

2016

# High Performance Work Systems for Service Quality: Boundary Conditions and Influence Processes

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## Recommended Citation

Hong, Y., Jiang, Y., Liao H., & Sturman, M.C. (2016). *High performance work systems for service quality: Boundary conditions and influence processes* [Electronic version]. Retrieved [insert date], from Cornell University, SHA School site: <https://scholarship.sha.cornell.edu/articles/1168>

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Drawing on agency theory and the resource-based view, this study examines the moderating effect of hotel ownership structure on the relationship between high-performance work systems for service quality (HPWS-SQs) and service performance as well as the curvilinear relationship between hotel service performance and hotel profitability. Results from surveys and archival data of 126 hotels showed that when hotels were owned and operated by brands, HPWS-SQs had a positive effect on service performance. Moderated mediation analyses showed that service performance as a mediator accounted for the moderating effect of ownership and management structure on the relationship between HPWS-SQs and hotel profitability. In addition, service performance demonstrated an inverted U-shaped relationship with hotel profitability. These findings advanced the understanding of the boundary conditions and influence processes of HPWS-SQs on financial performance in service settings.

## **Keywords**

high-performance work system, ownership, service performance

## **Disciplines**

Hospitality Administration and Management

## **Comments**

### **Required Publisher Statement:**

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**High Performance Work Systems for Service Quality:  
Boundary Conditions and Influence Processes**

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## **Abstract**

Drawing on agency theory and the resource-based view, this study examines the moderating effect of hotel ownership structure on the relationship between high-performance work systems for service quality (HPWS-SQs) and service performance as well as the curvilinear relationship between hotel service performance and hotel profitability. Results from surveys and archival data of 126 hotels showed that when hotels were owned and operated by brands, HPWS-SQs had a positive effect on service performance. Moderated mediation analyses showed that service performance as a mediator accounted for the moderating effect of ownership and management structure on the relationship between HPWSSQs and hotel profitability. In addition, service performance demonstrated an inverted U-shaped relationship with hotel profitability. These findings advanced the understanding of the boundary conditions and influence processes of HPWSSQs on financial performance in service settings.

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Human resources (HR) has been recognized as one of the most valuable assets for organizations' long-term survival and sustainability (Hitt, Bierman, Shimizu, & Kochhar, 2001). However, HR can also incur significant costs for organizations (Cappelli & Neumark, 2001). A key to successful human resources management (HRM) is to maximize the return on investment through achieving higher performance while controlling costs. To this end, the field of strategic HRM has devoted a great amount of effort to understand whether and what types of HRM practices will lead to higher productivity and performance of organizations (Becker & Huselid, 1998; Combs, Liu, Hall, & Ketchen, 2006). A bundle of HRM practices, commonly referred to as high-performance work systems (HPWSs), generally includes practices such as selective hiring, extensive training, performance appraisal, incentive compensation, employee participation, and information sharing (Huselid, 1995). Further theoretical development in this field highlights the importance of a particular strategic anchor for HPWS, such as service quality (Liao, Toya, Lepak, & Hong, 2009), and its contribution to the desired competitive advantage of the organization. Such a strategic anchor of quality in service industries is important for HPWS design and its functioning because customer service work presents unique characteristics, such as intangibility, labor intensiveness, and customer interaction (Mills, Hall, Leidecker, & Margulies, 1983), which demand a particular form of human capital (Ployhart & Moliterno, 2011) and a special focus of HPWS (Batt, 2002).

Although prior research has accumulated extant evidence in the linkage between HPWS and organizational performance (Combs et al., 2006), Chadwick and Dabu (2009) pointed out that "the precise ways in which this relationship influences competitive advantage are still ambiguous and the subject of much scrutiny" (p. 253). Given that HPWSs are costly to implement, it is important that organizations understand the influence processes of HPWSs on organizational performance and take necessary measures to maximize their effectiveness.

One potentially important yet unexplored mechanism that may moderate the HPWS-performance relationship is the organization's ownership structure. Agency theory (Jensen & Meckling, 1976) suggests

that owners generally have a vested interest in the survival and performance of organizations. Managerial agents, however, may pursue self-interest even at the expense of the organization's performance in which the owners are most interested. As far as the ownership and managerial control of an organization are concerned, the orchestration of HPWS by owners versus agents may be based on different priorities. As such, HPWSs enacted by owners versus agents may trigger different attributions from employees and subsequently different employee reactions (Nishii, Lepak, & Schneider, 2008). For example, when agents focus on the "immediate" results and apply incentives and punishments more extensively, employees may interpret HPWS as a way to exploit them. In contrast, when owners implement HR practices to enhance employees' abilities, motivation, and opportunities to perform, employees are more likely to attribute the intention of HPWSs as caring about and developing employees to better serve the customers. Nishii et al. (2008) found that the former type of attribution was negatively associated with employee attitudes while the latter had a positive effect on attitudes. Thus, the effects of HPWS on operational outcomes may differ given different employee attributions about the intention of HPWS induced by various ownership and management structures. In this study we propose a more positive influence of HPWS under aligned, rather than separate, ownership and managerial control.

Besides the boundary conditions, the processes through which HPWSs influence organizational outcomes of different proximity are also largely unexplored. Strategic HRM researchers often assume that HPWSs will eventually translate into distant financial performance through various proximal operating indices such as service performance (Colakoglu, Lepak, & Hong, 2006; Dyer & Reeves, 1995), yet efforts to theoretically develop and empirically examine such translation processes remain sparse. Although HR researchers often use different types of outcomes interchangeably, strategic management theories suggest that certain competitive advantages (such as that of higher service quality) may not directly translate into organizational profitability (Foss & Knudsen, 2003; Grahovac & Miller, 2009). The economic return generated from superior service performance depends on the actual amount that customers are willing to pay for the enhanced service, as well as the marginal opportunity costs incurred for the organization to

serve an additional customer (Peteraf & Barney, 2003). For example, it is likely that the effects of service performance on profitability may vary depending on the level of service performance. Up to a certain level, higher service performance generates higher profit; beyond that point, however, additional service improvement may diminish financial returns. Albeit this is an important practical question for service organizations, prior research has not examined the potential curvilinear relationship between the operational performance generated by HPWS and financial performance, limiting our ability to fully comprehend the return on investment of HPWS. This study attempts to fill this void.

In sum, the proposition that HR can be a potential source of sustained competitive advantage for firms has become the foundation of HR research over the past decades; however, efforts to explicate how HR contributes to operational performance and how operational performance is translated into profitability have been few and far between (Sturman, 2012). Therefore, the purpose of this article is twofold. First, we aim to understand the boundary conditions of HPWSs in relation to the operational performance of organizations. Specifically, synthesizing strategic HRM research with agency theory, we theorize that HPWSs for service quality are more effective in improving service performance when the ownership and management of organizations are aligned. Second, we disentangle the influence process of HPWSs for service quality on organizational profitability. In particular, we take into account the rent appropriation between organizations and customers to investigate the potential curvilinear relationship between firm service performance and organizational profitability. Based on the findings, we make recommendations on how to effectively manage HPWSs for service quality to maximize organizational financial performance and, in particular, highlight the organizational factors that influence the effectiveness of HPWSs.

