



Article

# Firm-Specific Determinants of Firm Performance in the Hospitality Sector in India

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Abstract: The hospitality sector has been one of the worst-hit industries due to the onset of the COVID-19 pandemic, followed by nationwide lockdowns and curfews. Further, other factors, including the Russia-Ukraine war, commodity price rise, and recession, have acted as hurdles in the slow recovery process. Policy experts at different forums have advocated for proactive and robust measures by the government to reduce adverse impacts during these unprecedented times. To design such measures, determining the firm-specific factors that significantly impact their profitability is essential. In this context, this study tries to understand firm-specific factors that affect the hospitality sector's performance in India. It also explores whether the firm-specific characteristics have changed over time due to changes in political regimes and differ between private and publicly listed companies. Using a sample of 440 public and private hospitality firms for 11 years (2010-2020) and after controlling for unobserved heterogeneity using firm fixed effects, we tested the relationship between firm characteristics and performance. The estimation results demonstrate that the net asset turnover, liquidity, foreign earnings intensity, and age have significant, positive impacts on profitability. In contrast, solvency and size have negatively impacted firm performance. Further, we found differences in the magnitudes of coefficients for private and publicly listed companies. The findings provide important implications for managers and regulators to stimulate new solutions to overcome the ongoing difficult period.

Keywords: firm characteristics; firm performance; panel data; hospitality sector; COVID-19; India



Citation: Soni, T.K.; Arora, A.; Le, T. Firm-Specific Determinants of Firm Performance in the Hospitality Sector in India. *Sustainability* **2023**, *15*, 554. https://doi.org/10.3390/su15010554

Academic Editors: Vítor Braga and Aidin Salamzadeh

Received: 21 October 2022 Revised: 9 December 2022 Accepted: 13 December 2022 Published: 28 December 2022



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## 1. Introduction

The COVID-19 crisis can be considered the most unprecedented issue that the global tourism sector has faced to date. The sector is considered to be the first to be affected and the last to recover due to the pandemic, affecting not only industries, but also tourism-driven countries. Amidst lockdowns and travel restrictions, the sector in India has witnessed a drastic reduction in tourist arrivals and tourist spending, and an increase in the cost of operations, taking firms' revenues and margins to the lowest level. At the country level, employment generation and GDP have been severely affected, as it is among the largest employment generators and the most significant direct contributors to the country's gross domestic product.

As per the data from the Bureau of Immigration, Govt. of India, foreign tourist arrivals declined from 10.93 million in 2019 to 2.74 million in 2020. As a result, India's rank also fell eight places to be the 54th of 117 nations in 2022's Travel and Tourism Competitiveness Index by the World Economic Forum.

It is also expected that, even with the resumption of international travel and easing of COVID-19 restrictions, tourists' changing needs and expectations due to social distancing, health and hygiene concerns, etc., will have a significant effect on the future profitability and

revenues of firms. In addition, other factors, including the Russia–Ukraine war, commodity price rise, and recession, will further act as hurdles in the slow recovery process.

Policy experts at different forums have advocated for proactive and robust measures by the government to reduce the adverse impact of the COVID-19 pandemic on the hospitality sector. However, researchers, at the same time, are also interested in determining the firm-specific factors that have a significant impact on their profitability. Determining the critical factors would be essential for preparing a compelling strategy to revive (medium-term) and increase (long-term) the financial performance of hospitality companies.

Against this backdrop, this paper aims to elucidate the determinants of the financial performance of Indian hospitality companies. Considering that the hospitality sector is an essential contributor to the GDP of any economy, we concentrate on the impact of firm-specific determinants on firm performance in the hospitality sector. This study contributes to the existing literature in several ways. Firstly, it examines the relationship for a large sample comprising private and publicly listed Indian hospitality firms. The Indian hospitality sector has not been studied extensively, especially using the firm-specific characteristics reported in their annual reports. Most of the existing studies have either been based on small samples, limited time frames, or primary questionaries covering firms in specific regions of India. This study is among the few to extensively cover private and publicly listed firms for eleven years, covering two political regimes and firms across the country. Secondly, it also examines the impact of different political regimes, as the eleven years have witnessed several significant changes related to the tourism sector made effective in the new regime. This study thus attempts to determine if any significant differences can be seen across the two regimes. Thirdly, we account for unobserved heterogeneity in our hospitality firms by employing a firm fixed effects model and any effects of time using year-fixed effects. Finally, it also highlights the differences in the firm characteristics due to differences in ownership structure, as we also try to find the similarities and differences between the firm performance variables of publicly and privately listed hospitality firms.

Our findings proved that the liquidity position, foreign exchange intensity, asset utilization capacity, and age of hospitality firms positively affected the profitability of the sample firms, while solvency and firm size negatively impacted the firm performance. Our results also show significant differences across the sample between private and public limited companies. Further, in the case of net asset turnover and size for private limited companies, the sensitivity was higher for public limited companies.

The findings have important managerial and policy implications, especially in the post-covid period, when the focus is on making the tourism sector less fragile to such disruptions in the future. The next section presents the literature review, followed by hypothesis development, research methods, empirical results, discussion, and implications. The last section concludes the study.

# 2. Literature Review

The hospitality sector's profitability depends upon 'external' and 'internal' factors. The relationship between external and internal factors and the performance of hospitality firms has been studied extensively in developed nations. The relationship between firm performance and external factors, such as the general price level [1], climatic conditions [2–5], economic policy uncertainty [6–10], geopolitical concerns [11] etc., has been established. The firm-specific factors hold greater importance than macro-economic factors in explaining performance variation [12–15]).

