found in research on business templates in multiunit chains by Sidney Winter, Gabriel Szulanski and their colleagues. This literature states that managers of chain units often have a poor understanding of intricacies of the business template, which often lead them to make “modifications [that] turn out to be deleterious to performance, even when such attempts are deemed ex ante as sensible, promising, or desirable.” (Winter et al., 2012: 673). However, we saw that corporate managers constantly benchmark themselves against each other, since underperforming their peers can harm their career advancement prospects. Since each manager faces difficulties in sorting the wheat from the chaff, she is prone to replicate any change make by her peers, for the best and the worse, since she does not want to achieve a lower operational efficiency, should it be beneficial. Such
problems of mimicry-based localized diffusion of deleterious practices are likely to be amplified by the number of co-located corporate sisters, since it increases the likelihood that at least one corporate manager makes template modifications that eventually harm performance (Szulanski et al., 2004).

A hotel’s profits are also decreased by co-located corporate sisters ($\beta = -0.026, p = 0.000$, Model 3) and increased by co-located franchised cousins ($\beta = +0.045, p = 0.000$, Model 3). In term of economic significance, when Co-located Corporate Sisters increases by one unit, the RevPAR decreases by 2.7%, the CPOR increases by 1.2%, and profits decrease by 6.4%. In contrast, when Co-located Franchised Cousins increases by one unit, the RevPAR increases by 4.6%, the CPOR decreases by 1.3%, and profits increase by 11.1%.

*** Insert Tables 1 and 2 about here ***

Control variables

Our control variables yield several results that merit discussion. The Brand variable is significant in all of our models$^3$. Age decreases RevPAR, increases CPOR, and decreases Profits, possibly due to facility deterioration. Rooms increases RevPAR, decreases CPOR, and increases Profits; here scale effects certainly play a role. Hotels operated through a management contract (Financial Investors = 1) have a lower RevPAR. Hotels with a restaurant have a higher CPOR and lower Profits than other hotels. Our market-level controls also suggest key results. Nearby Rivals decreases CPOR and increases Profits, possibly due to lower staff costs. Hotels located in the country’s biggest metropolitan area have a higher RevPAR and a lower CPOR than other hotels. Relative to other hotels, hotels in popular holiday destinations achieve a higher CPOR but higher

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$^3$ In robustness tests, we considered running analyses by brand. However, we could not obtain compelling results due to a limited number of observations.
Profits, while hotels in markets with an intense business activity have a higher RevPAR and higher Profits.

Sensitivity Analyses: alternative measures of performance

On the revenue side, the dependent variable of our analysis is the hotel’s RevPAR, computed as the product between the occupancy rate and the average daily rate. In order to offer a more fine-grained analysis, we ran models that use the hotel’s Occupancy Rate (Model 4a) and Average Daily Rate (Model 4b) as the dependent variable. These models substantiate our view. Results show that co-located corporate sisters decrease the hotel’s Average Daily Rate ($\beta = -1.089$, $p = 0.000$, Model 4b), while they do not significantly influence its Occupancy Rate ($\beta = 0.457$, $p = 0.219$, Model 4a). In contrast, co-located franchised cousins increase the hotel’s Occupancy Rate ($\beta = +1.841$, $p = 0.000$, Model 4a), but do not significantly influence its Average Daily Rate ($\beta = +0.150$, $p = 0.470$, Model 4b). These analyses support our core arguments: the negative impact of co-located corporate sisters on a corporate hotel’s revenues results from a decrease in prices, whereas the revenue increase due to co-located franchised cousins originates in greater sales volumes.

On the cost side, we measured a hotel’s operational efficiency with its cost efficiency. However, operational efficiency can also refer to the hotel’s quality performance (see, for instance, Lu and Wedig, 2013). Our reasoning suggests that the quality performance of a focal corporate unit will benefit more from co-located franchised cousins than from nearby corporate sisters. We measured a hotel’s quality performance with the quality score given by mystery visitors. This score assesses welcoming and selling skills, as well as levels of hygiene and cleanliness. In 2011, the chain changed the criteria to be used during mystery visits, which makes comparison with prior years difficult. Thus, models using Service Quality as the dependent variable only use four years
of observations (2011-2014), rather than the whole 7-year period. As we obtained when using CPOR as the dependent variable, Service Quality is decreased by co-located corporate sisters ($\beta = -0.389$, $p = 0.038$, Model 5) and increased by co-located franchised cousins ($\beta = +0.463$, $p = 0.042$, Model 5), further supporting our prediction.