## **Theoretical Background and Hypotheses**

Based on the principles of the resource-based view (Barney, 1991), strategic HRM research has suggested that HPWSs serve to increase employees' abilities, motivation, and opportunities to perform, thereby contributing to higher performance of employees and better strategic outcomes of organizations (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Delery & Shaw, 2001; Subramony, 2009). HR practices such as selective hiring, extensive training, performance feedback, and employee participation operate to acquire and develop valuable knowledge, skills, and abilities that are important for organizational strategy implementation (Takeuchi, Lepak, Wang, & Takeuchi, 2007), such as the knowledge about service offerings and customer needs that serve to improve customer service performance (Liao et al., 2009). HR practices such as performance appraisal and feedback, incentive compensation, and employee participation can enhance employees' commitment to the organization (Gong, Law, Chang, & Xin, 2009; Kehoe & Wright, 2013) as well as their motivation to perform up to and even exceeding the service quality expectations of customers and the service standards of the organization. For example, one advantageous outcome of HPWSs is employees' display of organizational citizenship behaviors, which are important for enhancing customer experience and satisfaction (Kehoe & Wright, 2013; Morrison, 1996; Sun, Aryee, & Law, 2007). In addition, employee participation, teamwork, and information sharing offer necessary resources and opportunities for employees to do their job and enhance the psychological empowerment of employees to better serve the customers (Liao et al., 2009). When all these practices are applied together as a system, they will likely complement or augment the effects of one another, which has been referred to as a system's perspective or a synergy effect (Combs et al., 2006; Delery, 1998).

### *Ownership and Management Alignment*

Although prior research has examined the main effects of HPWSs on operational and financial outcomes, the boundary conditions for the effects of HPWSs have received less attention (Datta,

Guthrie, & Wright, 2005; Delery, 1998). A potential moderator that has been overlooked is the organization's ownership structure. In the hospitality industry, hotels operate with a variety of ownership and management structures (Corgel, Mandelbaum, & Woodworth, 2011). Real estate is one of the most significant components of hotels, yet owners of a property may or may not be the ones who manage it. In the latter case, the owners acquire a property, renovate it, and then contract with a management company to operate the hotel on their behalf based on certain standards. Therefore, there are two broad categories of ownership and management structures—one where the ownership and management are the same, and the other where ownership and management are separate (Corgel et al., 2011).

In relation to the two distinct ownership structures, agency theory (Jensen & Meckling, 1976) suggests that principals and agents in each situation can diverge in their fundamental interests. Owners generally have a vested interest in the survival and performance of their organizations. In the hospitality industry, hotel owners' ultimate interest is the resale value of the real estate, which factors in both the business operating profit and the appreciation of the real estate itself (Corgel et al., 2011). If a hotel is well managed and consistently generates significant profits, prospective buyers will be willing to invest more to own the property to inherit the reputation and customer base already established by the hotel. In addition, hotels can also benefit from an agglomeration effect of competitive clusters (Canina, Enz, & Harrison, 2005). Simply put, when a hotel has a strong reputation for offering extraordinary facilities and services, other hotels and relevant businesses (such as food and entertainment) will choose to co-locate in the neighborhood to benefit from the clientele and facilities owned by the hotel; likewise, a hotel can benefit from the successful performance of its neighbors. Subsequently, a cluster of various hotels and businesses may be formed around the hotel's neighborhood, which further enhances the popularity of the location and the real estate value of the property. Therefore, the successful management of hotels for survival and growth, the resale value of the establishment, and often both, are of inherent interest to the owners.

Managerial agents, however, are motivated by a different set of incentives, particularly those that are limited to the terms of the contract. Economics research suggests that contracts are usually limited because information is asymmetric between owners and agents and that the costs of negotiating infinite terms of contracts would be excessive (Simon, 1991). Under limited contractual terms, agents may exhibit opportunism in such a way that they “will shirk unless their actions contribute directly to their own economic self-interest” (Simon, 1991, p. 30; italics ours). In the context of hotel management, agent managers from a management company and hotel owners have somewhat different interests. Whereas owners are interested in the hotel’s profitability and real estate value of the property, a management company generates its profits through management fees, which may in part be a function of profits (Banker, Potter, & Srinivasan, 2005) but may also be affected by revenues and efforts that lead to greater management fees. As such, management companies may orchestrate HPWS in a way that emphasizes more on immediate objectives to maximize their cash flow, which directly contributes to their own economic interest, even though some of these actions may not lead to sustainable competitive advantage and asset appreciation of hotels (Corgel et al., 2011).

In particular, one potential diversification in the principal agent preferences is how they allocate slack resources (Kim, Kim, & Lee, 2008) when managing HR. When the ownership and managerial control of an organization are separate, the orchestration of HPWSs by managerial agents may focus more heavily on the “immediate” results, such as conducting intensive monitoring and enforcing incentives and punishments according to specified performance standards. These are considered “alignment-oriented” HR mechanisms to ensure employee performance standards (Patel, Messersmith, & Lepak, 2013), or “performance-enhancing” HR practices to respond to short-term competitive pressures (Batt & Colvin, 2011). For example, agent-managers may impose specific performance measures, including requiring employee conformance to detailed behavioral standards, performing strict inspections of all product and service offerings, hiring external “mystery shoppers” to unobtrusively evaluate performance, and taking corrective actions on customer complaints. These measures directly control for employees’ behaviors and

generate immediate results from actions; thus, they serve to satisfy the agent managers' own economic interest as specified by the limited terms of the contract. As such, a preventive or corrective orientation conveys the company's concern for the "things" (i.e., largely, their management fees) rather than for the "employees" themselves. Employees are more likely to attribute the intention of such practices as reducing costs or exploiting employees, therefore exhibiting negative attitudes toward the organization (Nishii et al., 2008). Batt and Colvin (2011) found that performance-enhancing HR practices were associated with higher dismissal rates, which presumably reflected the organization's lack of concerns for the employees, as well as higher employee quit rates, which was likely due to employees' perception of a lack of trust from the employer.

Motivated by sustainable growth, in contrast, the owner-managers may invest slack resources to build an enduring "climate for service" (Schneider, White, & Paul, 1998) through various high-investment HR practices, such as selective hiring on service-related human capital, extensive training on service skills, providing support and incentives for excellent service, and empowering employees to use their discretion to satisfy their customers (Liao et al., 2009). A long-term orientation is reflected in the investment in developing employee skills and career, and the general concern for employees' welfare above the immediate revenues and profits (Schuler & Jackson, 1987). These practices are in alignment with the essence of the resource-based view (Barney, 1991), that is, treating employees as valuable assets, who will, in turn, reciprocate by producing higher-quality products and services for organizations. Being treated as valuable assets, employees will attribute the HPWS as reflecting the company's concern for employees. Thus, they will identify with the company and exhibit positive attitudes and behaviors (Nishii et al., 2008; Takeuchi, Chen, & Lepak, 2009). Batt and Colvin (2011) found that high-involvement, high-investment, and high-inducement HR practices were related to lower employee quit rates. The climate for service generated by the HPWS will help guide employees' service behaviors over the long term and even during unexpected situations where performance guidelines are unavailable; it will motivate employees to provide the most sincere and highest-quality service.

Therefore, we expect that under different ownership structures, the effectiveness of HPWS may vary in such a way that the effect will be more pronounced when the owners and managers are both primarily interested in the performance of the hotel, as opposed to when the owners and operators are different parties.

*Hypothesis 1:* High-performance work systems for service quality (HPWS-SQs) will interact with management ownership to predict service performance, such that when property ownership and management are aligned, HPWS-SQs will be more positively related to service performance than when property ownership and management are separate.

#### *Operational Performance and Financial Performance*

The service improvements created by the HPWSs are expected to translate into higher financial performance or, in economic terminology, rents of organizations. However, drilling down deeper to the conceptualization of competitive advantage, Peteraf and Barney (2003) suggest that “there is no necessary connection between any advantage that a firm has in terms of its ability to generate rents and superior profitability” (p. 316; italics original). Efforts to disentangle the translation process of service performance into profitability are, therefore, essential.

