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Article

Unveiling the Nexus: Exploring the Impact of Corporate Governance on the Financial Performance of Acquiring Companies in the Indian Context

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Abstract: The study investigates the effect of corporate governance characteristics on the financial performance of 124 Indian-listed companies that have undergone mergers and acquisitions during 2014–2020. It employs several performance measures, such as short-term capital market performance, long-term capital market performance, accounting-based and market-based measures, and firm-level control factors. The study found board size to be a positive and significant factor affecting short-term market performance. Further, it also documents weak linkages with other corporate governance variables like board independence, CEO duality, etc. Regarding control variables, leverage, the company's age, price-to-book ratio, and research and development expenses significantly impact the acquiring companies' financial returns. The study's findings add to our understanding of corporate governance's impact on performance in cases such as mergers and acquisitions.

Keywords: Corporate governance; event study; firm performance; abnormal return; merger and acquisition

1. Introduction

Corporate merger and acquisition decisions play a critical role in the growth and financial development of businesses (Hitt et al., 1990). Mergers and acquisitions are successful if they lead to higher efficiency for the new entity or the acquiring firm (Kumar & Bansal, 2008). The increased efficiencies can be attributed to several important factors, including managerial skills, cost efficiency, financial resources, technology, better marketing skills, etc. (Buckley et al., 2022; Capron, 1999; Kang & Johansson, 2000; Rahman & Lambkin, 2015). The acquiring firm's corporate governance also plays an important role when a firm goes for merger and acquisition deals(Holmstrom & Kaplan, 2001). It has been discovered that board independence and CEO duality affect acquisition performance(Pham et al., 2015; Teti et al., 2017). Consistent with the majority of corporate governance literature, which suggests that independent directors aid businesses in making better judgments, more independent boards support businesses in pursuing value-adding acquisitions in M&A policies(Dutta & Kumar, 2009; Tarighi et al., 2023; Teti et al., 2017).

The presence of a CEO duality helps large boards with coordination and communication issues while simultaneously enhancing information flow and decision-making quality. When it comes to intricate strategic responsibilities like M&A, combining the two jobs might enhance the board's decision-making ability. Under stronger and more cohesive leadership, companies with sizable boards can gain from an expanded pool of directors and generate value through merger transactions (Alshabibi, 2021; Tampakoudis et al., 2022).

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The Agency theory is used in most research examining how board characteristics affect acquisition performance. Novel techniques utilizing alternative frameworks, like the Resource Dependency Theory, have been essential as it demonstrate that directors can affect value creation in M&As in ways other than monitoring (Redor, 2016).

Previous research has primarily focused on either mergers and acquisitions or corporate governance as distinct disciplines of study. Corporate governance and mergers and acquisitions (M&As) have been among the most important fields of finance research. Specifically, this study aims to determine the impact of CG variables on shareholder stock market performance and accounting returns while controlling for various firm characteristics when acquiring a company. Corporate governance parameters such as board size, board independence, and CEO duality were examined in the Indian scenario. The study examined the influence of corporate governance mechanisms present in bidder firms on the stock market performance of Indian companies. Most studies in this field concentrate on accounting and market-based measures. However, this study examines the impact of utilizing short-term market-based measures. The study calculates cumulative abnormal returns for different window periods to capture the effect of short-term market performance and BHAR for one year and two years after the event to capture long-term market performance for acquiring companies. As dependent variables, accounting-based methodologies, such as the return on assets and the return on equity, have favored much of the research into the relationship between corporate governance and performance in industrialized countries. The results of numerous studies on the performance of acquiring companies about corporate governance elements have mixed results. Limited research on market-based performance has been undertaken in India. As a result, to make a significant conclusion, it is necessary to evaluate the performance of acquiring the company using several methodologies.

The rest of this paper is structured as follows. Section 2 summarises earlier research, while Section 3 discusses the empirical model and data collection methodology. We discuss the results of the study in section 4. Finally, section 5 provides conclusions, implications, and limitations.

2. Literature Review

This section studies previous studies linking corporate governance mechanisms and mergers and acquisition performance. We review the empirical studies based on corporate governance mechanism that influences mergers and acquisition performance and present the summary in Table 1.

Table 1. Overview of studies on the linkage between corporate governance and merger and acquisition.

Authors	Research Questions	Period	Sample	Market	Method	Findings
Afza & Nazir (2012)	Relationship between corporate governance and firm performance	1996-2008	36	Pakistan	OLS regression	Board size and CEO separation have a negative relationship. However, board independence has a favorable relationship with business performance.

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Authors	Research Questions	Period	Sample	Market	Method	Findings
Alexandridis et al. (2017)	The author examines the impacts of the board structure and acquirer performance.	1996-2007	925	UK	OLS regression	linkage between acquiring firm performance and the director's representation by an outside firm.
Amar & Francoeur (2011)	The author examined the acquiring companies' CEO attributes, board composition, and governance characteristics.	1998-2002	273	Canada	OLS regression	the size of the board has a negative impact on short-term performance.
Awan et al. (2020)	The study has analyzed the role of corporate governance in acquiring firm	2004-2017	Acquiring/Non-Acquiring firm	Pakistan	Logit Regression	CEO duality is an essential element in the acquiring firm.
Brewer et al., (2010)	The author examines the relationship between mergers and corporate governance of bank mergers.	1990-2004	558	US	Short-Event study	independent directors have essential corporate governance issues in mergers and acquisitions.
Cheng et al. (2008)	The study examined the association board size in the context of market control	1984-351	350	US	OLS regression	The size of the board of directors has a negative correlation with corporate performance.
(Dahya et al., 2016)	The author investigates if the participation of outside directors has any effect on the company's returns.	1989-2007	2292	UK	Cross-section regression	Linkage between the acquiring company's performance and outside representation on the board of directors.
De Jong et al. (2007)	The author examines how a firm's governance structure alters	1993-2004	865 (acquisitions)	Dutch	OLS regression	good corporate governance framework has a minimal impact on acquisition.

