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Merges and Acquisitions on the Hospitality Industry: Strategies and  
Implications on Post-acquisition

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## **ABSTRACT**

Mergers and acquisitions (M&As) in the hospitality industry have been more active in the last years due to the highly competitive industry. The performance, particularly post-acquisition, has produced mixed results in the literature. Some studies have reported negative outcomes, finding a significantly negative effect on acquiring hotel firms, concluding that shareholders of acquiring hotel companies do not benefit from acquisition. However, other researchers, have documented positive returns, suggesting that acquirers can achieve significant positive returns post-acquisition.

The main researches on post-acquisition performance in the hospitality industry has primarily concentrated on short-term, with many studies adopting the event study methodology to evaluate stock return performance. These studies often focus on market reactions, with less attention given to long-term performance, which remains underexplored. The limited number of studies examining long-term performance creates a gap in understanding how initial short-term gains or losses translate into long-term advantages or challenges.

Considering these last statements, this research seeks to provide insights into the strategic and financial implications of M&As, beyond the prevalent short-term perspective found in much of the current literature by delving into the long-term performance post-acquisition.

Our results suggest a negative impact on the long-term performance, independently, of the type of strategy applied in the acquisition in the univariate analysis. Furthermore, when we applied the multivariate analysis, which included variables for post-acquisition periods and firm-specific effects, did not show great statistical significance, and since the multivariate analysis consider multiple variables and other factors that may influence the results, suggesting that the general acquisition effect is not impactful on the long-term performance of the acquiring firms.

**Keywords:** hospitality industry; post-acquisition; acquiring hotel firms; long-term performance.

## SUMÁRIO

Fusões e aquisições (F&A) na indústria hoteleira têm sido mais ativas nos últimos anos devido ao sector altamente competitivo. A performance, especialmente pós-aquisição, tem apresentado diferentes resultados na literatura. Alguns estudos apresentam resultados negativos, demonstrando um efeito significativamente negativo nos hotéis envolvidos em aquisições, concluindo que os acionistas de hotéis adquirentes não beneficiam de aquisições. No entanto, outros investigadores documentaram retornos positivos, sugerindo que os adquirentes podem obter retornos positivos significativos pós-aquisição.

A maioria dos estudos no desempenho pós-aquisição na indústria hoteleira tem se concentrado principalmente no curto prazo, com bastantes estudos adotando a metodologia estudo evento para avaliar o desempenho do retorno de acções. Estes estudos focam-se continuamente nas reacções de mercado, colocando menos atenção no desempenho a longo prazo, permanecendo assim inexplorado. O número limitado de estudos a investigar o desempenho no longo prazo cria uma lacuna na compreensão de como os ganhos ou perdas iniciais a curto prazo se traduzem em vantagens ou desafios a longo prazo.

Considerando estas últimas afirmações, esta pesquisa procura providenciar conclusões sobre as implicações estratégicas e financeiras nas F&A, para além da prevalente perspectiva a curto prazo identificada na maioria da literatura atual, investigando assim o desempenho a longo prazo após a aquisição.

Os nossos resultados sugerem um impacto negativo no desempenho a longo prazo, independentemente, do tipo de estratégia aplicada na aquisição na análise univariada. Além disso, quando aplicamos a análise multivariada, que inclui variáveis para os períodos pós-aquisição e efeitos específicos das empresas, não demonstram grande significância estatística, e uma vez que a análise multivariada considera múltiplas variáveis e outros factores que podem influenciar os resultados, sugerindo que o efeito geral das aquisições não apresenta impacto no desempenho a longo prazo das empresas adquirentes.

**Palavras-chave:** sector hoteleiro; pós-aquisição; empresas hoteleiras adquirentes; desempenho a longo prazo.

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# 1. INTRODUCTION

Mergers and acquisitions in the hospitality industry have attracted attention due to their particular characteristics and implications. Unlike industries that're heavily reliant on technology or equipment the hotel industry faces challenges and opportunities especially given its strong dependence on financial capital for assets and human resources (Zhang et al., 2020). Brand recognition plays a vital role in this particular sector, where brand reputation is vital throughout mergers and acquisitions (Canina et al., 2010).

The strategic value of mergers and acquisitions lies in their ability to drive growth, enhance shareholder value and create synergies (Kim & Olsen, 1999; Walter & Barney, 1990). These strategic goals prompt hotel firms to engage in M&A activities to expand their capacity and strengthen their market position. Additionally, the cyclical nature of the hotel industry is closely linked to the leisure sector growth that significantly influences M&A transactions (Zhang et al., 2020).

The integration phase following an acquisition is critical and often determines the overall success of the M&A (Canina, 2009; Saunders et al., 2009). Effective post-acquisition strategies involve early planning, retaining key employees, and addressing cultural differences (Kim & Olsen, 1999). These elements are vital to mitigating the challenges of integration and realizing the anticipated synergies. Cultural clashes, particularly in international deals, can pose significant hurdles, making strong leadership and transparent communication essential for successful integration (Saunders et al., 2009).

Performance assessment of M&As in the hotel industry typically involves evaluating both financial metrics such as stock returns and accounting profits, and strategic metrics such as the achievement of growth objectives and market expansion goals (Kim & Canina, 2013; Ma et al., 2011). A comprehensive performance evaluation should consider these diverse metrics to provide a holistic view of the M&A's impact. Studies indicate that while short-term financial metrics are important, understanding the long-term strategic benefits and overall value creation is crucial for a complete assessment of M&A success (Dogru, 2017; Hsu & Jang, 2007).

While the post-acquisition performance on the hospitality industry has the evidence of mixed results, with studies reporting both positive and negative performance. This dissertation has purpose to understand the long-term performance due to the scarce studies. Furthermore,

in this study the main question that's going to be address is the following: How the main M&A strategies implemented in the hospitality industry influence the long-term performance after an acquisition?

The results on the long-term performance suggest a negative impact after the acquisitions in the univariate analysis but when we applied our multivariate analysis, did not show great statistical significance, and since the multivariate analysis consider multiple variables and other factors that may influence the results, suggesting that the general acquisition effect is not impactful on the long-term performance of the acquiring firms.

The structure of this dissertation is organized as follows, after this introduction. The Section 2 comprehends an overview of the existing literature about the motives for M&A, the studies regarding the short-term and long-term performance and the most used strategies in the M&A, concluding with the assessment of the literature gap. Whilst in Section 3, we present the methodology employed, namely, the univariate and multivariate analysis. Moreover, in Sections 4 and 5 we describe the sample selection process and the descriptive analysis of the sample, respectively. Finally, in Section 6 we present our results and in Section 7 we present our conclusions and limitations.

## **2. LITERATURE REVIEW**

In this chapter, we present the main motives for firms to participate in M&A, following by the post-acquisition performance in the short-term and long-term and the most employed strategies in the hospitality industry. Lastly, we will conclude this chapter by addressing the existent literature gap.

### **2.1. Motives for M&A**

According to the motivation classification in Mergers and Acquisitions Haleblan et al. (2009), emphasize the central theme of value creation. This includes market power, efficiency, and resource redeployment. Market power involves extracting more value from customers, efficiency focuses on cost reduction and increased productivity, while resource redeployment aims at generating economies of scope (Haleblan et al., 2009; Kim & Olsen, 1999).

Kim & Olsen (1999) highlight enhancing shareholders' value, accelerating growth momentum, achieving synergy, and maximizing stockholders' wealth. The lodging industry, in particular, prioritizes accelerating growth and creating value for stockholders. This aligns with the broader shift in executives' goals towards maximizing stockholders' wealth (Kim & Olsen, 1999; Walter & Barney, 1990)

Kantor & Blair (1970) contribute with insights regarding the identification of companies with underutilized management, the application of managerial expertise to small companies, and the role of mergers in addressing retirement and personal financial problems. Financial synergy and organizational synergy also drive M&A activities, allowing subsidiary management to focus on operational strengths while integrating additional talents and techniques. The fundamental principle underlying M&A is the creation of shareholder value beyond the sum of the two companies. Synergy, in the form of revenue enhancement and cost savings, is achieved through staff reductions, economy of scales, acquiring new technology, and improved market reach. While M&A positively impacts shareholder values and benefits management, it often has a negative impact on employees due to staff reductions (Pizam, 2016).

Tse & Crawford-Welch (1989) mentions that typical types of hotel firm diversification include adopting products to appeal to new customers (concentric), adopting products to appeal to current customers (horizontal), or undertaking new ventures different to and

perhaps complementary with existing products (conglomerate). Gross et al. (2017) indicates that diversification strategies in the hotel industry involve targeting new customer segments, catering to existing customer bases, and exploring complementary ventures. Furthermore, the authors highlight that business diversification in internationalization can achieve efficiency, with scale allowing a firm to become more efficient as it integrates experiential knowledge in its progress along an organizational learning path, while scope provides efficiency as increased units of operation allow more economical spread of resources and costs (Litteljohn et al., 2007). This suggests that diversification can lead to efficiency gains through knowledge integration and economies of scale.