The important internal factors include liquidity, net asset turnover, labor productivity, solvency, company size, company age [16–24].), long-term investments [25,26], executive compensation [27]; marketing strategy [28], workplace spirituality [29], sustainable leadership [30], and brand equity [31]. The literature summary for the determinants of firm performance chosen in the past studies is shown in Table 1.

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 Table 1. Literature on the determinants of firm performance.

S. No.	Author, Year	Objective	Independent Variables			
1	Galbreath and Galvin (2008) [12]	To examine the effect of resources and industry structure on performance.	Intangible assets, tangible assets, capabilities (firm's know-how and knowledge capacity), industry structure (ease of entry, sub-threat of substitute products, and bargaining power of sellers and buyers), firm age, and firm size.			
2	Dimitric et al. (2019) [20]	To assess the determinants of profitability for hospitality companies in Mediterranean countries.	Liquidity, net asset turnover, labor productivi solvency, company size, and company age.			
3	Matar and Shannag (2018) [16]	To investigate the impact of macroeconomic factors and firm-specific factors on corporate performance.	Macroeconomic factors—gross domestic product, interest rate, and inflation rate. Firm-specific factors—firm size, financial leverage, liquidity investment, and sales growth.			
4	Omondi and Muturi (2013) [17]	To examine the factors affecting financial performance for listed companies in Kenya.	Liquidity, leverage, company size, and company age.			
5	Lazar (2016) [18]	To investigate the firm-specific determinants of firm profitability.	Tangibles, leverage, firm size and labor intensity, sales growth, and value added.			
6	Mafumbate et al. (2017) [32]	To examine the effects of firm size and liquidity on ROA.	Capital structure, firm size, and liquidity.			
7	Hansen and Wernerfelt (1989) [33]	To examine the determinants of firm performance.	Industry profitability, firm's competitive position, relative market share, firm size, emphasis on human resources, and goal accomplishment.			
8	Hatem (2014) [34]	To examine the determinants of firm performance by conducting an international comparison of Sweden, Italy, and Switzerland.	Growth opportunities (measured by market-to-book ratio), firm size, cash ratio, ar firm age.			
9	Asimakopoulos et al. (2009) [35]	To analyze the factors influencing profitability for a sample of Greek firms.	Size, leverage, sales growth, investment, and current assets.			
10	Pervan et al. (2019) [36]	To examine the influence of macro-economic and firm-specific factors on a firm's profitability.	Firm-specific variables—age, current ratio, ar labor cost. Macro-economic variables—inflation rate and growth rate of the economy			
11	Lee (2009) [37]	To examine the impact of firm size on profitability.	Company size, market share, research and development intensity, poor debt management inventory management, capital intensity, advertising intensity, beta, and sales growth.			
12	Goddard et al. (2005) [38]	To investigate the determinants of profitability for manufacturing and service-sector firms.	Market share, liquidity ratio, firm size, GEAR (non-current liabilities plus loans divided by shareholder funds), and last two years' profitability.			
13	Fareed et al. (2016) [39]	To examine the determinants of profitability in the power and energy sector.	Firm size, age, firm growth, productivity, financial leverage, and electricity crisis.			
14	Altaf. N (2020) [10]	To examine the relationship between short-term financing and financial performance	Inverted U-shaped relationship between short-term capital financing and financial performance.			
15	Bhat and Sharma (2022) [40]	To examine the relationship between technological innovation and firm performance in Indian hospitality firms.	Positive relationship between the technologic association and their performance.			
16	Jawed et al. (2021) [41]	To examine company-specific factors and their relationships with stock market returns for hospitality firms during the COVID-19 period.	Positive relationship between capital intensit financial stability, and abnormal stock returns			

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In the Indian context, the links between firm characteristics and performance have not been studied extensively. In a recent study, [40] tested the relationship between technological innovation and firm performance in Indian hospitality firms. They found a significant positive relationship between the technological association and their performance. [41], studied the important company-specific factors and their relationships with stock market returns for listed hospitality firms during the COVID-19 period and found that capital intensity and financial stability were two important factors contributing to abnormal stock returns. [42], evaluated the impact of several corporate governance characteristics on the ROA of Indian hotel companies and found a positive and significant association between board size, board diligence, audit committee size, and institutional ownership and the ROA. Recently, [43]., examined the relationship between Indian listed hotel firms' corporate governance mechanism and their financial performance and reported a significant positive relationship between firms' governance practices and accounting performance.

In another study, [10] studied the links between short-term capital financing and firm performance for Indian hospitality firms and found an inverted U-shaped relationship between short-term capital financing and financial performance. [44], examined the links between Indian hospitality firms' intellectual capital (1C) and firms' financial capabilities, and found a strong positive relationship between IC and firm performance.

To summarize, limited research has been conducted on hospitality firms in the Indian context. The existing literature has either examined a limited number of variables or a small sample. In order to fill the gap, we examine the relationship between firm performance and several variables using a large sample comprising private and publicly listed hospitality firms. Secondly, we also consider the impacts of changes in a political regime, which are regarded as significant changes in the business environment, especially for the Indian economy after the new government came into power in 2014. Thirdly, we account for unobserved heterogeneity by employing a firm fixed effects model and any effects of time using year fixed effects. Finally, we also examine the differences in the firm performance due to differences in ownership structure.

