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The Impact of Board Size Moderation on Firm Performance and Working Capital Requirements in the Indian Hospitality Sector

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Abstract *The study investigates the impact of firm performance on working capital requirements in the regulation of board size as a moderator. We use the underpinnings of Agency and Resource dependence theories while substantiating their association. The study uses a moderation method, using panel data models to map temporal influences on the association. Analyzing 473 firm-year observations, spanning 2013-2022 from the hospitality industry in India, the manuscript substantiates that board size and firm size are critical to shaping the working capital requirements of the hospitality industry. Moreover, the investigation reveals that board size plays a pivotal role in moderating the primary association between firm performance and working capital requirements. The investigation also reveals some significant inferences about covariates like asset tangibility, debt ratio, asset tangibility and internal liquidity. This research makes a substantial contribution to the specific literature on the hospitality industry, which is characterized by seasonal fluctuations and high fixed costs. Additionally, it enhances our comprehension of the entrepreneurial standing of hospitality firms within the context of India. Also, the current study has several implications for practitioners and theorists.*

Keywords: *Board Size, Firm Performance, Working Capital Requirements, Hospitality Sector*

INTRODUCTION

The growing recognition of the significance of board composition and size in shaping organizational performance has gained widespread attention (Karim et al., 2024; Malik et al., 2014; Orozco et al., 2018). Board composition encompasses both its breadth and diversity, and numerous studies have examined how these factors influence firm revenues, popularity, branding, and overall performance. The impact of board size and composition extends across multiple sectors, including hospitality (Zheng (Jerry) & Tsai, 2019), finance (Adelopo et al., 2023; Jiang et al., 2024), and banking (Kakanda et al., 2017; Staikouras et al., 2007). This relationship has also been explored in diverse geographical contexts: the United Kingdom (Adelopo et al., 2023; Elmarzouky et al., 2021), Europe (Bel-Oms et al., 2024; Gharios et al., 2024; O'Connell & Cramer, 2010; Orozco et al., 2018; Ramos et al., 2023; Staikouras et al., 2007), Malaysia (Abdullah, 2014; Karim et al., 2019a, 2019b; Khan et al., 2021), the United States (Han et al., 2004), China (Han et al., 2004; Xuguang et al., 2021; Yip & Pang, 2023), Bangladesh (Hossain et al., 2022; Rahman & Saima, 2018), Palestine (Saleh et al., 2020; Talalwa et al., 2024), and India (Bishnoi & Sh, 2015; Ganguli & Guha Deb, 2021; Chand & Ambadar, 2013; Goel et al., 2022; Kalsie & Shrivastav, 2016; R. K. Mishra & Kapil, 2018; Mishra, 2023; Potharla & Amirishetty, 2021; Saha & Maji, 2022; Saibaba & Ansari, 2012; Sanan et al., 2021; Satapathy et al., 2023; Sehrawat et al., 2020; Sharma et al., 2023).

Despite the acknowledged importance of cultural and regulatory contexts in shaping these relationships, particularly in emerging economies (Balagobei, 2018; Goksen & Karatas, 2008; Jiang et al., 2024; Meah & Chaudhory, 2019; Saini & Singhania, 2018), the association

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between firm performance (FP) and working capital requirements (WCR) remains underexplored. Most existing studies examining these variables date back several years (BAÑOS-CABALLERO et al., 2016; Dechow, 1994; Panda & Nanda, 2018; Ross, 2002), underscoring the need for more contemporary investigations. Furthermore, the linkage between board composition and financial imperatives, such as working capital, has been relatively underexamined. While some studies have explored this connection in Indonesia (Sutrisno et al., 2023), Ghana (Asante-Darko et al., 2018), Pakistan (Shahid et al., 2020), Taiwan (Vu Thi & Phung, 2021), China (Rehman et al., 2017), Jordan (Abu Khalaf & Al-Tarawneh, 2019), Thailand (Kumpamool & Chancharat, 2022), the United States (Gill & Biger, 2013), and Sri Lanka (Kengatharan & Tissera, 2019), there remains a significant gap in the Indian context. We have made a choice of India for our current investigation, owing to its placement as an emerging economy, and the specific nuances the country offers in the field of corporate governance.