Also, diverse motives for M&A emerge in the context of global expansion and internationalization. Deng (2009) notes that Chinese firms seek strategic assets in international expansion, while Šušić (2009) discusses the geographical expansion of hotel chains driven by globalization and emerging economies. Rodtook & Altinay (2013) reveal a complex combination of motives, including risk mitigation, profit increase, knowledge acquisition, and brand recognition, guiding hotel firms toward internationalization (Gross et al., 2017)

## **2.2. Hospitality Industry M&A Performance**

### **2.2.1. Short-term Studies**

The performance of mergers and acquisitions, in the short-term is typically evaluated through methods like "event study" or "residual analysis." This includes examining the stock returns of both the acquiring and acquired companies leading up to a date, known as the "event date" (Yang et al., 2008).

The research carried out by Canina (2001) and Chatfield et al. (2012) discovered that announcements of mergers and acquisitions in the lodging sector tend to elicit confident responses from the stock market for both acquiring and target companies. Canina (2001) specifically investigated cumulative abnormal returns (CAR) for lodging firms over a period ranging from two days before to one day after the merger announcement (2, +1).

Moreover, Yang et al. (2008) highlight that the payment method significantly influences the short-term performance of hospitality acquisitions. Their conclusions align with information asymmetry and signaling theory indicating that negative market reactions to stock offers may

counterbalance gains, from mergers and acquisitions. Hence hospitality acquirers seeking returns should prioritize cash offers whenever feasible.

Kim (2006) assessed performance of hospitality firms based on stock prices while considering merger types and payment methods. The findings showed that when merger and acquisition news was announced it didn't have an impact on the financial performance of the hospitality companies involved. The research also pointed out that rely only on stock prices might not consider what affects those prices.

Ma et al. (2011) measured how well acquiring firms did in the short-term by calculating cumulative abnormal returns (CARs) over a five day period, around the announcement dates. On average these firms saw returns of 1.23% during this time with a median return of 0.672%. While not all returns were positive it's worth noting that performance varied widely with quartiles ranging from 1.908% to 3.290%.

### **2.2.2. Long-Term Studies**

Contrarily, some authors unraveled the long-term performance, comprising long window periods between 3 years and 8 years.

Yang et al. (2010) investigated the stock performance of hospitality companies that were acquired between 2000 and 2006 over the long-term. Their findings, after mergers and acquisitions performance were varied. Comparing the acquiring hospitality firms to the S&P 500 index showed positive gains. However, in comparison to sector indices, specifically, Real Estate Investment Trust (REIT) acquirers did not see an increase in equity value for their shareholders while hotel and casino acquirers experienced gains.

Multiple studies consistently suggest that mergers and acquisitions tend to have a negative impact on the equity value of acquiring firms in the hospitality industry over larger window periods. Sheel & Nagpal (2000) discovered significant negative cumulative abnormal return (CAR) of -176.67% and the study covered a timeframe from six months before the acquisition announcement to 36 months after the announcement. Supported by Hsu & Jang (2007) who also observed negative Jensen Measures and cumulative abnormal returns. These results indicate that shareholders of acquiring hospitality firms typically do not see advantages from mergers and acquisitions. Moreover, the research also employed return on assets (ROA) and return on equity (ROE) as measures of operating performance, revealing that mergers had no significant positive impact on the long-term accounting returns of the

acquiring firms. Furthermore, Andrade et al. (2001) indicate that merger firms may experience negative abnormal returns over the three to five years post-merger completion, indicating a failure by investors to fully assess the impact of corporate announcements. Additionally, Nom et al. (2002) provided estimates of three-year post-acquisition abnormal returns for acquiring firms, highlighting variations based on portfolio composition and financing methods.

Although most research indicates a negative outcome, some studies present mixed findings, by emphasizing factors that could influence post-acquisition performance. For example, Yang et al. (2010) recognized how mergers and acquisitions are financed can significantly impact long-term returns with certain firms demonstrating positive alphas. Kim (2006) supports these findings, showing that the strategic financial decisions (method of payment and financing) made during the deal can influence the post-acquisition success of the acquiring firm.

Kim & Canina (2013) also found improvements, comprising hotel property data from 1991 through 2009, utilizing a three-year window. The findings revealed that acquirer properties achieved a 1.07 improvement in peer-adjusted RevPAR (Revenue per Available Room) three years after the merger relative to one year before the merger. Additionally, for the OIPAR (Operating Income per Available Room) measure, acquirer properties experienced a 1.30 improvement in peer-adjusted OIPAR in year 3 after the merger compared to year 1 before the merger. The performance improvements observed in acquirer properties indicate that mergers can lead to enhanced operational performance, supporting the hypothesis that effective management can drive value creation through M&A. However, the authors also recognize some limitations due to the relatively small number of deals.

Canina (2000) and Yang et al. (2010) pointed out a gap between short-term benefits and long-term results. Although initial market responses to merger and acquisitions announcements were positive, leading to shareholder wealth increase, these gains were not sustained in the long run. This indicates that while mergers may seem beneficial at first, integrating and realizing synergies could pose challenges that diminish these advantages over time.

Few studies utilized accounting-based measures to assess the long-term operational performance of acquiring firms. Kim (2006) employed ROA, ROE, and operating cash flow to assets ratios, revealing that acquisitions did not enhance profitability or efficiency.

Hsu & Jang (2007) also used ROA and ROE and found no significant positive impact from mergers.

### **2.3. M&A Strategies in the Hospitality Industry**

Tse & Crawford Welch (1989) conducted a study focusing on the strategies used in mergers and acquisitions in the hospitality sector from 1970 to 1988. Their research highlighted horizontal integration as the predominant strategy. It accounted for 34.6% of all merger and acquisition attempts during that period contributing to 39.8% of the total value. Following behind were conglomerate diversification representing around 15.4% of all activity and forward integration, at 12.9%. Interestingly concentric diversification emerged as the second most valuable strategy with around 13.6% of the overall value throughout the entire period. The research also highlighted a shift in merger and acquisition strategies between the 1970s and the 1980s, while diversification was dominant in the 70s, integration took precedence in the latter one. Notably there was a growth rate of over 100% in integration strategies during the years from 1980 to 1988 peaking at an impressive count of 14 deals, in 1986.

### **2.4. Literature Gap**

Within the hospitality sector researchers that investigated mergers and acquisitions (M&As) found multiple and mixed findings. Some studies have identified negative outcomes, such as Sheel & Nagpal (2000), who reported a significantly negative effect on acquiring hotel firms during 1980–2000. Similarly, Hsu & Jang (2007) found that shareholders of acquiring hotel companies do not benefit from mergers, regardless of the window period length. These findings underscore the challenges in achieving positive outcomes from M&As, particularly in the short term.

Conversely, other scholars have reported positive post-acquisition outcomes. Ma et al. (2011); Oak & Dalbor (2009) and Yang et al. (2008, 2010) claimed that acquirers could earn significant positive abnormal returns. Canina (2001) further asserted that both acquiring and acquired firms experienced positive abnormal returns, highlighting that different samples, window periods, and evaluation approaches might lead to varying findings. This divergence in results suggests that the performance of M&As in the hotel industry may be context-

dependent, influenced by factors such as the timing, structure, and strategic fit of the transactions.

The literature gap regarding short-term and long-term performance is particularly pronounced. Studies on M&A performance primarily employed event study methods to assess stock return performance within pre-determined window periods, with a greater focus on short-term performance. For instance, Chatfield et al. (2012) and Dogru (2017) used a window period of one day before and after the announcement date, emphasizing the immediate market reaction. However, studies focusing on performance over extended periods are not as common. For instance, Sheel & Nagpal (2000) studied a 3.5 year period, Kim & Canina (2013) 4 years, Yang et al. (2009) 8 years and Yang et al. (2010) explored a 6 year period. The absence of long term performance analyses creates a gap in understanding how short term outcomes evolve into lasting benefits or challenges over time in the hotel industry where it often takes years for synergies and strategic advantages to fully materialize.

Regarding performance measures, previous studies predominantly utilized stock returns and accounting profits. Studies relying solely on stock returns failed to explore whether acquisitions generated economic returns or the extent of these gains. Similarly, those focusing only on accounting measures did not emphasize the market value gained. Hsu & Jang (2007) consider the use of both stock return and accounting measures. This approach provides a fuller picture of an acquisition, balancing the strengths and limitations of each measure and addressing the gap between short-term and long-term performance.

