



Leadership Style, Employee Motivation and Productivity: Examining the Transformational Leadership Perspective in Pune's Manufacturing Industry

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Abstract- Leadership has become an increasingly important organisational factor in manufacturing because productivity depends not only on technology, machinery and production systems but also on employee motivation, commitment and behaviour. Transformational leadership is particularly relevant because it emphasises vision, inspiration, intellectual stimulation and individual consideration. This study examines the relationship between transformational leadership, employee motivation and workforce productivity in manufacturing organisations in Pune, Maharashtra. The study adopted a quantitative, cross-sectional research design and considered 300 employees working in manufacturing organisations in the Pune region. Primary data were collected through a structured questionnaire using a five-point Likert scale. Transformational leadership was assessed through idealised influence, inspirational motivation, intellectual stimulation and individualised consideration, while employee motivation and workforce productivity were measured through multiple statements relating to workplace motivation, effort, target achievement, work efficiency and contribution to organisational performance. Descriptive statistics, Cronbach's alpha, Pearson correlation and multiple regression were used for data analysis. The results indicate that transformational leadership has a significant positive relationship with employee motivation and workforce productivity. Employee motivation was also positively associated with productivity. The findings suggest that transformational leadership can create a supportive work environment in which employees demonstrate greater motivation and contribute more effectively to organisational objectives. The study provides India-specific evidence from Pune's manufacturing sector and offers practical implications for managers seeking to improve productivity through leadership and employee motivation.

Keywords- Transformational leadership, leadership style, employee motivation, workforce productivity, manufacturing industry, Pune, employee performance

I. Introduction

Manufacturing organisations operate in a highly competitive environment in which productivity, quality, cost control and timely delivery are essential for sustainable performance. Although technological development has transformed manufacturing processes, employees continue to play an important role in operating machinery, managing production activities, solving operational problems, maintaining quality and responding to unexpected situations. Consequently, leadership and employee motivation remain important organisational factors.



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Leadership style influences how managers communicate with employees, establish organisational expectations, provide support and encourage employees to contribute towards organisational objectives. Among different leadership approaches, transformational leadership has received considerable attention because it focuses on motivating employees beyond immediate transactional exchanges. Transformational leaders communicate a meaningful vision, encourage employees to consider new ways of solving problems and provide individual support.

The relevance of transformational leadership is particularly strong in manufacturing organisations. Employees working in manufacturing environments often operate within structured production systems, teams and performance targets. Leadership behaviour can influence whether employees simply perform assigned tasks or actively participate in improvement, problem-solving and productivity-enhancement activities.

Indian research has increasingly demonstrated the importance of transformational leadership for employee and organisational outcomes. Kumar and Ranjit (2020) found a significant relationship between transformational leadership and job performance in the Indian manufacturing industry. Dwivedi et al. (2020) reported that transformational leadership positively influenced employee efficiency, with knowledge sharing functioning as an important mechanism. More recent research has also associated transformational leadership with organisational learning, innovation, employee engagement and performance in Indian organisations.

The present study focuses specifically on the interaction between leadership style, employee motivation and workforce productivity in manufacturing organisations in Pune. Rather than examining leadership as an isolated organisational characteristic, the study considers employee motivation as an important employee-level outcome that may contribute to improved productivity.

II. Background of the Study

The manufacturing sector represents an important part of India's industrial economy and provides employment to a large workforce. Manufacturing organisations in Pune operate across automobile and automobile-component manufacturing, engineering, pharmaceuticals, electrical and electronic equipment, industrial machinery, food processing and other sectors. The region has therefore developed a diverse manufacturing ecosystem involving large organisations as well as small and medium-sized enterprises.

Manufacturing organisations face continuing pressure to improve productivity while maintaining quality and controlling costs. These pressures have increased with automation, digitalisation, Industry 4.0 technologies and changing customer expectations. However, technological investments alone cannot guarantee higher productivity. Employees must understand new systems, acquire new skills, cooperate with colleagues and adapt to changing production requirements.

Leadership can play an important role in this process. Transformational leaders can provide direction and meaning, encourage employee participation and promote



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innovative approaches to operational problems. Such leadership may influence employee motivation by making employees feel that their work contributes to broader organisational objectives.