The hospitality industry, defined by its focus on providing leisure experiences, is among the fastest-growing global sectors. The industry's market size is projected to rise from US$ 4770 billion in 2023 to US$ 11,699 billion by 2029 (Statistica, 2022). Moreover, India's hospitality market size is valued at US$ 281.83 billion in 2025 and is pegged to grow to US$ 541.70 billion by 2030, with a CAGR of 13.96% during the forecast period of 2025-2030 (Mordor Intelligence, 2025). In 2021, the travel and tourism sector alone contributed to a GDP of US$ 178 billion, which is hypothesized to reach US$ 512 billion by 2028. The tourism sector alone created 76 million jobs in FY23 (IBEF, 2025), offering a fertile setting for investigation, owing to its specific nuances and economic aesthetics. Thus, for all these reasons, India happens to be one of the compelling settings to explore the association of board governance and firm-level outcomes. Investigations of this sort offer a context for broader generalizability and nuanced insights into emerging economies. Given this exponential growth, it is essential to examine the interplay of board size, FP, and WCR in this context. Existing studies, such as that of Zheng (Jerry) & Tsai (2019), primarily focus on the hotel sector, a subset of hospitality, highlighting the need for broader and more inclusive research. Moreover, there is a notable lack of studies triangulating board size, FP, and WCR, making it crucial to investigate their interconnections and the moderating role of board size. Understanding these relationships can help firms optimize resources, strengthen stakeholder trust, and enhance performance. With the hospitality industry at the epicenter of global economic mobility, addressing these gaps becomes even more pressing.

This study addresses these gaps by posing three key research questions: 1) How does firm performance associate with the working capital requirements of the hospitality industry? 2) How does board size moderate the association between working capital requirements and firm performance? 3) How does this triangulation manifest specifically within the hospitality sector? The study leverages Agency Theory and Resource Dependence Theory to explain how resources and firm structures interact to safeguard stakeholder interests. These theoretical frameworks offer a robust basis for exploring the interplay between board size, FP, and WCR. This research contributes to the growing literature in two key ways: first, by examining the underexplored association of these three constructs, and second, by contextualizing the findings within the Indian hospitality sector. A timely intervention of this nature can help address institutional voids and catalyze the sector's growth by offering actionable insights for resource optimization and strategic governance.

LITERATURE REVIEW

The relationship between liquidity management, firm performance, and board structure has attracted growing attention in corporate finance research. Scholars have long recognized that working capital requirements (WCR) are a critical determinant of operational flexibility and overall financial health (Elyasiani & Zhang, 2015; Panigrahi et al., 2019). Concurrently, the composition and size of corporate boards are increasingly viewed not only as governance mechanisms but also as strategic tools that shape financial decision-making (Mishra & Mohanty, 2020; Reddy & Nangia, 2022). In the context of the Indian hospitality sector, where seasonality and high fixed costs demand robust liquidity management, examining how WCR, firm performance, and board size interrelate is particularly important. This literature review synthesizes the interplay among WCR, firm performance, and board size.

Effects of Working Capital Requirements on Firm Performance

Working capital represents a firm's net investment in current assets after subtracting current liabilities. Its management is critical because it reflects the firm's ability to finance daily operations and to maintain the liquidity necessary for sustaining growth (Chen & Kim, 2022). Prior studies have demonstrated that firms with higher operating performance often require greater working capital. For instance, firms with robust performance as measured by Return on Assets (ROA) are more likely to reinvest in operational activities such as increasing inventories, extending receivables, or enhancing service capacities to capture market opportunities (Shin & Choi, 2019; Panigrahi et al., 2019). In emerging market settings, where external financing might be constrained, high-performing firms tend to rely on internal

funds and hence maintain a higher level of current assets. This strategy, while supportive of growth, also implies a higher working capital requirement (WCR) (Gupta & Jain, 2021). In the hospitality sector, where demand fluctuations are common and customer service is paramount, an optimal level of working capital is essential. Adequate WCR enables firms to invest in service quality and to buffer against seasonal downturns (Mehta & Sharma, 2023). However, the literature is not unidirectional. Some studies argue that higher profitability could lead to more efficient working capital management, reducing the need for high liquidity if firms can negotiate favorable credit terms or streamline operations (Singh & Bagga, 2021; Bhatia & Srivastava, 2022). Yet, within the capital-intensive hospitality industry especially in an emerging market like India the evidence leans towards a positive association between firm performance and WCR. Firms with better ROA appear to expand their short-term asset base as part of a deliberate strategy to support growth and enhance operational capabilities. Based on these findings, we propose that higher firm performance is likely to be associated with increased working capital requirements.

Hypothesis 1 (H1): There is a positive association between firm performance and working capital requirements.

