

Importance of F&B operation in luxury hotels: The case of Asia versus the U.S.

Abstract

Design/methodology/approach – Operating performance of luxury hotels in Asia (37 hotels), including Japan, Singapore, South Korea, and Hong Kong, and in the U.S. (72 hotels), including New York, California, Florida, Illinois, and Texas was collected from STR reports. This study applied Generalized Estimating Equations (GEE) models to reach the conclusions.

Purpose – This paper aims (1) to understand the effect of F&B services on the operating performance of luxury hotels and (2) to identify the heterogeneous effects of the luxury hotels' F&B operation on the business performance between Asia and the U.S.

Findings – The emphasis on food and beverage (F&B) services exhibits a significant positive effect on the operating performance of luxury hotels in Asia. The occupancy rate and gross operating profit per available room of luxury hotels in Asia have improved with the investment in F&B offerings. Therefore, a distinctive F&B offering should be considered as one of the main products and services rather than a supplementary service in Asia. Whereas, devotion to F&B services lacks a significant positive effect on luxury hotels in the United States (U.S.).

Originality/value – This study is the first effort to identify the importance of luxury hotels' F&B operation for the overall hotel performance in Asia and the U.S. by focusing on the entire industry's operating information.

Keywords: luxury hotel F&B; RevPAR; GOPPAR; Asia; GEE

Introduction

The significance of food and beverage (F&B) operation in the hotel industry has been persistently questioned by the people who highlight its inferior profitability compared with the rooms department (Cengiz *et al.*, 2018). Based on the income statement of the hotel industry, the operating profit margin of the F&B department is between 20% and 25%, whereas the rooms department accounts for 50–75% (Cengiz *et al.*, 2018; Mun *et al.*, 2019). Conventionally, a hotel F&B department has long been considered as a required amenity that deserves high operating costs rather than a profit-generating business (O’Fallon & Rutherford, 2010). A hotel manager cannot deny the subsidiary role of the F&B department if he/she merely compares the operating performance between the hotels’ F&B department and the rooms department based on their income statement.

Furthermore, on the one hand, the high labor costs of the hotels’ F&B operation may entirely offset the benefits from the in-house guests, particularly when the occupancy rate of the hotel is low. This instance occurs because the hotels’ F&B operations should be opened for 24 hours and every day regardless of the number of hotel guests or unfavorable circumstances. On the other hand, the independent restaurants and bars have continuously evolved and competed with the hotels’ F&B services in terms of food quality and menu price. Unlike the hotels’ F&B operations, independent restaurants and bars quickly embrace the needs of the market with high creativity, vibrancy, and locally inspired concepts (Gordin *et al.*, 2016; Lee *et al.*, 2019). Hence, the position of F&B services in the hotel market has faced severe internal and external challenges over the last few decades, particularly due to the fast growth of new luxury restaurants (O’Fallon & Rutherford, 2010; Hwang & Hyun, 2013; Han & Hyun, 2017).

However, both arguments compatibly indicate that the hotels' F&B operations are costly in nature. Therefore, a simple comparison between the operating profits of the F&B and rooms departments may not be an appropriate approach to understand the intrinsic roles or significance of F&B services for hotel firms. That is, a hotel firm provides costly F&B offerings not only to earn F&B revenue from its in-house guests but, more importantly also to improve the customers' overall perception of the hotel, including rooms, brand image, and service quality. Thus, the benefits of F&B services should be measured by their effect on overall hotel performance and not by the unilateral performance of the F&B department.

From a similar perspective, Mun *et al.* (2019) identify that the increased investment in the hotel F&B operation lacks a significant detrimental effect on the overall operating performance of luxury and upper-upscale hotels, but such investment exhibits a positive effect, particularly for upscale hotels. Although the descriptive evidence shows comparatively lower profitability of full-service hotels than that of limited-service hotels, additional investment on the hotels' F&B operation drives the positive influences on the average daily rate (ADR), revenue per available rooms (RevPAR), and gross operating profit per available room (GOPPAR) of the rooms department within the full-service upscale hotels (Mun *et al.*, 2019). The findings indicate that additional investment in F&B services can increase customers' perception of the value and overall operating performance of hotels.

Although a positive relationship between further F&B investment and overall hotel performance was evident in upscale hotels, the insignificant effect of F&B services on the operating performance of luxury hotels (Mun *et al.*, 2019) raises a question about their strategic direction. In particular, should luxury hotels increase or decrease investment in their F&B services to keep pace with the changes in the market? Whether the impact of increased or

reduced investment in F&B services on hotel performance would be varying between countries in the luxury hotel segment? These questions are important for luxury hotels to decide their strategic directions and thus attain a competitive market position.