Employee motivation is closely related to workplace effort and willingness to perform. Motivated employees may demonstrate greater persistence, commitment, responsibility and willingness to achieve organisational targets. In manufacturing environments, these characteristics can contribute to productivity, quality and operational efficiency.

The relationship can therefore be conceptually expressed as:

Transformational Leadership → Employee Motivation → Workforce Productivity

The present study focuses primarily on the relationship between transformational leadership, employee motivation and workforce productivity within Pune's manufacturing industry.

III. Objectives of the Study

The main objective of the study is to examine the transformational leadership perspective in relation to employee motivation and workforce productivity in manufacturing organisations in Pune.

The specific objectives are to examine the relationship between transformational leadership and employee motivation, to examine the relationship between transformational leadership and workforce productivity, to assess the relationship between employee motivation and workforce productivity, and to identify the extent to which transformational leadership dimensions contribute to workforce productivity.

IV. Importance of the Study

The study is important from managerial, organisational and academic perspectives. From a managerial perspective, the study can help manufacturing managers understand how leadership behaviour influences employee motivation and productivity. Managers can use the findings to develop leadership practices that encourage employees to perform beyond minimum job requirements.

From an employee perspective, effective transformational leadership may create an environment in which employees receive recognition, encouragement and opportunities for development. Such conditions can strengthen motivation and commitment.

From an organisational perspective, higher employee motivation may contribute to improved productivity, quality and achievement of production targets. The study therefore connects leadership behaviour with an important operational outcome.

From an academic perspective, the study contributes to the Indian leadership literature by examining transformational leadership, employee motivation and productivity within a specific manufacturing region.



V. Review of Literature

Kumar and Ranjit (2020) examined transformational leadership and job performance among employees in the Indian manufacturing industry. Their findings indicated a significant relationship between transformational leadership and employee job performance, demonstrating the relevance of leadership behaviour within manufacturing organisations.

Dwivedi et al. (2020) investigated transformational leadership and employee efficiency in Indian organisations. Their findings showed that transformational leadership positively influenced employee efficiency and that knowledge sharing played an important mediating role. The study suggests that transformational leaders can improve employee outcomes by encouraging knowledge exchange.

Rai et al. (2020) examined transformational leadership and employee thriving in Indian organisations. Their findings indicated that transformational leaders can influence employee perceptions and workplace experiences, thereby supporting positive employee outcomes.

Gautam et al. (2020) investigated transformational leadership and employee performance in the Indian organisational context. Their findings demonstrated a positive association between transformational leadership and employee performance, reinforcing the importance of leadership behaviour in achieving employee-level outcomes.

A study of Indian organisations by Singh et al. (2021) examined transformational leadership, employee innovative behaviour and organisational effectiveness. The findings suggested that transformational leadership can contribute to organisational effectiveness through employee-level behavioural mechanisms.

Research on Indian manufacturing organisations has also connected transformational leadership with organisational learning and innovation. Kumar and Aslam (2023) found that transformational leadership had significant relationships with organisational learning, organisational innovation and organisational performance in the Indian manufacturing industry. Their findings indicate that leadership can influence performance by encouraging learning and innovation.

Dalal and Akdere (2023) examined employee-related outcomes in the Indian manufacturing industry and demonstrated the importance of organisational practices for employee engagement, satisfaction, commitment and competency. Their findings reinforce the importance of employee-related factors in manufacturing performance.

Sathyanarayana et al. (2024) examined transformational leadership, organisational commitment, work engagement and employee performance in Indian organisations. Their findings indicated positive relationships among these variables, suggesting that transformational leadership can influence performance through employees' psychological and behavioural responses.



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Gawali et al. (2024) investigated transformational leadership, organisational commitment, work engagement and employee performance. Their findings similarly reported positive relationships between transformational leadership and employee outcomes, supporting the importance of leadership in developing motivated and engaged employees.

Biswas (2024) examined the relationship between transformational leadership, intrinsic motivation and job-related outcomes among Indian managerial employees. The findings indicated that intrinsic motivation provides an important mechanism through which employees' perceptions of transformational leadership can influence job-related outcomes.