Board Size and Its Impact on Working Capital Requirements

Board size is widely recognized as a critical dimension of corporate governance. It represents the total number of directors overseeing strategic decision-making and risk management (Mishra & Mohanty, 2020). A larger board is often perceived as bringing a greater diversity of expertise and resources, which can be beneficial for a firm's financial policies, including liquidity management. Empirical research suggests that board size may positively influence working capital management. On one hand, larger boards can offer more comprehensive oversight, ensuring that decisions regarding the accumulation of short-term assets are scrutinized (Reddy & Nangia, 2022). On the other hand, a larger board may also advocate for a more aggressive investment in working capital if they believe that sufficient liquidity is necessary for capturing market opportunities, particularly in an industry marked by seasonality and rapid growth such as hospitality (Karim et al., 2024). The theoretical underpinnings for this relationship are rooted in both agency theory and resource dependence theory. Agency theory posits that a larger board reduces managerial opportunism by increasing monitoring capabilities, thereby ensuring that working capital is deployed in ways that align with shareholder interests (Jensen & Meckling, 1976; reinterpreted by Wang et al., 2023). Conversely, resource dependence theory argues that boards with a greater number of directors provide access to more diverse resources and networks, facilitating better financing and liquidity management decisions (Pfeffer & Salancik, 1978; Mishra & Mohanty, 2020).

In the specific setting of the Indian hospitality industry, where operational demands are high and liquidity buffers are critical, board size may play a decisive role in shaping the working capital strategy. Larger boards may support decisions that lead to a higher level of working capital to ensure that firms can meet seasonal peaks and invest in service quality enhancements. Overall, the evidence leans toward a positive relationship between Board Size and Working Capital Requirements, leading to our second hypothesis suggesting that firms with larger boards tend to hold higher levels of working capital.

Hypothesis 2 (H2): Board size positively impacts working capital requirements.

Moderating Effect of Board Size on the Firm Performance and WCR Relationship

While prior studies have examined the direct links between firm performance, working capital requirements (WCR), and board size separately, the moderating role of board size on the firm performance-WCR relationship has been less explored, especially in the hospitality industry, where financial decisions are highly interdependent. Empirical evidence suggests that high-performing firms tend to invest more in working capital, but a larger board can moderate this effect by enforcing stricter oversight and curbing excessive short-term investments, thereby ensuring liquidity aligns with long-term strategic goals (Liao et al., 2022; Reddy & Nangia, 2022). From an agency theory perspective, larger boards can mitigate the tendency of managers to over-invest in working capital by implementing rigorous review processes and demanding transparency (Jensen & Meckling, 1976). Similarly, resource dependence theory argues that the diverse expertise in a larger board aids in determining the optimal liquidity level under varying market conditions (Pfeffer & Salancik, 1978). Recent empirical studies confirm that the moderating effect of board size is statistically significant; even when firm performance drives increased working capital, this effect is dampened in firms with larger boards (Khan et al., 2021; Liao et al., 2022). Thus, we propose:

Hypothesis 3 (H3): Board size strengthens (i.e., moderates) the relationship between firm performance and working capital requirements.

RESEARCH DESIGN

Sample Selection and Data Collection

The relationship between working capital needs and business performance is investigated in this study, along with the moderating effect of board size. We excluded firm-year observations with missing or insufficient financial data in order to preserve analytical accuracy. From 2013 to 2022, 473 firm-year observations from Indian hospitality companies make up the final unbalanced panel dataset. The data was sourced from Refinitiv (Datastream), using STATA data processing and analysis.

Variables

This study establishes a systematic framework for measuring key variables to explore how board size moderates the relationship between firm performance and working capital requirements. Clear definitions and operationalizations enhance the analysis and reliability, supporting an in-depth examination of the board size's moderating effects on financial dynamics.

Dependent Variable: Working Capital Requirement

The Working Capital Requirement is measured as the ratio of Net Working Capital to Total Assets. Net Working Capital (current assets minus current liabilities) indicates a firm's capacity to meet short-term obligations, while Total Assets reflect its full resource base. This ratio provides insights into liquidity and operational efficiency.

Independent Variable: Firm Performance

Firm performance is assessed using Return on Assets (ROA), calculated as net profit after tax divided by total assets. ROA reflects how effectively a firm converts its assets into earnings, serving as a key indicator of operational efficiency and profitability.

Moderating Variable: Board Size

Board size is quantified by the total number of directors on the company board. This measure reflects the scale and diversity of oversight, which can influence strategic decisions and operational efficiency. While a larger board may offer varied expertise, it can also pose coordination challenges. Using director count effectively captures the board size's role in moderating the relationship between performance and working capital needs.