The remainder of the paper discusses a methodology for conducting the empirical analysis in the next section; the empirical estimation for the determinants of firm performance is presented and discussed thereafter, along with the implications. The conclusion of the study forms part of the last section.

#### Hypothesis Development

The predictors of the profitability of companies in the hospitality sector may include company size, age, cash flows to net sales, export intensity, asset turnover, the solvency ratio, etc. Based on the extant literature review, we considered firm liquidity, net asset turnover (NAT), foreign earnings intensity (FXINT), proprietary ratio (PROP), firm size (SIZE), and firm age (AGE) as important firm characteristics and examine their impact on firms' return on assets (ROA). In our study, the proxy for firm performance is the return on assets (ROA), a widely used performance measure in the management research literature. Several studies, including [16,18,20,32,36,39,45–48]. etc., have used ROA as the proxy for profitability.

Further, we discuss the firm-specific factors affecting the performance of the hotel industry and develop hypotheses.

# Liquidity (LIQ)

According to previous research, cash flows in tourism and hospitality companies significantly impact performance. An argument was provided on the positive impact of cash flows on the profitability of hotels by [20]. that hospitality companies with higher cash flows provide financial security, as proved by [49]. Another argument by [50]. i.e., the link between liquidity and firms' profitability, involves systematic risk [51]. They considered stable cash flows to reduce systematic risk, thereby having a positive impact on a firm's profitability. For our sample, we formulated the following hypothesis:

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**Hypothesis 1.** It is expected that hotels with higher liquidity (LIQ) have a significant and positive relationship with firm performance.

Net Asset Turnover (NAT)

The net asset turnover explains a company's capability to utilize its assets for generating sales. Furthermore, several studies have empirically proven that better performance is related to asset utilization [36]). Therefore, firms with more assets will generate more sales, thus achieving comparatively higher profits. Therefore, we formed the following hypothesis:

**Hypothesis 2.** We expect that NAT is significantly and positively related to hotels' performances.

Foreign Earnings Intensity (FXINT)

The literature on international trade states that exporting firms are more profitable than domestic sellers. However, exporting firms face additional costs due to market research, adaption of products to native regulations, transportation costs, etc. There is a wealth of information provided by past research proving that exporting firms are likely to be more efficient in managing expenses, leading to higher profitability [52,53]. On the contrary, studies have also reported an inverse relationship between high export levels and profitability [54]. It was suggested by [11] that the Indian tourism sector has been a great contributor in terms of foreign exchange earnings. This factor could have vital importance in pecuniary terms because of foreign visitors; thus, we tried to test its impact on firm performance in the hotel industry. The following hypothesis was formed:

**Hypothesis 3.** Foreign earnings intensity is significantly and positively related to firm performance measures.

Proprietary Ratio (PROP)

The proprietary ratio denotes the percentage of assets funded by the owner's equity; it is taken as an indicator of the solvency of the hotel companies. The hospitality companies with better solvency enjoy flexibility in procuring funds and better bargains for managing credit from the market due to their high creditworthiness. It provides stability and security in these times of turbulence caused by the pandemic. The hospitality companies with higher debt in their capital structure carry more financial risk than companies with lower debt in their capital. Therefore, highly levered firms may reward shareholders with higher dividends [55]. An increase in debt in the capital structure increases the cost of borrowing for hotel companies and may decrease their profits [56]. Therefore, it is expected that firms with higher equity in their capital tend to have higher profitability.

**Hypothesis 4.** Proprietary ratio is significantly and positively related to firm performance.

Hotel Size (SIZE)

There is extensive empirical evidence on how a company's size affects its performance; for example, [20,56,57]. showed the relationship between company size and performance. They emphasized that larger companies have many advantages over smaller companies. Large hotels have easy access to raw materials, human resources, and access to cheap funding sources; thus, they can achieve economies of scale, leading to better firm performance compared with companies that are smaller in size [20,21]. Further, larger hotels also have greater employee strength, revenues, and capacity for making huge investments, and may hedge their risks [58]. Studies such as [37] concluded on the role of firm size in profitability that profit rates are positively correlated with firm size. In our study, the total sales was taken as the measure for hotel size to be consistent with previous studies, such as [59,60] A positive link with the level of sales and profitability is expected due to benefits arising from economies of scale and scope for hotel companies [61,62]. Some authors [63] measured

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hotel size using the number of rooms in the hotel; we follow the traditional definition of firm size and measure hotel size by the amount of revenue generated.

**Hypothesis 5.** Firm size is positively and significantly related to a hotel firm's performance.

Hotel Age (AGE)

The results for the impact of hotels' ages on their profitability have been mixed. Arguments have been provided that learning is multi-folded when a company grows older due to experience, brand value, or established relationships [20,22,64]. However, younger hotels or travel companies have the potential advantages of advanced technology, latest infrastructure and services, heavy discount coupons, and online booking facilities to attract more guests and attention [19,60,65,66]. In line with this, we propose that:

**Hypothesis 6.** We expect a negative association between AGE and firm performance.

The next section discusses the research methodology, followed by the empirical estimation, discussion, and implications.

## 3. Methodology

This section provides information on the dataset, variables, and empirical model construction for analysis purposes. It discusses the methodology followed for the estimation procedure employed to examine the determinants of firm performance in the Indian hospitality sector.