According to the finer-grained definitions of competitive advantage and profit, profits can be generated only to the extent that the product or service offerings of organizations create benefits for customers (Peteraf & Barney, 2003, p. 316). The higher the benefits of offerings or, in this context, the higher the value of the service quality perceived by customers, the greater the potential for organizations to generate rents by selling the offerings to more customers or to higher bidding customers. The relationship between service performance and economic rents, however, may not be so simple. As service performance increases further, a negative relationship of service performance and profitability may emerge. This is because the actual economic return generated from operational performance (in service

quality) depends not only on the actual amount that customers are willing to pay (because of the superior service quality; Peteraf & Barney, 2003) but also on the marginal opportunity costs it incurs for the organization to serve an additional customer (Adner & Zemsky, 2006).

To begin with, customers' willingness to pay sets the ultimate limit on the potential profits to be generated; this limit may depend on many factors, such as customers' perceived value of offerings, ability to pay, and negotiating power (Foss & Knudsen, 2003). Aside from customers' characteristics and bargaining power, if we analyze one level higher, industry-level factors, such as suppliers, competitors, new entrants, and substitutes, together determine the industry-wide average prices, costs, and required investments of organizations in the industry (Porter, 1985). In other words, products or services, regardless of how good the quality is, serve to meet certain customer needs and are associated with certain industry standards; thus, they are assigned a given price range. In particular, when comparing one provider's offering with the alternative offerings made by competitors, customers possess certain negotiating power over the provider for equivalent levels of product or service quality. Customers' willingness to pay a price premium, then, is proportional to the marginal benefits they could gain from each unit of improvement in product or service quality from the provider (Adner & Zemsky, 2006).

The marginal utility customers gain from increasing improvement of product or service quality, however, may diminish once the quality reaches a certain level. Take the improvement of Intel's computer microprocessor speed for example, Intel's ability to charge a price premium as the speed continued to improve was shown to slow between 1996 and 2000 because consumers had a decreasing marginal utility from the additional performance improvements (Adner & Zemsky, 2006). Likewise, customers' marginal utility gained from the increase in the service quality of a hotel is much greater when the quality is improved from a low range to a high range (e.g., from a satisfactory service to a delightful service) than from a high range to an even higher range (e.g., from a delightful service to an exceptional service). Thus, although an increase in service performance is expected to generate more economic return,

there is an upper limit to how much return an organization can possibly generate and the speed with which economic return increases with improvement in quality may slow after reaching a certain level.

Besides the demand side factors, economic rents are determined by subtracting the economic costs for the business to serve the customer from the total amount ultimately paid by the customers, which also reflect the operational efficiency of the organization (Peteraf & Barney, 2003). In fact, firm economic performance is defined as “the longitudinal differential between what a firm appropriates in the product market and what it paid in the factor market” (Grahovac & Miller, 2009, p. 1192). The profitability of organizations is not only dependent on the value generated from the performance in service quality but also on the costs incurred. To increase the standards in service quality, organizations need to possess and utilize additional resources, which are costly to acquire and maintain (Barney, 1991). The value generation for customers, as discussed above, will slow down when the quality reaches a certain level. The costs associated with additional improvement in service, however, may continue to increase or even escalate exponentially. Thus, extremely high service performance, rather than generating more profit by collecting more rents from customers, may incur excessive costs that will nullify the firms’ ability to profit from their higher operational performance in service.

Taken together, we propose that the effects of service performance on financial performance may vary depending on the level of service performance. Up to a certain level, higher service performance generates higher profit; however, beyond that point, additional service performance diminishes financial returns. Thus, we hypothesize that:

*Hypothesis 2:* Service performance will have an inverted U-shaped relationship with organizational financial performance.

Figure 1 summarizes the proposed relationships of this study.

## Methods

### *Participants and Research Procedures*

To test the hypotheses and reduce potential common method bias (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003), we collected data from three sources using two methods. First, surveys of hotel general managers and HR managers were administered by the Center for Hospitality Research (CHR) at Cornell University's School of Hotel Administration. The CHR is a leading research institute

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INSERT FIGURE 1 HERE

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for hospitality research, which has thousands of registered users from all over the world who have regular access to the research reports and industry tools provided by the CHR. Among the registered users are individuals who indicated that they were hotel general managers (GMs); these were the targeted sample of the study. Invitations were sent to 1,677 registered GMs of hotels via the e-mail addresses that they provided during registration. Excluding 128 e-mail addresses that were undeliverable, we had 1,550 deliverable recipients. We explained the study purpose, assured confidentiality of data treatment and reporting of only aggregate results, and provided a link to an online survey developed using Qualtrics. In addition, we asked the GMs to provide the e-mail address of the HR manager or director at their property, who was then contacted to complete a second online survey.

The GMs were the best informants of hotel management practices and performance (Huselid & Becker, 2000). Therefore, the GMs were asked to evaluate the HR practices, ownership structure, and financial performance of their properties. In addition, HR managers or directors are most knowledgeable about the specific HR practices that are implemented at each property. To avoid single respondent bias and substantiate the reliability estimates from multiple sources (Gerhart, Wright, McMahan, & Snell, 2000), we requested the HR manager or director of each property to report the HR practices that were in place. To encourage responses from both GMs and HR managers, we provided two T-shirts to those

hotels that had two respondents. After three waves of reminders, we received responses from 152 general managers and 75 HR managers from 152 hotels located in 38 countries across the world. The hotel-level response rate was 9.81 percent, which was consistent with the range of normal response rate (6 to 28 percent) for company-level data collection (Becker & Huselid, 1998).

Second, we manually mined archival data from an online source, Tripadvisor.com, which offers customers' evaluations of various hotel service quality indicators. Internet search for hotels and reviews has become the most prevalent approach used by about 80 percent of travelers prior to booking a hotel (Toh, DeKay, & Raven, 2011). These travelers tend to reciprocate by sharing their experiences after the trip. Previous research has utilized online customer ratings of hotels to understand customer perceptions of hotels (Ramanathan & Ramanathan, 2011). Among other websites, Tripadvisor has been considered one of the most popular and unbiased websites (O'Connor, 2010). According to its online fact sheet, it collects more than 400,000 hotels' information, including countries, locations, hotel types, star ratings, sizes of facilities, price, and more than 35 million customer reviews. The website provided customer-rating information for 135 of the 152 hotels for which we had survey respondents. We compared hotels with customer ratings with those without and did not find a significant difference in terms of star level, unionization, number of rooms, and financial performance. We did find that hotels without customer ratings were more likely to be located outside of North America, indicating that Tripadvisor may be more prevalent in North America. However, as customer rating absentness was not related to other hotel attributes, there is no reason to believe that there would be bias in our parameter estimates (Newman, 2009).

### *Measures*

#### High-Performance Work Systems for Service Quality

We compiled a list of 24 items from previous empirical research in the strategic HRM literature (Delery & Doty, 1996; Ichniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995; Schneider et al., 1998;

Youndt, Snell, Dean, & Lepak, 1996) aimed at enhancing employees' human capital, motivation, and opportunities to perform. In particular, given that HR practices may vary by the strategic importance of occupations (Delery & Shaw, 2001), we focused on the strategic positions, defined as those positions that have a direct impact on the implementation of the hotel's strategy (Huselid et al., 2005). Specifically, using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), we measured six areas of HRM practices commonly adopted in previous HRM studies: selection (four items; a sample item is "An extensive procedure is used to select employees with people and language skills essential for serving customers"), training (three items; a sample item is "Extensive training programs are provided to teach employees customer service orientation and skills"), performance management (six items; a sample item is "Employees are provided external mystery guests' evaluations of service quality"), reward (four items; a sample item is "Employees are rewarded extensively on individual performance in satisfying customers"), participation and teamwork (four items; a sample item is "Employees are provided with the opportunity to suggest improvements in service processes"), and information sharing (three items; a sample item is "Employees have instant information sharing about customer preferences from different departments to do their work"). These practices have been examined as essential components of HPWSs but were adapted to reflect a specific anchor of service quality (Liao et al., 2009). A complete list of the HPWS-SQ items is included in the appendix.