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Authors	Research Questions	Period	Sample	Market	Method	Findings
	shareholders' wealth.					
Desai et al. (2003)	The author investigates the association between CEO duality and acquisition performance empirically.	1980-1990	149	US	OLS regression	CEO duality negatively influences the firms' performance
Funchal & Pinto (2020)	The importance of corporate governance in analyzing corporate events such as mergers and acquisitions was examined in this study.	2004-2014	68	Brazil	BHAR Methodology and OLS regression	Organizations that engage in M&A have better governance and perform better.
Golubov et al. (2015)	The author has examined the effect of the attribute of board management, firm-specific and deal-specific factors impact acquirer returns.	1990-2011	12491	US	OLS regression	Firm-specific factors influence the returns of the acquiring firms
Jiangna and Libin (2012)	The author investigates the link between M&A performance and corporate governance in the long run.	2006	84	China	OLS regression	Board Independence has no significant relationship with acquisition performance.
Masulis et al (2007)	The author examines how the corporate governance mechanism affects the firm's performance.	1990-2003	3333	US	OLS regression	The relationship between board independence and acquiring firm performance is negligible.
Miletkov et al. (2015)	This research aims to see how board structure affects non-US acquirer returns.	2001-2011	11499	NON-US Firms (60)	Two-stage least squares regressions	Board independence leads to greater acquirer returns

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Authors	Research Questions	Period	Sample	Market	Method	Findings
						in non-US enterprises.
Pham & Pech (2015)	The relationship between a firm's CEO duality structure and performance was investigated in this study.	2004-2013	188	Vietnam	OLS regression	The company's M&A performance is boosted by its CEO duality.
Shekhar & Torbey (2005)	The author has looked at the relationship between firm value, ownership structure, and corporate governance	1994-2001	118	Australia	Logistic regression	The firm's governance structure - board independence, block holder presence, and ownership - does not affect the diversification decision.
Tampakoudis, Ioannis, et al (2018)	The author examines the effects of CG mechanisms such as board size, voting rights, and antitakeover provisions on acquirer gain.	2003-2017	349	Europe	OLS regression	The CG measures significantly affect the acquirer's gains.
Teti, Emanuele et al (2017)	The author investigates whether corporate governance structures impact mergers and acquisitions performance.	2009-2013	1596	US	OLS regression	The board independence, CEO duality, and the amount of fixed compensation paid to CEOs impact acquisition returns.
Walid and Paul (2006)	The author explored various ownership issues and acquiring firm performance.	1998-2002	327	Canada	OLS regression	the governance mechanisms that are small board size also positively impact the acquiring firm performance.
Winson and David (2011)	The author investigates the	1999-2005	80	Australia	Short-Event study and	The firm corporate

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Authors	Research Questions	Period	Sample	Market	Method	Findings
	relationship between acquirer returns and the acquiring firm's governance characteristics.				Long event study methodology	governance has minimal impact on the firms' performance
Yang and Yongging (2013)	The author investigates the impact of board size on company performance.	2008-2009	36	China	OLS regression	CEO duality impacted the long-term capital market performance
Young-Ryeol and Philsoo (2012)	The author investigates the impact of ownership control and corporate board factors on cross-border acquisition performance.	2007-2012	291	India	OLS regression	Linkage between family ownership and cross-border purchasing.

While earlier research has explored the impact of corporate governance factors on acquiring firms performance using alternate proxies of performance and governance across diverse sectors and countries (Alexandridis et al, 2017; Awan et al. , 2020; Pham & Pech , 2015 ; Golubov et al. ,2015 ; Teti, Emanuele et al, 2017; Kumar Soni, 2023; Singh & Soni, 2022). Relationship with several factors including Board Size (Amar & Francoeur , 2011; Arora & Soni, 2023) , CEO separation (Desai et al. , 2003; Awan et al. , 2020, Pham & Pech , 2015 ; Teti, Emanuele et al , 2017, directors representation (Alexandridis et al , 2017 , Shekhar & Torbey , 2005), board independence (Brewer et al., 2010; Dahya et al., 2016); Jiangna and Libin , 2012 ;Golubov et al. , 2015 ; Masulis et al , 2007; Miletkov et al. , 2015), board size (Cheng et al , 2008; Shekhar & Torbey , 2005 ; Teti, Emanuele et al , 2017;Soni & Arora, 2021) , CEO compensation (Lang et al., 2022) affects the acquiring firms performance has been confirmed. However, the literature on the role of corporate governance in influencing acquiring firms' future has yet to be studied extensively in transition economies.