### 3. METHODOLOGY

To study the post-acquisition performance, we will focus in this section on accounting-based performance measures by relying on accounting data and, subsequently, selecting the two main groups (Horizontal Integration and Vertical Integration), as well the selection of our benchmark (control group) formed by companies that weren't involved in M&A. Furthermore, in order to analyse the long-term performance, we will employ the univariate and multivariate analyses using accounting data.

#### 3.1 Univariate analysis

To evaluate the long-term results, we will use an accounting approach based on performance. This method emphasizes operating impacts, then expectations during the announcement phase enabling a more precise assessment. While this technique offers benefits in focusing on the actual performance outcomes, it's essential to acknowledge its limitations. Over long periods of time, external factors unrelated to the acquisition could affect a company's effectiveness or overall performance.

Drawing from the research of (Martynova et al., 2006) this study will examine accounting data from one year before the acquisition and for three years, after the acquisition as mentioned earlier. Therefore, we will apply the formula:

$$\frac{x_i^{t+j} - x_i^{t-1}}{x_i^{t-1}} \quad (1)$$

Where:

- $x$  - operational performance variable;
- $i$  - analysis acquiring firm;
- $t$  - deal year (year 0);
- $t - 1$  - year before the deal (year -1);
- $j$  - number of years after the deal year (year 1, 2 and 3).

In this analysis the variables considered for this purpose are Total assets, EBIT, Sales, Equity and Net profit.

Furthermore, to measure the operational performance, we will use ratios like ROA, ROE, EBIT margin and Asset turnover. We will calculate the percentage points change in these ratios ( $y$ ) to assess how the company's performance has evolved post acquisition using the following formula:

$$y_i^{t+j} - y_i^{t-1} \quad (2)$$

Where:

$y$  - performance measure ratio (ROA, ROE, EBIT margin or asset turnover).

Therefore, the choice of the operational performance measures has fallen on the following ratios, shown respectively by the equations:

$$ROA = \frac{EBIT}{Total\ Assets} \quad (3)$$

$$ROE = \frac{Net\ Profit}{Equity} \quad (4)$$

$$EBIT\ Margin = \frac{EBIT}{Sales} \quad (5)$$

$$Asset\ Turnover = \frac{Sales}{Assets} \quad (6)$$

The ROA ratio evaluates how efficiently a company utilizes its assets to make profits. A higher ROA signifies efficiency in converting investments into earnings indicating increased profitability and optimal asset utilization. The second ratio, ROE gauges the company's capacity to generate profits, from shareholders equity. It holds significance as it demonstrates how well the business rewards its investors for attracting and retaining capital in industries with capital requirements like this one. The EBIT margin evaluates the efficiency of the company by measuring EBIT as a percentage of sales. This ratio is vital for understanding the profitability of a company operations, a higher EBIT margin suggests cost management and efficient handling of operational expenses such as labor costs and raw materials. Lastly, the asset turnover ratio measures how productive the assets of the company are, for instance hospitality businesses where significant investments in properties like hotels and resorts must be justified by corresponding revenue from sales.

To accurately evaluate how acquisitions affect the performance measures mentioned above it's crucial to isolate changes caused by acquisitions from industry trends. We achieve this by subtracting our variable by the change observed in a similar company that did not undergo through any acquisitions (control group). We will use median values to measure industry changes, as the median is more robust and less influenced by outliers compared to the mean. This method ensures that our adjustments are not influenced by extreme values as described. Taking into consideration industry changes we aim to isolate the real impact of acquisitions on the acquiring company's performance.

Moreover, to guarantee the reliability of the results, both the t-student test (parametric test) and the Wilcoxon signed-rank test (non-parametric test) will be employed. The t-student test aims to identify any variations, in the performance metrics before and post-acquisition presuming that the data follows a normal distribution. Additionally, the Wilcoxon signed-rank test serves as option to supplement the t-Student test, particularly useful, for situations involving small sample sizes or data distributions that do not adhere to normal distribution.

### **3.2 Multivariate analysis**

In order to analyze the long-term impacts following an acquisition we will use the multivariate analysis to explore the connection of different variables simultaneously. When delving into the performance of acquiring companies in the hospitality sector employing multivariate analysis becomes crucial for capturing the relationships among elements that could affect performance outcomes.

To study these effects, we will implement the Difference in Difference (DiD) method. This method will compare the performance changes of the two groups of companies when they would be involved in acquisitions and the result if this firms would have if they weren't involved in acquisitions, for that we will assess the change in performance for the two groups of acquiring hotel companies compared to the results both pre and post operation, for two respective control groups. These control groups consist of hotel companies that did not participate in any acquisitions (Heckman et al., 1997; Martynova et al., 2006) By using the DiD method we can account for time-invariant characteristics and external factors, such as economic fluctuations This approach helps isolate the causal effect of the impact, while mitigate the influences of others factors that could have influenced performance (Lechner, 2010).

By assuming that economic variations affect all hotel firms uniformly we can focus on assessing how acquisitions specifically impact the performance hotels involved in acquisitions. When we consider these external factors using the DiD approach, we can better link any shifts in results, to the acquisition specifically rather than to broader economic patterns that impact all companies in the sector. Nonetheless, Bertrand et al. (2004) pointed out that the DID method, while useful, has limitations. It requires accurate baseline data and a comparable non-intervention group to ensure reliable and unbiased estimates. Without these, the results of the DID analysis might be skewed, leading to potential errors in understanding the true impact of the intervention.

Therefore, the outcome of an acquisition is going to be determined using the following formula:

$$Y_{it}^1 - Y_{it}^0 \tag{7}$$

Where:

$Y_{it}^1$  - the result in period  $t$  (after the acquisition) for a hotel firm  $i$  which has been involved in an acquisition;

$Y_{it}^0$  - the result for the same hotel firm if it was not subject to an acquisition, in the same period  $t$ .

To regress the data collected across the two groups that went into acquisitions and the control groups, we will use the following formula:

$$Y_{it} = \beta_0 + \beta_1 Dfirm_i + \beta_2 DpostA_t + \beta_3 Dfirm_i \times DpostA_t + \beta_4 DfirmH_i \times DpostA_t + \beta_5 DfirmV_i \times DpostA_t + \beta_6 \log(Total Assets) + \varepsilon_{it} \quad (8)$$

To analyze the performance of our sample we will use the ROA, ROE, EBIT margin and asset turnover.  $Dfirm_i$  is a dummy variable that takes the value 1 for the acquiring companies (Horizontal Integration and Vertical Integration group) and 0 otherwise (control groups). Following,  $DpostA_t$  is also another dummy variable that assumes the value of 1 for all the observations that occurred after the acquisition and takes the value of 0 before the acquisition. The interaction term of these two variables is represented by  $Dfirm_i * DpostA_t$ . Furthermore, to understand the impact of each type of acquisition the variable  $Dfirm_i$  it will be divided between two dummy variables,  $DfirmH_i$  (Horizontal Integration group) and  $DfirmV_i$  (Vertical Integration group) the hotel firms that were involved in acquisitions will assume the value of 1 and 0 for the non-acquiring companies.

The model will estimate all the three years individually after the operation when analyzing the performance of an acquiring firm and subsequently, individually the two groups of acquiring firms', before and all the three years after the acquisition. Moreover, the regression includes the logarithm of total assets, to control for the size of the company, leading to a more normal distribution of the variable, which improves the performance and interpretation of the regression model.

## 4. DATA COLLECTION

The case study sample comprises 394 successful acquisitions that occurred between 2012 and 2021. This sample is divided into two main groups, corresponding to the primary strategies adopted by the acquirers during implementation. The two groups are defined based on the nature of the target companies acquired. All data related to these deals were obtained from the Orbis database, part of the Bureau Van Dijk group.

The initial strategy, denominated as "Horizontal Integration Group " includes firms that bought companies working at the same level of the value chain in the same industry. Here both the acquirer company and the acquired company belonged to the hotel or lodging sector. They shared the same NAICS code, specifically the code 721110 that integrates Hotels (except Casino Hotels) and Motels.

The second strategy, referred to as the "Vertical Integration Group," gathers acquirers that integrated vertically by acquiring companies operating in different stages of the supply chain. In this case, the target firms were within industries that either supply goods or services to the hospitality industry or distribute its products. The primary NAICS codes of the acquirer and target do not match, as the acquirers diversified their operations into upstream<sup>1</sup> or downstream<sup>2</sup> sectors. The target firms are filtered using the primary code that do not match with the one of hotel firms (721110), but encompass industries essential for vertical integration, such as travel agencies, food and beverage distribution, and event planning.