This paper attempts to find the answers for F&B services in luxury hotels by focusing on their effects on the overall business performance of hotels and their variance in different locations (Kapera, 2015; Mattila, 2000; Mun *et al.*, 2019). Recent performance figures report that the hotels' F&B revenue is larger than the revenue from the rooms department in few large Asian cities, including Tokyo, Osaka, and Seoul (50% vs. 45%, 52% vs. 42%, and 46% vs. 40% of the total revenue, respectively) (Horwath HTL, 2018). Although the proportion of the hotels' F&B revenue is smaller than the rooms revenue in Hong Kong (45% vs. 50% of the total revenue) and Singapore (37% of total revenue), their share of the hotels' F&B revenue to total revenue remains considerably larger than the average share of the hotels' F&B revenue (23.94%) in New York (23.58%) and California (24.02%) (Mun *et al.*, 2019).

Therefore, the importance of F&B offerings in hotels' revenue management and overall business performance may be different between Asian countries, including Japan, Korea, China, and Singapore and the Western countries, including the U.S. (Chen & Chang, 2012; Whitla *et al.*, 2007). Moreover, in non-Western regions, Asia has been recognized as an emerging luxury market, and the demands for luxury hotel services have been increasing recently (Deloitte, 2018; Padma & Ahn, 2020; TopHotel, 2017). Thus, this study argues that the strategic emphasis and role of the F&B operation should be significantly different between the luxury hotels in Asia (i.e., targeting local diners as well as overnight guests) and those in the U.S. (i.e., room-centric management strategies).

In summary, this paper aims (1) to understand the effect of F&B services on the overall operating performance of luxury hotels and (2) to identify the heterogeneous effects of the luxury hotels' F&B operation on the business performance between Asia and the U.S. Findings provide a strategic reference for the luxury hotel managers who intend to determine whether the improved quality of hotels' F&B services increases the customer demands and operating profitability of their hotels. This study also provides empirical evidence of the relative importance of luxury hotels' F&B operation in different regions and cultural backgrounds. To the best of our knowledge, this study is the first effort to identify the importance of luxury hotels' F&B operation for the overall hotel performance in Asia and the U.S. by focusing on the entire industry's operating information.

Literature Review

Role and Significance of F&B services in hotels

Unlike the rooms department, F&B services have been regarded as supporting amenity rather than a core revenue generator of hotels. Moreover, hotels have focused less on the roles of F&B offerings than the roles of other hotel services. It is because F&B services in hotel restaurants are less competitive in the aspects of menu price and distinctive dining experiences than those in independent restaurants (Hensdill, 1996). Therefore, the underperformance of the F&B department has been persistently witnessed, and many hotels are tempted to downsize and outsource their F&B services to save costs (De Vita & Tekaya, 2015; Espino-Rodríguez & Lai, 2014; Lamminmaki, 2011). These phenomena are prevalent in several hotels that partner with nearby local restaurants or contracted with famous chain restaurants (Millili, 2019). They are reflected in the studies on hotels that focused on rooms rather than restaurants (Lee *et al.*, 2019).

Thus, the literature lacks the study on the role and significance of F&B services in the overall hotel performance. (Gordin *et al.*, 2016; Kapera, 2015; Mun *et al.*, 2019).

Interestingly, F&B offerings in hotels have started to receive attention from several tourism studies because gastronomic tourists¹ have recently increased (Chen & Peng, 2014; Gordin *et al.*, 2016; Kapera, 2015). Nevertheless, their results can hardly be applied to hotels because their implications are mostly for destination marketing organizations or policymakers who intend to increase tourist visitations. Along with the trend of gastronomic tourism (i.e., luxury consumptions), certain hospitality studies have investigated consumer behaviors in luxury hotel restaurants (Chen *et al.*, 2015; Han & Hyun, 2017; Han *et al.*, 2019; Han & Seo, 2016; Lee *et al.*, 2019).

Although the findings of these studies highlighted a positive effect of the quality of F&B services on performance, the discussions focused on restaurants rather than hotels. Hence, the extant research poses limitations explaining the extent to which F&B services influence overall hotel performance. However, a positive link between F&B services and customers' intentions to revisit hotel restaurants provides further implications for luxury hotels. Increased in-house restaurant revenues can help improve hotels' overall profitability. In particular, this study discusses how F&B services can be used strategically to create competitive advantages for luxury hotels.

The hotel industry has distinguished its market based on the quality and numbers of services provided (Mazzeo, 2002). Several hotels provide a better quality of amenities or more customized services than other hotels to attract plenty of customers and justify their high room

¹ Gastronomic tourists are referred to as "tourists who are concerned with the consumption of food and drinks" (A. Chen & Peng, 2018, p. 59) and regarded the enjoyment of food and drinks as an important part of their tourist experiences (Horng & Tsai, 2010).

prices (Canina *et al.*, 2005; Enz *et al.*, 2008). These diverse service offerings have become significant sources of distinction among hotels and consequently create the classifications in terms of room prices, such as luxury, upper-upscale, upscale, upper-midscale, midscale, and economy hotels. As part of hotel services, F&B services are also closely related to the classifications of hotels. This notion indicates that the range of F&B services should vary depending on the level of overall hotel quality (Kapera, 2015). For example, economy hotels merely provide essential beverage services (e.g., coffee and tea). By contrast, luxury hotels offer F&B services with diversity, such as a coffee shop, upscale restaurants, bars, and banquets (Gupta, 2018).