In light of this, the study examines the linkage between corporate governance and firm performance of 124 acquiring companies spanning 2014 to 2020. It employs both market and accounting-based indicators after controlling for several firm-specific characteristics to investigate the different "internal corporate governance" effects on the performance of acquiring firms.

3. Methodology

The sample data of acquiring firms have been collected from Prowess, a database developed by the Centre for Monitoring Indian Economy (CMIE). The event date has taken as the first public announcement date collected from Prowess. The data relating to the adjusted closing price of the sample acquiring companies and the index-adjusted closing price has been taken from Prowess. BSE Sensex closing price has been used as a proxy for computing market return obtained from Prowess. Further, the financial accounting data required for the study was taken from Prowess. The company's annual report has been used to collect data relating

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to corporate governance variables. Table 2 indicates 124 mergers and acquisitions announcements cases have been considered samples in the present study. We have evaluated a total sample of 124 firms over seven years. The final sample size of 124 listed firms across various industries has been considered for 2014-2020.

Table 2. Industry-wise Distribution of Sample Firms.

Industry-wise Distribution of Firms	Number of Firms	Number of Firms (In percentage)
Manufacturing		
Food and Agro-Based product	7	0.06
Textiles	8	0.06
Chemicals and Chemical products	26	0.21
Consumer Goods	4	0.03
Construction Material	6	0.05
Metals and metal products	11	0.09
Machinery	13	0.10
Transport Equipment	7	0.06
Misc. Manufacturing	2	0.02
Service	33	0.27
Financial Service	7	0.06
Whole Total	124	100

Source: Authors own compilation.

3.1. Description of Various Performance Measures Used in the Study

The study has used different performance measures such as short-term capital market-based measures, long-term capital market-based measures, accounting-based measures, and market-based measures. The various performance measure used in the study has been described below.

Cumulative Abnormal Return (CAR)

The short-term performance of acquiring companies has been analyzed around the announcement period by taking the different window periods. The study has used two window periods, such as [-2, +2], [-5, +5] of cumulative abnormal return, to investigate the effect of corporate governance characteristics on selected companies. The study has employed event study methods to assess short-term capital market performance. Event analysis allows you to predict how asset prices, such as stock prices, react to economic event announcements that include new information that affects the value of the underlying assets. According to financial theory, all further information is promptly reflected in asset prices in an efficient capital market. Assuming that the market is efficient and that no other events occurred on a given day, the change in the price of an asset is attributable to the reaction of a specific occurrence, which can be called the price effect of that event. The difference between the realized return and the predicted return in the absence of the event is the firm's abnormal return. The use of abnormal returns to assess the impact of an event is critical since it separates the event's influence from the general market movement. The selection of an appropriate model is an essential aspect of the event investigation. According to Brown and Warner (1985), the market model is the standard model for estimating returns after an announcement and produces good results. The study has used the market model to calculate abnormal returns of the acquiring companies.

The event date is when information concerning the mergers and acquisitions became publicly available for the first time.

Event Window: The period considered to capture the complete short-term consequences of the occurrences is known as the event window. We assess abnormal returns over a 41-day

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window period surrounding the announcement of the merger. To analyze the abnormal returns for the sample companies, we calculate the abnormal returns 20 days before the information announcements and 20 days after the announcement. The 41-day interval was chosen to reduce the impact of abnormal returns on the estimating period while increasing the likelihood of accurately capturing short-term market performance.

Benchmark: The discrepancy between the realized return and the benchmark or normal return is abnormal. The normal return can be calculated using a variety of models. We used the market model to attribute two components of stock returns: systematic risk, which is represented by a linear relationship between stock returns and market returns as assessed by the beta coefficient, and abnormal risk, described by the error term.

Estimation Window: The period the benchmark is calculated varies between investigations. The model's parameters are estimated across a time interval of (-121, -20) in these studies. To evaluate the parameters of our benchmark model, we used the 121-day stock price from 20 days before the announcement day. The daily stock returns are calculated as follows.

$r_{i,t} = In(P_{i,t}) - In(P_{i,t-1})$ 1

$AR_{i,t=}\ R_{i,t-}\ E\ (R_{i,t})$ 2

$AR_{i,t=}$ is the abnormal return of the firm, $R_{i,}$ is the actual return of the firm, and $E\ (R_{i,t})$ is the expected return in the absence of the event. α and β coefficients are calculated using a market index using ordinary least square regression (OLS) over a window period of (-121, -20).

Then, the cumulative abnormal return is calculated as follows:

$$CAR_{i,T1,T2} = \sum_{t=T1}^{T2} AR_{i,t} \quad 3$$

The study calculates cumulative abnormal returns over a given window period. It is used as a short-term market performance indicator to evaluate the effect of corporate governance features on selected companies.

Buy-and-hold-abnormal-return (BHAR)

Buy-and-hold-abnormal-return (BHAR) is the most common method for analyzing long-term market performance. The study uses the BHAR technique to examine Indian bidders' long-term performance in corporate governance and firm-specific qualities. According to Lyon et al. (1999), the BHAR approach is one of the most extensively utilized and is the ideal way because it "particularly measures investor experience." The long-term abnormal return (BHAR) has been calculated by taking the difference between the buy-and-hold return in the acquiring firm with an appropriate expected return. The expected return is calculated with the benchmark, i.e., by using the market index return

$$BHAR_{i(T_1\ T_2)} = \prod(1 + R_{i,t)} - \prod(1 + R_{benchmark}, t) \quad 4$$

The expected return is calculated with the benchmark, i.e., by using market index return. Buy and hold abnormal return is determined for 12 months, 24 months following the mergers and acquisitions announcement for acquiring companies.