Furthermore, we excluded the deals involving the acquisition of less than 50% of the target capital and deals where the target's total assets represent less than 10% of the acquiring's total assets. Moreover, the sample should be reduced in terms of deal announcement and completion period and the companies where accounting and financial data available wasn't at least available one year before the deal (-1) and one after (+1) were also dropped. After remove the deals that lacked accounting information and the desired requirements to

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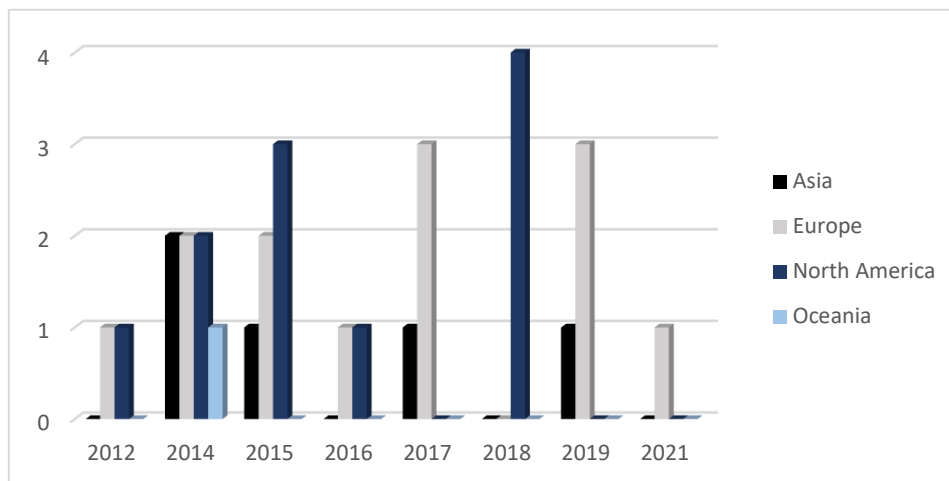
<sup>1</sup> upstream sectors (acquiring or merging with businesses that supply raw materials, components, or services necessary for its operations, involve acquiring linen supply services (NAICS code 812331), food and beverage suppliers (NAICS code 424410), or commercial laundry services (NAICS code 812332)

<sup>2</sup> downstream sectors (control over the distribution or direct sales channels of its products or services, could involve acquiring travel agencies (NAICS code 561510), tour operators (NAICS code 561520), or convention and trade show organizers (NAICS code 561920).

guarantee the significance of our data, the final sample was reduced 49 deals. The Horizontal Integration Group representing a total number of 30 deals and the Vertical Integration Group 19 completed deals, presented in the figure 1 and figure 2.

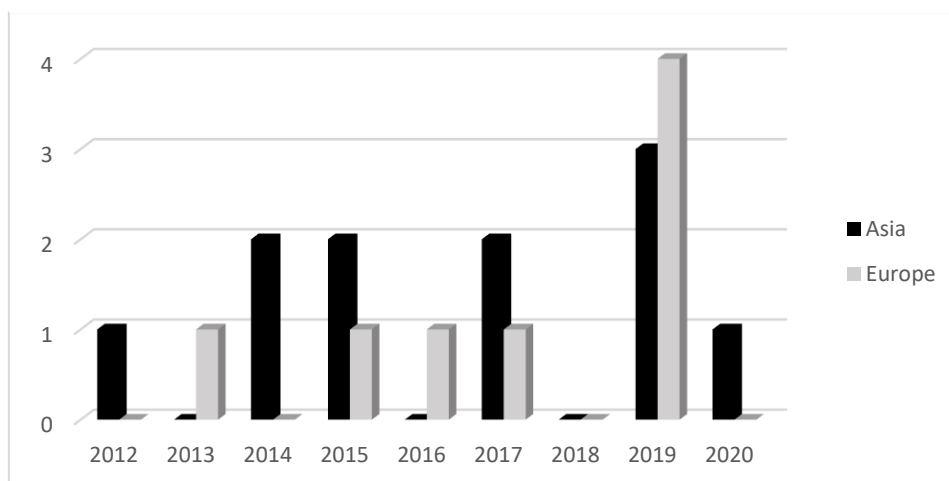
**Figure 1** - Horizontal Integration Group, number of deals/firms by year and world region

Source: Orbis



**Figure 2** - Vertical Integration Group, number of deals/firms by year and world region

Source: Orbis



## 4.1. Control Group

The control group was selected through the application of the matching method, a “*common technique used to select control subjects who are ‘matched’ with the treated subjects on background covariates that needs to be controlled*” (D’agostino, 1998).

In this study, the control group comprises hotels that have not been subjected to the treatment - namely, acquisition but that are otherwise similar to the hotels that were acquired, which constitute the treatment groups (Horizontal Integration and Vertical Integration). The primary purpose of the control group is to serve as a benchmark against which the changes in outcomes for the treatment group can be compared over time. The control group was constructed to mirror the treatment group in all relevant aspects except for the exposure to the acquisition event. This similarity is crucial because it allows for the assumption that, in the absence of the acquisition, the control group would have experienced similar trends and external influences as the treatment group.

To achieve this goal, we identified a pool of potential control hotels, those that were not engaged in any M&A activity during the study period, and selecting from this pool a subset of hotels that closely resemble the acquired hotels on the selected characteristics, in this case, we chose the ones with similar size (measured by the total assets) and operating performance (measured by the ROA) of each firm in our sample for our two groups. Those firms had an amount of total assets between 80% and 120% of the total assets of the firms in our sample, in the year before the acquisition (-1). From those companies, we selected the company with the closest ROA.

Finally, our final sample of the accounting-based measure methodology is composed by 76 firms in total, split by two groups of acquiring firms: Horizontal Integration group – 30 firms and Vertical Integration group – 19 firms that are individually paired with 49 non-acquiring firms.

## **5. DESCRIPTIVE ANALYSIS**

In this section we will present the descriptive statistics of the acquiring companies (Horizontal Integration and Vertical Integration group) and the control companies (control groups), all the data will be presented in year before the acquisition (-1).

### **5.1. Descriptive Statistics Before the Deal**

This section aims to present an overview of the descriptive statistics and key distinctions, between the Horizontal Integration and Vertical Integration acquisition groups along with their control groups in the year before the acquisition as depicted in Table 1. Descriptive statistics serve to summarize the characteristics of datasets those related to the aforementioned groups. The ensuing descriptive analysis focuses on displaying measures of the central tendency and dispersion. Specifically, we have chosen to examine the mean and median, placing emphasis on the median due to its ability to offer a representation of a “central measure”, in cases where outliers are present.

Before the acquisition, Horizontal Integration firms generally showed higher EBIT net profit means compared to their control groups, with more significant variability. In contrast, Vertical Integration firms demonstrated greater variability in net profit, with lower mean values compared to their control groups. The control groups for both integrations had higher equity figures but lower sales volumes compared to the acquiring groups.

When comparing Horizontal and Vertical Integrations, it is evident that Horizontal Integration acquiring groups had higher mean EBIT and net profit values (280.14 million euros and 200.41 million euros, respectively) compared to Vertical Integration acquiring groups (64.06 million euros and 36.1 million euros, respectively). This suggests that Horizontal Integration firms generally had stronger financial performance before the acquisition, since they are also larger firms. Moreover, Vertical Integration firms showed greater variability in financial metrics, indicating a more diverse range of firm performance within this group.

Regarding total assets, the amount was similar between the acquiring and control groups for both Horizontal and Vertical Integrations, reflecting the criteria used to select the control groups. This consistency in total assets suggests that the firms were comparable in terms of their asset bases before the acquisition, allowing for a more accurate comparison of other financial metrics.

**Table 1** - Financial statement main variables - Comparison between the two acquiring groups (Horizontal Integration and Vertical Integration) and respective Control group

This table reports the summary statistics for the sample of 49 acquiring firms plus 49 firms for the control groups. The sample period begins in 2012 and ends in 2021. The variables EBIT, Net Profit, Total Assets, Equity and Sales are referred to the year before the acquisition. All values presented are in millions of US dollars.

Source: own calculations.

	EBIT	Net Profit	Total Assets	Equity	Sales
<b>Horizontal Integration</b>					
Mean	280.14	200.41	3635.89	748.63	2138.1
Median	33.73	22.62	1115.17	494.6	486.5
<b>Control Horizontal</b>					
Mean	178.92	83.75	3556.38	1281.41	1068.99
Median	37.12	24.56	1136.04	721.7	284.45
<b>Vertical Integration</b>					
Mean	64.06	36.1	1673.09	785.84	685
Median	12.19	10.09	676.43	210.26	313.26
<b>Control Vertical</b>					
Mean	46.07	43.19	1653.41	871.57	371.09
Median	26.95	10.74	605.56	464.27	139.27

## 5.2. Operating Performance Before the Deal

Table 2 displays the differences between the acquiring groups and the control groups for the firms' operating performance before the acquisition.