Control Variables

The analysis controls for growth opportunities (G), leverage (L), asset tangibility (AT), firm size (FS), and GDP to capture firm-specific and national influences. These controls help isolate the effects of the main variables, as detailed in Table 1.

Table 1: Descriptions of Variables

This table provides a summary of the chosen variables, including their calculation methods and sources.			
Dependent Variables			
Variable	**Abbreviation**	**Measurement**	**Source**
Working capital requirement	WCR	Net working capital/Total assets	Refinitiv (Datastream)
Independent Variable			
Variable	**Abbreviation**	**Measurement**	**Source**
Firm Performance	ROA	Return on assets = Net profit after tax/Total assets	Refinitiv (Datastream)
Moderating Variables			
Variable	**Abbreviation**	**Measurement**	**Source**
Board Size	BSIZE	Total Number of Directors	Refinitiv (Datastream)
Control Variables			
Variable	**Abbreviation**	**Measurement**	**Source**
Growth opportunities	G	Sales growth =[Sales1 - Sales0)/Sales0]	Refinitiv (Datastream)
Leverage	L	Debt ratio = [Total Debts/Total debts + Total equity]	Refinitiv (Datastream)
Assets tangibility	AT	Fixed Financial Assets/Total Assets	Refinitiv (Datastream)
Firm size	FS	Natural logarithm of total assets	Refinitiv (Datastream)
GDP	GDP	Gross domestic product	World Bank data

Regression Model

To assess whether board size moderates the relationship between firm performance and working capital requirements, a regression analysis model is employed as the primary statistical tool to estimate the proposed model, as depicted in Fig. 1. The regression equations are structured accordingly, with all variables detailed in Table 1, and include year as fixed effects. This methodological framework enables a precise estimation of the interactions between board size, firm performance, and working capital requirements while accounting for temporal variations.

$$WCR_{i,t} = \beta_{10} + \beta_{11}ROA_{i,t} + \beta_{12}BSIZE_{i,t} + \beta_{13}G_{i,t} + \beta_{14}L_{i,t} + \beta_{15}AT_{i,t} + \beta_{16}FS_{i,t} + \beta_{17}GDP_{i,t} + \text{Fixed effects}_{i,t} + \varepsilon_{1i,t} \quad \text{Model} \quad (1)$$

$$WCR_{i,t} = \beta_{20} + \beta_{21}ROA_{i,t} + \beta_{22}ROA^{*}\ BSIZE_{i,t} + \beta_{23}BSIZE_{i,t} + \beta_{24}G_{i,t} + \beta_{25}L_{i,t} + \beta_{26}AT_{i,t} + \beta_{27}FS_{i,t} + \beta_{28}GDP_{i,t} + \text{Fixed effects}_{i,t} + \varepsilon_{1\,i,t} \quad \text{Model} \quad (2)$$