Previous studies have indicated that different levels of service hotels are co-located in a particular area to share several tourism resources (e.g., sun, sand, beach), and the co-location drives additional customers in that area (McCann & Folta, 2008). If co-located hotels offer different levels of services, then they cannot be considered as direct competitors because they target different types of customers and do not need to share their customers (Canina *et al.*, 2005; Kalnins & Chung, 2004). This concept indicates that the direct competitors of hotels are based on the classifications of room prices, that is, the hotels that provide the same levels of services in the same region. For example, the direct competitors of a certain luxury hotel would be hotels that offer a similar level of luxury services in the same location and not the budget hotels. Therefore, hotels need another strategy that allows them to be distinct and compete with the same levels of hotels.

Given the current trends in the hotel industry, hotel firms have currently used F&B services as their new distinction strategy to increase their competitive advantage. As the hotel industry becomes highly globalized and competitive, large chain hotels have adapted brand

standardizations to construct guest rooms that are similar to one another. Although hotels strive to attract customers by offering unique and specialized products, brand standards can challenge hotels to provide customized room experiences to their customers (Sandoff, 2005). In particular, the conflict between standardization and customization may prevent hotels from strategically connecting to local culture and engaging with local communities (Watkins, 2014). Accordingly, brand hotels may be perceived as less competitive because they do not have the flexibility to adjust their guest rooms to meet the needs and wants of various markets and evolving trends. As standardized guest rooms are less flexible to change, Rowan (2018) argued that F&B services could be an excellent and more effective avenue for hotels to distinguish themselves from other hotels and AirBnb.

Notably, hotel operators and firms have recently focused on F&B services, and their reasons are mostly motivated by consumers who visited or returned to their hotels. The F&B preferences of consumers have changed; in particular, food becomes crucial and pleasant experiences rather than mere basic needs (Millili, 2019; TOPHOTELNEWS, 2019). For example, complimentary breakfast is an important consideration for travelers when they book a hotel (TOPHOTELNEWS, 2019) or choose one hotel over another (Sevenrooms, 2019). Consistent with the findings from gastronomic tourism studies, many young consumers, including the millennials, require healthy and sustainable food options and unique and innovative dining experiences (Crowley, 2018). This consumer demand may exemplify why several hotel brands (e.g., Kimpton) refused to adopt brand standards for their restaurants (Lodging, 2019; McCracken, 2018), or several hotel firms (e.g., Accor, Marriott) develop local-based restaurants and implement F&B loyalty programs to create authentic and premium experiences in their hotels (Sébastien & Amir, 2018; Fox & Simon, 2017). Overall, a consensus that F&B services

can be a major competitive distinction of a hotel's quality and long-term success has been established.

From theoretical perspectives (i.e., transaction costs theory and resource-based view), F&B services can also be explained as a differentiation strategy for hotels. Compared with other types of services, such as room cleaning and laundry, the level of specificity of F&B services is high because specific information and knowledge are needed to offer improved F&B services. Moreover, these services are relatively difficult to be replicated by others (Espino-Rodríguez & Lai, 2014). F&B offerings are also highly related to the downside of the hotel's image because it could seriously damage the hotel's reputation if they are inappropriately delivered (De Vita & Tekaya, 2015; Lamminmaki, 2011). This notion encourages several hotels to take their reputations seriously and therefore choose to develop and control their F&B services (i.e., insourcing) rather than outsource (Lamminmaki, 2011).

From practical and theoretical perspectives, the differentiation strategy for F&B services would highly be related to luxury hotels. Given the characteristics of the services provided, the distinction of F&B offerings may not be a significant competitive advantage for the economy or budget hotels. For example, these types of hotels mostly require a clean room and minimum amenities, and their customers are mainly attracted by cheap prices (i.e., costs leadership) rather than the variety of services (Espino-Rodríguez & Lai, 2014). However, luxury hotels can operate several upscale on-site restaurants and offer distinctive F&B services through various outlets, such as the lobby, bars, nightclubs, meeting rooms, and banquet halls. Thus, this study merely focuses on F&B services in luxury hotels.

F&B Differences between Asia and the U.S. Hotel Industries

Hotel firms have rapidly expanded in the international markets through their brand standardization (Alon *et al.*, 2012). Despite the intangibility of service characteristics, the standardization (e.g., standard operating procedures) enables hotel firms to codify their knowledge and transfer it to third parties (Brown *et al.*, 2003). However, the international expansion of several hotel brands has become challenging when their hotels cannot provide the same quality or number of services required by brands in the new market. For instance, several hotel firms face difficulties when the crucial resources to maintain their service quality (e.g., qualified personnel for luxury hotels) are unavailable in the new market or when local governments implement high entry barriers or strict regulations (e.g., the limited number of floors) (Alon *et al.*, 2012).