In both Horizontal and Vertical Integrations companies showed higher profitability compared to the control firms. The median ROA for the acquiring companies was 4.37% for the Horizontal Integration group and 4.10% for the Vertical Integration group while it stood at 4.19% and 3.71% for their respective control groups. This indicates a superficial improvement in the financial performance for the acquiring firms. Moreover, the ROE was 4.56% and 5.00% for horizontal and vertical integrations, respectively, compared to 4.87% and 4.57% for their control groups.

The EBIT margin also demonstrated higher earnings for the acquiring companies with median of 11.55% for Horizontal Integration group and 9.23% for Vertical Integration group in contrast to 17.20% and 13.37%, respectively for their control groups. Indicating more effective cost management or improved revenue generation strategies.

However, when looking at the asset turnover ratio there were distinct trends observed, in Horizontal Integration firms the median ratio was higher (30.94%) than the respective control groups (27.52%) suggesting less efficient asset utilization. Furthermore, in the Vertical Integrations firms the median asset turnover ratio was higher (44.72%), than the corresponding control firms (20.22%), indicating more efficient use of assets to generate income for the acquirer companies.

These observations highlight that acquiring firms, both in Horizontal and Vertical Integrations, were more profitable than their control counterparts before the acquisition. This enhanced profitability might have provided the financial strength and strategic rationale necessary for these firms to engage in acquisition activities.

**Table 2** - Firms' performance in the year before the acquisition - Comparison between the two acquiring groups (Horizontal Integration and Vertical Integration) and respective Control group

This table reports the summary statistics for the sample of 49 acquiring firms plus 49 firms for the control groups. The sample period begins in 2012 and ends in 2021. The variables ROA, ROE, EBIT margin and asset turnover are referred to the year before the acquisition. ROA is the return-on assets ratio computed as EBIT over total assets. EBIT margin ratio was computed as EBIT over sales. Asset turnover ratio was computed as sales over total assets. All the values are presented in percentage.

Source: own calculations.

	ROA	ROE	EBIT margin	Asset Turnover
<b>Horizontal Integration</b>				
Mean (%)	6.22	0.72	11.24	53.31
Median (%)	4.37	4.56	11.55	30.94
<b>Control Horizontal</b>				
Mean (%)	4.83	2.85	17.75	32.52
Median (%)	4.19	4.87	17.20	27.52
<b>Vertical Integration</b>				
Mean (%)	6.22	43.20	13.84	71.70
Median (%)	4.10	5.00	9.23	44.72
<b>Control Vertical</b>				
Mean (%)	3.78	40.30	16.41	30.50
Median (%)	3.71	4.57	13.37	20.22

## **6. LONG-TERM RESULTS**

### **6.2. Univariate Analysis**

For the univariate analysis, we will examine how each variable and ratio changes to understand the impact of acquisitions on the performance of the hospitality industry. We will specifically focus on the median results to eliminate any outliers that may skew our sample data. Furthermore, we will calculate both raw and adjusted median changes for all variables from before the acquisition period to the post acquisition years individually. The adjusted median change involves subtracting the sectors median performance change from the acquiring firm's performance change, thereby removing any influences that could affect both groups' results.

#### **6.2.1. Main Variables**

Comparing the two groups, both Integration strategies faced initial challenges in EBIT growth, with the Horizontal group showing significant positive adjusted changes by the third year (11.80% significant at 5% level), and the Vertical group by the second year (17.36% significant at 10% level). This indicates that while both strategies can ultimately improve operating income, Vertical Integration might realize these benefits slightly earlier. Net profit fluctuations were observed in both groups, with Horizontal Integration showing significant positive adjusted changes in the second year (24.35% significant at 5% level), whereas vertical integration showed sustained positive changes from the second year onward, suggesting that Vertical Integration might provide more sustained profitability improvements in the long term.

In terms of total assets, both groups experienced significant growth, with Vertical Integration showing more consistent positive changes, highlighting its effectiveness for asset expansion. Equity improvements were more pronounced in the Vertical Integration group, suggesting quicker and more sustained equity growth compared to Horizontal Integration. Sales growth trends were positive in both groups, but the Vertical Integration group faced initial challenges, ultimately contributing to significant sales growth in the long term.

Overall, both Horizontal and Vertical Integration strategies exhibit distinct patterns of financial performance post-acquisition. Horizontal Integration shows more immediate benefits in sales and total asset growth, while Vertical Integration demonstrates significant long-term improvements in profitability, total assets, and equity. Both strategies, however,

face initial integration challenges despite the positive financial performance over the long-term.

**Table 3** - Main variable change Horizontal Integration group

This table displays the change of five variables analysed in this study for the Horizontal Integration Group. The change of the first, second and third years after the acquisition in relation to the year before is displayed. The adjusted median change is given by the median change subtracted by the industry change that may affect the results of both groups equal. In order to know if the change of the variables is significant or not, we did the Wilcoxon Signed Rank Test for the median results. The classification \*, \*\*, \*\*\*, correspond to the statistical significance at the 10%, 5%, and 1% level for Wilcoxon Signed Rank Test.

Source: own calculations.

	From -1 to +1	From -1 to +2	From -1 to +3
<b>Panel A: EBIT</b>			
Median change (%)	13.66	5.64	23.22
Adjusted Median change (%)	-7.38*	-35.63	11.80**
<b>Panel B: Net Profit</b>			
Median change (%)	8.89	-8.79	48.20
Adjusted Median change (%)	-20.85	24.35**	-6.94*
<b>Panel C: Total Assets</b>			
Median change (%)	9.67*	18.41*	24.88***
Adjusted Median change (%)	7.91	13.68**	23.26**
<b>Panel D: Equity</b>			
Median change (%)	1.63	6.86	14.61
Adjusted Median change (%)	0.32	6.40	12.66*
<b>Panel E: Sales</b>			
Median change (%)	14.55***	13.16*	17.08**
Adjusted Median change (%)	10.54*	6.64	3.14

**Table 4** - Main variable change Vertical Integration group

This table displays the change of five variables analysed in this study for the Vertical Integration Group. The change of the first, second and third years after the acquisition in relation to the year before is displayed. The adjusted median change is given by the median change subtracted by the industry change that may affect the results of both groups equal. In order to know if the change of the variables is significant or not, we did the Wilcoxon Signed Rank Test for the median results. The classification \*, \*\*, \*\*\*, correspond to the statistical significance at the 10%, 5%, and 1% level for Wilcoxon Signed Rank Test.

Source: own calculations.

	From -1 to +1	From -1 to +2	From -1 to +3
<b>Panel A: EBIT</b>			
Median change (%)	4.34	-3.28	-16.03
Adjusted Median change (%)	-45.60**	17.36*	18.13
<b>Panel B: Net Profit</b>			
Median change (%)	25.56	-3.13	-25.06
Adjusted Median change (%)	29.32***	34.60	15.58
<b>Panel C: Total Assets</b>			
Median change (%)	6.76	21.86**	41.48**
Adjusted Median change (%)	4.49*	19.21***	35.03***
<b>Panel D: Equity</b>			
Median change (%)	7.29*	5.29	10.56
Adjusted Median change (%)	3.81*	1.99	7.53**
<b>Panel E: Sales</b>			
Median change (%)	2.01	3.59	18.52
Adjusted Median change (%)	10.76***	-2.44**	11.65

### 6.2.2. Performance Measures

Table 7 presents the performance measures following acquisitions, focusing on Return on Assets (ROA), Return on Equity (ROE), EBIT margin, and asset turnover, comparing Horizontal and Vertical Integration strategies.

When examining the ROA ratio in Table 7 it is observed that for the Horizontal Integration group there are negative median changes in all the three years after acquisition. However, by the third year a slight positive change is noted. Specifically, the adjusted median changes were -0.27% in the first year, -0.01 percentage points (p.p.), in the second year and a slight improvement of 0.026 p.p. (significant at the 1% level) in the third year. This suggests that initially Horizontal Integration may have a negative impact on ROA but stabilizes and improves slightly over time. In contrast, for the Vertical Integration group there are consistently negative changes in ROA besides the first year when adjusted for the median change 0.56 p.p. (significant at the 1% level). Suggesting a negative impact on the performance of the acquiring firms despite the strategy used for the acquisition.

For ROE, the Horizontal Integration group's median changes showed positive increases, particularly in the third year (1.72 p.p., significant at the 10% level), although the change of the first two years weren't significant. Moreover, when the results were adjusted for the median change the first two years presented negative results, also this result lacked statistical significance. The Vertical Integration group exhibited negative changes in ROE for the three years post-acquisition even when adjusting for the change in the control group change, with a significant decrease in the second year (-3.69 p.p., significant at the 5% level).