*** Insert Table 3 about here ***

**Post-hoc Analyses**

*Elimination of alternative explanation: the performance potential of the markets*

One might claim that the firm has fewer corporate units and more franchised units in the most lucrative markets. Should it be the case, the positive impact of co-located franchised units on a focal corporate unit’s performance may not come from cooperative interactions but from the market itself. We examined this explanation by regressing for each market, the number of franchised units and the number of corporate units against variables assessing the market’s potential for performance, including the population density, the number of rivals (chain-affiliated and independent hotels), the number of registered taxis, and the ratio of second homes. We then tested whether the variables’ coefficients are equal across models. Interestingly, we found more corporate units and fewer franchised units in markets with more taxis ($p = 0.0554$) and fewer rivals ($p = 0.0003$), whereas the population density ($p=0.5882$) and the ratio of second homes ($p = 0.5785$) do not significantly differ across models. However, we used the number of taxis to estimate the market’s intensity of the business activity while the number of rivals assesses its competitive intensity. This means that the firm actually has more corporate units and fewer franchised units in markets with greater business activity and lower competitive intensity, which rules out the alternative explanation mentioned above.

*Endogeneity concerns: IV regressions*
One may also claim that the fact that a market’s numbers of corporate and franchised units is not random yields endogeneity-based statistical biases. We thus attempted to re-run our analyses using IV regressions. However, intuitively it is difficult to think of convincing IVs that are correlated with the number of units in a market, but not with unit performance. This is because firms are likely to establish more units in markets with greater performance potential. To address this, we adopt a latent-variable, heteroskedasticity-based IV approach proposed by Lewbel (2012) and applied for the aforementioned reason in recent research on hotel franchising (Kashyap and Murtha, 2017). This estimator, obtained via the ‘ivreg2h’ STATA command, generates instruments from the data when external instruments are weak or unavailable. Identification is achieved by having instruments that are uncorrelated with the product of heteroskedastic errors. Results remain virtually the same in models that use RevPAR and Profits as the dependent variables. When the dependent variable is CPOR, results are substantially unchanged except that the p-value for the Co-located Corporate Sisters variable fades, becoming 0.318. Overall, our IV regressions largely support our view: a corporate unit’s revenue performance and operational efficiency benefit more from co-located franchised cousins than from co-located corporate sisters.

Mechanism check: the impact of external bookings

We argued that corporate managers seek to achieve higher revenues than their nearby peers, hoping that this will increase their career advancement prospects. In a price-sensitive market, corporate managers are thus likely to give discounts. Eventually, all co-located corporate sisters would end up decreasing their prices without necessarily increasing their sales. Thus, any means to curb local discounts would prevent such a within-chain price war. We built a Ratio External Bookings variable that captures the proportion of bookings done via the chain’s website, the chain’s call center, or online travel agencies (OTA). Such bookings, which are not made by
the focal hotels at the local level, are not subject to local discounts. This variable ranges from 2% to 72%, with a mean of 32%. We then entered in the *Average Daily Rate* model the *Ratio External Bookings * Co-located Corporate Sisters and *Ratio External Bookings * Co-located Franchised Cousins interactions. Interestingly, the *Ratio External Bookings* decreases the price pressures exercised by Co-located Corporate Sisters, while it leaves the influence of Co-located Franchised Cousins unchanged. A focal corporate unit is thus more likely to decrease its prices as a result of an increase in the number of co-located corporate sisters as its proportion of external bookings decreases. This analysis brings further support to our view: a focal corporate unit is likely to engage into a discount-based within-chain price war when it has other same-chain corporate units nearby.

*** Insert Table 4 and Figure 2 about here ***

*Interview data*

We also interviewed managers of both corporate and franchised hotels and top managers of the chain (including the COO and the CFO for our focal country) to develop a more fine-grained understanding of the challenges associated with unit co-location. Overall, our interviews provide qualitative evidence to bolster the face validity of our empirical conclusions. One topic of these interviews was the rule used by the firm to determine whether a new outlet should be corporately-owned or franchised. The COO admitted that the firm tend to prefer franchising where reliable franchisees are identified; if not, corporate ownership is favored. He also highlighted that corporate ownership tends to be chosen in markets with a large proportion of business travelers (who generally pay more than tourists) whereas franchising is privileged in cutthroat markets.