To examine the dimensionality and measurement reliability, we conducted a confirmatory factor analysis for this measure. Given our relatively small sample size after listwise deletion ( $N = 126$ ), we constructed a more parsimonious factor model by creating two parcels for each practice, which served as a first-order factor, with six practices (first-order factors) loaded on a second-order, overarching factor (HPWS-SQ). Parcels were created to achieve item-to-construct balance (Little, Cunningham, Shahar, & Widaman, 2002). Specifically, we first ran separate factor analyses for each practice and then aggregated the highest-loading item with the lowest-loading item, the second-highest-loading item with the next lowest-loading item, and so on. Results of six first-order factors plus a second-order factor model

provided a good fit ( $\chi^2 = 71.19$  [ $df = 48, p < .05$ ], root mean square error of approximation [RMSEA] = .057, comparative fit index [CFI] = .99, standardized root mean square residual [SRMR] = .045), which suggests that the six-dimension structure of HPWS-SQ fits the data well. Following the system's approach used in prior studies (Liao et al., 2009), we took the mean value of six practices as an indicator of HPWS-SQ ( $\alpha = .87$ ).

Delery and Shaw (2001) suggested that researchers collect HR data from multiple informants in large establishments. Because we collected the HPWS-SQ measures from both general managers and HR managers for 75 out of 152 hotels, we calculated intra-class correlation coefficients (ICCs) and interrater agreement ( $r_{\text{within}(jj)}$ ) to ensure appropriateness of data aggregation to the hotel level for the 75 hotels (ICC1 = .50, ICC2 = .60, median  $r_{\text{within}(jj)} = .94$ ). The high ICC1 indicates that up to 50 percent of variance in HPWS-SQ resides between hotels. The ICC2 and  $r_{\text{within}(jj)}$  suggest high interrater consistency and agreement between GM and HR managers, justifying the aggregation of their ratings of HPWS-SQ to the hotel level. For hotels in which only the general managers responded, their ratings were used to measure the hotel's HPWS-SQ. Nonetheless, the aggregation of both general and HR managers' ratings of HPWS-SQ for partial sample provides more evidence of measurement reliability than relying only on single-person response (Shaw, Dineen, Fang, & Vellella, 2009).

#### Service Performance

We manually obtained customer ratings of each hotel from Tripadvisor.com posted during the same year when the surveys were administered. We collected 1,821 customers' evaluations on five indicators of hotels' service quality: overall hotel quality, rooms, cleanliness, check-in, and service ( $\alpha = .95$ ). To ensure that customer ratings' internal consistency within hotels and to justify aggregations to the hotel level, we examined the ICCs of customer ratings. Results showed that ICC1s ranged from .11 to .30 and ICC2s ranged from .52 to .77. The ICC2 values were in general comparable to the suggested cutoff value of .60 (Glick, 1985), indicating sufficient interrater consistency for data aggregation. The ICC1

values were also largely consistent with the reported mean value of .12 (James, 1982), suggesting substantial variance between hotels as compared to within hotels. In addition, the median  $r_{www(jj)}$  of the five items was .80, suggesting sufficient interrater agreement among customers (James, Demaree, & Wolf, 1984). Therefore, the customers' ratings were averaged to the hotel level in the subsequent analyses.

### Ownership and Management Alignment

In the hospitality industry, the ownership and operation of a hotel may be held by the same or different organizational entities. Because these two types of ownership structure represented different business conditions and implications (Corgel et al., 2011), we obtained the property ownership and management control information from the general manager at each hotel. Specifically, we asked general managers (1) whether their hotels were owned by the hotel brand, independently owned, or others (such as owned by investors); (2) whether their hotels were managed by the hotel brand, by an independent company, or others. Based on this information, we coded hotels' ownership and management alignment into two separate dummy variables: owned and operated by a brand (= 1, otherwise 0) and owned and operated by an independent company (= 1, otherwise 0), to account for both types of ownership and management alignment. The baseline situation was a separate ownership and management structure.

### Organizational Financial Performance

We obtained information from the general manager of each hotel about their financial performance in the most recent year. Specifically, we measured the gross operating profit per available room (GOPPAR) at each hotel. This measure has been widely used in previous studies of the hospitality industry as an indicator of hotels' financial performance; it measures total revenue less the total departmental and operating expenses divided by the total number of rooms (Younes & Kett, 2003). Because it takes into account both revenue and operating efficiency and adjusts for hotel size, GOPPAR

most accurately reflects a hotel's profitability, management's efficiency, and underlying value of hotel properties all together (Younes & Kett, 2003).

### Control Variables

Due to the potential effects of various hotel characteristics, we controlled for hotel location, star, type, size, and unionization. Because hotels in different geographic regions may have different standards and levels of profitability, we controlled for hotels' location by coding North American hotels as 1 (53 percent) and the rest as 0 (47 percent). Hotels' star level was a commonly used indicator in the hospitality industry to classify hotels based on price tiers, including budget, economy, mid-price, upscale, and luxury (Corgel et al., 2011). Given its impact on hotels' operation and profitability, we also controlled for hotels' star level based on Tripadvisor data (ranged from 1 to 5). Using information from Tripadvisor, we also created a dummy variable for hotel type (hotels were coded as 1; other types, such as resorts, were coded as 0). Hotel size, measured as the reported numbers of full-time employees, part-time employees, and rooms by hotel general managers, was also controlled for because it may be associated with the use of HPWSs (Jackson & Schuler, 1995). Finally, following previous research (Guthrie, 2001), we included the percentage of unionized employees of hotels to control for its potential effect on hotel management and performance.

### *Analytic Strategy*

#### Measurement Validation

To minimize common method variance, we measured the independent variable (HPWS-SQ) and the mediator (service performance) from different sources. To further validate their discriminability, we conducted confirmatory factor analyses of these two measures. Specifically, we submitted six practices of HPWS-SQs to a factor analysis and created three parcels by combining the highest-loading item with the

lowest-loading item, the second-highest-loading item with the second-lowest-loading item, and so on.

The similar procedure was adopted to create three parcels for service performance. The two-factor model, with parcels loading on their corresponding factors ( $\chi^2 = 10.51$  [df = 8,  $p > .10$ ], RMSEA = .045, CFI = 1.00, SRMR = .013), fits the data significantly better than a single factor model ( $\chi^2 = 499.05$  [df = 9,  $p < .01$ ], RMSEA = .51, CFI = 0.073, SRMR = .34;  $\Delta\chi^2/\Delta df = 488.54$ ), supporting the discriminant validity of these two measures.

### Hypothesis Testing

We used regression analysis to test our hypotheses. To minimize problems created by multicollinearity, we centered the continuous independent variables before creating higher-order terms (Aiken & West, 1991). For Hypothesis 1, main effects as well as control variables were entered into the prediction of service performance, followed by the interaction terms. To test Hypothesis 2, we entered the main effect of service performance first, followed by its squared term. The significance of the coefficients in the regression models was evaluated with a one-tailed test, given that we proposed the direction of the relationships in the hypotheses (Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008).

### Supplemental Analyses

We have proposed a moderation effect of ownership and management alignment structure on the relationship between HPWS-SQs and service performance. As such, we followed the procedures for testing moderated mediation (Edwards & Lambert, 2007) to examine the hypothesized moderated mediation model (Table III). Specifically, we tested two moderated stage effects and moderated direct and indirect effects. The moderated first-stage effect shows how the relationship between the independent variable (IV: HPWS-SQ) and the mediating variable (Me: service performance) varies across levels of the moderating variables (Mo: ownership and management structure). The moderated second-stage effect shows how the Me-dependent variable (DV: financial performance) relationship varies across levels of Mo. In addition, the moderated direct effect tells how the IV-DV relationship varies as a function of Mo

in the presence of Me. Both moderated first-stage and second-stage effects amount to a moderated indirect effect. We used bootstrapping to simulate the coefficients because the interaction terms are the multiplication of related variables, which creates an asymmetric distribution (Edwards & Lambert, 2007). Thus, we employed the PROCESS computation tool created by Hayes (2012) to generate 5,000 bootstrap samples to calculate the first-stage, second-stage, direct, indirect, and total effects.