Data Sources

The data for the study were collected from the ProwessIQ database. The Prowess database is developed and maintained by the Centre for Monitoring Indian Economy. It consists of the financial performance of listed companies and unlisted Indian companies. We initially took a sample of all firms in the hospitality sector from the ProwessIQ database between 2010 and 2020. Firms with missing data were excluded; therefore, the final dataset of an unbalanced panel of 440 private limited and publicly listed companies was used for analysis purposes. To eliminate the impact of extreme observations, we trimmed our variables to the one and ninety-nine percentiles of their empirical distribution. The period of 2010-2020 was considered for our study as data before 2010 for unlisted hospitality firms were scanty. Further, for the purpose of examining the comparison of regime changes that happened from 2015, the prior five years (2010–2015) and post-reform period (2016–2020) were considered. Furthermore, the recent two years' data were not taken as the data were collected in 2021, and due to the COVID-19 outbreak, listed and unlisted firms were allowed an extension for filing the data with the Ministry of Corporate Affairs (the nodal agency for filing annual data). Therefore, the data for the recent period were not available for the sample firms.

## 4. Empirical Model Specification

We empirically investigated the relationship between firm characteristics and firm performance by testing Equation (1):

$$ROAit = \alpha + \beta 1 * NATit + \beta 2 * FXINTGit + \beta 3 * PROPit + \beta 4 * LIQit + \beta 5 * Sizeit + \beta 6 * Ageit + f_t + \epsilon it$$
 (1)

In the above Equation (1), the left-hand side of the equation,  $ROA_{it}$ , represents the firm performance of the  $i^{th}$  firm in the  $t^{th}$  year, which is taken as the return on assets in our study. On the right-hand side, we took the predictors of firm performance, namely the net asset turnover (NAT), foreign earnings intensity (FXINT), liquidity (LIQ), proprietary ratio (PROP), firm age (AGE), and firm size (SIZE). it refers to the dummy year, and  $\mathfrak{C}_{it}$  is the error term in Equation (1). A complete description of the dependent and independent variables is given in Table 1.

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#### 4.1. Statistical Techniques

We estimated Equation (1) using pooled ordinary least squares and panel fixed effects estimators to examine the impact of firm characteristics on financial performance. The estimation approaches employed for panel data are fixed effects and random effects. The choice between the two is made on the basis that unobserved heterogeneity should not be correlated with explanatory variables. The statistics of the Hausman test recommended using fixed effects estimation in our model, which would overcome the issues of omitted variables and endogeneity bias, to an extent.

## 4.2. Sample Splits Based on Regime Change

The financial performance is influenced by firms' characteristics, which, in turn, are affected by the changes in government policy and macroeconomic factors. The new government in 2014 introduced reforms to the sector, such as visa norms, infrastructural improvements, etc. A similar pattern has been observed in the Travel and Tourism Competitiveness Index (TTCI) ranking, where India witnessed a phenomenal improvement in its position from 2015 to 2019. The rank of India in the TTCI Report of 2015 https://www.weforum.org/reports/travel-and-tourism-competitiveness-report-2015 (accessed on 14 September 2022) was 52nd, as compared to 34th in 2019 https://pib.gov.in/ PressReleasePage.aspx?PRID=1490292 (accessed on 15 September 2022). We attempt to empirically examine if there were changes in the hotels' performances due to political regime shifts after 2014. To validate the same argument, we divided the entire period of study into two periods, i.e., regime period 1 (RP1) as 2010–2015 and regime period 2 (RP2) as 2016–2020; accordingly, Equation (1) was tested on the entire data period and two subperiods. We further tested for significant differences in the mean values of the determinants of firm performance under the two above-mentioned political regimes (RP1 and RP2) using the mean difference t-test (MDT). The results confirmed significant differences for LIQ, AGE, and SIZE; however, the mean differences were not statistically significant in the cases of NAT, PROP, and ROA (see Table 2, panel B). Based on the mixed results from the mean difference test of our selected variables, we carried out our final estimation for the entire sample and two regime periods.

Variable	Full Form	Definition									
Panel A: Firm Performance Variables											
ROA	ROA Return on assets Net income divided by total assets										
	Panel B: Firm Characteristics										
LIQ	Liquidity	Cash flow from operating activities/net sales $\times$ 100									
NAT	Net asset turnover	Net sales/total assets									
FXINT	Foreign exchange earnings intensity	Foreign earnings as a percentage of total income									
PROP	Proprietary ratio	Total equity capital/total assets $\times$ 100									
SIZE	Firm size	Natural logarithm of net sales									
AGE	Firm age	Number of years since incorporation									

**Table 2.** Description of variables used in the analysis.

#### 4.3. Sample Splits Based on Ownership Classification

Our sample comprises private and public firms; 47.05% of our sample firms were private firms, and the remaining were publicly listed firms. The functioning and firm characteristics may differ between these two categories of firms due to easier access to capital and lesser capital constraints [67]. Similarly, private firms' returns may differ due to information asymmetry concerns due to their owners' reluctance to dilute control of the company, leading to a higher cost of capital [68]. The assumption of a significant difference in the mean values of the two categories was validated using the mean difference t-test

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on the determinants of firm performance for private and publicly listed firms. Our results confirmed significant differences across two categories for all variables, except for age (Table 3, panel B). Therefore, we separately estimated the entire sample and private and publicly listed firms separately.