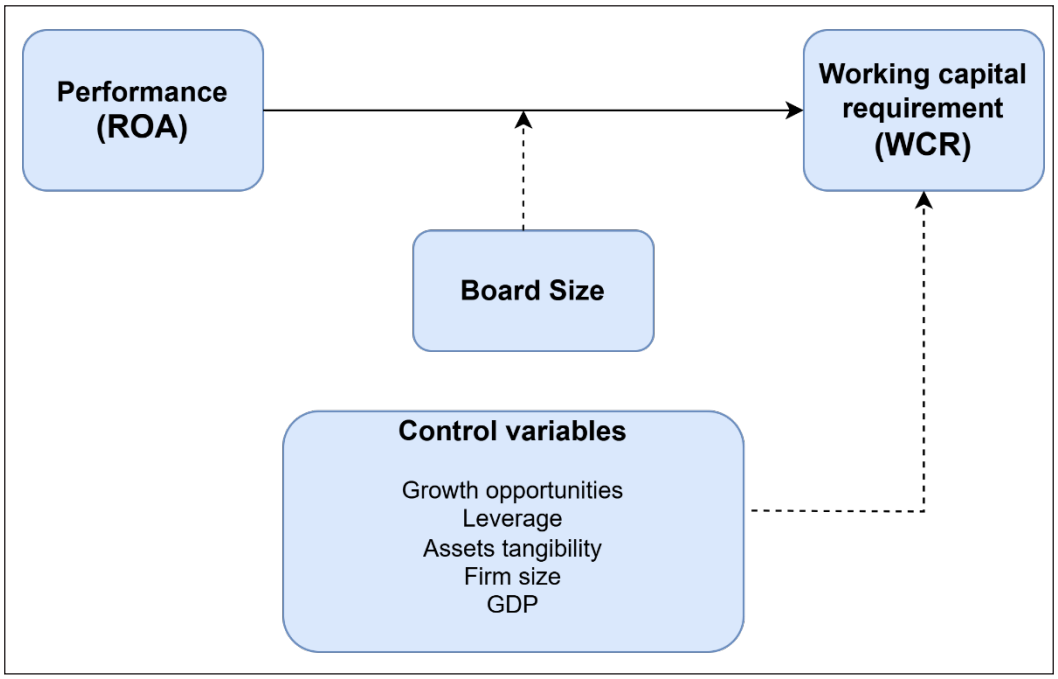

Fig. 1: Regression Model

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 presents descriptive statistics for a dataset comprising 473 firm-year observations from 2013 to 2022. Panel A shows the dependent variable, WCR, with a mean of 0.00 and a standard deviation of 0.28, indicating moderate dispersion around a near-zero average. Panel B reports the independent variable, ROA, with a mean of -0.01 and notable variability (SD = 0.21), suggesting diverse performance outcomes. Panel C details the moderating variable, BSIZE, averaging 7.60 directors with moderate variation (SD = 2.43). Panel D encompasses control variables: G, L, AT, FS, and GDP, each exhibiting distinct ranges and variability, reflecting the heterogeneity in firm-specific and national characteristics that may influence working capital requirements.

Table 2: Descriptive Statistics

This table presents descriptive statistics for the variables used in this study. The dependent variables in Panel A include Working capital requirement (WCR). The independent variable is Performance (ROA). Panel C consists of the moderating variable, Board Size (BSIZE), and Panel D consists of a comprehensive set of control variables. The sample consists of 473 firm-year observations from 2013–2022.

	Observations	Mean	Standard Dev.	Median	Min	Max
Panel A: Dependent variables						
WCR	473	0.00	0.28	0.01	-1.83	0.84

	Observations	Mean	Standard Dev.	Median	Min	Max
Panel B: Independent variable						
ROA	473	-0.01	0.21	0.01	-4.11	0.50
Panel C: Moderating variables						
BSIZE	473	7.60	2.43	7.00	3.00	16.00
Panel D: Control variables						
G	473	0.29	3.98	0.05	-0.99	85.52
L	473	0.41	0.54	0.31	-1.51	4.97
AT	473	0.78	0.18	0.85	0.00	0.99
FS	473	21.93	1.89	22.05	17.55	25.60
GDP	473	5.67	4.19	7.24	-5.83	9.05

