

Impact of Employee Stock Option Plans on Firm Performance: Sectoral Evidence from India's IT Industry

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Abstract

Employee Stock Option Plans (ESOP) have become an important strategic tool in knowledge-intensive industries such as Information Technology (IT), where human capital plays a critical role in value creation. However, empirical evidence on the ESOP performance relationship remains inconclusive, particularly in emerging markets like India. This study examines the impact of ESOP adoption on firm performance in the Indian IT industry over the period 2009–2025. Using panel regression techniques, including pooled OLS, fixed effects, and lagged models, the study finds that ESOP adoption is positively associated with firm performance in baseline estimations. However, this relationship becomes statistically insignificant after controlling for firm-specific heterogeneity and endogeneity. The findings suggest that ESOP effectiveness is contingent upon firm-level characteristics and governance structures rather than being universally beneficial. The study contributes to the literature by providing sector-specific evidence from the Indian IT industry.

Keywords

ESOP, Firm Performance, Agency Theory, IT Industry, Emerging Markets.

1. Introduction

Employee Stock Ownership Plans (ESOPs) have emerged as an important mechanism in modern corporate governance, attracting considerable attention from researchers, policymakers, and practitioners. ESOPs allow employees to acquire ownership stakes in their firms, thereby linking employee welfare directly with firm performance. As a result, ESOPs are widely regarded as a strategic tool for aligning the interests of employees, managers, and shareholders, particularly in knowledge-intensive industries where human capital plays a central role in value creation (Dasilas 2024). In such industries, firm success is critically dependent on employee skills, innovation, and productivity, making ESOPs a potentially effective incentive mechanism. The theoretical foundation of ESOPs is

primarily grounded in agency theory, which highlights conflicts arising from the separation of ownership and control in corporations. According to Jensen and Meckling (1976), managers may pursue personal objectives that diverge from shareholder interests, leading to agency costs. ESOPs are designed to mitigate these conflicts by transforming employees into residual claimants, thereby aligning their incentives with firm performance. In doing so, ESOPs not only reduce agency costs but also encourage employees to actively contribute to firm value through increased effort, cooperation, and long-term commitment. In addition to agency theory, the rationale for ESOP adoption is also supported by the incentive alignment perspective in corporate finance. Equity-based compensation mechanisms link individual rewards to firm outcomes, thereby motivating employees and managers to undertake value-enhancing activities. Prior studies suggest that such compensation structures can influence managerial decision-making, including risk-taking behavior and strategic investments, which ultimately impact firm performance (Chena and Ma 2011). This mechanism is particularly relevant in dynamic industries such as information technology (IT), where innovation and risk-taking are essential for sustaining competitive advantage.

Despite strong theoretical support, empirical evidence on the relationship between ESOP adoption and firm performance remains inconclusive. A substantial body of literature documents a positive association between ESOPs and firm performance, arguing that employee ownership enhances motivation, productivity, and organizational commitment (Dasilas 2024). ESOPs are also believed to reduce employee turnover and improve cooperation within firms, leading to improved operational efficiency and financial performance. However, an alternative strand of literature presents a more cautious view. Critics argue that ESOPs may suffer from collective action problems, particularly when ownership is widely dispersed among employees. In such cases, individual ownership stakes may be too small to generate meaningful incentives, leading to free-rider behavior. Empirical evidence supports this argument, with studies showing that ESOP adoption does not necessarily lead to improved firm performance. For example, evidence from Chinese firms indicates no significant difference in performance between ESOP and non-ESOP firms, suggesting that the incentive effects of employee ownership may be limited (Meng et al. 2011). Furthermore, ESOPs can influence firm performance through multiple channels beyond employee motivation, leading to ambiguous outcomes. On one hand, ESOPs may enhance internal governance by increasing employee participation and monitoring, thereby improving managerial accountability. On the other hand, they may be used strategically to consolidate managerial control and resist external monitoring, potentially reducing firm value (Gordon and Pound 1990). Consequently, the overall impact of ESOP adoption depends on the balance between incentive alignment benefits and potential governance inefficiencies. Another important consideration in the ESOP performance relationship is firm-level heterogeneity. Firms differ in terms of size, governance structures, operational complexity, and strategic orientation, all of which can influence the effectiveness of ESOPs.