## Results

Table I presents the descriptive statistics and correlations for the variables of interest. As expected, star level was positively correlated with service performance ( $r = .28, p < .01$ ). Organizational financial performance was marginally correlated with both HPWS-SQ ( $r = .18, p < .10$ ) and service performance ( $r = .19, p < .10$ ). The regression analyses results are displayed in Table II.

Hypothesis 1 proposed that high-performance work systems for service quality would interact with ownership and management alignment, such that HPWS-SQ would be more positively related to service performance under aligned ownership and management. As shown in Model 2 of Table II, when we entered two interaction terms between HPWS-SQ and alignment dummies, the interaction of HPWSs with alignment by brands was significant ( $b = .76, s.e. = .31, p < .01$ ), whereas the interaction of HPWSs with alignment by independent companies was not ( $b = -.22, s.e. = .33, n.s.$ ). We plotted the interaction based on the procedures suggested by Aiken and West (1991). Figure 2 shows that when hotels were owned and operated by a brand, HPWS-SQs had a positive relationship with service performance (simple slope:  $b = .63, s.e. = .26, p < .01$ ); however, the relationship between HPWS-SQ and service performance was not significant neither when hotels were owned and operated by an independent company (simple slope:  $b = -.35, s.e. = .29, n.s.$ ), nor when ownership and management were separated (simple slope:  $b = -.13, s.e. = .17, n.s.$ ). Overall, these results provide partial support for Hypothesis 1.

Hypothesis 2 proposed that service performance would have a curvilinear, inverted U-shaped relationship with organizational financial performance. The results for this hypothesis were shown in Model 4 of Table II: the quadratic term of service performance was significant ( $b = -.25$ ,  $s.e. = .14$ ,  $p < .05$ ). The negative value of the coefficient indicated an inverted U-shaped relationship. We plotted the relationship between service performance and organizational financial performance in Figure 3, providing support for Hypothesis 2.

We also conducted moderated mediation analyses to further test the hypothesized model. As shown in Table III, on the first stage, the effect of HPWS-SQs implemented by hotels owned and managed by brands on service performance was more positive than those implemented by nonaligned hotels (reinforcing the support for Hypothesis 1) and hotels owned and managed by independent companies ( $MM_{\text{aligned}} = .77$ ,  $p < .05$ ; and  $MM_{\text{independent}} = -.55$ ,  $p < .05$ , respectively). There was no significant difference among the three types of hotels in terms of the second-stage effects (service performance – financial performance). Furthermore, combining the first- and second-stage path coefficients, the indirect effects of HPWS-SQs through service performance on financial performance

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INSERT TABLE I HERE

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were stronger for hotels owned and managed by brands than those for nonaligned hotels and hotels owned and managed by independent companies ( $MM_{\text{aligned}} = 1.09, p < .05$ ; and  $MM_{\text{independent}} = -.80, p < .05$ , respectively). This suggests that service performance as a mediator accounted for the moderating effect of ownership and management structure on the relationship between HPWS-SQs and financial performance of hotels. This is to say, part of the reason why the implementation of HPWS-SQs in hotels owned and managed by brands was associated with more positive financial performance of these hotels than that of nonaligned hotels or hotels owned and managed by independent companies was that it improved the service performance of branded hotels. Taken together, the significant results of the difference tests reveal the importance of management ownership as a moderator for the indirect relationship between HPWS-SQs, service performance, and organizational financial performance.

In addition, the results also showed that the direct effect of HPWS-SQ on financial performance in the presence of service performance was stronger for hotels that were owned and managed by independent companies than for hotels that were owned and managed by brands ( $MM_{\text{independent}} = .56, p < .05$ ). In other words, partialing out the indirect effect through service performance, HPWS-SQs had a stronger direct effect on the financial performance of the hotels owned and managed by independent companies than that on the hotels owned and managed by brands. Combining the direct and indirect effects, this suggests that HPWS-SQs were related to financial performance mainly through promoting service performance for hotels owned and managed by brands, while HPWS-SQs had a direct impact on financial performance for hotels owned and managed by independent companies.

Finally, the total effects of HPWS-SQ on financial performance also varied across the three types of hotels: the effect was stronger for hotels owned and managed by brands than nonaligned hotels

( $MM_{\text{aligned}} = .93, p < .05$ ), and stronger for hotels owned and managed by independent companies than nonaligned hotels ( $MM_{\text{nonaligned}} = .70, p < .05$ ). That is, alignment between ownership and management yielded a more overall financial gain than misaligned ownership structure. We elaborate on these interesting results next.

## Discussion

High-performance work systems are generally welcomed by employees because they transfer the power from the employer to the employees (Cappelli & Neumark, 2001) by enhancing the abilities, motivation, and empowerment of employees to perform (Delery & Shaw, 2001). Employers may also gain higher productivity from the implementation of HPWS (Combs et al., 2006). However, employers are concerned about labor costs; thus, they often have to weigh the benefit of investing in HPWSs against the costs (Cappelli & Neumark, 2001). Indeed, using a longitudinal design to examine the effect of HPWS on a national probability sample of manufacturing establishments, Cappelli and Neumark (2001) found that whereas HPWSs did not demonstrate a substantive effect on employee sales performance across two sets of panel data, many practices incurred significantly higher labor costs for the organization. Therefore, researchers and practitioners alike aspire to extrapolate the influence process of HPWSs on strategic performance and, subsequently, profits for organizations to maximize return on investment. A purpose of this study was to highlight, both theoretically and empirically, the moderating role of hotel ownership structure on the effects of HPWSs.

To begin with, we contribute to the HR literature by illustrating how ownership and management alignment moderated the relationship between HPWS-SQs and service performance. In our sample of hotels, an HPWS-SQ was particularly effective in promoting service performance among hotels that were owned and operated by brands, but not among those that were owned and operated by independent companies or those with nonaligned ownership and management. This could be partly because hotels that are owned and operated by brands can benefit from higher operating efficiency, as they do not need to

pay expensive contract fees to a management company (Corgel et al., 2011). As such, hotels that are owned and operated by brands can invest more slack resources in the implementation of HPWSs to achieve higher service performance than hotels with nonaligned ownership and management.

Independently owned and managed hotels, although having the flexibility to adapt to the needs of the targeted market without the constraints from affiliation requirements (Hodari & Sturman, 2014), often suffer from low marketing power because of a lack of brand name or well-established reputation (Corgel et al., 2011), which is particularly salient during recession (O'Neill & Carlbäck, 2011). Thus, as customer perceptions of service quality are partially shaped by hotel brand and marketing campaign (Grönroos, 1984), the investment in HPWSs by independent hotels may not be associated with the same level of service performance as perceived by customers.

In addition, as independent hotels' managers are often subject to fewer formal corporate policies and regulations as stipulated by the brand, they may implement less arduous HRM policies and practices than the hotels that are owned and managed by brands. A recent study found that general managers in independent hotels possessed greater autonomy in determining the hotel's operation, marketing, and HRM than those working for hotel management companies (Hodari & Sturman, 2014). As such, we conducted a follow-up multivariate analysis of variance to compare the HRM practices across hotels, which showed that there was a significant difference among the three types of hotels in terms of the performance management practice,  $F(2, 123) = 4.40, p < .05$ ; partial  $\eta^2 = .07$ . The two-way comparisons between hotel structures showed that performance management was implemented less extensively in independent hotels ( $M = 3.62$ ) than in hotels with nonaligned ownership and management ( $M = 3.90$ ); and that it was also less seen in independent hotels than in hotels owned and managed by brands ( $M = 4.03$ ). As such, our explanation is that efforts made by independently owned and operated hotels in using HPWS to enhance service performance as evaluated by hotels' broad base of customers were less fruitful due to different priorities of the management combined with the lack of marketing power of independent hotels.

