

## **CORPORATE GOVERNANCE AND FIRM VALUE OF THE AUTO SECTOR-AN EMPIRICAL EVIDENCE**

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### **Abstract**

*This study has aimed to investigate the most relevant governance variables which may affect automobile firms' performance. The step-wise regression has been applied in stages on different variables incorporated in the study. The impact of all variables has been analyzed separately and model fit has been tested for 30 automobile firms. This research divulges that Chief Executive Officer (CEO) Duality was pointedly related to a firm's performance, lending credence to the validity of the Stewardship theory. The number of independent directors on the audit committee, on the other hand, was found to be pointedly and negatively associated with firms' performance and supported the agency theory. In this paper, the firm's size and age have a significant impact on Earnings Per Share (EPS). This study supports the stewardship theory and agency theory of corporate governance. The results expand the body of knowledge by providing empirical evidence that governance variables such as CEO duality and audit committee independence ratio have an impact on the performance of the firm. This study presents evidence that the duality of the CEO's position and the independent audit committees is significant and of paramount importance.*

**Keywords:** Corporate Governance, Firm Performance, Earning Per Share

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## **1 Introduction**

The value of a firm may be determined by the tone of disclosure on account of its performance during a financial year. Its profitability and abnormal accruals disclosure may affect the firm's value positively or negatively (El-Deeb et al., 2021; Kao et al., 2019). Disclosures on corporate governance have a favourable and substantial effect on the valuation of the company. However, social reporting negatively impacted the firm's value (Sardiyo & Martini, 2021). The unwieldy information displayed by corporate governance has an adverse influence on the company's value. Corporate governance disclosures may be regarded as hygiene factors for a company's valuation. The size and value of companies also reflect a significant relationship (Bakay & Karadeniz, 2021). Thereby, a sound governance system may be crucial for the global presence, sustenance and development of companies (Assidi, 2020; Bhagat & Bolton, 2019; Sanan, 2019). Developing nations need to be even more careful while disclosing their results and other related information. Weak governance may lead to fraudulent activities raising a need for a newer area of study in the corporate world (Arora & Singh, 2020; Ignatov, 2019). Investors and stakeholders may build better trust in companies which follow the strict and transparent regime for corporate governance. A rational and intelligent investor would complete the groundwork from public websites before plugging his money into any firm (Zaid et. al, 2020; Bhagat & Bolton, 2019). Strong control mechanisms through corporate governance may further align with the interests of investors, stakeholders and management (Chaudhary & Gakhar, 2018; Schauble, 2019;). Board members may initiate multiple strategies to improvise the processes and improve firm performance in this regard (Vairavan & Zhang, 2020; Imes & Bazel-Shoham, 2021). Existing and potential investors may agree to a premium price to invest in a firm which has better systems for disclosures (Assidi, 2020; Siddiqui, 2015).

### **1.1 Theoretical Underpinning**

The area of corporate governance has been studied in line with multiple theories which exist to support the need for a strong mechanism. A brief narration of such theories projects the contours of the present study. This segment presents the conceptual background for various theories of corporate governance such as agency, stewardship and resource dependency theory. The focal point of agency theory has been the principal-agent relationship. It states that board members may stress maximizing the value of shareholders. On the contrary, the board of directors act as a monitoring instrument of the company. A

proper corporate governance structure present in the firm may enable managers to act for shareholders' value (Schauble, 2019). Agency costs may be minimized with such practices and concentrated efforts for shareholders.

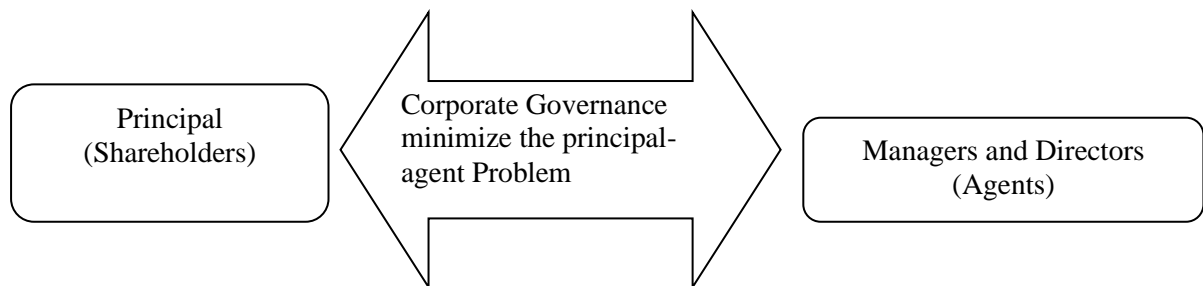


Figure 1: Principal-Agent Relationship

Stewardship theory lays a similar foundation for managers to maximize shareholders' value (Chrisman, 2019). They can act in the capacity of stewards to focus on the primary objective of the firm's value and shareholders' satisfaction. Managers may be expected to work in such a direction and behave rationally to enhance the value of the firm (Cremers, 2017). Thus, managers may focus on making organizational goals to be supreme and thereby the value of the firm with dedicated mechanisms. Resource dependency theory indicates that the skill and knowledge carried by the board of directors may be utilized in the best possible manner. The external environmental challenges may be well handled with managerial capacities and thus improve the firm performance and value (Jackling & Johl, 2009).