Prior research emphasizes that failing to account for such heterogeneity may lead to biased conclusions, as observed relationships may reflect underlying firm characteristics rather than the true effect of ESOP adoption (Hermalin and Wallace 2001). This issue highlights the importance of using appropriate empirical methods that control for firm-specific effects when examining the ESOP performance relationship. The institutional context also plays a crucial role in shaping the effectiveness of ESOPs. Differences in regulatory frameworks, corporate governance practices, and labor market conditions across countries can influence both the adoption and outcomes of ESOPs. In emerging economies such as India, where corporate governance structures and market dynamics differ from developed economies, the impact of ESOPs may vary significantly.

Additionally, industries characterized by high reliance on human capital, such as the IT sector, provide a unique setting to examine the effectiveness of ESOPs as incentive mechanisms. Despite the growing body of literature, important gaps remain. First, much of the existing evidence is concentrated in developed markets, with limited focus on emerging economies like India. Second, prior studies often examine broad samples across industries, which may mask sector-specific dynamics. The IT industry, characterized by high employee mobility, intense competition for skilled talent, and heavy reliance on intellectual capital, is particularly relevant for studying the effectiveness of ESOPs. However, empirical evidence focusing exclusively on this sector remains limited. Third, methodological concerns such as endogeneity and unobserved firm heterogeneity are not always adequately addressed in existing studies, leading to potential biases in estimated relationships.

Motivated by these gaps, the present study examines the impact of ESOP adoption on firm performance in the Indian IT industry over the period 2009–2025. By focusing on a single industry, this study eliminates cross-sectoral heterogeneity and provides more precise insights into the ESOP–performance relationship. The IT sector offers an ideal empirical setting due to its strong dependence on human capital and widespread use of equity-based compensation mechanisms. This study contributes to the literature in two important ways. First, it provides empirical

evidence from an emerging economy context, thereby extending the understanding of ESOP effectiveness beyond developed markets. Second, by focusing exclusively on the IT industry and employing panel data techniques that control for firm-specific heterogeneity, this study offers a more robust assessment of the causal relationship between ESOP adoption and firm performance. Overall, this study aims to provide a clearer understanding of whether ESOP adoption leads to improved firm performance, while addressing key limitations in the existing literature related to sectoral focus and methodological rigor.

2. Problem Formulation

2.1 Literature Review

Employee Stock Option Plans (ESOPs) are widely recognized as important mechanisms for aligning the interests of employees and shareholders. Rooted in agency theory, ESOPs are designed to mitigate principal-agent conflicts by linking employee compensation directly to firm performance, thereby reducing agency costs arising from the separation of ownership and control (Jensen and Meckling 1976). By transforming employees into residual claimants, ESOPs encourage greater effort, cooperation, and alignment with organizational objectives. Complementing this perspective, stewardship theory suggests that ownership participation enhances intrinsic motivation, trust, and organizational commitment, leading to improved productivity and long-term value creation (Davis et al. 1997). Together, these theoretical frameworks provide a strong foundation for understanding the potential performance-enhancing effects of ESOPs. A substantial body of empirical literature reports positive effects of ESOP adoption on firm performance, particularly in knowledge-intensive industries where human capital is a critical asset. ESOPs have been associated with improvements in profitability, productivity, and innovation outcomes (Meng et al. 2011), as they incentivize employees to contribute more effectively to organizational success. Prior studies suggest that employee ownership can foster a participatory culture, improve communication, and enhance cooperation among employees, ultimately leading to higher efficiency and firm value. These benefits are particularly pronounced in industries such as information technology, where firm performance is closely tied to employee skills, innovation capabilities, and knowledge sharing. In addition to employee-level incentives, ESOPs also influence firm performance through managerial and strategic channels. Equity-based compensation aligns managerial incentives with shareholder interests, encouraging value-enhancing decisions and optimal risk-taking behavior (Chen and Ma 2011). By linking compensation to firm performance, ESOPs can motivate managers to undertake investments that improve long-term firm value. Furthermore, ESOPs may serve as an internal governance mechanism by enhancing monitoring and reducing opportunistic behavior, thereby improving overall corporate efficiency. These governance-related benefits reinforce the argument that ESOPs can play a significant role in improving firm performance.