Scatter Plot Technique

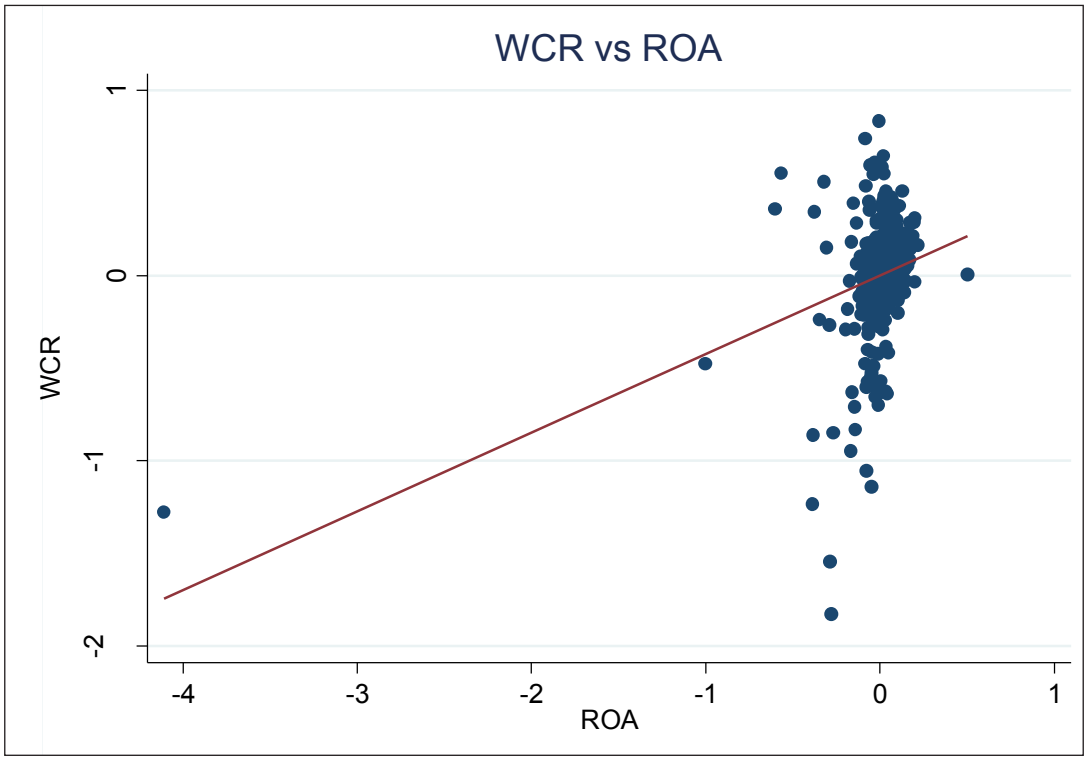

Fig. 2: Scatter Plot: WCR vs ROA

In Fig. 2, the scatter plot displays the relationship between WCR and ROA, with a fitted line that suggests a positive correlation: as ROA increases, WCR tends to rise. The plot reveals that the majority of observations cluster around a ROA value near zero, while there are several extreme outliers with significantly negative ROA values (reaching as low as 4), which could heavily influence the slope. These outliers might overstate the apparent strength of the positive relationship and potentially indicate unusual circumstances that merit further investigation. Additionally, there appears to be some spread in WCR values for higher ROA observations, hinting at possible heteroskedasticity. Overall, a deeper statistical analysis, such as correlation coefficients, would be beneficial to confirm and refine these preliminary observations.

Correlation Matrix and VIF Values

Table 3: Correlation Matrix and VIF Values

This table represents the correlation matrix and VIF values.									
Variables	**WCR**	**ROA**	**BSIZE**	**G**	**L**	**AT**	**FS**	**GDP**	**VIF**
WCR	1								
ROA	0.329***	1							1.01
BSIZE	0.043	0.106**	1						1.3
G	0.141***	0.016	-0.066	1					1.05
L	-0.606***	-0.047	-0.061	-0.029	1				1.22
AT	-0.637***	-0.02	0.110**	-0.199***	0.327***	1			1.19
FS	-0.138***	0.035	0.432***	-0.055	0.211***	0.106**	1		1.33
GDP	-0.027	-0.003	0.033	0.033	-0.011	0.066	-0.028	1	1.01
*** p<0.01, ** p<0.05, * p<0.1									

Table 3 displays the correlation matrix and VIF values for the study's variables, revealing several important interrelationships that inform our analysis of firm performance and working capital requirements. Notably, the WCR projects a significant positive correlation with ROA (0.329***), suggesting that firms with better performance metrics tend to maintain higher levels of working capital, possibly reflecting more robust operational activities. In contrast, WCR shares a significant, strong negative correlation with both L (-0.606***) and AT (-0.637***), implying that firms with higher debt levels or a larger proportion of tangible assets tend to require less working capital. BSIZE shows a modest, yet significant positive correlation with ROA (0.106**) and a robust relationship with FS (0.432***), indicating that larger boards may be associated with larger firms and potentially influence performance outcomes. Additionally, G is positively correlated with WCR (0.141***), and GDP exhibits minimal interrelation with other variables. The consistently low VIF values (ranging from 1.01 to 1.33) confirm the absence of multicollinearity, underscoring the reliability of regression coefficients.

Regression-Analyses

Table 4: Impact of ROA on WCR: Ordinary Least Squares Regression Results

This table reports the Ordinary Least Squares regression results for model 1 and model 2. The relationship between Working capital requirement (WCR) and Performance (ROA) with the moderating effect of Board Size (BSIZE) as well as other control variables is analysed from 2013-2022. The columns model 1 and model 2 present the results. The standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5% and 10% level, respectively.		
Variables	**Model 1**	**Model 2**
	WCR	**WCR**
ROA	0.380***	1.185***
	(0.03)	(0.17)
ROA*BSIZE	-	-0.149***
	-	(0.03)
BSIZE	0.00618*	0.00921***
	(0.00)	(0.00)
G	0.00194	0.00183
	(0.00)	(0.00)
L	-0.217***	-0.231***
	(0.02)	(0.01)
AT	-0.735***	-0.756***
	(0.04)	(0.04)
	(0.00)	(0.00)

Variables	Model 1	Model 2
	WCR	WCR
	(0.00)	(0.00)
Constant	0.710***	0.762***
	(0.09)	(0.09)
Observations	473	473
R-squared	0.676	0.691
Adjusted R^2	0.6707	0.6857