**Table 3.** Descriptive statistics and mean difference *t*-test (MDT).

Variables	Perio	d	Mean		Median	ı	Max	Min	Sto	l. Dev	:	Skew	Kurt
	RO	A		EP	7.7	9	7.2	24.35	-9.5	6.58		0.25	2.71
	RP1	-	7.98	7.3	24.32		-9.46	6.75		0.25		2.56	
	RP2	<u> </u>	8.54	8.65	22.6		-8.26	7.18		-0.22		2.21	
PROP	EP		19.79	11.58	89.18		0.	.5	2	0.58		1.35 3.96	
	RP1	-	18.96	11.04	84.72		0.5	19.46		1.3		3.8	
	RP2	1	22.55	18.74	78.39		0.69	17.38		0.87		3.14	
NAT	EP		0.47	0.36	2.06		0.05	0.4		1.55		5.29	
	RP1	-	0.47	0.37	2.06		0.05	0.39		1.56		5.47	
	RP2	0.68	0.46		1.9		0.0	05	0.52	1		2.8	1
	EP	11.84	10.21	$\epsilon$	64.62		-51	1.15	18.8	0.01		3.7	9
LIQ	RP1	10.45	7.73	$\epsilon$	53.72		-,	51	19.11	0.08		3.7	7
	RP2	11.64	9.54	5	54.79		-43	3.33	19.48	0.27		3.0	6
SIZE	EP	2.96	3.1		6.25		-2	2.3	1.67	-0.52	2	2.9	6
	RP1	-	2.79	2.91		6.2		-2.3	1.67	-0.43	2.85		
	RP2		2.41			2.66		6.19	-2.3	1.7		-0.2	2.14
	EP		21.96			20		77	1	13.89	)	1.06	4.18
AGE	RP1		21.18			19		75	1	13.78	}	1.02	4.18
	RP2		16.95			14		67	2	12.42		1.09	3.66
	Pan	el B: Mea	an Differe	ence <i>t-</i> Tes	st (MDT	) for E	Different 1	Regimes an	d Owne	rship Clas	sificatio	ns	
MDT		ROA		PROP			NAT		LIQ		SIZE		AGE
Regimes	i	-1.100 (0.27)		1.639 (0.102)			0.717 (0.473)		2.806 (0.005)		6.273 (0.000)		3.298 0.001)
Ownershi	b	2.234		3.808			-4.036		3.514		0.145		1.934

(0.000)

Notes: (1) EP, RP1, and RP2 represent the entire sample period (2010–2020), regime period 1 (2010–2015), and regime period 2 (2016–2020), respectively. (2) Mean difference t-test (MDT) for the two regimes was not significant at 0.05 level for all variables except CFOR, SIZE, and AGE; hence, the study failed to reject the null hypothesis. (3) The figures in parentheses indicate the p-value.

(0.00)

(0.884)

(0.000)

The next section presents the empirical results on the determinants of firm performance for the hospitality sector, followed by the discussion, implications, and conclusion.

## 5. Empirical Results

(0.000)

Ownership

(0.025)

This section presents the estimation results and provides the determinants of firm performance for the hospitality sector. The results are presented in Table 3 (descriptive statistics), Table 4 (pooled OLS method), and Table 5 (panel fixed-effects model) for the entire sample and for different regime periods, as well as for different types of ownership.

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Table 4. Impact of different firm	characteristics using th	e pooled OLS method.
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Variables	Model 1 Entire Sample			-	Model 2 Private Firms	3	Model 3 Publicly Listed Firms		
	EP	RP1	RP2	EP	RP1	RP2	EP	RP1	RP2
PROP	-0.02 **	-0.01	-0.03 ***	-0.03 ***	-0.03 *	-0.04 ***	-0.02 ***	-0.01 *	-0.04 ***
NAT	7.49 ***	7.72 ***	7.34 ***	3.80 ***	5.14 ***	2.88 ***	9.99 ***	10.09 ***	9.95 ***
LIQ	0.09 ***	0.08 ***	0.10 ***	0.08 ***	0.07 ***	0.09 ***	0.08 ***	0.08 ***	0.07 ***
FXINT	0.01 **	0.01	0.02 **	0.01	0.01	0.00	0.01 ***	0.00	0.03 ***
AGE	0.07 ***	0.10 ***	0.05 ***	0.10 ***	0.15 ***	0.06 **	0.05 ***	0.07 ***	0.02 *
SIZE	-0.26 ***	-0.27 **	-0.19 *	-0.60 ***	-0.69 ***	-0.60 ***	-0.25 ***	-0.26 ***	-0.16
Const.	3.42 ***	2.94 ***	3.35 ***	4.99 ***	3.78 ***	6.28 ***	3.12 ***	2.61 ***	3.25 ***
Adj. R <sup>2</sup>	0.23	0.24	0.24	0.16	0.19	0.14	0.25	0.25	0.28
F-Val	101.35 ***	55.88 ***	50.06 ***	33.63 ***	18.78 ***	17.26 ***	87.92 ***	51.41 ***	42.23 ***
$N \times T$	2329	1223	1106	1052	446	606	1529	888	641

Notes: (1) EP, RP1, and RP2 indicate the entire sample period (2010–2020), regime period 1 (2010–2015), and regime period 2 (2016–2020), respectively. (2)  $N \times T$  is the number of observations in the model. (3) \*, \*\* and \*\*\* depict significance at the 10%, 5% and 1% levels respectively.

Table 5. Determinants of firm performance using fixed effects with the dummy year.