Measures of Accounting Performance Measure

Return on Assets (ROA)

ROA is used in the study as an accounting-based measure of a company's performance. Divide earnings before interest and taxes non-recurring transactions by total assets to determine the return on assets. The return on assets represents how well the company's assets have been capitalized to generate shareholder value for the acquiring firms. Several academics, for example, Bansal & Sharma (2013), Mishra & Kapil (2018), and Boussaada & Karmani (2015), have utilized ROA as a reliable performance indicator in their research.

Return on Equity (ROE)

Another way to evaluate a company's performance is to look at its return on equity. The return on equity (ROE) is a critical metric that shows how well a company has managed its

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owners' resources. This ratio represents the degree to which the goal of maximizing shareholder wealth has been met. A high return on equity (ROE) for the acquiring firm implies that the company's management is effective and works to minimize agency conflict while considering the interests of the shareholders. Several academics, for example, Haldar et al., 2018; Syriopoulos & Tsatsaronis, 2012 have utilized ROE as a reliable performance indicator in their research. This study estimated ROE by dividing net worth.

Market-Based Measures

Tobin's Q Ratio:

The Tobin's Q ratio measures an acquiring firm's growth potential and internal governance quality. Servaes (1991) and Lang (1993) suggested that higher valuation yields higher abnormal returns when a merger is announced (1989). Tobin's Q ratio has been used as a proxy for the quality of management. A ratio greater than one specifies that the financial market favorably perceives firms' investment decisions. It has been argued by scholars that to capture the effect of managerial action on performance, Tobin's Q is a superior measure. Several academics, for example, Golubov et al. (2015), Cheng et al. (2008), Das & Dey (2016) have utilized as a reliable performance indicator in their research. The study has defined Tobin's Q ratio as the ratio between the market value of equity divided by total assets.

Stock Return:

It is a measure of a manager's effectiveness. The stock return of the purchasing corporation has been used to assess managerial performance. Companies with high financial performance are a good signal for investors (Kurniati, 2019). The favorable stock return would boost management's confidence in pursuing mergers and acquisitions. Before the announcement year, we calculated the stock return and averaged it over the previous three years.

Governance Characteristics:

An attempt has been made to determine the impact of governance elements, such as board size, the number of independent directors, and CEO duality, on the performance of acquiring firms, using a variety of accounting-based returns, as well as market-based returns. The detailed description of variables is described below:

Board size –The board size is calculated by the number of directors on the board. It is expected that the small board size has a positive correlation with acquiring firm performance. As the board expands in size, one would anticipate the board's aggregate expertise and talents to grow as well. Larger panels are more likely to boost cognitive diversity, which leads to increased decision-making creativity and the appearance of new options for the firm's development (Shapiro et al., 2015). Larger boards have a broader aggregate body of knowledge and information, including product marketplaces, technology, and legislation (Defrancq et al., 2021). Larger panels may thus be better positioned to provide management with more qualitative strategic advice, potentially leading to better M&A decisions.

Board independence- Board independence characterizes the percentage of independent directors on the board size. Board independence is calculated by the ratio of an independent director to the overall board size. It is expected that board independence has a positive correlation with acquiring firm performance. In the case of M&A, studies on the impact of independent boards on value generation are often mixed (Chi et al., 2011). Outside directors are believed to be more observant of CEO decisions than insiders. As a result, boards with a high percentage of independents are considered more cautious when voting on acquisitions, resulting in improved M&A success (Emanuele Teti et al., 2017). Independent directors on the board of directors, according to previous studies, play a vital role in reviewing managers' decision-making processes (Fama & Jensen, 1983). For a long time, agency theorists have maintained that good corporate governance necessitates more outsiders on the board of directors. The fundamental notion is that independent outsiders are better equipped to defend and promote shareholders' interests.

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CEO duality- The CEO duality is a dummy variable that values "1" if the board chairman is the same person as the CEO or managing director or otherwise "0". It is expected that CEO duality has a negative correlation with acquiring firm performance. When it comes to M&A deals, CEOs who are also chairmen of the board of directors are supposed to have more freedom to pursue their interests. In the governance literature, duality, or a situation in which a single person serves as CEO and Board chair, has been linked to poor governance. In a short-run market-based assessment, Masulis, Wang, and Xie (2007) found a negative link between dualism and acquisition performance.

Control variables

The acquiring firm performance is influenced by some of the characteristics of the acquiring firm said to control variable. The control variables used in the study include firm size, risk of the acquiring firm, age and leverage of the firm and volatility of the firm, sales growth, PB ratio, research and development expenses, and cash reserve.

Firm size- Prior studies state that acquiring firm performance can be influenced by the firm's size. According to Moeller et al. (2004), small size leads to better performance as they pay less than large firms. Large-sized firms experienced negative abnormal returns because of the hubris hypothesis stated by Moeller et al. (2005). In line with the previous studies, the present study measured the size as the logarithm of the acquiring firm total assets before the merger announcement.