Further, the moderated mediation analyses revealed important and informative results that help shed light on the moderation of ownership and management structure on the relationships between HPWS-SQs and service performance or financial performance of hotels. First, the implementation of HPWS-SQs was most effective in hotels owned and managed by brands, which was more positively associated with service performance and indirectly with financial performance of these hotels than that in nonaligned hotels and hotels owned and managed by independent companies. This reinforces the previous regression results.

Second, when service performance was taken into consideration, the implementation of HPWSSQs had a stronger direct effect on financial performance in hotels owned and managed by independent companies than in hotels owned and managed by brands. This suggests that there may be other mediators that could explain the effect of HPWS-SQs on the financial performance of hotels owned and managed by independent companies, such as through enhancing employees' retention and innovation at work, the latter of which could be particularly important for independent hotels to charge a premium price (O'Neill & Carlbäck, 2011). Given our earlier finding that independently owned and managed hotels tended to use fewer performance management practices than the other two types of hotel structures, this suggests that independent hotels may use less formal "alignment" (Patel et al., 2013) or "performance-enhancing" HR practices (Batt & Colvin, 2011) to stipulate or correct employee service behaviors, which convey a lack of trust for the employees and were shown to contribute to higher employee quit rates (Batt & Colvin, 2011). Nonetheless, the other practices included in the HPWS-SQ of independent hotels convey the employer's trust in and support to the employees, which could be beneficial to the organization such as augmenting the adaptation capabilities (Patel et al., 2013) and reducing employee quit rates (Batt & Colvin, 2011). We encourage further research to fully disintegrate the mediating process of HPWS-SQs on financial performance of independent hotels.

Last but not least, the total effect of HPWS-SQs on financial performance was in general stronger for hotels with aligned ownership and management than for hotels that were nonaligned; namely, after taking into consideration the mediation of service performance, and potentially other mediating mechanisms that were not assessed, the implementation of HPWS-SQs was associated with more favorable financial performance of hotels owned and managed by brands or independent companies than that of hotels with nonaligned ownership and management. This concurs with agency theory, which argues that organizational performance will be higher when the owners and agents have aligned interests. When the owner-managers of hotels with aligned ownership and management are concerned about both the operating performance and resale value of the real estate, they are more willing to invest in developing, motivating, and empowering human resources to achieve higher service performance. On the contrary, facing pressures for short-term performance as stipulated by the principal-agent contract, agent-managers of hotels with nonaligned ownership and management may forgo high investments in human capital and instead focus on preventive or corrective measures. We conducted a post-hoc comparison of the individual HRM practices that were implemented by hotels with aligned versus nonaligned ownership and management and found that hotels with nonaligned ownership and management used more rewards ( $M = 3.86$ ) than hotels with aligned ownership and management ( $M = 3.68$ ) in general ( $F [1, 124] = 3.04$ ,  $p < .10$ ). Performance-enhancing HR practices including intensive monitoring and commission pay were shown to positively relate to employee voluntary quit rates, as well as involuntary dismissals by the organization; on the contrary, high-involvement and –investment HR practices, such as discretion, problem-solving groups, internal mobility, and pensions were associated with fewer dismissals, which reflects the organization’s concern for employees’ welfare (Batt & Colvin, 2011).

Additionally, employees’ differential attributions of the HRM practices to benefit the employees or the organization itself (Nishii et al., 2008) may also help explain the disparate effect of HPWS-SQs among hotels with aligned versus nonaligned ownership and management. Nishii et al. (2008, p. 504) suggest that “in order for HR practices to exert their desired effect on employee attitudes and behaviors,

they first have to be perceived and interpreted subjectively in ways that will engender such attitudinal and behavioral reactions.” Although both hotels with aligned and nonaligned ownership and management implemented HPWS-SQs, the finding that the effect on financial performance was more prominent for hotels with aligned ownership and management than for hotels with nonaligned ownership and management indicates that differential employee attributions of the intention of HPWS-SQs (such as to enhance service quality and employee wellbeing, or to reduce costs and exploit employees) could be part of the explanation (Nishii et al., 2008). We conducted supplementary regression analyses of the interaction between individual HRM practices and hotels with aligned and nonaligned ownership and management and found that hotels with aligned ownership and management had a positive interaction with rewards ( $b = .56, s.e. = .28, t = 2.00, p = .05$ ) in the relationship with service performance. This suggests that rewards were more effective in enhancing service performance when used on employees in hotels with aligned ownership and management than in hotels with nonaligned ownership and management. Future research may directly assess the differential attributions of employees on the organization’s intention of HPWSs under different ownership-management structures to further uncover these moderating relationships.

In addition, although operational performance is frequently considered the end result of HPWSs in previous research and is often used interchangeably with profitability, researchers of the resource-based view spell out conditions under which competitive advantage can be translated into profitability (Peteraf & Barney, 2003). Another contribution of the study was to examine the relationship between service performance and profitability of hotels. Aligned with the previous findings that performance improvement and market orientation had a curvilinear relationship with firm profitability (Adner & Zemsky, 2006; Kumar, Jones, Venkatesan, & Leone, 2011), our results showed that the relationship between service performance and profitability was an inverted U-shape. Service performance contributed to higher profitability only up to a certain point, then additional improvement in service performance in fact decreased profitability. We surmise that because the additional increase in service quality was

associated with a slower increase in the marginal utilities that were created for customers or the improvement of service quality incurred greater operating costs than the marginal value, higher service performance beyond the tipping point did not generate more profit for organizations.

This finding coincides with the rent appropriation process in determining firm profit, which “ensues when rent potential can be realized and when the profits of this realization exceed the costs of deploying the necessary services” (Durand, Bruyaka, & Mangematin, 2008, p. 1283). As indicated by Coff (1999), one important reason why competitive advantage does not necessarily contribute to higher financial performance is that the other stakeholders’ bargaining power over rent appropriation may reduce the return for the shareholders who are the owners of the firm. Two important stakeholders that have substantial bargaining power are customers and employees. For customers who are conscious of price, the bargaining power of the firms can be very limited, as these customers are less elastic in the rents they are willing and able to pay. In addition, for firms that have price-conscious customers, the upward potential in expanding the production capacity rapidly is limited (Peteraf, 1993). Therefore, the influence processes of operational performance on profitability are more complex than a simple linear relationship. The theoretical advances in distinguishing between service performance and profitability can serve as a foundation for future research to further disentangle the conversion of other types of operational performance into profitability in other industries. Additionally, future research should give more explicit attention to the processes through which operational performance is translated into profitability, by comparing the rate of marginal value creation for customers against the marginal operating costs incurred.

Taken together, this article contributes to the literature by presenting the influence process of HR systems on operational performance and, subsequently, financial performance. This bridges a significant gap in the literature because, as addressed by Chadwick and Dabu (2009), “Until we begin to make such linkages, we will still be able to say that human resources and HRM are essential to competitive advantage, but we will continue to be hard-pressed to describe exactly how this relationship works both

practically and theoretically” (p. 270). We urge others to similarly examine the relationship between HRM and operational performance and, subsequently, firm profitability. Specifically, future researchers may perhaps distinguish between the creation of different types of performance and rents by HRM, such as Ricardian rents enabled by rare and valuable or firm-specific human resources as well as entrepreneurial rents that are created by HR innovation (Chadwick & Dabu, 2009). We also encourage future research to examine these relationships using a longitudinal design, which allows us to make better causal inferences and provide stronger results than using a cross-sectional approach (Ployhart & Moliterno, 2011).