The theories signal a combination of parameters which may be taken to develop a customized model for a firm in developing nations. Such as agency theory enlightens the importance of independent directors on the board for a company's growth and overall performance. Stewardship theory supports the governance variable that the presence of CEO Duality helps to make better relationships between the owners and stewards. Resource dependency theory incorporates that board size and meetings of board members help the firms to handle the external environment situations. (Sanan, 2019) also stated that in emerging economies firms are having high agency problems. Thus, basis the above-mentioned theories, corporate governance variables have been considered to study their influence on the firms' worth.

## 1.2 Motivation of the Study

The automobile sector in the Indian economy has been one of the core causes of the country's emergence and development around the world. With 7.1% contribution to GDP and 4.3% to exports of India along with a visible 25.5% growth in FDI in recent years has

engorged its importance (Bhagat & Bolton, 2019; Economic Survey, 2019-2020). As per the annual survey of industries in 2019-20, this sector has generated 29 million jobs in various capacities. The ongoing electric vehicle segment and recent joint ventures with international giants for promoting environment-friendly vehicles have further added to economic activity. Further, with the increasing number of international collaborations in this sector, investors may stand to gain by investing in automobile companies.

Since the present study revolves around earnings per share and corporate governance determinants, it shall provide strategic inputs to stakeholders of this sector. The approaches and outcomes shown in the study shall be of interest to investors, management, governing bodies and other stakeholders. The firms may focus on the enhancement of their values with the results derived from the study. Due attention may be paid to the stakeholders in improvising the processes and controls concerning corporate governance parameters in the automobile segment. The existing studies relate to countries like France, Pakistan, Jordan, East Asia etc. However, as regards to automobile segment in India ample scope persists. A clear and in-depth analysis of these corporate governance variables to analyze their influence on the company's value has been thus initiated in this study.

The preceding discussion may hook up the study's main targets as following

1. To examine the factors of corporate governance that may affect firm's value in the automobile sector.
2. To locate strategies for stakeholders to improve the firm's value and performance in the automobile sector.

The paper has been further divided into five sections. The literature review has been presented in the second segment of the study. Research Methodology (RM) has been drafted in the third section. The next part narrates the results and findings of the study. Finally, the conclusion and implications have been presented in the fifth section of the paper.

## **2 Literature Review**

Before beginning the review, it's important to determine a methodology for picking scholarly articles and a study area. (Dhiman, 2018a; Dhiman et al., 2018b; Mittal et al., 2019b; Paul & Dhiman, 2021a). In this section, papers have been identified from reputable databases such as EBSCO and ProQuest to carry out the review. The journals are published by prestigious publishing houses such as Emerald, Taylor & Francis, Wiley, and Sage. In previous studies, a conflicting connection between corporate governance variables and a

firm's performance was found. In a few studies, a positive association between governance variables and firm performance was found and in a few other studies, a negative association was also found among them (Chaghadari, 2011; Kumar & Singh, 2012; Zeitun and Gang, 2007). As a result, there is a need to test these governance variables in the Indian context, particularly in the automobile sector, because the sector's rapid growth has increased its importance in the economy's growth. In the next section, a variable-wise review has been conducted.

## **2.1 CEO Duality and Firm performance**

Tang (2017) discovered substantial evidence to indicate that a board leadership structure with CEO Duality facilitates strategic decision-making. Chaghadari (2011) and Kao et al. (2019) observed that a combined leadership structure has a detrimental impact on the performance of firms since this type of leadership reduces the board's effectiveness. Ghardallou et al. (2020) mentioned that CEO is an important variable impacting the firm performance. The presence of CEO duality doesn't associate with the performance of the firm (Boshnak, 2021). Various research has revealed mixed conclusions about the impact of the dual role of the CEO on performance (Khan et al., 2011; Mishra & Kapil, 2017;).

Based on the literature, we can say that CEO duality is positively related to the performance of the firm i.e. EPS,

Hence the following hypothesis is constructed:

*H<sub>1a</sub> CEO Duality has a positive impact on the EPS of the firm.*

## **2.2 Board Size and Firm performance**

Boussenna (2020), board size varies around the world, but the best board size is roughly eight directors. This backs up resource enrichment theory, which mentions the key to success is a large size of the board. Also, it is confirmed that a bigger size of board helps the firm to improve its governance system of the firm (Dwivedi & Jain, 2005).

In contrast, Kumar and Singh (2012) found a contrary association between the board's size and business performance. Boshnal (2021) also found board size insignificant variables impacting firm performance as in an emergency they can't make a strategic decision on time. The resource-wasting theory" is the name for this concept which explains that large board size has no bearing on the performance of the firm and is difficult to manage (Chaghadari, 2011; Vairavan & Zhang, 2020). Kao et Al. (2019) also recommended that smaller board size is better for performance. The optimum board size is suggested by Ali and Ayoko (2020).