To cope with these difficulties, such hotel brands pursue balance with localizations, which allows local managers to be flexible in terms of few amenities (Liu *et al.*, 2014; Whitla *et al.*, 2007). In particular, the F&B is a “location bound” service (Whitla *et al.*, 2007, p. 783) because the numerous resources used by the F&B department should be delivered from the hotel itself rather than from the parent hotel firm. Furthermore, hotels highly reflect localization on their F&B services because numerous international tourists are looking for local culture and cuisines from hotel restaurants (Chen & Peng, 2018). Unlike room services, F&B services are not limited to tourists and can be used by residents. Hence, several hotels develop F&B programs (e.g., all-purpose coffee shops or bars, specialty restaurants, or multi-cuisine restaurants) to draw and appeal to the locals’ attention (Giroux, 2018; Gupta, 2018; Lee *et al.*, 2016).

A few hospitality studies have found the significant relationship between cultural differences and customers’ preference by comparing Western (e.g., the U.S.) and Asian (e.g., Hong Kong) travelers (Defranco *et al.*, 2005; Mattila, 1999, 2000). Depending on the country

where they are located, hotels are increasingly embracing local culture, customs, and traditions to create F&B experiences that can encourage locals to become regular customers (Minett, 2017). This notion is highly suggested because customer satisfaction and expectation relative to hotels' service encounters can vary from country to country (Mattila, 1999). For example, Korean and Chinese tourists were more concerned about F&B services in hotels than Western tourists when choosing hotels to stay in (Min & Min, 2011; Tsai *et al.*, 2011). Whereas western local customers (e.g., Canada) do not usually dine in hotel restaurants (Alister, 2017), and hotel restaurants in Poland are mostly used by in-house guests (Kapera, 2015). Moreover, dining in hotel restaurants is common for local customers in Asia that many hotels serve local food and aggressively advertise their restaurants to attract more local customers (e.g., Malaysia) (Lee *et al.*, 2019). These findings may characterize the culinary culture in Asia, where "to the people foodstuff is all important" (Tsai *et al.*, 2011, p.262).

No cross-country study has investigated the portion of revenue from F&B sales in hotels. However, there are a few recent studies have provided empirical evidence that F&B services in hotels generate different levels and rates of profitability in different countries (Chen & Chang, 2012; Mun *et al.*, 2019; Yeh *et al.*, 2012). Mun *et al.* (2019) analyzed the samples of luxury hotels in New York and California (the U.S.) and found that the F&B offerings failed to significantly increase the profitability of the hotels. On the other hand, Chen and Chang (2012) and Yeh *et al.* (2019) investigated international hotels in Taiwan and revealed that the F&B operation is more profitable than the rooms department in terms of producing the highest portion of revenues in hotels. Therefore, given the cultural differences in attitude and purchase intention of F&B products and services between consumers from the two regions, this study argues that

the profitability and revenue of F&B services can vary between luxury hotels located in Asia and the U.S.

Methodology

Samples and Data

This study employed the detailed operating performance of luxury hotels in Asia, including Japan, Singapore, South Korea, and Hong Kong, and in the U.S., including New York, California, Florida, Illinois, and Texas from STR reports. In Asia, Japan, Singapore, South Korea, and Hong Kong had developed economic powers and enjoyed the increasing popularity of gastronomic destinations (Horwath HTL., 2018, 2019; Park *et al.*, 2019). In the U.S., New York, California, Florida, Illinois, and Texas were the most popular tourist destinations from 2008 to 2017 (NTTO, 2020). The sample included 109 full-service luxury hotels with 543 observations from 2013 to 2017. In particular, a total of 37 luxury hotels from Asia (185 observations) and 72 luxury hotels from the U.S. (358 observations) were included in our sample: Japan (14 hotels, 70 observations), Singapore (6 hotels, 30 observations), South Korea (7 hotels, 35 observations), Hong Kong (10 hotels, 50 observations), New York (7 hotels, 35 observations), California (33 hotels, 165 observations), Florida (14 hotels, 70 observations), Illinois (6 hotels, 30 observations), and Texas (12 hotels, 58 observations).