Variables	Model 4 Entire Sample			]	Model 5 Private Firms	3	Model 6 Publicly Listed Firms			
	EP	RP1	RP2	EP	RP1	RP2	EP	RP1	RP2	
PROP	-0.02 **	-0.01	-0.03 ***	-0.03 ***	-0.03 *	-0.04 ***	-0.02 ***	-0.01 *	-0.04 ***	
NAT	7.40 ***	7.60 ***	7.34 ***	3.78 ***	5.05 ***	2.90 ***	9.91 ***	10.00 ***	9.94 ***	
LIQ	0.09 ***	0.08 ***	0.10 ***	0.08 ***	0.07 ***	0.09 ***	0.08 ***	0.08 ***	0.07 ***	
FXINT	0.01 **	0.01	0.02 **	0.01	0.01	0.00	0.01 **	0.00	0.03 ***	
AGE	0.08 ***	0.11 ***	0.04 ***	0.09 ***	0.14 ***	0.05 **	0.05 ***	0.08 ***	0.02 *	
SIZE	-0.21 **	-0.24 *	-0.19 *	-0.58 ***	-0.63 ***	-0.61 ***	-0.21 **	-0.24 **	-0.16	
Const.	3.08 ***	2.74 ***	3.39 ***	5.04 ***	3.76 ***	6.41 ***	2.91 ***	2.54 ***	3.30 ***	
Adj. R <sup>2</sup>	0.24	0.25	0.24	0.16	0.2	0.14	0.26	0.26	0.28	
Time	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
F-Val.	44.77 ***	35.3 ***	32.32 ***	13.75 ***	11.17 ***	11.14 ***	34.58 ***	29.15 ***	25.33 ***	
$N \times T$	2329	1223	1106	1052	446	606	1529	888	641	

Notes: (1) EP, RP1, and RP2 indicate the entire sample period (2010–2020), regime period 1 (2010–2015), and regime period 2 (2016–2020), respectively. (2) N  $\times$ T is the number of observations in the model. (3) \*, \*\*, and \*\*\* depict significance at the 10%, 5%, and 1% levels, respectively.

Panel A in Table 3 presents the summary statistics of the explanatory variables used in the model and panel B of Table 3 depicts the coefficients for the mean difference tests (MDT). The mean ROA was 7.79% with a standard deviation of 6.58%. The high standard deviation for ROA indicates high variation in ROA, with the highest at 24.35% and lowest at -9.50% for ROA in our sample, even after removing outliers from the dataset. The average coefficients for the PROP, NAT, LIQ, SIZE, and AGE coefficients were 19.79, 0.47, 11.84, 2.96, and 21.18, respectively, for the entire sample (panel A). To understand the effect of changes in political regimes on the firm profitability and other characteristics of hospitality firms in India, the sample data were split into two periods, 2010–2015 (RP1) and 2016–2020 (RP2). For RP1, the average ROA coefficient of firms was 7.98%, whereas the average ROA

coefficient was 8.54% for RP2. Further, the coefficients in the second regime were higher for variables such as age and size.

To confirm the differences in mean values, the mean difference *t*-test (MDT) was applied for the two regime periods (panel B). The results of the MDT test were significant for LIQ, AGE, and SIZE, and we may consider that firm characteristics, such as liquidity, age, and size, were affected by the changes in political regimes, as evident from Table 4 (panel B). Further, the MDT was not significant for NAT, PROP, and ROA, indicating that these variables were immune to changes in political regime. In the next step, the MDT test was conducted to check whether the firm characteristics differed for public limited and private companies. It was observed that the MDT for the selected explanatory variables for the two ownership types was significant at the 5% level. Thus, it was concluded that the firm performance and firm characteristics coefficients of the Indian hospitality industry were different for the two categories, except for age (see panel B).

Table 4 presents the results for the pooled OLS, which determines the firm-specific characteristics influencing firm performance. Model 1 presents the results for the sample firms for the entire period, as well as two different political regimes. Models 2 and 3 present the results for private and public firms, respectively, for the entire period and the two different political regimes. The *p*-value of the F-statistic was significant at the 1% significance level for the entire sample period (EP), as well as for the two regime periods (RP1 and RP2) for models 1, 2, and 3, indicating the fitness of the model. The results indicate that the PROP was negatively related to the profitability of the hospitality sector in India, rejecting hypothesis 4.

Similarly, a negative relationship was also obtained in the second regime period (RP2). We observed consistent results when estimation was conducted for private and publicly listed firms; however, the estimated coefficient of PROP was higher in the case of privately listed firms. This indicates that firms with less equity in capital structure might attract more returns. This is contradictory to the results of [20,56,69]), who found an inverse relationship with the amount of debt and profitability.

Table 4 also reveals that the coefficients for net asset turnover (NAT) were significant and positive for the entire sample period, as well as regime periods 1 and 2. Further, we also found a positive impact of NAT for private and publicly listed firms. This verifies that firms with higher NAT were more efficient in utilizing assets for better revenues and, consequently, higher profitability. Interestingly, publicly listed firms had significantly higher coefficients for NAT, indicating that publicly listed companies' asset turnovers had greater impacts on profitability. This result endorses the argument of [20,70] Dimitric et al. (2019) and Pervan and Visit (2012), who found a positive association between the profitability and asset utilization capabilities of hotel firms. This leads to the acceptance of null hypothesis 2.

The variable LIQ, measured by the ratio of cash flow from operating activities by sales, was significantly positive when regressed against ROA; thus, we accept hypothesis 1. The results are similar to the findings of [20,49]. This implies that companies having higher levels of cash reserves impact the profitability of the hospitality industry positively [38]. Further, Table 4 reveals that the ratio of foreign earnings to total sales (FXINT) had a positive impact on profitability; therefore, we accept null hypothesis 3. However, the relationship was weak, as the coefficients were close to zero. This may imply that foreign earnings may not be a substantial source of earnings for our sample firms, and internal demand may be driving their profitability.