It can conclude that the bigger size of the board is negatively related to the performance of the firm i.e. EPS. The above literature paves the way for the proposition of the following hypothesis

*H<sub>1b</sub> Size of the Board has a negative impact on the EPS of the firm.*

### **2.3 Independence level of Audit Committee and firm performance**

External auditors played the role of watchdog to reduce clashes of interest between investors and owners (Fan & Wong, 2005). Whenever an audit committee is evident, capital markets react positively to the firm (Boussenna, 2020; Haldar & Raithatha, 2017). Furthermore, according to Oussii and Klibi (2020), having independent directors who are experts' heightens the firm's worth. Masmoudi (2021) stated that independence in the audit committee was significantly affecting performance.

Based on the above literature we can clinch that the positive association between the Independence level of Audit Committee and firm performance

*H<sub>13</sub> Independence level of the Audit Committee has a positive impact on the EPS of the firm.*

### **2.4 Board Meetings and Firm performance**

According to Section 285 of the Indian Company's Act, each firm must hold one meeting every quarter. Chrisman (2019) noticed that board meetings are an effective governance device used by firms. Siddiqui (2015) revealed that when a company holds a significant number of board meetings and directors do their tasks in the best interests of the shareholders, the company's performance improves. This too was reinforced by Boussenna (2020) who brought to the notice that the frequency of Board Meetings improves the monitoring worth of the Board. In contrast, Tang (2017) presented the view that Board meetings do not improve performance. There is no association between the number of board meetings and performance (Boshnak, 2021). So again, contradictory results can be seen, and hence lack of consensus can be found.

In nutshell, it can be said that Board meetings enhance performance. So, the following hypothesis has been formulated.

*H<sub>14</sub> Board Meetings have a positive impact on the EPS of the firm.*

## **2.5 Ownership Concentration and Firm Performance**

Chaghadari (2011) stated no substantial association between a firm's performance and ownership edifice. Many researchers mentioned that ownership structure is positively associated with the performance of the firm (Khan et al., 2011; Zeitun & Gang, 2007). While a negative connotation between ownership structure and firm performance was revealed (Mishra & Kapil, 2017). Saidat et al. (2020) stated that ownership concentration declined performance. Boshnak (2021) mentioned ownership concentration improves firm performance.

The below hypothesis can be formulated based on the above literature:

*H<sub>15</sub> Ownership structure has a positive impact on the EPS of the firm.*

## **2.6 Board Independence and Firm Performance**

According to Siddiqui (2015), a company with a high number the outside directors on its board has a higher return on equity. Chaghadari (2011) found no association between board composition and firm performance. Board members are responsible for formulating all types of strategies for the firm which affects the firm outcome (Goel et al., 2022; Vairavan & Zhang, 2020). Di Biase and Onorato (2021) mentioned in their study that board structure and composition are vital factors in the governance system and positively impact the firms' market performance. Bouteska (2020) and Cesar et al. (2020) confirmed that the numbers of independent directors are an important variable for business results. From the above argument, it can be concluded that mixed results can be seen among all governance variables. As a result, it would be interesting to investigate the relationship between these variables in the Indian automobile industry.

Independent directors improve the performance of the firm so the below hypothesis can be formulated:

*H<sub>16</sub> Board Independence has a positive impact on the EPS of the firm.*

## **2.7 EPS as a Measure of Profitability**

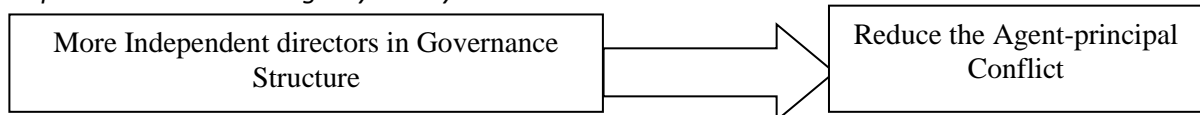
Return on Assets (ROA) and Return on Equity (ROE) is widely used by so many researchers in their study to analyze a firm performance (Mishra & Kapil, 2018; Mishra & Kapil, 2017) but EPS is used as a degree of financial performance in the earlier studies such as (Arora & Bodhanwala, 2018). So, it is required to do further study to explore more findings for performance measures such as EPS. In addition to this, Graham et al.

(2004) stated that earnings are the most vital dimension which reported to the externals about the performance of the firm. EPS are the dimensions that summarize the earnings available for shareholders. In this paper, firm value is analyzed from the shareholder’s aspect. ROA focuses only on short-term results and short-term profitability.

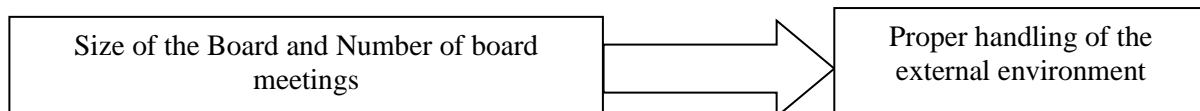
*Control Variables:* Following a review of the literature, several new variables that may influence company performance were found. The firm's age and size have been frequently used as control variables in previous literature in most of the studies (Ling et al., 2007; Muslih & Marbun, 2020; Younis & Sundarakani, 2019).