Leverage- Masulis et al. (2007) stated that a higher level of debt leads to better market performance. Thus, it is expected to have a positive correlation between the acquiring firm and higher leverage. Leverage is calculated by dividing the total liabilities by the total assets of the acquiring firm before the merger announcement year.

The standard deviation of return- Risk is related to future events, as mergers and acquisitions influence the firms to risk in the long run. The study has taken a standard deviation of stock return as a measure of risk. It is calculated as firm volatility in terms of the standard deviation of the stock returns before the acquiring firm's 12 months of the merger announcement.

Age - Because of its increased expertise and capabilities, the firm's period is crucial in decision-making. As a result, the company can make investment decisions and compete effectively with other companies. Older companies gain from the impact of the learning curve on critical strategic choices such as acquisition(Awan et al., 2020).

Beta - Different studies have sought to evaluate the relationship between systematic risk and corporate profitability on the assumption that 'the larger the risk, the higher the return.' The results have been mixed. The beta of the stock, which is a stock market metric, has been included as a company-specific risk indicator.

Sales Growth: The growth potentiality may inspire firms to be optimistic about the future and overpay for the target, resulting in fewer gains for the bidding firm. The average annual compounded growth rate in sales for the three years before the acquisition of each firm is used to determine sales growth.

PB ratio: It's been suggested that companies with a high price-to-book value ratio, dubbed "glamour firms," are more likely to overestimate their acquisition management abilities. It has been suggested that a higher price-to-book value ratio will negatively influence the acquiring firm's return. As proposed by Roll, Hubris's hypotheses will have an impact on them (1986). As a proxy for growth companies, we used the price-to-book value ratio.

Cash Reserve: According to earlier studies, cash flow may lead to agency problems in a firm. Compared to non-cash corporations, it is projected that cash-rich companies will undertake more acquisitions. The cash reserve is calculated by dividing cash and cash equivalent items by total assets in the year before the merger and acquisition announcement.

Research and Development Expenses: Research and development costs increase the bidding firm's charges, whereas acquiring firms are motivated to develop new technology and

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innovative enterprises to grow. Research and development costs are calculated as a proportion of revenues before the announcement year.

Table 3. Description of variables used in the study.

Variables	Measurement	Expected Sign
	Board Structure Variable	
Board size	The number of directors on the board before the merger announcement year	Negative
Board Independence	The ratio of independent directors on the board before the merger announcement	Positive
CEO duality	The dummy variable if the CEO is chairman "1", otherwise "0" before the merger announcement year	Negative
	Control Variables	
Size	Total assets of the acquiring firm by taking natural log before the one-year announcement, a proxy for acquiring companies' size	Negative
Age	Age of the acquiring firm at the time of the merger announcement	Positive
SD return	The volatility of stock return of the last year before the merger announcement	Negative
Leverage	Debt-equity ratio average past one year before the announcement year	Positive
Beta	The beta of the acquiring company stock at the time of the merger announcement	Negative
Sales Growth	Indicator of average growth in sales before the announcement of the merger averaged over the past three years before the announcement year	Positive
R&D	Research and development as a percentage of sales before the one-year merger announcement	Positive
PB ratio	Dummy for growth If PB ratio is more than one the value is taken as '1' or otherwise '0' before the one-year merger and acquisition announcement	Positive
Cash reserve	Cash and cash equivalent divided by total assets before the merger announcement.	Positive
	Dependent Variable	
CAR[-5,+5]	An indicator of cumulative abnormal return for the window period [-5,+5]	NA
CAR[-2,+2]	An indicator of cumulative abnormal return for the window period [-2,+2]	NA
BHAR[0,+12]	An indicator of long-term abnormal return for 12 months after the announcement	NA
BHAR[0,+24]	An indicator of long-term abnormal return for 24 months after the announcement.	NA
Tobin's Q ratio	The market value of equity is divided by total assets before the merger announcement.	NA

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ROA	An Indicator of profitability measure calculated EBIT divided by the total assets of the acquiring firm.	NA
ROE	EBIT divided by the total net worth of the acquiring company before the announcement year	NA
Stock Return	Stock return is the average of an individual year's stock return over three years before the announcement year	NA

To address the impact of corporate governance characteristics on various measures of financial returns of acquiring companies, eight econometric models have been developed. The corporate governance characteristics, along with various firm-specific factors, are considered in the study and are explained using equation 5-13.

Model 1

$$CAR_{[-5,+5]} = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (5)$$

Model 2

$$CAR_{[-2,+2]} = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (6)$$

Model 3

$$BHAR_{[0,+12]} = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (7)$$

Model 4

$$BHAR_{[0,+24]} = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (8)$$

Model 5

$$\text{ROA} = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (9)$$

Model 6

$$ROE = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (10)$$

Model 7

$$Tobin, s\ Q\ ratio = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (11)$$

Model 8

$$stock\ return = \alpha + \beta_1 \text{ Board size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ CEO Duality} + \beta_4 \text{ SD of returns} + \beta_5 \text{ Firm size} + \beta_6 \text{ firm age} + \beta_7 \text{ beta} + +\beta_8 \text{ leverage} + \beta_9 \text{ price to book value ratio} + \beta_{10} \text{ R\&D} + \beta_{11} \text{ sales growth} + \beta_{12} \text{ Cash reserve} + \epsilon \quad (12)$$

4. Results

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This section discusses the descriptive summaries, correlation results, and regression results to analyze the effect of selected corporate governance variables and control variables on various performance measures.