Surprisingly, the firm SIZE had a significant and negative impact on the ROA of the hospitality sector, implying that firms with a lower level of sales achieved higher profitability levels, contradicting the findings of [20,65]); this results in the rejection of hypothesis 5. Further, the coefficients were higher in the case of private firms, which may be due to large private firms burning cash to capture market share, thereby negatively affecting the profitability of larger private companies. Further, while examining the relationship between AGE and ROA, the results show that the profitability of the hospitality industry

increased with age [70]; thus, hypothesis 6 can be accepted. The reasons could be the reputation of the company and the accumulated experience and networking since their incorporation, which is parallel to the findings of [21], who emphasized the accumulated 'learning by doing or 'incumbent' effect. Further, the coefficients were comparatively smaller for RP2, indicating that the relationship weakened in recent times as newer firms were more prone to new technologies, online booking, and service facilities.

Table 5 presents the fixed-effects method's results for determining firm performance indicators. Model 4 presents the results for all firms for the entire period, as well as two different political regime periods. Models 5 and 6 give the results for private and public firms, respectively, for the entire period, as well as two different political regime periods. Altogether, the results provided in the panel fixed-effects model (Table 4) provide evidence that the firm characteristics, such as the NAT, LIQ, and AGE, had a significant positive impact on profitability, and PROP and SIZE had a significant negative impact on firm performance. Further, FXINT also had a mildly positive impact on performance, as the coefficient was small. To summarize our results, hypotheses 1, 2, 3, and 4 are supported, as the *p*-values obtained were less than 0.05. The *p*-values for hypotheses 5 and 6 were found to be significant; however, the coefficients were negative, leading to the rejection of Hypotheses 5 and 6.

#### 6. Discussion

The results of the MDT test were significant for LIQ and SIZE, indicating that the firm characteristics, such as liquidity and size, were different under the two political regimes. Further, the MDT results were not significant for NAT, PROP, and ROA, indicating that these variables did not differ statistically across the political regimes. On the other hand, the MDT test conducted to check whether the firm characteristics differed for public limited and private companies revealed that the selected explanatory variables for two ownership types were significant at the 5% significance level. Thus, it can be inferred that liquidity and size were higher in the second regime. The higher liquidity can be linked to the overall higher cash flows of the hospitality firms in the recent period due to the higher levels of sales due to rising tourist activity just before the pandemic. Further, the significant differences in ownership structure point toward the different natures of private and publicly listed companies; therefore, separate policy measures are needed for the two categories.

The firm liquidity (LIQ) measured by the ratio of cash flow from operating activities by sales was significantly positive when regressed against ROA, leading to the acceptance of hypothesis 1. The results were similar to the findings of [20,49]. This implies that companies having higher cash reserves impact firms in the hospitality sector positively (Goddard et al., 2005) [38], or hospitality firms having higher or stable cash reserves aids in financial security [49] or lowers their systematic risk (Logue and Merville, 1972; Scherrer & Mathison, 1996) [45,46].

Further, we found a positive impact of NAT for both private and publicly listed firms. This verifies that firms with higher NAT are more efficient in utilizing assets for obtaining better revenues and, consequently, higher profitability. Further, from the results of the sample splits, listed firms had significantly higher coefficients for NAT, signifying that listed companies' asset turnovers had a greater impact on profitability. This result endorses the arguments of [20,33,39], who found a positive association between the profitability and asset utilization capabilities of hotel firms. The higher coefficients for listed firms point toward the higher efficiency of the listed companies as compared with private firms in the hospitality sector. The higher efficiency could be linked to economies of scale and scope, as listed companies enjoy several benefits in terms of higher customer reach, lower cost of borrowings, better marketing strategies, etc., translating into higher profitability.

In the case of the foreign earnings ratio to total sales (FXINT), we found a weak positive relationship between profitability and FXINT. The results contradict the existing literature, which reported a strong, positive association between export intensity and profitability [11,47,48]. Foreign earnings may not have been a substantial source of earnings

for our sample firms, and internal demand may have been driving their profitability. Further, most hospitality firms might not directly deal with foreign exchange, but prefer Indian currency to avoid foreign currency risk or intermediaries that convert foreign currency to domestic currency.

Surprisingly, the firm size (SIZE) had a significant and negative impact on the ROA of the hospitality sector, implying that firms with a lower level of sales achieved higher profitability levels, contradicting the findings of [20,56,57,69], who emphasized that larger companies have many advantages over smaller companies in terms of easy access to raw materials, human resources, and access to cheap funding sources, thus achieving economies of scale, leading to better firm performance compared with companies with smaller sizes. These results can also be linked to lower accounting profits in industry. Further, the coefficients were higher in the case of private firms, which may have been due to large private firms burning cash to capture market share, thereby negatively affecting the profitability of larger private companies.

While examining the relationship between firms' AGE and ROA, the results show that the profitability of the hospitality industry increased with age, which is in line with [20,22,36,64]. The reasons for this could be the reputation of the company and the accumulated experience and networking since their incorporation, which is parallel to the findings of [22], who emphasized the accumulated 'learning by doing or 'incumbent' effect. Further, the coefficients were comparatively smaller for RP2, indicating that the relationship has recently weakened, as newer firms are more prone to new technologies, online booking, and service facilities.