### 3 Research Methodology (RM)

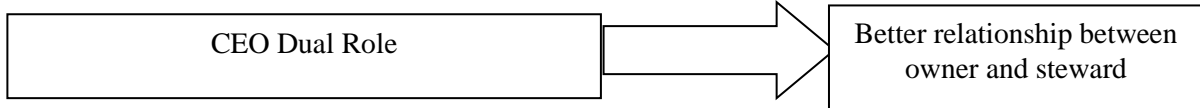
*Preposition 1: Based on agency theory*



*Preposition 2: Based on Resource dependency theory*



*Preposition 3: Based on Stewardship theory*



*(Corporate Governance Characteristics)*

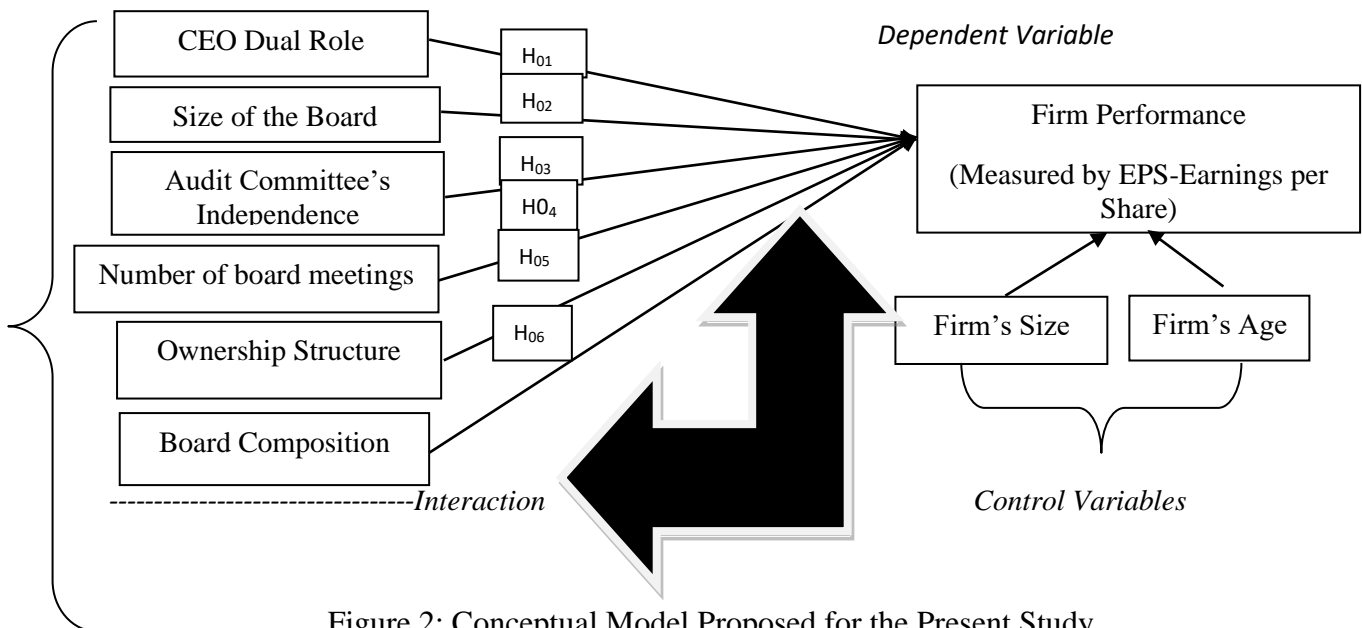


Figure 2: Conceptual Model Proposed for the Present Study



Corporate governance factors such as Size of the Board, Board composition, Number of board meetings, Promoter's shareholding, independent directors and Audit Committee, and CEO Dual role have been incorporated as independent variables in the model based on Figure 2. Along with the Firm's Size, EPS has been used as a dependent variable. Age has long been thought of as a control variable. The main model may be presented below:

$$EPS_{it} = \alpha_0 + \beta_1 (BM_{it}) + \beta_2 (BS_{it}) + \beta_3 (BIND_{it}) + \beta_4 (PSH_{it}) + \beta_5 (ACIND_{it}) + \beta_6 (CEOD_{it}) + \alpha_1 (LTA_{it}) + \alpha_2 (LAGE_{it}) + \epsilon_{it} \dots \dots \dots (1)$$

where,

$\alpha_0$	Intercept Coefficient
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$	Slope Coefficient
$i$	Firm I
$t$	Year T
$\epsilon_{it}$	error term in the year t for firm i

The individual power of each corporate governance variable on firm performance has been calculated in this model, as well as the interaction between corporate governance features and the performance of the firm. This has been done to find out i) how much these variables affect the performance of the firms. ii) How many variations in the firm performance are affected by these variables and which variable is affected more?