Table 4 reports the descriptive statistics for all 124 listed acquiring firms from 2014-2020. The first set of variables CAR [5+,5], CAR [2+,2] are related to short-term market performance measure; the minimum abnormal returns for the window period CAR [5+,5] is -.59, which is a negative return of 59 percent and maximum returns for the window period is 39.4 percent. The average abnormal return for CAR [5+,5] is -.014, generating a negative abnormal return to the shareholder. The second window period selected for the study is [2+,2], having a maximum value of 0.310, and the average return is around 0.008. The BHAR [0, +12] [0, +24], is used to measure long-term market performance. The average return of the BHAR [0, +12] is -0.003, and BHAR [0, +24] for the window period is 0.007. The sample firm's average ROA ratio is 3.15 and 18. 2 percent for ROE. The mean of Tobin's Q ratio is around 2.573. The average board size is around nine directors, with a maximum board size of 19 and a minimum of 1, roughly in line with the size of directors for Indian acquiring firms.

Table 4. Summary Statistics.

Variable	N	Mean	SD	Minimum	Maximum
CAR [-5+5]	124	-0.014	0.130	-0.59	0.394
CAR [-2+2]	124	-0.008	0.092	-0.385	0.310
BHAR [0, +12]	124	-0.003	0.070	-0.259	0.311
BHAR [0, +24]	124	0.007	0.186	-0.391	1.020
ROA	124	3.150	21.217	-166.67	45.610
ROE	124	0.182	0.210	-0.910	0.800
Tobin's Q ratio	124	2.573	3.138	0.00	19.51
Board Size	124	9.008	3.051	1.00	19.00
Board independence	124	0.513	0.155	0.00	0.800
CEO Duality	124	0.419	0.542	0.000	3.000
Firm size	124	8.653	2.062	-0.223	13.829
Firm age	124	21.234	26.179	0.000	146.000
BETA	124	0.690	0.530	0.000	1.690
Leverage	124	0.863	1.007	0.000	5.380
SDRET	124	0.164	0.077	0.036	0.398
PB	124	2.310	2.471	-4.070	13.430
RD	124	0.009	0.044	0.000	0.460
Sales growth	124	35.686	143.318	-45.360	1562.940
Cash reserve	124	0.077	0.122	0.000	0.947

Source: Author's own compilation

Further, according to the Indian Companies Act of 2013, one-third or more of the board's directors must be independent. The average mean of the proportion of independent directors on the board is around 51.3%. The CEO duality is a binary variable that measures the CEO duality used in the study. The values of the control variables used in the study for selected acquiring firms from 2014 to 2020 are also reported in Table 4. The size of firms is identified by the natural log of the value of the firm's total assets. The average firm's size is 8.653.

Furthermore, leverage is the ratio of total debt to equity, with an average of 8.63 percent. The maximum leverage value is 5.38 percent, with acquiring firms accounting for most of the high leverage. The maximum age of the acquiring firms is 146 years, showing the existence of public firms in the study. The average beta of the acquiring firms in the study is 0.69, with a maximum beta of 1.69. The standard deviation of return used to capture the volatility of the

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study was found to be, on average, 16.4 percent. The price-to-book value ratio, used as an indicator for growth firms, was an average of 2.3 for Indian acquiring firms. The average research and development expenses were 0.009 for Indian acquiring firms. The sales growth for the selected acquiring firms, on average, was found to be 35.68 percent. The cash and cash equivalent to total assets was 7.77 percent for the acquiring firms.

Table 5 reports the correlation table of various performance measures and firm-specific factors. The board size is significantly correlated with CAR [-2+,2], BHAR [0+,12], BHAR [0+,24], and Tobin's Q ratio. Board independence has also been negatively correlated witHAR [0+,24], the ROE of the acquiring firms. Firm age significantly relates to the acquiring firms' BHAR [0, +12]. Beta is statistically insignificant with CAR [-5+,5], CAR [-2+,2], and BHAR [0+,12] performance measures. Leverage is correlated and significant with market performance measures, that is, Tobin's Q ratio. The market performance measures BHAR [0, +12], and Tobin's Q ratio is inverse and statistically significant with a standard deviation of stock returns. The price-to-book ratio is correlated with ROA, ROE, and Tobin's Q ratio. Research and development have also been found positive and statistically significant with ROA. Sales growth significantly correlates with CAR [-5+,5] and CAR [-2+,2].