In the case of the relationships with the propitiatory ratio (PROP), the results confirm an inverse relationship with profitability. Although the coefficients were small, the results contradicted the findings of [55,56], who established a positive association between the two variables. The negative relationship with PROP indicated that hospitality firms with lower equity capital performed better. The results highlight the need for improving the governance mechanism and revamping the capital structure of hospitality companies to improve performance.

We observed consistent results when estimation was conducted for private and publicly listed firms; however, the estimated coefficient of PROP was higher in the case of privately listed firms. This indicates that firms with less capital structure equity might attract more returns in privately listed firms. This is contradictory to the results of [20,56,69], who found an inverse relationship between the amount of debt and profitability.

Overall, the following key findings emerge from the empirical results. Firstly, LIQ, NAT, FXINT, and AGE positively affected the performance of hospitality firms in India, which is consistent with the findings of [12,17,19,22,64] etc. Secondly, PROP and SIZE negatively impacted the performance of hotel companies, which contradicts the findings of [50,51], who established a positive association between PROP and firm performance. Third, the results of sample splits and MDT indicated that differences between the two political regimes (RP1 and RP2) were not significant for ROA, NAT, and PROP; therefore, the determinants of firm performance in the hospitality sector did not change significantly during the two political regimes for these variables. However, in the case of ownership structure, i.e., private and publicly listed companies, the firm-specific characteristics differed significantly.

The differences In the firm characteristics of public and private firms were evident from the regression coefficients; for example, the NAT coefficient was almost three times that of publicly listed companies, indicating that NAT has a greater impact on the profitability of public companies. Similarly, the SIZE coefficients were significantly higher for private limited firms, indicating that a larger size had a more significant impact on firm profitability for private firms, in line with [16,18]. The differences across the two categories have implications for previous and future studies in the Indian context, which have not accounted for ownership level changes.

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#### 7. Practical Implications

The literature on the connections between firm performance and characteristics has been evolving and gaining attention across different sectors and countries. However, the literature related to the hospitality sector in India has not gained attention to a similar extent. Using a sample of 440 private and publicly listed firms for the period 2010–2020, our study seeks to understand the determinants of firm performance for hospitality firms in India while taking into account changes in government regime and ownership structure.

Our findings demonstrate that liquidity has a positive effect on both public and private companies' performances. Additionally, we discovered that the proprietary ratio and size have negative effects on profitability. We identified discrepancies in the association between firm performance metrics and company characteristics, particularly with respect to the proprietary ratio, age, and net asset turnover ratio. The findings have significant consequences for hotel managers and industry. Hotels may focus on the proven determinants of profitability in order to improve their business performance. The findings can be generalized because the analysis was conducted on a broad sample of hotels and the findings revealed common elements that contributed to a hotel's profitability.

The findings have considerable ramifications for managers and policymakers, especially when the hospitality sector is facing challenges. As the liquidity and productivity of assets were linked to higher profitability, in our case and in times of crisis due to the pandemic, lower liquidity would negatively affect profitability. Both private and publicly listed firms should look for innovative ways to maintain sufficient liquidity and improve the efficiency of assets in times of turbulence. Managers should ensure that their future policies focus on achieving the right balance in assets and liquidity investments, which might lead to better profitability.

The negative relationship with PROP indicates that hospitality firms with lower equity capital showed better performance, highlighting the need to revamp the capital structure of hospitality companies to improve performance. From a policy perspective, indeed, during the current period, the factors having a positive relationship with profitability, especially LIQ and NAT, will decline, thereby negatively affecting the profitability of the entire hospitality industry. Therefore, the government should provide hand-holding support so that the industry can withstand the unprecedented situation due to COVID-19. Furthermore, the study could not establish linkages between FXINT and profitability due to limited hospitality companies catering directly to foreign tourists in India. Therefore, to attain a high growth regime post-COVID-19, firms in India may focus more on improving their services to cater to foreign tourists and domestic tourists, enhancing their profitability. The negative impact of PROP on firm performance may be attributed to weak governance structures, which should be examined in detail in future research studies.

## 8. Limitations and Directions for Future Work

In conclusion, all suggestions made must be considered in light of the limitations of the present research work. As the paper explores the hospitality industry in the Indian context, generalizing results on a global level requires caution. Future research can also focus on firm performance measures other than ROA and macro-economic measures to gain more insights into the determinants of firm performance. Further, empirical estimation may be carried out to overcome the problem of finite sample bias and simultaneity bias by using advanced estimation models, such as dynamic panel data models. Furthermore, future research can also focus on the moderating role of macro-economic factors on the identified firm-specific variables. Finally, as our tested model fitness was not very high; therefore, other quantitative and qualitative factors, such as leadership, innovation, bricolage, workplace spirituality, frugality, and social innovation, can also be examined as determinants of firm performance.

**Author Contributions:** Conceptualization, T.K.S. and A.A.; methodology, T.K.S.; software, T.K.S.; validation, T.L. and A.A.; formal analysis, T.L.; investigation, T.L.; resources, T.K.S.; data curation, A.A.; writing—original draft preparation, A.A.; writing—review and editing, T.L.; funding acquisition, T.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

**Acknowledgments:** The infrastructure support provided by FORE School of Management, New Delhi, Murdoch University, Australia and Thuongmai University, Hanoi, Vietnam in completing this paper is gratefully acknowledged.

**Conflicts of Interest:** The authors declare no conflict of interest.

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