### 3.1 Universe of the Study

The data for the present study has been taken from automobile companies from the proress database. The inception of corporate governance regulations has picked up pace from the year 2004. Thus, the sample period has been initiated from this year being the start for EPS to be influenced by regulations. In addition, this sector has shown visible mergers and associations with foreign companies in the last two decades. Thus, a data window has been captured from 2004-2020 for all variables of the study.

The sample size in this study has been in accordance with the thumb rule, which states that the ratio of the number of observations to the number of variables should never be less than 5:1. Hair et al. (2006) specified that each independent variable should have five observations. Furthermore, for each independent variable to be included in the sample, the least level is 5:1, while the ideal level is between 15 and 20 observations. A similar thumb rule i.e., between 15:1 and 20:1 has been applied. With sixteen years of data available for 30 firms, finally, 480 observations have been used for the analysis of six corporate governance variables. Thus, data size stands justified for the present study.

### 3.2 Analytical Model

The regression model was used to see which variable had the greatest impact on EPS. Some data criteria, such as stationarity, heteroskedasticity, multicollinearity, and autocorrelation, were evaluated before developing the model. Because the data in this work is a time series, the stationarity of the data was tested with the unit root method. By applying the unit root test, the null hypothesis that the series has a unit root (non-stationary) was failed to reject. Thus, log values of variables have been taken. Further, Pearson's correlation has been analyzed for testing the multicollinearity between the independent variables. Thereafter, the White test was employed to determine whether or not heteroskedasticity existed.

Step-wise regression was used to accomplish the goal, with variables being added one at a time and probability values being calculated to estimate the impact of the variables on the firm's performance. A total of twelve (12) models have been developed. Models 1 to 8 were created by gradually adding variables. Models 9 through 12 were created by removing insignificant variables one at a time.

$$\text{MODEL 1: } \text{EPS} = C + \beta (\text{BM}) + e$$

$$\text{MODEL 2: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + e$$

$$\text{MODEL 3: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + e$$

$$\text{MODEL 4: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + \beta (\text{PSH}) + e$$

$$\text{MODEL 5: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + \beta (\text{PSH}) + \beta (\text{DACIND}) + e$$

$$\text{MODEL 6: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + \beta (\text{PSH}) + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + e$$

$$\text{MODEL 7: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + \beta (\text{PSH}) + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + \alpha (\text{LTA}) + e$$

$$\text{MODEL 8: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + \beta (\text{PSH}) + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + \alpha (\text{LTA}) + \alpha (\text{LAGE}) + e$$

$$\text{MODEL 9: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{BIND}) + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + \alpha (\text{LTA}) + \alpha (\text{LAGE}) + e$$

$$\text{MODEL 10: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{BS}) + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + \alpha (\text{LTA}) + \alpha (\text{LAGE}) + e$$

$$\text{MODEL 11: } \text{EPS} = C + \beta (\text{BM}) + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + \alpha (\text{LTA}) + \alpha (\text{LAGE}) + e$$

$$\text{MODEL 12: } \text{EPS} = C + \beta (\text{DACIND}) + \beta (\text{DCEOD}) + \alpha (\text{LTA}) + \alpha (\text{LAGE}) + e$$

Here, BM= (Board Meetings), BS= (Board Size), BIND= (Number of Independent directors on Board), DCEOD= (Presence of CEO Duality) (series made stationary at first-order difference), DACIND= (Number of independent directors in the audit committee) (series made stationary at first-order difference), PSH= (Promoter's Shareholding), LTA= (Log of Total Assets), LAGE= (Log of Age of the firm since incorporation).

## 4 Results and Findings

Table 1 depicts the association among variables via a correlation Matrix. There's a strong link between the size of the board and the independence level of the board. The percentage of shares held by promoters and the independence level of the board of directors are inversely proportional. The promoter's shareholding is favourably correlated with duality, although board size and independence are inversely correlated.

Table 1: Correlation Matrix of explanatory variables

Variables	DACIND	BIND	BM	BS	DCEOD	LAGE	LTA	PSH
<b>DACIND</b>	1							
<b>BIND</b>	0.48416	1						
<b>BM</b>	-0.0182	-0.029	1					
<b>BS</b>	0.39873	0.77722	-0.1593	1				
<b>DCEOD</b>	-0.0439	-0.2825	0.03635	-0.3849	1			
<b>LAGE</b>	0.31758	0.05261	0.12564	-0.0908	-0.0574	1		
<b>LTA</b>	0.23432	0.60692	0.09707	0.64219	-0.1057	-0.092	1	
<b>PSH</b>	-0.0583	-0.4908	-0.2163	-0.2975	0.31962	-0.151	-0.222	1

Table 2 presents a model summary for all the models thereby indicating the results, regression coefficients and R-square values with Durbin Watson statistics.