Table 4 shows the OLS regression results for the impact of ROA on WCR using data from 2013–2022, with board size as a moderator. In Model 1, ROA has a significant positive effect on WCR (coefficient = 0.380, $p < 0.01$), suggesting that better-performing firms invest more in operations, thereby increasing liquidity needs. In Model 2, which includes the ROA*BSIZE interaction, the ROA coefficient rises to 1.185 ($p < 0.01$) while the interaction term is significantly negative (–0.149, $p < 0.01$), indicating that a larger board moderates the positive effect of ROA on WCR through enhanced oversight and strategic decision-making. Additionally, board size is positively significant (0.00921, $p < 0.01$), implying that larger boards improve monitoring and resource management. Control variables L and AT consistently show negative and significant coefficients, suggesting that higher leverage or more tangible assets reduce reliance on working capital, while FS and GDP are not significant. Overall, these results underscore that although firm performance increases working capital demands, effective board governance can moderate this relationship, underscoring the importance of corporate governance in financial management.

Table 5: Impact of ROA on WCR: Fixed Effects Regression Results

This table reports the fixed effects regression results for model 1 and model 2. The relationship between Working capital requirement (WCR) and Performance (ROA) with the moderating effect of Board Size (BSIZE) as well as other control variables is analysed from 2013-2022. The columns model 1 and model 2 present the results after controlling for the year fixed effects to capture heterogeneity. The standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5% and 10% level, respectively.

Variables	Model 1	Model 2
	WCR	WCR
ROA	.252***	.648***
	(0.03)	(0.15)
ROA*BSIZE	-	-.074***
	-	(0.03)
BSIZE	0.00	0.00
	(0.00)	(0.00)
G	-0.003	-0.002
	(0.01)	(0.01)
L	-.2***	-.204***
	(0.02)	(0.02)
AT	-.884***	-.902***
	(0.06)	(0.06)
FS	.075***	.067***
	(0.02)	(0.02)
GDP	0.00	-0.01
	(0.03)	(0.03)
Controls (Year dummies)	Yes	Yes
Constant	-.838**	-0.62
	(0.38)	(0.38)
Observations	473	473
R-squared	0.57	0.579
Adjusted R^2	0.481	0.49
Hausman p-value	0.0135	0.008

Table 5 shows fixed effects regression results (2013–2022) that control for unobserved heterogeneity. In Model 1, ROA is significantly positive (0.252, $p < 0.01$), indicating that higher firm performance is linked to increased WCR. In Model 2, including the ROA*board size interaction, the ROA coefficient rises to 0.648 ($p < 0.01$) while the interaction term is significantly negative (-0.074, $p < 0.01$), suggesting that a larger board moderates the positive effect of ROA on WCR through improved oversight and capital management. Board size alone is not significant, implying its main influence is through moderation. Control variables L and AT have significant negative effects on WCR, while firm size shows a positive and significant impact, indicating that larger firms require more liquidity due to operational complexity. The significant Hausman test ($p < 0.05$) confirms the fixed effects model's appropriateness.

DISCUSSION

The analyses underscore a multifaceted relationship among working capital requirements (WCR), firm performance (ROA), board size, and various covariates in the Indian hospitality sector. Results from both OLS and fixed effects models reveal a robust, positive linkage between ROA and WCR. In other words, better-performing hospitality firms tend to allocate greater resources to short-term operational needs, consistent with evidence that profitable firms expand their current assets, such as inventory and receivables, to capitalize on growth opportunities (Shin & Choi, 2019; Bhatia & Srivastava, 2022). This relationship is further reinforced by the sector's reliance on maintaining service quality and addressing seasonal fluctuations (Gupta & Jain, 2021), and remains stable even when controlling for time-invariant factors (Rao & Jamil, 2017; Hussain & Shahid, 2021). Introducing board size as a moderating variable adds a nuanced and dynamic perspective to the whole structure. Although the direct effect of board size on WCR is not uniformly significant, its interaction with ROA is consistently negative and statistically significant. This suggests that larger boards temper the tendency of high-performing firms to overinvest in working capital. Such findings echo the arguments of Mishra and Mohanty (2020) and Reddy and Nangia (2022), indicating that more extensive governance structures offer stronger oversight and strategic guidance. From an agency theory perspective (Jensen & Meckling, 1976; reinterpreted by Wang et al., 2023), additional directors may reduce managerial discretion, while resource dependence theory (Pfeffer & Salancik, 1978; reinterpreted by Mishra & Mohanty, 2020) suggests that diverse board expertise promotes rigorous evaluations of working capital deployment ensuring that liquidity aligns with long-term objectives (Liao et al., 2022).