Variables

This study examined four dependent variables, namely, 1) occupancy (log of revenue per available room [LogRevPAR], 2) average daily rate (log of revenue per available room [LogRevPAR], 3) revenue per available room ($\text{LogRevPAR} = \log [\text{total rooms revenue} / \text{the}$

number of total available rooms]), and 4) gross operating profit per available room ($\text{LogGOPPAR} = \log [\text{total revenue} - \text{total expense} / \text{the number of total available rooms}]$) (Lee *et al.*, 2019). The natural log was used for all dependent variables to enhance the normality of distribution. For the main independent variable, the proportion of F&B employees' salary over rooms employees' salary was used after the log transformation ($\text{Log} [\text{F\&B Salary} / \text{Room Salary}]$). The independent variable ($\text{Log}[\text{F\&B Salary} / \text{Room Salary}]$) represents the relative proportion of employee salary for the F&B operations compared with the rooms department (Mun *et al.*, 2019). For control variables, seven hotel specific variables were included; namely, LogADR , LogOccupancy , Year of operation, Size, Location, $\text{Log} (\text{G\&A} / \text{Total Revenue})$, and $\text{Log} (\text{Marketing} / \text{Total Revenue})$.

“Generalized Estimating Equations (GEE) is traditionally presented as an extension to the standard array of Generalized Linear Models as initially constructed by Wedderburn and Nelder in the mid-1970s” (Hardin & Hilbe, 2012, p. 3). “The GEE approach was developed by Liang and Zeger (1986) and Zeger and Liang (1986) to produce more efficient and unbiased regression estimates to analyze longitudinal or repeated measures research designs with non-normal response variables” (Ballinger, 2004, p. 128). Thus, the GEE model provides a simple and efficient approach to obtain consistent estimates for the panel data despite that the models are unspecified. In addition, this study examined the significance of F&B operations for luxury hotels in Asia and the U.S. and subsequently explored such significance separately. Lastly, the moderating term of the proportion of F&B salary over rooms salary and Asia ($\text{Log}[\text{F\&B Salary}/\text{Room Salary}] * \text{Asia}$) was added to examine whether the influence of F&B operations on the overall hotel performance would be different between the two subsamples (Asia vs. the U.S.).

Models

The generalized estimating equations regression models are expressed as follows.

1) Occupancy

$$Y_{it} = \beta_0 + \beta_1 * \text{Log}(\text{F\&B Salary/Room Salary})_{it} + \beta_2 * \text{LogADR}_{it} + \beta_3 * \text{Year of operation}_{it} + \beta_4 * \text{Size}_{it} + \beta_5 * i.\text{Location}_{it} + \beta_6 * \text{Log}(\text{G\&A/Total Revenue})_{it} + \beta_7 * \text{Log}(\text{Marketing/Total Revenue})_{it} + \gamma + \varepsilon_{it}$$

2) ADR

$$Y_{it} = \beta_0 + \beta_1 * \text{Log}(\text{F\&B Salary/Room Salary})_{it} + \beta_2 * \text{LogOccupancy}_{it} + \beta_3 * \text{Year of operation}_{it} + \beta_4 * \text{Size}_{it} + \beta_5 * i.\text{Location}_{it} + \beta_6 * \text{Log}(\text{G\&A/Total Revenue})_{it} + \beta_7 * \text{Log}(\text{Marketing/Total Revenue})_{it} + \gamma + \varepsilon_{it}$$

3) RevPAR and GOPPAR

$$Y_{it} = \beta_0 + \beta_1 * \text{Log}(\text{F\&B Salary/Room Salary})_{it} + \beta_2 * \text{Year of operation}_{it} + \beta_3 * \text{Size}_{it} + \beta_4 * i.\text{Location}_{it} + \beta_5 * \text{Log}(\text{G\&A/Total Revenue})_{it} + \beta_6 * \text{Log}(\text{Marketing/Total Revenue})_{it} + \gamma + \varepsilon_{it}$$

4) Moderating effect of Asia on Occupancy

$$Y_{it} = \beta_0 + \beta_1 * \text{Log}(\text{F\&B Salary/Room Salary})_{it} + \beta_2 * \text{Asia}_{it} + \beta_3 * \text{Log}(\text{F\&B Salary/Room Salary}) * \text{Asia}_{it} + \beta_4 * \text{ADR}_{it} + \beta_5 * \text{Year of operation}_{it} + \beta_6 * \text{Size}_{it} + \beta_7 * i.\text{Location}_{it} + \beta_8 * \text{Log}(\text{G\&A/Total Revenue})_{it} + \beta_9 * \text{Log}(\text{Marketing/Total Revenue})_{it} + \gamma + \varepsilon_{it}$$

5) Moderating effect of Asia on ADR

$$Y_{it} = \beta_0 + \beta_1 * \text{Log}(\text{F\&B Salary/Room Salary})_{it} + \beta_2 * \text{Asia}_{it} + \beta_3 * \text{Log}(\text{F\&B Salary/Room Salary}) * \text{Asia}_{it} + \beta_4 * \text{LogOccupancy}_{it} + \beta_5 * \text{Year of operation}_{it} + \beta_6 * \text{Size}_{it} + \beta_7 * \text{i.Location}_{it} + \beta_8 * \text{Log}(\text{G\&A/Total Revenue})_{it} + \beta_9 * \text{Log}(\text{Marketing/Total Revenue})_{it} + \gamma + \varepsilon_{it}$$