### *Practical Implications*

This article provides insights for managers seeking to maximize the financial return on the investment in HPWSs. Our study shows that it makes good economic sense for hotels to own and operate the properties at the same time, if possible. Under such an ownership and management structure, owner-managers are more likely to invest in HPWSs that will fundamentally develop, motivate, and empower employees and ultimately lead to higher service quality and performance than when ownership and management are separate. Owners may not have the capacity or inclination, however, to operate the hotels themselves. In this case, mechanisms that can align owners and agents’ financial rewards and preferences (Nyberg, Fulmer, Gerhart, & Carpenter, 2010) might be helpful in overcoming agents’ self-interest in investing in prevention-correction-oriented HPWS. For example, contracting on the more immediate operational performance indices, such as customer evaluations of service quality, may help prevent the abuse of the incentive system by the agents (Banker et al., 2005). Proper use of passive monitoring, namely, paying attention to agent-managers’ actions ex post, will also help them stay committed to shareholders’ interest (Shimizu, 2012).

Although our results speak for the management of hotels with aligned versus nonaligned ownership and management, the results may have implications for other types of organizations that are in

similar situations where ownership and management can be aligned or separate, such as restaurants, retail companies, and airlines, among others. Many businesses such as Whole Foods (Larcker & Tayan, 2008) and JetBlue (Gittell & O'Reilly, 2000) have shown examples of original founders as managers implementing a more long-term investment HRM system than agent managers, which speaks to the benefits of aligning ownership and management of service organizations.

A second implication is that our study offers evidence that operational performance does not equate profitability. In contrast, there is an optimal level of competitive advantage that can bring in the highest return for firms. While aiming to maximize profit with limited resources, managers need to continuously evaluate their relative service performance, monitor the marginal value created for customers against customer preferences, and assess the increase in value against the additional costs incurred.

### *Limitations*

To test the variation of HPWSs, service performance, and the effects on financial performance, our data was collected from 152 hotels at the property level. Given that the hotels are from the same industry, the analyses were unaffected by the possibility of an industry effect. We endeavored to minimize common method bias by utilizing multiple types and multiple sources of data, including archival data from Tripadvisor and survey data from both GMs and HR managers. As such, the paths from HPWS to service performance and to financial performance were measured from different sources. These efforts speak to the strength of our research design.

Of course, as with any study, the results of this study must be viewed in light of several limitations. First, although the model was derived from previous theoretical development, the measurement of HPWSs, service performance, and financial performance was cross-sectional in nature; thus, questions regarding causality remain unanswered. Certainly, prior research has suggested that the relationship between HR and past, present, and future performance was relatively stable and invariant

(Wright, Gardner, Moynihan, & Allen, 2005); nonetheless, future research that incorporates longitudinal designs is encouraged to test the causality effects. In addition, the hotels were located all across the world. Although an effort was taken to control for hotel location in the analyses, the between-country market differences and between-cultural practice differences may have introduced additional errors than would be the case if all hotels were located in one city. For example, the responses showed that the use of gross operating profit as a financial indicator was not prevalent in all countries. Also, the effective sample sizes of 93 and 152 hotels set a limit over the power of the research findings. As such, the present study might have underestimated the true relationships between the study variables. Results generated from a global sample, however, may have broader generalizability to more cultural contexts.

Finally, to reduce common method bias, we utilized customers' ratings on hotel service quality from Tripadvisor. Internet search for hotels and reviews has become the most prevalent approach used by about 80 percent of travelers prior to booking a hotel (Toh et al., 2011). These travelers tend to reciprocate by sharing their experience after the trip. Therefore, examining customers' ratings is meaningful and in fact a part of the routine tasks of hotel general managers. However, a potential limitation is that customers who provided ratings for a hotel may not be representative of all customers who visited the hotel. Therefore, we examined the interrater consistency and agreement and found that there was sufficient agreement and consistency within hotels and variation between hotels. This suggests that these customer reviews reflected a fair distribution. In addition, we tested the relationship between the number of customers that provided feedback for each hotel and the ratings of the hotel and found no significant relationship, indicating that hotels with more customer reviews were not different from hotels with few customer reviews. Another potential issue is that hoteliers may use the website to post false reviews. Toward this issue, TripAdvisor took actions to give warnings for suspicious false reviews (Mayock, 2010). Also, O'Connor (2010) found that few hotels actually used the website's formal mechanism for hoteliers to respond to customers' comments and that there was little evidence of false

postings among the sampled hotels. These suggest sufficient validity of user reviews on TripAdvisor in general.

## **Conclusion**

The results of this study provide important insights into the underlying processes and boundary conditions by which HPWS-SQ was translated into service performance and financial performance of hotels. We found that HPWS-SQ was more positively related to service performance when hotels were owned and operated by brands than otherwise. Moderated mediation analyses help to explicate the mediation relationship of service performance accounting for the moderating effect of ownership and management structure on the relationship between HPWS-SQs and financial performance of hotels. Importantly, service performance did not automatically translate into profit but demonstrated an inverted U-shaped relationship with hotel profit. We hope this study prompts researchers toward further examination of the boundary conditions and influence processes of HRM on other forms of performance and long-term profitability.

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## APPENDIX

### **High Performance Work System for Service Quality**

#### **Selection: ( $\alpha = .90$ )**

1. General service orientation and demeanor are used as important hiring criteria.
2. Previous experience and professional training on specific tasks are used as important hiring criteria.
3. An extensive procedure is used to select employees with interpersonal skills essential for working with colleagues and supervisors.
4. An extensive procedure is used to select employees with people and language skills essential for serving customers.

#### **Training: ( $\alpha = .71$ )**

5. Extensive orientation programs are provided to teach new employees property rules and information.
6. Extensive training programs are provided to teach employees task-specific skills to each job.
7. Extensive training programs are provided to teach employees customer service orientation and skills.

#### **Performance management: ( $\alpha = .80$ )**

8. Employee appraisals emphasize error-free performance and other objective outputs.
9. Employee appraisals emphasize adaptive behaviors to satisfy customers and other evaluations.
10. Employees are provided internal audits or inspections of service quality.
11. Employees are provided management or peer evaluations of service quality.
12. Employees are provided customer evaluations of service quality.
13. Employees are provided external mystery guests' evaluations of service quality.

#### **Reward: ( $\alpha = .60$ )**

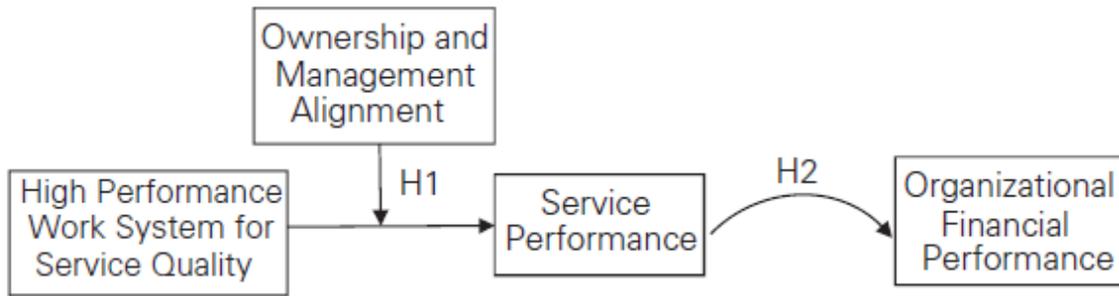
14. Employees are rewarded extensively on the overall performance of their department or team.
15. Employees are rewarded extensively on individual performance in satisfying customers.
16. Superior employees have potential career paths within their functional area.
17. Superior employees have potential career paths across functional areas and perhaps to the top.