However, despite strong theoretical support, the empirical evidence on the ESOP-performance relationship remains mixed and inconclusive. A growing strand of literature highlights the limitations of ESOPs as incentive mechanisms, particularly in the presence of collective action problems. When ownership is widely dispersed among employees, individual incentives may be too weak to influence behavior, leading to free-rider problems. In such cases, employees may not exert additional effort despite holding ownership stakes, thereby limiting the effectiveness of ESOPs. Empirical evidence supports this argument, with studies showing that ESOP adoption does not necessarily lead to significant improvements in firm performance (Meng et al. 2011). Moreover, ESOPs may introduce unintended consequences that negatively affect firm performance. For instance, excessive reliance on equity-based compensation may encourage risk-taking behavior, which can have both positive and negative implications for firm value. While moderate risk-taking may enhance innovation and growth, excessive risk-taking can increase volatility and financial instability (Brunello et al. 2001). Additionally, ESOPs may alter corporate governance structures in ways that entrench management and reduce external monitoring, potentially leading to inefficiencies and lower firm performance (Gordon and Pound 1990). These findings suggest that ESOPs are not universally beneficial and may produce different outcomes depending on how they are designed and implemented.

Another important dimension in the literature is the role of firm-specific characteristics and contextual factors in determining ESOP effectiveness. Firms differ in terms of size, governance structures, ownership concentration, and operational complexity, all of which can influence the impact of ESOPs. Prior research emphasizes that ignoring such heterogeneity may lead to biased conclusions, as observed relationships may reflect underlying firm characteristics rather than the true effect of ESOP adoption (Hermalin and Wallace 2001). For example, larger firms with better governance structures may be more likely to adopt ESOPs and also perform better, leading to a spurious positive association between ESOPs and performance. Institutional factors also play a crucial role in shaping the ESOP-performance relationship. Differences in regulatory frameworks, corporate governance systems, and labor market conditions across countries can significantly influence both the adoption and effectiveness of ESOPs. In emerging

markets, where governance mechanisms may be weaker and labor markets more dynamic, the impact of ESOPs may differ from that observed in developed economies (Kaplan 1994). These institutional differences highlight the importance of examining ESOP effectiveness in specific country and industry contexts. Furthermore, recent studies emphasize the importance of addressing endogeneity concerns in examining the ESOP–performance relationship. Firms that adopt ESOPs may systematically differ from those that do not, leading to selection bias. For instance, more profitable or growth-oriented firms may be more likely to implement ESOPs, making it difficult to establish a causal relationship between ESOP adoption and firm performance. Failure to account for such endogeneity can result in biased estimates and misleading conclusions. Overall, the existing literature suggests that while ESOPs have the potential to enhance firm performance through incentive alignment and improved governance, their effectiveness is highly context-dependent. The mixed empirical evidence indicates that ESOP outcomes are influenced by firm-specific characteristics, institutional settings, and implementation design. This highlights the need for further research that focuses on specific industries and employs robust empirical methodologies to better understand the ESOP–performance relationship.

2.2 Research Gap

Following the existing literature, the impact of Employee Stock Option Plans (ESOPs) on firm performance remains inconclusive, with studies reporting both positive and insignificant effects depending on institutional and firm-level characteristics. While prior research has largely focused on developed economies or multi-industry samples, limited attention has been given to sector-specific dynamics, particularly in emerging markets such as India. The Indian Information Technology (IT) industry provides a unique setting for examining the ESOP–performance relationship due to its high reliance on skilled human capital, innovation-driven growth, and widespread use of equity-based compensation mechanisms. Despite the importance of ESOPs in this sector, empirical evidence focusing exclusively on the Indian IT industry remains limited. Motivated by this gap, the present study aims to examine whether ESOP adoption influences firm performance in the Indian IT sector.