When it comes to changes in EBIT margin post-acquisition, minor and insignificant shifts were noted in the median changes for the Horizontal Integration group but when adjusted for the median change substantial negative results were noticed, it's also important to note that's these results aren't statistically significant. Supporting these last outcomes, noticeable negative results were observed for the Vertical Integration group with notable decreases in the median change, the first year (-2.34 p.p.), second year (-3.07 p.p.) and third year (-1.77 p.p.), with statistical significance levels varying from 1% to 10%. Contrariety, when adjusted for the median changes the results presented a positive impact in the first year (3.41%, significant, at the 1% level), second year (0.54 p.p., significant at the 10% level) and third year (1.79 p.p., significant at the 5% level).

When looking at the asset turnover ratio the group involved in Horizontal Integration displayed positive results in the first year for the median change and third when adjusted for the median change, all the other results presented negative results, without any statistical significance. Moreover, the Vertical Integration group saw significant decreases in asset turnover, especially in the second year (-5.22 p.p., significant at the 10% level) and third year (-6.27 p.p., significant at the 10% level). Adjusted median changes were also all negative, more notable in the third year (-6.15 p.p., at 1% level), suggesting that Vertical Integration have a negative impact on the firm's operating performance and present absence of asset utilization efficiency over time.

The results indicate that acquisitions have a negative impact on the profitability of firms, particularly when measured by Return on Assets (ROA) and Asset Turnover, both of which showed consistent declines post-acquisition. While Return on Equity (ROE) and EBIT margins presented mixed results, with some potential for recovery in horizontal integrations, the overall trend points to diminished financial performance. These negative changes can likely be attributed to the costs and disruptions associated with the integration process, as well as the challenge of sustaining high performance levels post-acquisition. To mitigate these effects, firms should consider more thorough integration planning and post-acquisition strategies to stabilize and enhance profitability in the long-term.

**Table 5** - Main ratio change Horizontal Integration group

This table displays the change of four ratios analysed in this study for the Horizontal Integration group. The change of the first, second and third years after the acquisition in relation to the year before is displayed. The adjusted median change is given by the median change subtracted by the industry change that may affect the results of both groups equal. In order to know if the change of the variables is significant or not, we did the Wilcoxon Signed Rank Test for the median results. The classification \*, \*\*, \*\*\*, correspond to the statistical significance at the 10%, 5%, and 1% level for Wilcoxon Signed Rank Test.

Source: own calculations.

	From -1 to +1	From -1 to +2	From -1 to +3
<b>Panel A: ROA</b>			
Median change (p.p.)	-1.06	-1.97***	-0.83
Adjusted Median change (p.p.)	-0.27*	-0.01**	0.026***
<b>Panel B: ROE</b>			
Median change (p.p.)	0.33	0.51	1.72*
Adjusted Median change (p.p.)	-0.13	-2.02	0.14
<b>Panel C: EBIT Margin</b>			
Median change (p.p.)	0.61	0.05	-0.08
Adjusted Median change (p.p.)	-1.26	-5.17	-2.66
<b>Panel D: Asset Turnover</b>			
Median change (p.p.)	0.74	-6.58	-1.68
Adjusted Median change (p.p.)	-0.23	-4.10	1.91

**Table 6** - Main ratio change Vertical Integration group

This table displays the change of four ratios analysed in this study for the Vertical Integration group. The change of the first, second and third years after the acquisition in relation to the year before is displayed. The adjusted median change is given by the median change subtracted by the industry change that may affect the results of both groups equal. In order to know if the change of the variables is significant or not, we did the Wilcoxon Signed Rank Test for the median results. The classification \*, \*\*, \*\*\*, correspond to the statistical significance at the 10%, 5%, and 1% level for Wilcoxon Signed Rank Test.

Source: own calculations.

	From -1 to +1	From -1 to +2	From -1 to +3
<b>Panel A: ROA</b>			
Median change (p.p.)	-1.03**	-2.46***	-2.45***
Adjusted Median change (p.p.)	0.56***	-1.23	-1.19
<b>Panel B: ROE</b>			
Median change (p.p.)	-1.84	-3.69**	-3.22
Adjusted Median change (p.p.)	-0.38	-2.96	-1.64
<b>Panel C: EBIT Margin</b>			
Median change (p.p.)	-2.34*	-3.07***	-1.77**
Adjusted Median change (p.p.)	3.41***	0.54*	1.79**
<b>Panel D: Asset Turnover</b>			
Median change (p.p.)	-3.84	-5.22*	-6.27*
Adjusted Median change (p.p.)	-1.26	-2.96	-6.15***

### 6.3. Multivariate Analysis

As stated before, the long-term effects of acquiring firms from the hotel industry in the operating performance of the acquiring firm was also studied through a OLS estimation of a difference-in-difference model.

As explained before, the model includes a variable dummy,  $D_{firm}$ , that takes the value 1 for acquiring firms and 0 otherwise, another variable dummy,  $D_{postA}$ , that takes the value 1 in the post-acquisition years and 0 otherwise and an interactive dummy ( $D_{firm} * D_{postA}$ ) that captures the effect of the acquisition. Moreover, the variable  $D_{firm}$  it will be split between two dummy variables,  $D_{firmH}$  and  $D_{firmV}$  the hotel firms that were involved in acquisitions will assume the value of 1 for the group that went into Horizontal Integration acquisitions and 0 for the Vertical Integration Acquisitions. As a result, two more interaction terms were created to understand the individual impact of each type of strategy in the acquisitions ( $D_{firmH} * D_{postA}$  and  $D_{firmV} * D_{postA}$ ).

Firstly, the model (1) was estimated considering the period before the acquisition and the aggregated three years after the acquisition, studied through the interactive dummy  $D_{firm} * D_{postA}$ . Furthermore, in the models (2) to (4) it was analyzed each year after the acquisition individually, in this case, it was created three interaction terms for those three years after the acquisition,  $D_{firm} * D_{postA1}$ ,  $D_{firm} * D_{postA2}$  and  $D_{firm} * D_{postA3}$ .

Lastly, the models (5) and (6) that correspond to the split of  $D_{firm}$  for this purpose it was created two more interactive dummies to understand the impact of each type strategy on acquisitions, that would take the value of 1 for the Horizontal Integration companies and 0 otherwise ( $D_{postA} * D_{firmH}$ ) and following the same for Vertical Integration companies ( $D_{postA} * D_{firmV}$ ). The model was also estimated with and without the controlling variable  $\log(\text{Total Assets})$  to verify the robustness of the conclusions and to control de company size.

### 6.3.1. ROA

Table 8 presents our first regressions of our DiD model by employing the return-on-assets ratio (ROA). There was no significant difference in ROA between acquiring and non-acquiring firms. The coefficients for  $D_{postA}$ ,  $D_{firm}$ , and their interaction term  $D_{firm} * D_{postA}$  were not statistically significant. However, when analyzing the individual years post-acquisition, there are notable findings. The second year post-acquisition showed a statistically significant negative impact on ROA, indicating that acquisitions may initially hinder the return on assets. In contrast, the third year post-acquisition exhibited a statistically significant positive effect, suggesting a recovery or improvement in ROA over time in the model (4).

Moreover, the analysis of different acquisition strategies revealed that Horizontal Integration acquisitions had a statistically significant positive impact on ROA. This indicates that firms acquiring horizontally, or within the same industry, tend to experience better operating performance post-acquisition compared to Vertical Integrations, where the impact was not statistically significant. The inclusion of a control variable for firm size did not significantly alter these results, despite the lack of statistical significance.

While general acquisitions do not significantly impact ROA, the type of acquisition strategy and the specific timing post-acquisition are critical factors. Horizontal acquisitions tend to yield better performance outcomes, and the operating performance of firms tends to improve by the third year post-acquisition after an initial decline. When comparing this results with the univariate analysis the results are consistent indicating that acquisitions experience negative profitability, especially in the second year post-acquisition, but shows improvements by the third year. The overall model, which included variables for post-acquisition periods and firm-specific effects, did not show great statistical significance, and since the multivariate analysis consider multiple variables and other factors that may influence the results, i.e. control variable (total assets), suggesting that the general acquisition effect is not impactful on ROA.

**Table 7** - The effect of acquisitions on ROA ratio

This table provides details regarding the impact of acquisitions in the return-on-assets ratio (ROA) for the three years after the acquisition. First, we analyse the three years after the acquisition individually, from columns (2) to (4) and secondly, we analyse the impact of each type of acquisition, columns (5) and (6). This model has as dependent variable the ROA. The model also has a control variable (total assets) in order to control the influence of the firm's size. Standard errors are reported under the coefficient in parenthesis. The \*, \*\*, \*\*\* indicates if the results are statically significant for a level of 10%, 5% and 1%, respectively.