Another topic of the interviews was local competition. All interviewees agreed that within-chain competition was a crucial dimension of local competition. However, the COO explained that the headquarters do not actually take any measures to mitigate the competition between co-located
units, except encouraging corporate managers to discuss their operations on a regular basis. He emphasized that it is well known within the chain that corporate managers closely scrutinize prices of co-located corporate units, whereas they give much less attention to prices of nearby franchisees. We also discussed pricing policies, focusing on the difference between corporate and franchised hotels. The CFO emphasized that, for corporate units, pricing is done by a yield management software implemented by the company, even though corporate managers can offer discounts as high as 15% without approval from headquarters. Conversely, franchisees have full freedom on pricing. Nevertheless, a franchisee stated that discounting room prices is a very bad strategy to increase sales volumes, since such a strategy often undermines profits. Instead, he believed much more in local ad campaigns and in sponsoring local business or sporting events to improve revenues.

We also discussed how incentives influence within-chain interactions. Interestingly, a manager of a corporate unit said that promotion opportunities undoubtedly influence his relationships with his colleagues from nearby hotels. He also said that he continuously scrutinizes his local peers and may imitate what they are doing. We also talked with the COO about the sharing of practices between co-located units. He stated that the decision to finalize bookings made by online travel agencies before rush hours (pre-printing of check-in forms, pre-recording of room keys, etc.) was imitated from a franchisee. Perhaps even more strikingly, he said that, a couple of years ago, he was surprised to see that in a given market, all corporate hotels were putting the lights on in the parking lots at night, although the rule was not to do so. He said that managers justified their behavior by stating that they were imitating the managers of nearby corporate hotels, assuming a beneficial performance impact. But, he was not able to identify the manager at the origin of the rule deviance. Overall, our interviews support our predictions and help us better
understand managers’ decisions, how they compete and collaborate, and the subsequent performance outcomes.

**DISCUSSION**

The aim of this study was to investigate how firms deal with competition and cooperation interactions between their subsidiary units, by examining localized within-chain rivalry in multiunit chains that have corporate and franchised units in a single market. We examined how the revenue performance and operational efficiency of a focal corporate unit are influenced by co-located same-chain units, distinguishing corporate sisters from franchised cousins. The crux of our argument is that corporate ownership and franchising entail different managerial incentives, which ultimately influence the nature of within-chain interactions. We argued that the incentives of corporate ownership, which are based on career advancement prospects, lead co-located corporate sisters to engage in a sibling rivalry. In turn, such a rivalry places downward pressures on prices, while favoring a mimicry-based localized diffusion of template modifications, which may or may not improve performance. Conversely, a corporate unit with franchised units nearby is likely to benefit from cousin solidarity, in that co-located franchised cousins may create the conditions that increase local demand, while facilitating the dissemination of operational practices that are tailored to the local context. We thus predicted that a corporate unit’s revenue performance and operational efficiency benefit more from co-located corporate sisters than from co-located franchised cousins. We found support for our view using revenue and cost data on 369 corporately-owned hotels of a unique hospitality chain located in one country.

Our study provides several contributions to the strategic management literature. First, we further the understanding of the performance implications of market co-location. Agglomeration theory asserts that market co-location increases demand by reducing customer search costs, and
reduces operational costs by giving access to specialized labor and specialized suppliers (McCann and Folta, 2008, 2009). However, these arguments hold only if co-located rivals offer heterogeneous products. Thus, this theory is limited in explaining the performance consequences of having, in a single market, units that are part of the same supra-ordinate firm and offer homogenous products. Our study addresses this issue. We show that co-located same-firm subsidiary units have competition and cooperation interactions that influence unit performance in a very complex way.