2.3 Research Objective

To examine the impact of ESOP adoption on firm performance in the Indian IT industry.

2.4 Hypothesis Development

Based on agency theory, ESOPs align employee and shareholder interests by linking compensation to firm performance, thereby reducing agency costs and improving efficiency (Jensen and Meckling 1976). In addition, stewardship theory suggests that employee ownership enhances motivation and organizational commitment, leading to improved productivity and firm outcomes (Davis et al. 1997).

Prior empirical studies also provide evidence supporting a positive association between ESOP adoption and firm performance, particularly in knowledge-intensive industries (Meng et al. 2011).

Accordingly, the following hypothesis is proposed:

H1: ESOP adoption has a positive impact on firm performance.

3. Methods

3.1 Model Specification

To examine the impact of Employee Stock Option Plans (ESOP) on firm performance, this study employs panel data regression techniques. Panel data allows controlling for both cross-sectional and time-series variations, thereby improving the robustness of the estimates

3.2 Estimation Strategy

To ensure robustness and address econometric concerns, the study employs three different model specifications.

3.2.1 Baseline OLS Model

The first specification uses pooled Ordinary Least Squares (OLS) regression to estimate the relationship between ESOP adoption and firm performance

$$FP_{i,t} = \beta_0 + \beta_1 ESOP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 CapEx_{i,t} + \varepsilon_{i,t}$$

This model provides initial evidence on the association between ESOP and firm performance. However, it does not control for unobserved firm-specific characteristics, which may bias the results.

3.2.2 Fixed Effects Model

To address unobserved heterogeneity, the second specification employs a firm fixed effects model:

$$FP_{i,t} = \beta_0 + \beta_1 ESOP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 CapEx_{i,t} + \alpha_i + \gamma_t + \varepsilon_{i,t}$$

The inclusion of firm fixed effects (α_i) controls for time-invariant characteristics such as managerial ability, firm culture, and governance structure. Year fixed effects (γ_t) account for macroeconomic shocks and industry-wide changes. This model provides more reliable estimates by focusing on within-firm variation over time.

3.2.3 Lagged Fixed Effects Model

The third specification incorporates lagged independent variables within the fixed effects framework:

$$FP_{i,t} = \beta_0 + \beta_1 ESOP_{i,t-1} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 CapEx_{i,t} + \alpha_i + \gamma_t + \varepsilon_{i,t}$$

This model addresses potential endogeneity concerns, particularly reverse causality, by ensuring that ESOP adoption precedes changes in firm performance. It also reduces simultaneity bias and strengthens the causal interpretation of the results (Table 1- Table 6).

Table 1. Variable Description

Variables	Description & Measurement	Sources
Employee Stock Option Plan (ESOP)	Dummy variable equal to 1 if a firm adopts ESOP in a given year, 0 otherwise.	Aboody et al. (2006); He et al. (2025)
Return on Assets (ROA)	Net income divided by total assets; measures operating efficiency.	Ding and Sun (2001); Li et al. (2022)
Return on Capital Employed (ROCE)	Earnings before interest and tax divided by capital employed; measures capital efficiency.	Ray (2016); Kong et al. (2024)
Tobin's Q	Market value of equity plus book value of debt divided by total assets; indicates growth opportunities.	Bhagat and Bolton (2008); Bharadwaj et al. (1999)
Capital Expenditure	Capital expenditures.	Ray (2016); Liu et al. (2023)
Size	Natural log of net sales; proxy for firm size.	Kim and Ouimet (2014); Sesil et al. (2002)
Leverage	Total debt divided by shareholder's equity; measure of financial leverage.	Kahle and Shastri (2005); Holland and Elder (2006)

4. Data Collection

This study is based on secondary data. Firm-specific data is sourced from the PROWESS IQ database, maintained by the Centre for Monitoring Indian Economy (CMIE). The sample consists of firms operating in the Information Technology (IT) sector listed on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE). The study covers a period of fifteen financial years, from 2009–10 to 2024–25. To minimize the influence of outliers and address issues of skewness and kurtosis, all continuous variables are winsorized at the 5th and 95th percentiles.