Source: own calculations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
<b>Dfirm</b>	0.018 (0.294)	0.003 (0.214)	0.276 (0.242)	0.036 (0.232)	0.012 (0.024)	0.037 (0.232)
<b>DpostA</b>	-0.024 (0.241)					
<b>Dfirm*DpostA</b>	0.268 (0.340)					
<b>Dfirm*DpostA1</b>		0.330 (0.324)	0.029 (0.341)	0.275 (0.293)		
<b>Dfirm*DpostA2</b>			-0.815 (0.341)	-0.039** (0.295)		
<b>Dfirm*DpostA3</b>				0.496* (0.296)		
<b>DpostA*DfirmH</b>					0.146 (0.282)	0.447* (0.260)
<b>DpostA*DfirmV</b>						-0.060 (0.283)
<b>Log(Total Assets)</b>	-0.029 (0.042)			-0.029 (0.042)		-0.044 (0.042)
<b>Constant</b>	0.242 (0.351)	0.027 (0.141)	0.0275 (0.140)	0.222 (0.296)	0.027 (0.141)	0.326 (0.302)
<b>N</b>	392	392	392	392	392	392

### 6.3.2. ROE

The results presented on table 9 reveals several findings regarding the impact of acquisitions on the return-on-equity ratio (ROE) of the acquiring firms.

The initial model without interaction terms did not show significant effects of acquisitions on ROE. When analyzing the overall impact on the shareholders returns, acquisitions may not appear to affect those, as the coefficients associated to the interactive dummy  $D_{acquiring} * D_{post}$  are not statistically significant. However, when the analysis was broken down into individual years post-acquisition, more nuanced insights emerged in the models (3) and (4).

In the first and second year, the interaction term was statistically significant, indicating a significant decline in ROE during this period for acquiring firms. However, this second year decline wasn't statistically significant on the second year in the model (4). When examining the type of acquisition strategy, the interaction term for Horizontal Integration consistently showed statistical significance, indicating a significant negative effect on ROE for firms involved in Horizontal Integration acquisitions. In contrast, the interaction term for Vertical Integration did not show statistical significance, suggesting no impact on ROE for firms involved in vertical integration acquisitions.

Lastly, the control variable for firm size  $\log(\text{total assets})$  in the models (1), (4) and (6) was statistically significant in all models, implying that larger firm size positively influences the performance.

**Table 8** - The effect of acquisitions on ROE ratio

This table provides details regarding the impact of acquisitions in the return-on-equity ratio (ROE) for the three years after the acquisition. First, we analyse the three years after the acquisition individually, from columns (2) to (4) and secondly, we analyse the impact of each type of acquisition, columns (5) and (6). This model has as dependent variable the ROA. The model also has a control variable (total assets) in order to control the influence of the firm's size. Standard errors are reported under the coefficient in parenthesis. The \*, \*\*, \*\*\* indicates if the results are statically significant for a level of 10%, 5% and 1%, respectively.

Source: own calculations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
<b>Dfirm</b>	-0.003 (0.332)	-0.078 (0.184)	0.131 (0.208)	0.108 (0.261)	0.067 (0.202)	0.107 (0.261)
<b>DpostA</b>	-0.149 (0.271)					
<b>Dfirm*DpostA</b>	-0.199 (0.384)					
<b>Dfirm*DpostA1</b>		-0.339 (0.278)	-0.548** (0.293)	-0.546* (0.331)		
<b>Dfirm*DpostA2</b>			-0.623** (0.293)	-0.502 (0.338)		
<b>Dfirm*DpostA3</b>				0.007 (0.338)		
<b>DpostA*DfirmH</b>					-0.505** (0.241)	-0.556** (0.293)
<b>DpostA*DfirmV</b>						-0.037 (0.319)
<b>Log(Total Assets)</b>	0.104** (0.047)			0.104** (0.047)		0.120*** (0.048)
<b>Constant</b>	-0.531 (0.395)	0.057 (0.120)	0.058 (0.120)	-0.638** (0.337)	0.058 (0.120)	-0.750** (0.341)
<b>N</b>	392	392	392	392	392	392

### 6.3.3. EBIT Margin

Furthermore, to study the operating performance we used the EBIT margin as a proxy in our DiD model, the results are presented in the Table 9. The overall findings indicated that the acquisition had no statistically significant impact on EBIT margin. The analysis showed that none of the interaction terms for the acquisition and post-acquisition periods were statistically significant across the model (1) to (6), whether considering the aggregated post-acquisition period or individual years.

Additionally, when examining the specific impacts of Horizontal and Vertical Integration strategies, the results persisted by not revealing any statistically significant effects on EBIT margin. This lack of significance suggests that the type of integration strategy did not differentially affect the operating performance of the acquiring firms.

One consistent finding across models was the positive and statistically significant relationship between firm size, as measured by the variable `log_totalassets`, and EBIT margin. This indicates that larger firms tended to have better operating performance, suggesting that firm size is a more critical factor influencing EBIT margins than the acquisition itself.

**Table 9** - The effect of acquisitions on EBIT margin ratio

This table provides details regarding the impact of acquisitions in the EBIT margin for the three years after the acquisition. First, we analyse the three years after the acquisition individually, from columns (2) to (4) and secondly, we analyse the impact of each type of acquisition, columns (5) and (6). This model has as dependent variable the ROA. The model also has a control variable (total assets) in order to control the influence of the firm's size. Standard errors are reported under the coefficient in parenthesis. The \*, \*\*, \*\*\* indicates if the results are statically significant for a level of 10%, 5% and 1%, respectively.

Source: own calculations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
<b>Dfirm</b>	-0.051 (0.172)	0.052 (0.094)	0.085 (0.106)	0.109 (0.137)	0.042 (0.103)	0.108 (0.1369)
<b>DpostA</b>	-0.212 (0.141)					
<b>Dfirm*DpostA</b>	0.112 (0.199)					
<b>Dfirm*DpostA1</b>		-0.031 (0.141)	-0.064 (0.150)	-0.096 (0.173)		
<b>Dfirm*DpostA2</b>			-0.099 (0.150)	-0.137 (0.174)		
<b>Dfirm*DpostA3</b>				-0.065 (0.178)		
<b>DpostA*DfirmH</b>					0.004 (0.123)	-0.095 (0.153)
<b>DpostA*DfirmV</b>						-0.107 (0.167)
<b>Log(Total Assets)</b>	0.049** (0.024)			0.049** (0.245)		0.049** (0.025)
<b>Constant</b>	-0.159 (0.205)	0.011 (0.061)	0.011 (0.061)	-0.320* (0.176)	0.011 (0.061)	-0.317* (0.178)
<b>N</b>	392	392	392	392	392	392

#### 6.3.4. Asset Turnover

Finally, the analysis of the last ratio as a measure a company's efficiency, the asset turnover is presented in the Table 10. The findings reveal that, in general, acquiring firms exhibit higher asset turnover ratios compared to non-acquiring firms. This suggests that firms engaging in acquisitions tend to utilize their assets more efficiently, supported by the statistical significance associated with the variable  $D_{firm}$ .

When analyzing the aggregated three-year period post-acquisition, there is no statistically significant change in the asset turnover ratio due to the acquisition itself. This indicates that, overall, acquisitions do not lead to a significant improvement or deterioration in the productivity when considering the entire post-acquisition period as a whole, possible be the interactive dummy  $D_{firm} * D_{postA}$ . Further analysis of individual years post-acquisition, it's possible to see the statistically significant decline in asset turnover in the second year after the acquisition. This suggests that while the initial year post-acquisition and the third year do not present any impact on the acquisitions, the second year experiences a noticeable decrease in asset turnover.

The type of acquisition strategy employed does not influence the efficiency with which acquiring firms utilize their assets post-acquisition, as the coefficients associated with these two dummy variables aren't statistically significant.

Additionally, the analysis highlights that firm size, as measured by total assets, has a consistent inverse relationship with asset turnover. Larger firms tend to have lower asset turnover ratios, which could be attributed to the complexities and inefficiencies that often accompany increased size.

**Table 10** - The effect of acquisitions on Asset Turnover ratio

This table provides details regarding the impact of acquisitions in the Asset Turnover for the three years after the acquisition. First, we analyse the three years after the acquisition individually, from columns (2) to (4) and secondly, we analyse the impact of each type of acquisition, columns (5) and (6). This model has as dependent variable the ROA. The model also has a control variable (total assets) in order to control the influence of the firm's size. Standard errors are reported under the coefficient in parenthesis. The \*, \*\*, \*\*\* indicates if the results are statically significant for a level of 10%, 5% and 1%, respectively.