**Team and participation: ( $\alpha = .68$ )**

18. Management places a great deal of importance on developing formal work teams within each department.
19. Management places a great deal of importance on developing problem-solving teams across departments.
20. Employees are provided with the opportunity to suggest improvements in service processes.
21. Employees are allowed to make many decisions on how to provide service.

**Information sharing: ( $\alpha = .65$ )**

22. Employees have the service policy or guideline information they need to do their work.
23. Employees have a dispatching or tracking system of work orders from different departments to do their work.
24. Employees have instant information sharing about customer preferences from different departments to do their work.



**FIGURE 1.** Overview of Research Model

**TABLE I** Means, Standard Deviations, and Correlations of Study Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Location	.53	.50											
2. Star level	3.24	.87	-.35**										
3. Hotel type	.81	.39	.15*	-.08									
4. Full-time employees	159.67	258.26	-.29**	.25**	-.06								
5. Part-time employees	50.72	180.21	-.15*	.02	-.13	.86**							
6. Number of rooms	185.80	151.07	-.07	.31**	.15*	.38**	.18*						
7. Union percentage	18.03	31.31	-.20*	.26**	.07	.11	.00	.17+					
8. High-performance work systems for service quality (HPWS-SQs)	3.85	.47	-.12	.04	.09	-.09	-.17	.12	.05				
9. Alignment by brands	.17	.38	-.32**	.31**	.01	.34**	.14	.48**	.05	.00			
10. Alignment by independent companies	.30	.46	-.04	-.12	-.17*	-.06	.05	-.40**	-.07	-.16*	-.30**		
11. Service performance	3.94	.67	-.16*	.28**	-.03	.07	-.01	.05	.16*	.02	.09	.09	
12. Organizational financial performance	3.87	.86	.14	.07	.16	.09	.04	-.03	-.01	.18*	-.20*	.03	.19*

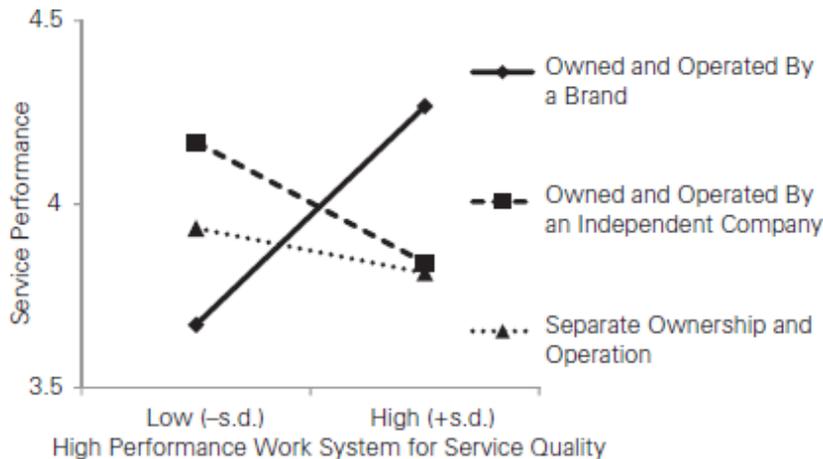
\*\*N = 93 for financial performance. N = 126 for all other variables.

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

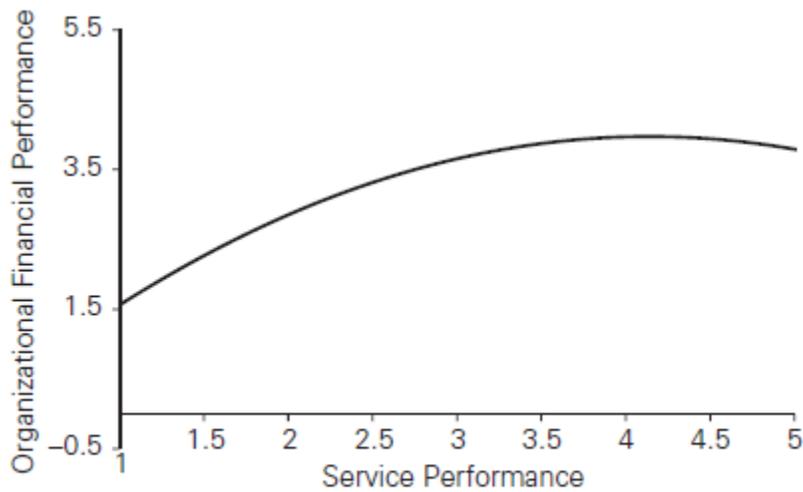
Variable	Service Performance		Financial Performance	
	Model 1	Model 2	Model 3	Model 4
Location	-.03(.14)	-.04(.14)	.34(.21) <sup>†</sup>	.33(.20) <sup>†</sup>
Star level	.18(.08)*	.16(.08)*	.16(.14)	.10(.14)
Hotel type	-.00(.16)	-.00(.16)	.24(.25)	.27(.25)
Full-time employees	.00(.00)	.00(.00)	.00(.00)*	.00(.00)*
Part-time employees	.00(.00)	-.00(.00)	-.00(.00)	-.00(.00)
Number of rooms	.00(.00)	.00(.00)	.00(.00)	.00(.00)
Union percentage	.00(.00)	.00(.00) <sup>†</sup>	-.00(.00)	-.00(.00)
HPWS-SQ	.02(.13)	-.13(.17)*	.25(.24)	.24(.24)
Alignment by brands	.07(.20)	.07(.19)	-.67(.31)*	-.60(.31)*
Alignment by independent companies	.20(.15) <sup>†</sup>	.14(.14)	-.01(.22)	.08(.23)
HPWS-SQ * Alignment by brands		.76(.31)**	-.04(.45)	.07(.45)
HPWS-SQ * Alignment by independent companies		-.22(.33)	.59(.51)	.57(.51)
Service performance			.24(.15) <sup>†</sup>	.11(.17)
Service performance <sup>2</sup>				-.25(.14)*
R <sup>2</sup>		.06*		.03 <sup>†</sup>
R <sup>2</sup>	.11	.17*	.23 <sup>†</sup>	.26*
F	1.41	1.92	1.81	1.94

<sup>†</sup>p < .10. \*p < .05. \*\*p < .01. One-tailed tests.

\*N = 126 for models with service performance as the dependent variable. N = 93 for models with financial performance as the dependent variable.



**FIGURE 2. Moderating Effect of Ownership and Management Alignment**



**FIGURE 3. Curvilinear Effect of Service Performance**

**TABLE III Results of the Moderated Mediation Analyses**

Moderator Variable	HPWS-SQ (X) → Service Performance (M) → Financial Performance (Y)				
	Stage		Effect		
	First	Second	Direct Effects	Indirect Effects	Total Effects
	$P_{MX}$	$P_{YM}$	$(P_{YX})$	$(P_{YM} P_{MX})$	$(P_{YX} + P_{YM} P_{MX})$
Simple paths for nonaligned	-.09	-.03	.24	-.12	.12
Simple paths for aligned brand	.68	.19	.09	.97	1.05
Simple paths for aligned independent	.13	.04	.65	.17	.82
Differences between nonaligned and aligned brand	.77*	.22	-.15	1.09*	.93*
Differences between nonaligned and aligned independent	.22	.07	.41	.29	.70*
Differences between aligned brand and aligned independent	-.55*	-.15	.56*	-.80*	-.23

Notes:  $n = 93$ ,  $*p \leq .05$  (two-tailed).

$P_{MX}$ : path from HPWS-SQ to service performance;  $P_{YM}$ : path from service performance to financial performance;  $P_{YX}$ : path from HPWS-SQ to financial performance.

Tests of differences for the indirect and total effect were based on bias-corrected confidence intervals derived from 5,000 samples bootstrap estimates.