Preliminary descriptive evidence indicates that ESOP adoption within the Indian IT sector remains relatively limited, with approximately 4.2% of firm-year observations reflecting ESOP issuance. This suggests that ESOP are not uniformly adopted across firms but are instead implemented selectively. The observed pattern may be attributed to industry-specific dynamics such as increasing competition for skilled employees, a growing emphasis on retention-oriented compensation strategies, and the expansion of technology-driven firms. Despite these factors, the relatively

low adoption rate indicates that ESOP usage is concentrated among a subset of firms—primarily larger and high-growth firms—rather than being a widespread industry practice.

Having outlined the data source, sample characteristics, and general adoption trends, the next section describes the variables used in the empirical analysis, along with their definitions and measurements.

5. Results and Discussion

5.1 Numerical Results

The descriptive statistics provide important insights into the characteristics of firms in the Indian IT industry over the study period (2009–2025).

Table 2. Descriptive Statistics

	N	Mean	Median	SD
ROA	4976	1.573	1.933	21.575
ROCE	4796	2.973	3.010	32.477
Tobins'q	3630	2.036	0.389	8.396
ESOP	11849	.042	0.000	.202
Size	5176	5.723	5.607	2.673
Leverage	4622	.462	0.046	1.404
CAPEX	4751	.002	0.000	.069

The mean value of ROA (1.573) and ROCE (2.973) indicates moderate profitability levels, while the relatively high standard deviations suggest substantial variability in firm performance across the sample. This reflects the heterogeneous nature of the IT sector, where firms differ significantly in size, market positioning, and operational efficiency. Tobin's Q has a mean value of 2.036, indicating that, on average, firms are valued above their book value, which is consistent with the growth-oriented nature of the IT industry. However, the large dispersion in Tobin's Q highlights differences in market expectations and growth opportunities among firms. The ESOP dummy variable shows a mean of 0.042, implying that only about 4.2% of firm-year observations involve ESOP adoption. This indicates that ESOP usage is relatively limited and selective, rather than being a widespread compensation mechanism across the sector. Firm size exhibits moderate variation, while leverage shows significant dispersion, suggesting differences in capital structure strategies. Capital expenditure is relatively low on average, reflecting the asset-light nature of IT firms. Overall, the descriptive statistics confirm the presence of substantial firm-level heterogeneity, justifying the use of panel data models with fixed effects.

Table 3. Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) ROA	1.000						
(2) ROCE	0.919***	1.000					
(3) Tobins'q	-0.338***	-0.267***	1.000				
(4) ESOP	0.135***	0.109***	-0.078***	1.000			
(5) Size	0.322***	0.241***	-0.433***	0.436***	1.000		
(6) Leverage	-0.105***	-0.106***	0.086***	-0.075***	-0.022	1.000	
(7) CAPEX	0.269***	0.254***	-0.248***	0.051***	0.184***	0.014	1.000
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$							

The correlation matrix provides preliminary evidence on the relationships among key variables and helps assess potential multicollinearity issues. The results indicate a strong positive correlation between ROA and ROCE (0.919), which is expected as both are accounting-based measures of firm performance. This suggests consistency in profitability indicators across firms. ESOP adoption shows a positive and statistically significant correlation with ROA (0.135) and ROCE (0.109), indicating that firms offering ESOP tend to exhibit better accounting performance. This supports the argument that ESOP may enhance employee motivation and productivity. However, ESOP is negatively correlated with Tobin's Q (-0.078), suggesting that market-based performance does not always align with accounting-based improvements.