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Table 5. Correlation table for the selected variable in the study.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) CAR [-5+5]	1.000																		
(2) CAR [-2, +2]	0.738*	1.000																	
(3) BHAR [0, +12]	0.658*	0.882*	1.000																
(4) BHAR [0, +12]	-0.050	-0.014	0.013	1.000															
(5) ROA	-0.010	-0.040	-0.063	-0.037	1.000														
(6) ROE	-0.080	-0.097	-0.082	-0.036	0.265*	1.000													
(7) Tobin's Q	0.109	-0.077	-0.035	0.258*	0.190*	0.158	1.000												
(8) Board Size	0.224*	0.199*	0.232*	0.147	0.290*	0.176	0.158	1.000											
(9) BIND	0.022	0.094	0.157	-0.036	0.113	-0.074	0.040	-0.061	1.000										
(10) CEO Duality	0.086	0.033	0.004	-0.050	0.168	0.108	-0.044	0.126	0.059	1.000									
(11) FIRM SIZE	0.121	0.135	0.132	0.070	0.329*	0.045	0.103	0.544*	-0.011	0.127	1.000								
(12) Firm age	0.146	0.165	0.188*	0.007	0.038	0.106	0.174	0.185*	-0.088	0.041	0.178*	1.000							
(13) BETA	0.183*	0.252*	0.280*	0.035	0.130	-0.004	-0.046	0.225*	0.143	0.027	0.544*	0.150	1.000						
(14) Leverage	-0.008	0.047	0.116	-0.142	-0.029	-0.104	-0.199*	0.115	0.091	-0.155	0.118	0.089	0.165	1.000					
(15) SDRET	-0.038	0.058	-0.003	-0.189*	-0.120	-0.060	-0.247*	-0.231*	-0.047	-0.084	-0.259*	-0.162	0.037	0.127	1.000				
(16) PB	-0.071	-0.132	-0.138	0.089	0.339*	0.312*	0.663*	0.165	-0.073	0.042	0.197*	0.128	0.029	-0.147	-0.125	1.000			
(17) RD	-0.082	-0.132	-0.164	0.001	0.211*	0.016	0.087	-0.086	0.041	0.139	-0.151	-0.064	-0.092	-0.101	-0.062	0.131	1.000		
(18) Sales growth	-0.322*	-0.262*	-0.173	-0.002	0.024	0.051	-0.019	-0.014	-0.068	-0.071	-0.130	-0.084	-0.124	0.086	0.138	0.105	-0.018	1.000	
(19) Cash reserve	0.044	0.056	-0.006	-0.086	0.017	0.097	0.057	0.044	-0.066	-0.104	-0.003	-0.036	-0.123	-0.088	0.017	0.099	-0.001	-0.043	1.000

*** p<0.01, ** p<0.05, * p<0.1

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4. Discussion

This section presents the results of multivariate cross-sectional regression analysis to investigate the impact of corporate governance factors and firm-specific factors that influence short-term and long-term market performance. Model 1 in Table 6 shows the effect of corporate governance measured on cumulative abnormal return CAR [-5, +5] window period. Board size has a significant and positive impact on the abnormal returns of the acquiring firms. Other corporate governance variables like board independence and CEO duality seem insignificant when measured by the CAR [-5, +5] window period. For the control variables, research and development expenses to total sales are negative and statistically significant to acquiring firms' performance with the announcement period measured by CAR [-5, +5]. The possible explanation of board size having a positive impact on the acquiring firm's performance can be linked to the effective monitoring and decision-making skills of diversified and larger boards. Firms will benefit from the increased experience, ideas, proposals, and assistance from a larger board of directors, providing them with essential resources and substantial investment opportunities. This increases the performance of businesses and benefits shareholders.

Model 2 in Table 6 shows the analysis of corporate governance measured on cumulative abnormal return, which measures short-term capital market performance with CAR [-2, +2] window period. In line with the results of Model 1, board size had a significant and positive effect on the abnormal returns of the acquiring firms. Further, board independence and CEO duality were insignificant predictors when the CAR [-2, +2] performance period was considered. For the control variable, R & D expenditure, leverage, and the price-to-book value ratio negatively influence the acquiring firm's performance in the short-run window period.

Model 3 in Table 6 shows the relationship between BHAR as a measure of long-term capital market performance with BHAR [0, +12] window period and corporate governance variables. The study found board size to have a significant and positive effect on long-run abnormal returns of the acquiring firms. However, board independence and CEO duality were insignificant factors while studying the relationship with BHAR one year after the event. For the control variable, the price-to-book value ratio influences the acquiring firm negatively. The relationship between research and development expenses and long-term profitability seems negative and significant when measured through the period of the BHAR [0, +12].

Model 4 in Table 5 results report the relationship between corporate governance and firm performance measured through BHAR [0, +24], which measures long-term capital market performance. All three corporate governance factors, i.e., board size, board independence, and CEO duality, were insignificant. In the case of control variables, the firm's leverage and SD of returns were negative and statistically significant.

Table 6. Linkage between Firm Performance and Corporate Governance (Equation 5-8).

Variables	*Model 1*	*Model 2*	*Model 3*	*Model 4*
Board Size	0.011**	0.007*	0.006**	0.010
Board Independence	0.002	0.048	0.061	-0.034
CEO Duality	0.014	0.003	-0.001	-0.038
SD of returns	0.046	0.136	-0.006	-0.391*
Firm Size	-0.010	-0.005	0.000	-0.006
Firm Age	0.000	0.000	0.033**	0.000
Beta	0.04	0.036*	0.001	0.022
Leverage	-0.005*	-0.003*	-0.022*	-0.029*
Price-to-book value ratio	-0.004	-0.005*	-0.004*	0.004
R&D	-0.207*	-0.191***	-0.197***	-0.03

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Sales growth	0.000**	0.000***	0.000***	0.000
Cash reserve	0.055	0.061	0.02	-0.177*
Constant	-0.060	-0.094*	-0.062	0.086
R-squared	0.195	0.211	0.220	0.095
F-test	16.247	11.889	11.503	1.849

Source: Author's own Compilations

Model 5 in Table 7 presents the results of the relationship between a firm's corporate governance and ROA, a measure of accounting-based performance. Board size, board independence, and CEO duality were not statistically significant and, therefore, had no impact on acquiring firm performance. The price-to-book value ratio is positive and significant (2.082) influences the firm's performance.