Further insights emerge from the roles of leverage (L) and asset tangibility (AT), which consistently show negative coefficients in nearly all specifications. Firms with higher debt ratios or a greater proportion of tangible assets typically operate with lower WCR, likely because tangible assets can be used as collateral to secure more favorable credit terms (Chen & Kim, 2022; Akgün & Karatas, 2020; Bhatia & Srivastava, 2022). Additionally, firm size (FS) becomes positively significant in fixed effects models, implying that larger hospitality firms with their complex operations and broader supply chains require higher levels of working capital (Sur & Bhattacharya, 2022; Singh & Bagga, 2021). Meanwhile, GDP exhibits limited direct significance, suggesting that firm-specific characteristics and governance structures may have a stronger influence on short-term liquidity decisions than broader economic cycles (Reddy & Nangia, 2022; Mehta & Sharma, 2023; Gupta & Jain, 2021). Overall, the results indicate that while high-performing firms tend to commit more resources to short-term operations, the significant negative interaction between ROA and board size shows that larger boards effectively moderate this relationship through enhanced oversight and strategic decision-making (Khan et al., 2021; Reddy & Nangia, 2022). In tandem with the inverse associations observed for leverage and asset tangibility with WCR (Chen & Kim, 2022; Akgün & Karatas, 2020), these findings underscore the importance of governance structures in shaping liquidity strategies. By tempering the inclination of high-performing firms to over-expand working capital, larger boards foster a more disciplined and measured approach to resource allocation a critical factor for the operational resilience and service excellence required in the hospitality sector (Gupta & Jain, 2021; Mehta & Sharma, 2023; Liao et al., 2022; Zhang & Li, 2023).

CONCLUSION

The study demonstrates that firm performance and board size are pivotal in shaping working capital requirements (WCR) in the Indian hospitality sector, based on 473 firm-year observations from 2013 to 2022. The analysis shows that higher performance, as measured by ROA, is linked to increased WCR, as high-performing firms invest more in short-term operational resources (Shin & Choi, 2019; Khan et al., 2021). However, board size plays a crucial moderating role: while stronger performance drives higher WCR, a larger board mitigates this effect by promoting disciplined liquidity management and strategic oversight (Liao et al., 2022; Reddy & Nangia, 2022). Moreover, covariates like leverage and asset tangibility exert robust negative influences on WCR, indicating that firms with higher debt or a greater proportion of tangible assets rely less on internal liquidity buffers

(Chen & Kim, 2022; Akgün & Karatas, 2020). Although firm size and GDP have more nuanced impacts, their inclusion underscores the multifaceted nature of liquidity management in an industry characterized by seasonal fluctuations and high fixed costs (Gupta & Jain, 2021; Mehta & Sharma, 2023). Collectively, these findings highlight the dynamic interplay between performance, governance, and financial management, and underscore the importance of robust board oversight in aligning working capital with long-term financial stability and operational efficiency. Our position outside the immediate sphere of investigation has allowed us to approach the Indian hospitality industry with analytical neutrality. This external perspective enabled us to draw meaningful comparisons with governance models across other regions, while also acknowledging the distinct regulatory frameworks and business characteristics specific to the Indian context. Our objective inquiry is driven by the recognition that India's economic growth and the hospitality sector's projected expansion present a compelling environment for governance-related research. By examining the relationship between board structures and working capital requirements, this study contributes to the expanding body of international literature that seeks to understand how governance mechanisms influence financial outcomes across diverse institutional landscapes.

Implications, Future Scope and Limitations

The study's findings indicate that hospitality managers should monitor working capital policies closely, especially in high-performing firms, to prevent inefficient resource allocation. A larger, more diverse board can enhance oversight and promote balanced liquidity management, ensuring that short-term investments align with long-term strategic goals (Shin & Choi, 2019; Khan et al., 2021; Liao et al., 2022; Reddy & Nangia, 2022). Future research should explore additional board composition factors (e.g., gender diversity, independence, expertise) and extend comparative studies across sectors or regions to test generalizability. Longitudinal analyses during economic volatility and the integration of ESG metrics could further elucidate how external shocks affect the ROA-WCR relationship (Gupta & Jain, 2021; Mehta & Sharma, 2023). The study is limited by its focus on the Indian hospitality sector, which may not apply to other industries or regions. Although fixed effects and OLS models address unobserved heterogeneity, factors like managerial style and corporate culture remain unobserved, and reliance on secondary data may introduce measurement errors. Future studies using primary data could provide more nuanced insights (Chen & Kim, 2022; Akgün & Karatas, 2020).

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