Firm size is positively correlated with ROA and ROCE but negatively correlated with Tobin's Q, indicating that larger firms may have stable profitability but lower growth expectations. Leverage is negatively associated with accounting performance, implying that higher debt levels may adversely affect firm efficiency. Importantly, none of the correlation coefficients are excessively high (above 0.80, except ROA–ROCE which are conceptually similar), suggesting that multicollinearity is not a major concern. Overall, the correlation analysis provides initial support for a positive ESOP–performance relationship while highlighting the influence of firm characteristics.

Table 4. Baseline OLS Results

	(1)	(2)	(3)
	ROA	ROCE	Tobin's Q
ESOP	1.917***	1.778**	0.237***
	(0.627)	(0.881)	(0.0770)
Size	1.227***	1.573***	-0.216***
	(0.134)	(0.198)	(0.0345)
Leverage	-1.139***	-1.779***	0.0498***
	(0.178)	(0.307)	(0.0139)
CAPEX	51.49***	73.73***	-2.333***
	(7.309)	(10.66)	(0.533)
Observations	4273	4273	2960
R-squared	0.128	0.106	0.117

Note:

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The baseline OLS regression results indicate a positive and statistically significant relationship between ESOP adoption and firm performance across all three measures—ROA, ROCE, and Tobin's Q. Specifically, the ESOP coefficient is positive at conventional significance levels, suggesting that firms adopting ESOP experience higher profitability and market valuation. These findings are consistent with agency theory, which posits that equity-based incentives align employee interests with those of shareholders, thereby improving firm performance. In the context of the IT industry, where human capital is a critical asset, ESOP may enhance employee motivation, reduce turnover, and improve productivity. Control variables also exhibit expected relationships. Firm size positively affects accounting performance (ROA and ROCE), indicating economies of scale and operational efficiency. However, size negatively impacts Tobin's Q, suggesting that larger firms may have lower growth prospects. Leverage negatively affects accounting performance but has a positive association with Tobin's Q, indicating that market perceptions of debt may differ from its operational implications. Capital expenditure shows a strong positive relationship with accounting performance, reflecting investment-driven growth. Overall, the OLS results suggest that ESOP adoption is beneficial for firm performance. However, these results do not account for unobserved firm-specific characteristics, which may bias the estimates.

Table 5. Fixed Effects Results

	(1)	(2)	(3)
	ROA	ROCE	Tobin's Q
ESOP	1.660	0.583	0.0186
	(1.443)	(1.912)	(0.0555)
Size	2.138***	2.619**	-0.551***
	(0.657)	(1.029)	(0.165)
Leverage	-1.220***	-2.243***	0.0177

	(0.294)	(0.496)	(0.0372)
CAPEX	34.19***	48.04***	-0.999**
	(7.481)	(10.92)	(0.467)
Observations	4273	4273	2960
R-squared	0.0621	0.0534	0.103

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The fixed effects regression results provide a more robust assessment of the ESOP–performance relationship by controlling for unobserved, time-invariant firm-specific characteristics. Unlike the OLS results, the ESOP coefficient becomes statistically insignificant across all performance measures (ROA, ROCE, and Tobin’s Q). This shift in results suggests that the positive relationship observed in the baseline OLS model is likely driven by omitted variable bias. In other words, firms that adopt ESOP may already possess favourable characteristics such as better management quality, stronger governance structures, or higher growth potential which drive performance rather than ESOP itself. The control variables continue to show consistent and significant effects. Firm size remains positively associated with accounting performance but negatively related to Tobin’s Q. Leverage continues to have a negative impact on profitability, indicating financial risk and inefficiency associated with higher debt levels. Capital expenditure retains its positive influence on performance, highlighting the importance of investment in driving firm outcomes. The decline in R-squared values compared to OLS models further reflects the removal of cross-sectional variation when firm fixed effects are included. Overall, these findings indicate that ESOP do not have an independent impact on firm performance once firm-specific heterogeneity is accounted for.