6) Moderating effect of Asia on RevPAR and GOPPAR

$$Y_{it} = \beta_0 + \beta_1 * \text{Log}(\text{F\&B Salary/Room Salary})_{it} + \beta_2 * \text{Asia}_{it} + \beta_3 * \text{Log}(\text{F\&B Salary/Room Salary}) * \text{Asia}_{it} + \beta_4 * \text{Year of operation}_{it} + \beta_5 * \text{Size}_{it} + \beta_6 * \text{i.Location}_{it} + \beta_7 * \text{Log}(\text{G\&A/Total Revenue})_{it} + \beta_8 * \text{Log}(\text{Marketing/Total Revenue})_{it} + \gamma + \varepsilon_{it}$$

Here, Y_{it} was either RevPAR ($\log[\text{total rooms revenue} / \text{the number of total available rooms}]$) or GOPPAR ($\log[\{\text{total revenue} - \text{total expense}\} / \text{the number of total available rooms}]$).

Results

Descriptive Operating Information

The average ADR fails to exhibit a significant difference between luxury hotels in Asia (\$347.18) and the U.S. (\$346.45), but the occupancy rate is significantly higher in Asia (78.84%) than in the U.S. (75.21%) (Table 1 and Figure 1). However, RevPAR of luxury hotels in Asia (\$518.31) is insignificantly higher than in the U.S. (\$414.02) despite their higher occupancy rate. The evident discrepancy in the operating performances between luxury hotels in Asia and the U.S. is found in the performance of their F&B operations. In particular, F&B revenue per available rooms is considerably larger for the luxury hotels in Asia (\$252.88) compared with those in the U.S. (\$147.13). Thus, a significantly higher gross operating profit per available room for the luxury hotels is found in Asia (\$197.50) than those in the U.S. (\$133.36) (Table 1 and

Figure 1). F&B labor expense per available room is not significantly different between the luxury hotels in Asia and those in the U.S. (\$83.01 vs. \$76.93), while rooms labor expense per available rooms is lower in Asia (\$34.48) than in the U.S. (\$46.50).

The proportions of rooms' expense over rooms' revenue (27.06% vs. 28.22%) and rooms' labor expense over rooms' revenue (12.87% vs. 17.24%) are likewise higher in the U.S. than in Asia. However, the percentage of F&B cost over F&B revenue (23.87% vs. 17.86%) is higher in Asia than in the U.S., whereas the percentage of F&B labor expense over F&B revenue (34.50% vs. 51.92%) is higher in the U.S. than in Asia. Therefore, the gross operating profit over total revenue (36.73% vs. 33.175) is significantly higher for luxury hotels in Asia than those in the U.S. Comparably, F&B revenue is slightly smaller than rooms revenue (91.11% of rooms revenue or 48% of total revenue) for luxury hotels in Asia, whereas it is considerably smaller than rooms revenue (59.51% of rooms revenue or 37% of total revenue) for those in the U.S. For both subgroups, F&B labor expense was considerably larger than rooms labor expense (242.13% vs. 176.75%), which is consistent with the concerns of high F&B labor expense.

(Insert Table 1 here)

(Insert Figure 1 here)

4.2 Statistical analysis

Table 2 indicates the effect of F&B services on the operating performance of luxury hotels in Asia, with the OLS and GEE models. Evidently, the occupancy rate (LogRevPAR after controlling for LogADR constant) exhibits a positive relationship with the increase in F&B salary over rooms salary in OLS (0.1383, $p < 0.01$) and GEE (0.1081, $p < 0.01$) models. By contrast, the rooms' price lacks a significant relationship with the increase in F&B salary over

rooms' salary in OLS (-0.0511 , $p > 0.10$) and GEE (-0.0420 , $p > 0.10$) models. Results specify that luxury hotels in Asia could increase their room occupancy by increasing investment in F&B services, although they could not charge higher room prices. Notably, Table 2 also reveals that the increase in F&B salary over rooms salary significantly improved GOPPAR in OLS (0.6922 , $p < 0.01$) and GEE (0.2889 , $p < 0.01$) models. However, such an increase fails to statistically increase RevPAR in a GEE (0.0564 , $p > 0.01$) model. Therefore, the luxury hotels in Asia could increase their operating profitability by offering improved F&B services.

This study also finds that RevPAR and GOPPAR of luxury hotels in Asia substantially vary among different locations. Surprisingly, the luxury hotels in the suburban area show the highest RevPAR (0.5494 , $p < 0.01$) and GOPPAR (0.7766 , $p < 0.01$), and they are significantly higher than those of luxury hotels in the urban area. However, the RevPAR and GOPPAR of luxury hotels in the airport (-0.8279 , $p < 0.01$ and -1.1547 , $p < 0.01$ in GEE models, respectively) and resort (-0.6596 , $p < 0.05$ and -1.0318 , $p < 0.05$ in GEE models, respectively) are substantially lower than those of the luxury hotels in urban and suburban areas alike. Results of OLS models and those of GEE models present similar implications.