Source: own calculations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
<b>Dfirm</b>	0.288** (0.153)	0.246*** (0.097)	0.353*** (0.110)	0.308*** (0.121)	0.255** (0.107)	0.308*** (0.120)
<b>DpostA</b>	-0.027 (0.125)					
<b>Dfirm*DpostA</b>	0.064 (0.177)					
<b>Dfirm*DpostA1</b>		0.138 (0.146)	0.031 (0.154)	0.083 (0.153)		
<b>Dfirm*DpostA2</b>			-0.320** (0.154)	-0.080 (0.154)		
<b>Dfirm*DpostA3</b>				0.105 (0.154)		
<b>DpostA*DfirmH</b>					0.057 (0.127)	0.136 (0.135)
<b>DpostA*DfirmV</b>						-0.114 (0.150)
<b>Log(Total Assets)</b>	-0.037** (0.022)			-0.037* (0.021)		-0.045** (0.021)
<b>Constant</b>	0.570*** (0.182)	0.299*** (0.063)	0.299*** (0.063)	0.547*** (0.155)	0.299*** (0.063)	0.600*** (0.157)
<b>N</b>	392	392	392	392	392	392

## 7. CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

The primary aim of this dissertation was to investigate and evaluate the long-term performance of mergers and acquisitions in the hospitality industry. Focusing on how two different strategies used during acquisitions impact the results over longer periods, namely, the Horizontal Integration where a hotel brand acquired another one and the Vertical Integration by acquiring firms operating in different stages (upstream or downstream sectors). M&A in the hospitality industry have produced mixed results in the literature, with some studies presenting positive results and others have pointed negative ones, particularly when considering long-term effects by acquiring companies.

The results regarding the long-term performance were initially shown by the univariate analysis, that provided initial insights into the performance of acquiring firm's post-acquisition. The results indicate in general negative effects on long-term performance regardless of the specific strategies employed during the acquisition process. These results are consistent with the findings of Kim (2006). Key financial metrics and performance indicators examined in the analysis revealed that firms did not consistently achieve the anticipated gains from these transactions, although some positive changes were revealed in the EBIT margin when adjusted for the median change. Despite aiming for growth and enhanced market positioning, the data indicated that these goals often remained unrealized.

Furthermore, the multivariate analysis was employed, using the Difference-in-Difference model, that further explored these outcomes by accounting for various variables that could influence post-acquisition performance. This approach, which allowed for a more nuanced understanding by controlling for firm-specific factors and external influences, revealed that the overall effect of acquisitions on long-term performance was not statistically significant. While the univariate analysis highlighted a negative trend, the multivariate analysis suggested that when considering multiple variables, the impact of M&A on long-term performance is not as straightforward or as impactful as one might expect. This lack of significant findings in the multivariate analysis underscores the complexity of M&A activities and the difficulty in isolating the specific factors that contribute to long-term success or failure. Allowing us to conclude that that the general acquisition effect, even when using two different types of strategies for acquisitions, is not impactful on the long-term performance of the acquiring firms, which was comparable to the majority of the studies.

Nevertheless, there are some limitations presented in this study. One key constraint is the sample size, which may not fully represent the hospitality sector. This evidence is consistent with Kim & Canina (2013) that mentioned that the limited number of deals restricted their ability to fully analyze the post-acquisition performance. The method of payment (i.e., cash stock, and mixed payments), wasn't also accounted in this analysis, as mentioned by Kim (2006) and Yang et al. (2008), the method of payment influences significantly the post-acquisition performance. Moreover, while using control groups for the two types of acquiring strategy groups can assist in considering factors such, as economic conditions and industry wide shifts there may still be other crucial variables that were not entirely considered in the analysis. For example, the model may not fully account for firm-specific events or strategic decisions unrelated to the acquisition, which could also impact the long-term performance, such as strategic partnerships or acquisition of a major competitor and the recent pandemic that affected significantly, especially all the companies within the hospitality sector.

In conclusion, these findings are aimed to provide the basis for further research in this industry. Future studies could benefit from a dataset with more robustness by including a larger number of companies and a wider range of financial and operational measures. Moreover, additional research could investigate how external factors such as economic downturns or technological advancements affect the success of M&A in the hospitality sector. Another crucial area worth investigating could be the impact of corporate culture and leadership during the integration phase since these aspects often play an important role in realizing the synergies expected from M&A activities. Lastly, broadening the research scope to encompass analyses and comparison across multiple industries could yield valuable insights into whether the conclusions drawn from the hospitality sector are unique or part of a larger pattern in acquisitions.

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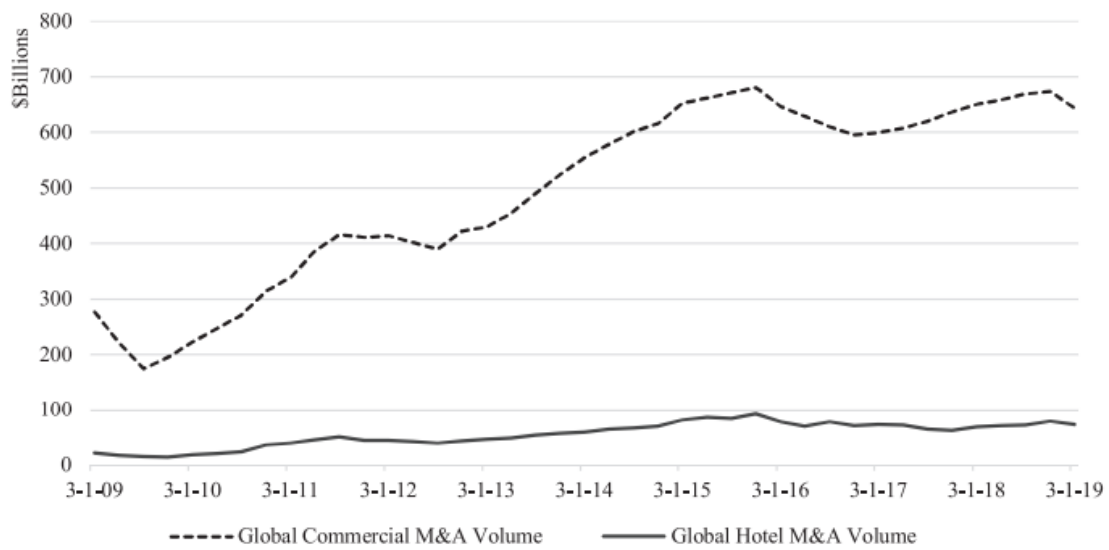
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## ANNEXES

### Annex 1 - Mergers and Acquisitions Volume

This figure represents the comparison of Global Commercial and Hotel M&A Volume in 2009–2019. All values presented are in millions of US dollars.

Source: Zhang, F., Xiao, Q., Law, R., & Lee, S. (2020). Mergers and acquisitions in the hotel industry: A comprehensive review. *International Journal of Hospitality Management*, 91.



**Annex 2 - Main methodological aspects of long-term studies**

This table summarizes prior studies on long-term results of similar studies of M&A in the hospitality industry. Prior studies typically document negative long-term performance for the acquirer companies. MM = market model; CAR = cumulative abnormal returns; JMM = Jensen measure model; ROA = return-on-assets ratio; ROE = return-on-equity ratio; Op.CFA = operating cash flow to assets ratio; SA = sales to asset ratio;  $\Delta S$  = change in sales; RevPAR = revenue per available room; OIPAR = operating income per available room

Author(s)	Sample period	N° of Observations	Event window (months)	Methodology	Results	
					Acquirers	Targets
Sheel and Nagpal (2000)	1980-1990	21	-6, +36	JMM/MM CAR	Negative	-
Kim (2006)	1980-2004	9117 <sup>3</sup>	-60,+60	ROA/ROE/Op.CFA/SA/ $\Delta S$	Negative	Positive
Hsu and Jan (2007)	1985-2000	15/2316 <sup>4</sup>	-36,+36	JMM/ROA/ROE	Negative	-
Yang et al. (2009)	1996-2007	19	0,+12	JMM/CAR	Mixed	-
Yang et al. (2010)	2000-2006	17 <sup>5</sup>	0,+72	JMM/CAR/ROA/ROE	Negative	-
Kim and Canina (2013)	1991-2009	2630 <sup>6</sup>	-12, +36	RevPAR/OIPAR	Positive	-

<sup>3</sup> Kim (2006) studied 91 hotel companies (38 acquirers and 53 targets) and 159 restaurant companies (79 acquirers and 80 targets) for the market-based measures

<sup>4</sup> Hsu and Jan (2006) studied 15 acquiring companies for market measure performance analysis and 23 companies for accounting measure performance analysis

<sup>5</sup> Yang et al. (2010) studied 15 US hospitality acquirers (7 hotel/casino companies and 8 lodging REITs)

<sup>6</sup> Kim and Canina (2013) studied 1,218 acquirer properties and 789 target properties for RevPAR, 397 acquirer properties and 226 target properties for OIPAR