Table 2: Model Summary

Model	C	LAGE	LTA	DCEOD	DACIND	PSH	BIND	BS	BM	R-square	DW
1	24.918	-	-	-	-	-	-	-	-2.036	0.006	1.972
	0.979								-0.443		
	(0.335)								(0.661)		
2	-32.110	-	-	-	-	-	-	4.423	-0.135	0.233	1.835
	-1.055							2.825*	-0.032		
	(0.300)							(0.008)	(0.974)		
3	-32.073	-	-	-	-	-	-0.125	4.467	-0.121	0.233	1.837
	-1.033						-0.022	1.742*	-0.028		
	(0.311)						(0.982)	(0.093)	(0.977)		
4	-56.902					0.272	1.649	4.193	0.623	0.248	1.807
	-1.203					0.701	0.266	1.648	0.139		
	(0.240)					(0.489)	(0.792)	(0.111)	(0.889)		
5	-41.615				6.903	0.219	-0.113	3.919	0.624	0.280	2.020
	-0.833				0.918	0.556	-0.017	1.561	0.141		

	(0.413)			(0.367)	(0.583)	(0.986)	(0.132)	(0.888)			
6	-43.289		-20.909	7.985	0.443	1.509	2.139	0.923	0.428	1.988	
	-0.951		-2.391*	1.164	1.191	0.250	0.889	0.230			
	(0.351)	-	-	(0.025)	(0.256)	(0.246)	(0.804)	(0.383)	(0.820)		
7	-52.448	14.197	-23.846	9.835	0.377	-1.007	0.296	-0.942	0.499	2.244	
	-1.194	1.726**	-2.790*	1.477	1.055	-0.169	0.116	-0.235			
	(0.245)	-	(0.098)	(0.011)	(0.154)	(0.303)	(0.867)	(0.908)	(0.815)		
8	119.529	-90.814	13.458	18.109	-26.628	0.202	-1.056	-1.182	-0.362	0.707	1.783
	2.089*	-3.762*	2.086*	3.197*	-3.950*	0.711	-0.226	-0.582	-0.115		
	(0.049)	(0.001)	(0.049)	(0.004)	(0.000)	(0.485)	(0.823)	(0.566)	(0.909)		
9	142.253	142.253	13.911	-25.662	19.200	-	-2.622	-1.082	-0.927	0.699	1.741
	3.033*	-3.979*	2.193	-3.933*	3.564*		-0.645	-0.541	-0.309		
	(0.006)	(0.000)	(0.039)	(0.000)	(0.001)		(0.525)	(0.593)	(0.760)		
10	143.623	-94.929	12.986	-25.479	18.281	-	-	-1.760	-1.064	0.693	1.589
	3.107*	-4.104*	2.130*	-3.961*	3.566*			-1.047	-0.360		
	(0.005)	(0.000)	(0.044)	(0.000)	(0.001)			(0.306)	(0.721)		
11	128.209	-90.262	8.871	-22.404	16.120	-	-	-	-0.208	0.678	1.593
	2.920	-3.969	1.899**	-3.906*	3.427*				-0.073		
	(0.007)	(0.000)	(0.070)	(0.000)	(0.002)				0.942		
12	127.714	-90.537	8.823	-22.428	16.154	-	-	-	-	0.678	1.592
	3.006*	-4.122*	1.948**	-4.001*	3.525*						
	(0.006)	(0.000)	(0.063)	(0.000)	(0.001)						

**Source:** *Compiled by authors*

**Notes:** *C stands for intercept in the model, LAGE stands for age of the corporation, LTA stands for total assets, DCEOD stands for presence of CEO quality, DACIND stands for number of independent directors in the audit committee, PSH stands for promoter's shareholding, BIND stands for number of independent directors in board, BS stands for size of the board, BM stands for board meetings, R-square represents the strength of the model, DW refers to Durbin-Watson statistic, \*represents results are significant at 5% level of significance and \*\*represents that results are significant at 10% level of significance.*

Model 1 having board meetings (BM) as an independent variable has shown a negative association and was found insignificant. Thus, only Board meetings may not affect the firm value as per this model contrary to studies earlier (Cremers, 2017). In model 2, two variables, BM (Board meetings) and BS (Board size) were studied to see if they had any impact on EPS. Because the probability value is smaller than 0.05, BS has a considerable impact on EPS. BS has a positive impact on EPS. This contradicts the conclusion reached by (Assidi, 2020). In Model 3, out of 3 independent corporate governance variables only BS

(size of the Board) has a statistically significant impact on EPS, with a probability value of less than 0.1 at the ten percent threshold of significance. Outside directors have a negative relationship with ROA, Earnings per share, according to Ahmed et al. (2013). In this Model 3, all three variables collectively explain only 23% variation. This suggests that adding another variable, BIND, to the model has no substantial effect on the EPS. In model 4, we included four independent variables: BS, BM, BIND, and PSH. They've all been shown to be unimportant and positively related. While adding more variables to the model, the R-square value also decreased. This result has been contrary to the results of the study conducted by Kamal and Saadi (2013). They mentioned that all governance variables may not be significantly affecting the firm's performance except board size, which affecting significantly the firm performance. Model 5 now includes DACIND (first-order difference of the series of audit committee independence) as an additional independent variable. While adding a new variable to the model, these variables were determined to be irrelevant, and the R-square value decreased. According to certain studies, corporate governance characteristics have a greater impact on market-based performance than accounting-based success (Mishra 2018). Only DCEOD is found to be negatively linked with business performance in Model 6. All other factors in the model were insignificant if the probability value was greater than 0.05. Control factor such as LTA (log of Total Assets) was included in Model 7 and found significant. This has a beneficial collision on the firm's success, as measured by earnings per share (EPS). Only two factors, CEOD and LTA, were significant in this model.