We also extend the multiunit chain literature on market co-location (Canina et al., 2005; Kalnins and Chung, 2004; Kalnins and Chung, 2006). This work traditionally assumes that each local competitor of a focal unit is independent, treating same-chain units, units affiliated with other chains, and independent units as having the same effects. A notable exception is a study by Ingram and Baum (1997a), who analyzed how the survival rate of chain-affiliated Manhattan hotels is influenced by other same-chain units. They focus on the 1898-1980 time period, which is characterized by an over-representation of chains owning all of their hotels. They find that unit survival decreases as the number of same-chain hotels increases. Corroborating their results, we find that the revenue performance, cost efficiency, and profits of a focal corporate unit decrease as the number of co-located same-chain corporate units increases. We extend this view by showing that the performance of a corporate unit is increased by the number of co-located same-chain franchised units. We thus show that a corporate unit incurs competitive losses when it competes with other corporate units, but achieves higher performance when it competes with same-chain franchised units.

Our study also extends franchising research. We draw on the idea that managerial incentives govern behaviors of managers of chain units (Bradach, 1997; Lafontaine and Slade,
1997; Vroom and Gimeno, 2007; Yin and Zajac, 2004). We extend this view and examine the response of focal unit managers to the actions of managers of co-located same-chain units, distinguishing corporate sisters and franchised cousins. We also highlight the crucial role played by managerial incentives. We show that while incentives based on personal career prospects can result in a damaging rivalry between managers of co-located units, incentives based on profit maximization can result in positive externalities that increase unit-level performance. Overall, we demonstrate that managers’ incentives not only affect the performance of their own unit—as the extant franchising literature has shown it—but also the performance of nearby units. Specifically, all corporate managers are interested at moving up within the hierarchy; they are concerned with their position relative to managers of nearby corporate sisters. As a result, a focal corporate manager is likely to retaliate to any price decreases that a nearby corporate unit may undertake in hopes of increasing revenues. He also tends to replicate any changes made by their peers in the business template, even when they ambiguously influence performance, for fear that his own career advancement will suffer if these changes are eventually beneficial. Conversely, franchisees are residual claimants. They are thus unlikely to compete on prices, but will instead seek to increase revenues through demand-generating actions that will ultimately benefit all co-located units. Franchisees are also likely to aggressively pursue operational improvements, which are likely to diffuse to a co-located focal corporate unit. Overall, we show that the ownership of co-located units shapes the performance implications of unit co-location.

In addition, our work provides key insights on behavioral responses to internal social comparisons, which claims that pay and the incentive structure shape how internal social comparisons influence individual-level productivity (Gartenberg and Wulf, 2017; Lee and Puranam, 2017; Nickerson and Zenger, 2008; Obloj and Zenger, 2017). We extend this view by
showing how incentives, combined with internal social comparisons, shape interactions between managers of different units of the same firm. We also consider the impact of these interactions on unit-level revenue performance and operational efficiency. We show that a manager of a focal corporate unit usually maintains cooperative relationships with nearby franchised cousins, which she does not see as rivals threatening her individual rewards. These cooperative relationships foster sharing information about customers and practices, which eventually results in increased revenue performance and enhanced operational efficiency. Conversely, a manager of a focal corporate unit often has competitive relationships with nearby corporate managers as she directly competes with them for organizational rewards. Such competitive relationships eventually harm unit performance, both on the revenue and efficiency sides.

Finally, we extend research on within-chain knowledge transfers (Szulanski et al., 2004; Winter et al., 2012; Winter and Szulanski, 2001) by highlighting the importance of the ownership structure of the recipient and sourced units. We draw upon the idea that franchised units use context-specific, updated, idiosyncratic, and well-understood practices obtained through exploration, whereas corporate units use standardized, established, generic, and causally-ambiguous practices refined through exploitation (Sorenson and Sørensen, 2001). We then show that a corporate manager may increase his operational efficiency by carefully scrutinizing the practices of co-located franchised cousins. Yet, he also often simply imitates the template changes made by his peers, even when their effect on performance is ambiguous, to avoid falling behind. Overall, we show that localized same-chain knowledge spillovers are more likely to be beneficial when originating from franchised cousins than when originating from corporate sisters. This corroborates research on knowledge spillovers within multunit chains. Yin and Zajac (2004), for
instance, highlighted that pizza franchisees helped a franchisor adapt to local conditions by mixing dine-in and delivery services in some locations.