Similarly, Model 6 in Table 7 reports the relationship between corporate governance and ROE, also used to measure accounting-based performance. In line with previous results, the board size, board independence, and CEO duality were statistically insignificant and, therefore, had no impact on acquiring firm performance. The price-to-book value ratio is positive and significant (0.024) and influences firm performance while using ROE measurement as performance.

Model 7 examines the effect of corporate governance and Tobin's Q ratio, which is used to measure market-based performance. Board size is discovered to be positive and significant with a coefficient value (0.095) with firm performance. The board independence also has a positive coefficient of 2.309 and statistically significant performance. Leverage is negatively related to performance. The price-to-book value ratio was positive and significant, with firm performance measured through the Tobins- Q.

Model 8 presents the results of the effect of corporate governance measured on stock return. Board size, board independence, and CEO duality had no impact on performance measured through stock return. The firm size was negative and significant, with a coefficient of -0.2310 on stock return performance measurement. The Research and development expenses have also been found to have a positive and significant effect on the stock return of the acquiring firm.

Table 7. Linkage between Firm Performance and Corporate Governance (Equation 9-12).

Variable	Model 5	Model 6	Model 7	Model 8
Board Size	1.008	0.012	0.095*	-0.018
Board Independence	19.307	-0.051	2.309*	1.508
CEO Duality	2.778	0.038	-0.687	-0.129
SD of returns	9.879	-0.025	-5.124**	2.269
Firm Size	2.861	-0.015	-0.104	-0.231*
Firm Age	-0.022	0.000	0.011**	0.005
Beta	-2.099	0.017	-0.387	0.388
Leverage	-0.441	-0.012	-0.358**	-0.156
Price-to-book value ratio	2.082**	0.024***	0.817**	-0.065

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R&D	103.741***	-0.186	-0.612	3.975**
Sales growth	0.006	0.000	-0.002*	-0.002**
Cash reserve	-0.578	0.125	-0.803	-0.688
Constant	-47.05*	0.143	1.131	2.354*
R-squared	0.278	0.146	0.516	0.147
F-test	3.73	3.042	16.267	3.631

Source: Author's own Compilations

5. Conclusions

The present study has empirically examined the effect of corporate governance characteristics on the acquiring companies' financial performance with a sample of 124 companies in the Indian context. The study has used various alternate proxies of firm performance, such as accounting-based measures and market-based measures, to analyze the various important corporate governance characteristics, such as board size, board independence, and CEO duality, which influence the acquiring companies' financial performance in mergers and acquisitions. The study found that board size had a significant impact on the short-term capital market performance of the acquiring companies. Limited evidence of the effect of board independence and CEO duality was documented in both short-term and long-term, as these were found to be insignificant factors while studying the relationship between accounting and market-based measures. As far as the other variables are concerned, the study has found that price to book value ratio and research and development expenses have positively influenced the acquiring companies' performance.

The possible explanation of board size having a positive impact on the acquiring firm's performance can be linked to the effective monitoring and decision-making skills of diversified and larger boards. Firms will benefit from the increased experience, ideas, proposals, and assistance from a larger board of directors, providing them with essential resources and substantial investment opportunities, increasing the performance of businesses and benefiting shareholders. Larger boards tend to have a broader diversity of talents, business relationships, and experience than smaller boards, which means they have a better chance of securing vital resources. Second, larger boards of directors expand the knowledge base from which business counsel may be obtained, which boosts the ability of managers to make significant and better business decisions, hence increasing their effectiveness. Finally, it has been established that the monitoring capacity of a corporate board is positively connected to the size of the board as more people with a diverse range of expertise will be better positioned to subject managerial choices such as mergers and acquisitions to more examination and supervision.

The findings suggest that independent perspectives on the board of directors have a bearing on firm performance both in the short-term and long-term and can help companies generate benefits when pursuing M&A transactions.

However, the existing literature states that independent directors can help companies make better decisions, and having more independent directors helps companies avoid disasters and failures. Numerous examples of corporate governance failures that have resulted in the collapse of firms already exist worldwide and in India. The same is not reflected in our results, where we find limited evidence of board independence being linked to higher firm performance. Therefore,

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emphasis should focus on improving the role of independent board members to act as watchdogs who make decisions in the interest of stakeholders, which have a bearing on the long-run performance of the company. Consequently, it is critical to build a strategy for implementing the nomination and training of independent directors who are efficient and successful in giving independent opinions.

To conclude, while the current research focuses primarily on the acquiring firm's performance, a more in-depth investigation at a country level may yield additional insights into the relationship between diversification, value, and governance. This study excluded empirical observations about local and foreign acquisitions' characteristics/financial performance in the given country, which might be investigated further. Future studies should look into board connections in countries with weak investor protection and the influence this connectedness may have on merger value, given the likelihood that businesses with more independent directors have more linked directors than companies with more inside directors.

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