By adding more variables R-square value has increased to 50 percent in this model 7. The age of the firm has also been studied in the Indian context by many researchers such as Kumar and Singh (2012). The results of these studies have been similar. Therefore, older firms may be more competitive because of their experience and survival bias effects. LTA and LAGE and DCEOD and DACIND were found significant. Model 8 has the highest R-square value of 71 percent among all other models tested. Another control variable i.e. Size of the company (total assets of the firm) have been added and found positively significant. This is similar to the results of Kumar and Singh (2012). Diversification, economies of scale, and cheaper basis of finances may be the reasons mentioned in these studies for positive association among the size and firm performance. DCEOD, DACID, LTA, and LAGE were found while BM, BS, BIND were found insignificant (Model 9). R-square has turned down if we eliminate PSH from the model. Some studies found that ownership has a non-linear or inverted U-shaped relationship with firm performance (Tang, 2017).

Insignificant variable i.e. BIND eliminated from the model. Thus, R-square value decreased to 69.3 percent in comparison to the earlier models. DACIND, DCEOD and control variables was found significant. Model 11 incorporated one additional variable and eliminated the BS. Although, the value of R-square have been declined in comparison to the earlier models. The value of the coefficients of the model indicated that the DAIND, DCEOD, LTA, LAGE were found significant. Model 12 excluded all insignificant variables from the model; BIND, BM, BS, and PSH. The model has shown that all variables have been significant and may affect the performance of the firm. DACIND, DCEOD, and LAGE have been significant at 5 percent level of significance while LTA has been significant at 10 percent level of significance. R-Square value of 68 percent has been found in model 12. The results have been opposite to the results of Kumar and Singh (2012) who stated that independent directors have an insignificant positive association with firm performance. Thus, Model 8 may be tested further because the variables included in this model have shown the highest R- square value. The variation in EPS has been explained the most by the variables in this model.

#### **4.1 Residual Diagnostics of Model**

The probability of Jarque-bera is greater than 0.05 (0.2777), indicating that residuals are normally distributed and the null hypothesis is accepted (Dhiman, 2021b; Dhiman & Sharma, 2019a; Dhiman et al., 2020a). The presence of heteroskedasticity was determined using the Breusch-Pagan-Godfrey test. The fact that the probability value (0.4283) was more than 0.05 indicated that the model was homoskedastic. As a result, variance is constant, and homoskedasticity exists. Because the probability value from the serial correlation test is greater than 0.05, there is no autocorrelation in the model's residuals (0.5463).

#### **4.2 Selected Model**

Model 8 described all of the governance and control factors in this study, with a 71 percent variation in the dependent variable EPS and a large LTA (Log of Total Assets). Positive association among them indicates that as the firm's total assets grow, so does its performance. This is also in line with the findings of Abdalkrim's (2019). But from the other hand, this contradicts Pant and Pattanayak's (2007) findings, which indicated an inverted association. LAGE (Log of Company Age) is determined to be statistically significant and inversely related to firm performance. This indicates that ancient firms have poor performance, which

could be due to a lack of updated technology. This could be because more efficient competitive firms have entered the sector, whereas older organisations have outdated technology. To improve firm performance, re-engineering must be required in the firm process. Pant and Pattanayak (2007) said unequivocally that the firm's age had no bearing on its worth. DCEOD (CEO Duality) is likewise found to be positively significant with company performance, according to the model. This variable explained that when a person holds both the positions of CEO and Chairperson, the firm's performance improves. If a person is responsible for both responsibilities, swift and efficient decisions can be accomplished.

## **5 Discussion of Results**

The value of the coefficient of CEO duality is 18.109 which gives a positive direction. It also lines up with the hypothesis framed for this variable. Positive direction indicates that the dual role of the CEO enhances the performance due to high power in one hand. The positive association between the CEO duality and firm performance has been consistent with stewardship theory and contrary to agency theory. This is because power in a hand creates the chance to misuse this. So, it enhances the agency's cost. If CEO compensation is linked with performance, then it alleviates the agency's issues. Then CEO's dual role is more likely to improve the firm's performance (Ghardallou et al., 2020). The study conducted by Ahmed et al. (2013); Hassan and Halbouni (2013) found the same positive association of CEO duality with earnings per share. This finding is unswerving with Tang (2017)'s research, which found that CEO duality increases self-interest and reduces board independence. However, studies have shown that having a dual function as CEO has advantages. According to Siddiqui (2015), when both tasks are handled by a single individual, the return on assets improves. On the flip side, Jackling and Johl (2009) mentioned in their study that there is no impact of CEO Duality on the performance of the firms, especially in Indian firms. The coefficients' value of Audit committee independence has a negative direction such as -26.628. It explains that more independent directors in the audit committee decline in performance due to more interference by more members. The firm's performance is also found to be negatively and strongly associated to DACIND Audit Committee Independence). This explains why the more independent directors we have on the audit committee, the lower the firm's performance will be because there is a negative relationship. This could be due to a lack of awareness of technical glitches among the independent directors or a lack of information about the company. Masmoudi (2021) stated that independence in the audit committee was

significantly affecting performance. Arniati et al. (2019) and Rahman et al. (2019) stated the importance of an independent audit committee in their study such that this will enhance the quality of financial statements.