Our study has both practical and scholarly implications for the design of multiunit chains. It suggests that the composition of same-chain corporate and franchised units in a given market is a crucial decision. Perhaps counterintuitively, we show that co-locating corporate sisters harms unit performance, but that corporate units benefit from nearby franchised cousins. Ater and Rigbi (2015) suggest that franchisors must have corporate units in each of the markets in which they are present, as a way to control the prices set by franchised units. We show that having a single corporate unit and several franchisees in each location is perhaps the best composition: numerous corporate units would probably yield competitive losses, while few franchised units would probably decrease positive performance externalities. This is consistent with the evidence regarding multiunit franchising (Perryman and Combs, 2012), although future work remains to determine the competitive effects of this type of franchise relationship.

As with any study, ours has limitations that suggest future research directions. First, the data we use come from one company, one industry, and one country. How managers react to incentives is likely to be influenced by the corporate culture of firms, as well as by industry-level and country-level factors. It would also be informative to extend the generalizability of our findings through the analysis of data on other firms, industries, and countries. Second, we mentioned that there is the potential for endogeneity in that the local composition of corporate vs. franchised units is unlikely to be random (Perryman and Combs, 2012). However, we believe our assumption that location and governance choices are done with a positive intent to improve system-wide performance makes our analysis tractable and makes it interesting to examine unit-level performance, which can vary. In addition, our IV regressions, which account for this
endogeneity in the empirical analysis, largely support our views. Third, we suggest that different incentives of corporate managers and franchisees drive their behaviors, ultimately influencing the nature of within-chain rivalry. We then assessed these incentives through the ownership of the units, distinguishing corporate ownership and franchising. Drawing upon extant research, we assumed that franchising is characterized by profit-based incentives whereas corporate ownership uses incentives based on career advancement prospects. However, we acknowledge that making these assumptions is a limitation of our study since we are not measuring incentives directly. Future research might more directly measure and test how incentives influence revenue-related and efficiency-related actions of corporate and franchised units and how a focal corporate unit responds to these actions. Fourth, this study focuses on corporate units. Research could examine the influence that co-located same-chain corporate and franchised units have on the performance of a focal franchised unit, since ownership by a common franchisee likely plays a role (Perryman and Combs, 2012). Fifth, our empirical context is specific in that we use a sample of hotels that are all in the economy market segment. Research could investigate whether our results still hold on other categories, for which price elasticities are likely to be smaller (Kalnins, 2017). Also, our sampled hotels use three brands. Our respondents within the firm confirmed us that the competitive positioning of the three brands is largely overlapping. However, across-brand dynamics may affect competition and cooperation interactions between same-chain units. Finally, our focus was not on the dynamics associated with the entry of new units into a market, which would be an interesting extension so as to better understand the interplay between same-chain corporate and franchised units in a single market (Butt et al., 2018; Kalnins, 2004; Rawley and Seamans, 2015).

To conclude, the aim of this study was to examine how firms deal with competition and cooperation interactions between their subsidiary units. We examined this crucial question by
considering the influence of co-located corporate sisters and franchised cousins on various performance outcomes for a corporate unit within a multiunit chain. We argued that corporate ownership and franchising entail different managerial incentives, which influence the nature of within-chain rivalry. By analyzing rich data from the hotel industry, we showed that a corporate unit’s revenue performance, operational efficiency –measured by cost efficiency and quality performance– and profits are decreased by co-located corporate sisters, but increased by co-located franchised cousins. We contribute to the multiunit chain and franchising literatures and extend research on within-chain best practice sharing. Our study also illuminates the challenges associated with co-location and ownership structure within decentralized firms.

REFERENCES


Table 1. Descriptive statistics and pairwise correlations

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Table 2. Regression estimates

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GLS regressions. Two-tailed tests.
***: p<0.001; **: p<0.050; *:p<0.100
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Time periods

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GLS regressions. Two-tailed tests.

***: p<0.001; **: p<0.050; *: p<0.100
Table 4: The moderating impact of the proportion of external bookings

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<td>Co-located Corporate Sisters (H1a &amp; H2a)</td>
<td>-1.242 *** 0.000 0.248</td>
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<td>Co-located Franchised Cousins (H1b &amp; H2b)</td>
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<td>0.386 * 0.092 0.229</td>
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Time periods

- 7 years
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- 7 years
- 7 years

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GLS regressions. Two-tailed tests.

***: p<0.001; **: p<0.050; *:p<0.100
Figure 2: The moderating impact of the proportion of external bookings

Using coefficients from Model 6c

Using coefficients from Model 6d