Table 6. Lagged Results

	(1)	(2)	(3)
	ROA	ROCE	Tobin's Q
L ESOP	0.401	-0.461	0.0172
	(1.350)	(1.863)	(0.0664)
Size	2.355***	2.905***	-0.568***
	(0.6 78)	(1.062)	(0.177)
Leverage	-1.391***	-2.577***	0.0192
	(0.317)	(0.573)	(0.0411)
CAPEX	34.51***	48.52***	-1.134**
	(7.729)	(11.29)	(0.512)
Observations	3986	3986	2772
R-squared	0.0670	0.0598	0.102

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The lagged regression results are estimated to address potential endogeneity concerns and to examine the dynamic impact of ESOP on firm performance. By using lagged ESOP variables, the model attempts to capture the delayed effects of ESOP adoption on firm outcomes. The results indicate that the lagged ESOP variable is statistically insignificant across all performance measures. This suggests that ESOP adoption does not have a measurable impact on firm performance in subsequent periods. In other words, even after allowing for time-lagged effects, ESOP do not appear to generate sustained improvements in profitability or market valuation. The control variables remain consistent with previous models. Firm size continues to positively influence accounting performance while negatively affecting Tobin’s Q. Leverage maintains its negative relationship with profitability, reinforcing the adverse effects of higher debt levels. Capital expenditure continues to exhibit a strong positive impact on performance, highlighting the importance of investment in driving firm growth. The persistence of insignificant ESOP effects across lagged models

strengthens the conclusion that ESOP do not have a causal impact on firm performance. Instead, performance differences are more likely driven by firm-specific characteristics and strategic factors. These findings emphasize the importance of considering endogeneity and dynamic effects in empirical analysis.

5. Findings

This study investigates the impact of Employee Stock Option Plans (ESOP) on firm performance in the Indian Information Technology (IT) industry over the period 2009–2025 using panel data techniques. The findings provide several important insights into the ESOP–performance relationship.

First, the baseline OLS results indicate a positive and statistically significant association between ESOP adoption and firm performance across all measures, including ROA, ROCE, and Tobin's Q. This suggests that firms adopting ESOP tend to exhibit better performance, supporting the theoretical predictions of agency theory that equity-based incentives align employee and shareholder interests and improve efficiency.

Second, the fixed effects results provide a contrasting perspective. After controlling for unobserved firm-specific heterogeneity, the ESOP coefficient becomes statistically insignificant across all performance measures. This indicates that the positive relationship observed in the OLS model is likely driven by underlying firm characteristics rather than a direct effect of ESOP adoption. Firms that adopt ESOP may already possess favourable attributes such as better governance structures, stronger managerial capabilities, or higher growth potential, which contribute to superior performance outcomes. Third, the lagged regression results further reinforce this finding. The lagged ESOP variable is also statistically insignificant, suggesting that ESOP adoption does not have a measurable impact on firm performance in subsequent periods. This implies that ESOP do not generate sustained or long-term performance improvements.

Fourth, the control variables exhibit consistent and economically meaningful effects across all models. Firm size is positively associated with accounting-based performance measures but negatively related to Tobin's Q, indicating that larger firms may benefit from operational efficiencies but face lower growth expectations. Leverage shows a negative relationship with profitability, reflecting the adverse impact of financial risk. Capital expenditure has a strong positive effect on performance, highlighting the importance of investment in driving firm growth.

Overall, the findings suggest that while ESOP adoption is positively associated with firm performance in simple models, this relationship is not robust after accounting for firm heterogeneity and endogeneity. Thus, ESOP do not appear to have an independent or causal impact on firm performance in the Indian IT industry.

6. Conclusion

This study examines the impact of Employee Stock Option Plans (ESOP) on firm performance in the Indian IT industry over the period 2009–2025. The findings indicate that while ESOP adoption shows a positive association with firm performance in baseline OLS estimations, the effect becomes statistically insignificant after controlling for firm-specific heterogeneity and endogeneity using fixed effects and lagged models.

These results suggest that ESOP do not have an independent or causal impact on firm performance. Instead, the observed performance differences are likely driven by underlying firm characteristics such as governance quality and managerial efficiency. Overall, the study concludes that ESOP should not be viewed as a standalone mechanism for improving firm performance, but rather as part of a broader organizational and governance framework.

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