Frequency of board meetings (BM), board size (BS), percentage of promoters' shareholding (PSH), and board independence are all insignificant governance variables in this study. Board Independence (BIND) has a negative direction with a constant value such as -1.056 which is inversely connected with company performance and is determined to be insignificant. This is consistent with Aluchna et al. (2020) findings. Although there may be more independent directors, it is possible that they lack experience and do not receive the appropriate information, resulting in the firm's poor performance. These results have been endorsed by Kakabadse et al., 2001. On the contrary, Yameen (2019) stated that the board composition significantly influenced the firm performance of Indian hotels. Bouteska (2020) and Cesar et al. (2020) and Di Biase and Onorato (2021) mentioned in their study that board structure and composition are vital factors of the governance system and positively impact the firms' market performance. The frequency of board meetings was also found insignificant and has a negative value such as -0.362 which indicates that more board meetings reduced the performance of the firm and is supported by Boshnak, 2021. Board Size was also found insignificant and negatively related to the performance of the firm and had a constant value such i.e. -1.182 showing a negative association which is also tuned up with the hypothesis framed for this variable and supported by Boshnal (2021). This is also in tune with the results of Yameen (2019) study on the Indian tourism sector which found board size is an insignificant variable. In contrast, Ahmed et al. (2013) mentioned that board size is directly related to the return on assets, earnings per share, and market-to-book ratio. The percentage of promoters' shareholding (PSH) is positively insignificantly linked to business performance. This variable has a positive value i.e. 0.202 indicates a less effective variable but positive direction. It is a line-up with the hypothesis mounted for this variable. This is due to promoters' ability to monitor the activities of firm managers while minimizing agency costs. Saidat et al. (2020) Stated that ownership concentration declined the firm performance. On the other side, many studies discovered significant positive relationships such as Boshnak (2021); Kumar and Singh (2012); Pant and Pattanayak (2007).



## **6 Conclusion**

The primary goal of this research is to identify a major corporate governance component that influences business performance. The independent variables DCEOD (CEO Duality) and DCEOD (CEO Duality) were found to have a substantial positive connection with business performance. The firm's performance was significantly inversely related to DACIND (Audit Committee Independence). This also recommends that having more independent directors on the audit committee is related to lower corporate performance. This resulted in a speedy decision-making process and reduced unnecessary bureaucracy which improved firm performance. The study's other governance variables are inconsequential. Because promoters and owners appoint independent directors in India, board independence is heavily affected by them. As a result, they frequently follow management's decisions and are not in a sturdy position to do effective supervising. The R-Square value is 0.71, indicating that the model's specified governance factors account for 71% of the deviation in the firm's performance indicator, EPS. This means that these governance variables have a 71 percent impact on EPS change. CEO duality is the most crucial variable, with the second-highest coefficient value in the model and a positive relationship with business performance.

The theoretical model proposed in this paper will help researchers understand better how numerous corporate governance variables interplay. The result of this study supports the stewardship theory. The study also discovered that independence in the audit committee negatively and significantly affected the firm performance. Independent directors must be included in the audit committee because it protects the interests of shareholders and reduces the risk of financial statement fraud. It supports the agency theory. In agency theory, more involvement of independent directors in the structure reduces agency problems. The result related to board size and board meetings is also not supported by resource dependency theory as the results are insignificant.

This study has implications for the various interested parties such as potential and current investors, academicians, and management for policymaking. The results of this study highlighted the significant corporate governance variables affecting firm performance. This study is vital for both investors i.e., domestic and foreign as the automobile sector is attracting more FDI in India. Foreign investors are investing in this sector with new technologies. They are investing in new projects; this will lead to an increase in firm performance because assets were found positively associated with firm performance. Also,

the automobile sector had tremendous growth and a great contribution to the Indian economy. So, the findings of this study help the firms to emphasize significant governance variables to progress the performance of their firms, this will lead to the economic development of the nation. Similarly, the finding of this study also assists investors to invest only in new firms as they have newer technologies for a higher return.

There are some limitations to this paper as well. First, because the study is based on secondary data, the findings are dependent on the data's accuracy. Second, based on the information presented in the annual reports and the database, governance characteristics and financial statistics of the organizations were measured (PROWESS). It is presumed that the data provided is accurate and has not been tampered with. In practice, we believe that other market performance measures such as EVA and MVA can be explored in the future. It is possible to do an inter-industry comparison to learn about the various practices used by other companies. In terms of theory, we feel that, in addition to theory validation, new and better dynamic theoretical models are required in this sector.

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