(Insert Table 2 here)

To compare the cultural variations between Asia and the U.S., this study presents the significance of F&B services in the overall operating performance of luxury hotels in the U.S. with the same models. In contrast to the findings of luxury hotels in Asia, Table 3 reflects that the occupancy rate (LogRevPAR after controlling for LogADR constant) is negatively influenced by the proportion of F&B salary over rooms' salary in OLS (-0.0680 , $p < 0.01$) and GEE (-0.0767 , $p < 0.05$) models. However, the proportion of F&B salary over rooms' salary

exhibits a marginally significant positive influence on the rooms' price (0.0681, $p < 0.10$ in a GEE model). Results indicate that the luxury hotels in the U.S. charge a higher ADR than those in Asia when they offer improved F&B services, thereby lowering occupancy rate. Thus, the investment on the F&B offerings of luxury hotels in the U.S. fails to increase neither RevPAR nor GOPPAR, which is consistent with the previous inferences of Mun *et al.*'s study (2019).

Firm size exhibits a significantly negative relationship between RevPAR (-0.1519 , $p < 0.01$ in GEE models) and GOPPAR (-0.1550 , $p < 0.01$ in GEE models). Different from the case of luxury hotels in Asia, the location of the hotels is not a significant factor for operating performance. Merely the RevPAR and GOPPAR of luxury hotels in the airport area (-0.4110 , $p < 0.01$ and -0.3726 , $p < 0.01$ in GEE models, respectively) are significantly lower than other areas in the U.S.

(Insert Table 3 here)

Lastly, this study adds an interaction term in the models to confirm the different effects of F&B services on the operating performance between luxury hotels in Asia and the U.S. Table 4 reveals a significant moderating effect of Asia on the relationship between the occupancy rate (LogRevPAR after controlling for LogADR constant) and the proportion of F&B salary over rooms' salary in OLS (0.1693, $p < 0.01$) and GEE (0.1877, $p < 0.01$) models. Furthermore, the significant moderating effect of Asia is identified on the relationship between GOPPAR and the proportion of F&B salary over rooms' salary in OLS (0.8504, $p < 0.01$) and GEE (0.5057, $p < 0.01$) models. Therefore, the role of F&B services in the operating performance (occupancy rate and gross operating profit) is more significant for luxury hotels in Asia than those in the U.S.

(Insert Table 4 here)

Discussion and Conclusions

Conclusions

Despite the growing competition for luxury services within the tourism industry (Chen & Peng, 2018; Padma & Ahn, 2020; Yang & Mattila, 2016), many hotel managers have stubbornly retained room-centric mindsets and do not sufficiently emphasize the strategic roles of F&B offerings in luxury hotels (Lee *et al.*, 2019). However, given that the facilities of luxury hotels (e.g., rooms, beds, and spa) have become increasingly similar to one another (Presbury *et al.*, 2005), providing distinctive F&B services has been recently reconsidered as a strategic approach for gaining a competitive advantage in luxury hotels and to “stand out from the crowd” (CBRE Hotels’ Americas Research, 2018). Furthermore, as customers’ requirements for luxury services become increasingly sophisticated, the development of quality F&B offerings is inevitable for luxury hotels to attract not only in-house customers but also non-hotel guests to dine in their facilities (Gordin *et al.*, 2016; Han & Hyun, 2017).

The results of the OLS and GEE regression analyses also confirm that investments in F&B offerings exert a significant positive effect on the occupancy rate and GOPPAR of luxury hotels in Asia. However, emphasis on F&B services fails to yield a significantly positive effect on ADR (insignificantly negative) and/or RevPAR (insignificantly positive) of luxury hotels in Asia under the same conditions. The insignificant relationships between F&B services and ADR and/or RevPAR indicate a strong emphasis on room price in hotels’ revenue management practices but low consideration of F&B services in their revenue management applications. That is, luxury hotels continuously change their room price on the basis of their occupancy rate or

their competitors' room prices but not on the quality of F&B services. This finding is consistent with dominant revenue management practices. However, when the models hold their room prices constant, the quality of F&B services increases the occupancy rate of luxury hotels in Asia, positively influencing the overall operating performance (i.e., GOPPAR), in addition to the performance improvement of the F&B department.

In the U.S., the relationship between F&B services and occupancy rate in luxury hotels yields significantly negative effect after other factors are held constant in the OLS and GEE analyses. The results are contradictory to those in Asia. Investments in F&B services (marginally) significantly increase the ADR of luxury hotels under the same conditions. These findings indicate that luxury hotels that provide improved F&B offerings tend to increase their ADR; however, the increased room price consequently decreases their occupancy rate. Thus, additional investment in F&B service increases ADR but simultaneously decreases occupancy rate, yielding statistically insignificant effects on RevPAR and GOPPAR in the U.S. These findings are consistent with the suggestions of Mun *et al.* (2019) even after adding more luxury hotels from other states, such as Florida, Illinois, and Texas, to the models.

Figure 1 and the regression analysis clearly indicate that the distinctive discrepancies in the operating performance between luxury hotels in Asia and those in the U.S. are the statistics of the occupancy rate and GOPPAR. Notably, the current study confirms that a significant positive interaction effect of Asia (i.e., cultural discrepancy) is evident in the relationships between F&B services and occupancy rate and between F&B services and GOPPAR. Therefore, improved F&B services provide a different overall luxury hotel experience, and the quality of F&B offerings can be an essential factor for luxury hotel customers to select their dining options in Asia, whereas it may not be a primary factor for luxury hotel customers in the U.S. That is,

U.S. travelers tend to place the most important value factor on the quality of rooms (Choi & Chu, 2000).

Theoretical Implications

This study provides meaningful contributions to hospitality and tourism literature. Although numerous cross-cultural studies have examined consumer behavior, such as service evaluation and purchase intention, no study has explored the moderating effect of countries (Asia versus the U.S.) on the relationship between the F&B offerings and operating performance of a luxury hotel, particularly at the hotel property level. The current work provides novel evidence of how F&B offerings can affect the operating performance of hotels by comparing luxury hotels in Asia with those in the U.S. The findings indicate that F&B service can be an important differentiation strategy for luxury hotels, but its significance is dissimilar between Asia and the U.S. To provide better F&B services, luxury hotels should gain specific know-how and skills, which are costly, and thus, difficult to replicate by others (Espino-Rodríguez & Lai, 2014). In this regard, the positive effect of F&B services on the operating performance of luxury hotels supports the transaction costs theory and a resource-based view.

Practical Implications

This study also provides several important implications for luxury hotel firms that operate in Asia and the U.S. The difference in the significance and roles of F&B services in the overall operating performance of luxury hotels in different countries indicates a strong need for location- or culture-specific strategies for luxury F&B operations. In particular, a significantly positive influence of F&B offerings on the overall operating profitability of luxury hotels in Asia

suggests an opportunity for hotel owners and developers to implement F&B offerings strategically and increase their engagement with the local community. The consumption of luxury products and services is perceived to be associated with prestige (Bian & Forsythe, 2012), and thus, customers in Asia are willing to pay high prices in exchange for the outstanding quality of cuisine, ingredients, dining environment, and service standards. Consequently, luxury hotel restaurants in Asia are frequently considered the best places for special events, including weddings, birthday celebrations, business meetings, and other important moments in life. Therefore, prospective investments in F&B offerings in Asian luxury hotels will attract more hotel guests, locals, and non-hotel travelers to dine in their properties (Karson & Murphy, 2013; Lee *et al.*, 2019). Creating a buzz among locals can also help capture the attention of gastronomy tourists who are searching for unique dining experiences, increasing the occupancy of hotels.

However, consistent with previous findings (Mun *et al.*, 2019), investment in F&B services fails to significantly improve the operating performance of luxury hotels in the U.S. The extant research provides several reasons for the underperformance of F&B in U.S. luxury hotels compared with those in Asia. First, considering the serious competition in the F&B sector in developed countries, luxury hotel restaurants may not necessarily represent a distinctive dining experience and locals may not opt to dine out at luxury hotel restaurants to enjoy remarkable F&B offerings or celebrate special moments (Alister, 2017; Kapera, 2015; Mun *et al.*, 2019). Second, the development of technology has enabled international travelers and local customers to find reputable fine dining restaurants easily near their accommodations. Lastly, researchers have found that among different factors, the quality of room service exerts a more significant effect than the quality of F&B offerings on the satisfaction of U.S. customers, suggesting a low return on investment in F&B operations (Defranco *et al.*, 2005). Hence, a luxury hotel in the U.S.

can hardly differentiate itself from other luxury hotels and local fine dining restaurants by simply investing in F&B services.

Limitations and Future Research

This study proposes that luxury hotels may boost the competitive advantages of their other operations, including the room department, if they can utilize quality F&B services in a communal, less formal, and timely manner. Particularly in Asia, a distinctive F&B offering should be considered one of the major products and services of a luxury hotel rather than a supplementary service (Yeh *et al.*, 2019). Attracting and bringing in local guests in a hotel restaurant have become an important strategic direction for luxury hotel managers, even though the competition is fiercer than ever (Han & Hyun, 2017; Karson & Murphy, 2013; Lee *et al.*, 2019).

Therefore, a more holistic F&B-focused business strategy must be developed, implemented, and maintained at the property and corporate levels because the influence of F&B services on the operating performance of luxury hotels varies across different cultures and countries. However, this study leaves the following potential topic for future research: how luxury hotel managers can develop, implement, and maintain specific strategic guidelines.

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