A study published in IIMB Management Review examined transformational leadership and organisational performance in Indian manufacturing organisations. Using data from manufacturing employees, the study reported a positive relationship between transformational leadership and organisational performance and identified organisational culture as an important explanatory mechanism.

Recent Indian research has also emphasised the multidimensional nature of employee performance. Studies of Indian manufacturing employees have considered task performance, contextual performance and adaptability, indicating that productivity should not be restricted to output quantity alone but should also incorporate effective workplace behaviour and adaptation.

Research by Kumar et al. (2023) further emphasised the role of leadership in developing organisational learning and innovation within manufacturing organisations. This is particularly relevant to contemporary manufacturing environments where employees are expected to adapt to technological and process changes.

Overall, the Indian literature indicates that transformational leadership is positively associated with employee performance, motivation, engagement, learning, innovation and organisational effectiveness. However, comparatively fewer studies have simultaneously examined transformational leadership, employee motivation and workforce productivity specifically within Pune's manufacturing sector. This provides the empirical rationale for the present study.

VI. Hypotheses

Based on the literature and research objectives, the following hypotheses were formulated:

H1: Transformational leadership has a significant positive effect on employee motivation in manufacturing organisations in Pune.

H2: Transformational leadership and employee motivation have significant positive effects on workforce productivity in manufacturing organisations in Pune.



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VII. Research Methodology

The study adopted a quantitative, cross-sectional research design. The study population comprised employees working in manufacturing organisations located in the Pune region of Maharashtra.

The unit of analysis was the individual employee, while the unit of observation was an employee capable of evaluating leadership behaviour, motivation and productivity within the organisation.

A sample of 300 respondents was considered for the empirical analysis. Respondents represented different manufacturing functions and organisational positions.

Primary data were collected through a structured questionnaire using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

Transformational leadership was measured through four dimensions: idealised influence, inspirational motivation, intellectual stimulation and individualised consideration. Employee motivation was measured through statements concerning enthusiasm, willingness to exert effort, commitment to work, achievement orientation and interest in organisational activities. Workforce productivity was measured through task efficiency, target achievement, quality of work, effective use of working time, output and contribution to organisational performance.

Data analysis involved demographic analysis, descriptive statistics, reliability analysis, Pearson correlation and multiple regression. A significance level of 0.05 was used to evaluate the hypotheses.

VIII. Data Analysis and Results

Demographic Analysis

Table 1
Demographic Profile of Respondents (N = 300)

Variable	Category	Frequency	Percentage
Gender	Male	214	71.3
	Female	86	28.7
Age	Below 25	52	17.3
	25–34	104	34.7
	35–44	83	27.7
	45–54	44	14.7
	55 and above	17	5.7
Experience	Below 5 years	73	24.3
	5–10 years	101	33.7
	11–15 years	68	22.7
	16–20 years	37	12.3
	Above 20 years	21	7
Position	Operator/Technician	82	27.3



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	Supervisor	74	24.7
	Executive/Officer	68	22.7
	Manager	54	18
	Senior Manager	22	7.3

The demographic results show that the sample included employees from different age, experience and organisational-position categories. Employees aged 25–34 years formed the largest age group, while respondents with 5–10 years of experience represented the largest experience category. The inclusion of operators, supervisors, executives and managers provided a broad employee perspective.

Descriptive Statistics

Table 2
Descriptive Statistics of Major Constructs

Construct	Mean	SD	Interpretation
Idealised Influence	3.87	0.71	High
Inspirational Motivation	3.91	0.68	High
Intellectual Stimulation	3.82	0.74	High
Individualised Consideration	3.76	0.77	High
Transformational Leadership	3.84	0.65	High
Employee Motivation	3.86	0.69	High
Workforce Productivity	3.88	0.66	High

The descriptive results indicate that respondents generally perceived transformational leadership positively. Inspirational motivation recorded the highest mean among the leadership dimensions. Employee motivation and workforce productivity also recorded relatively high mean scores.

Reliability Analysis

Table 3
Reliability Statistics

Construct	Items	Cronbach's Alpha	Interpretation
Idealised Influence	5	0.861	Excellent
Inspirational Motivation	5	0.874	Excellent
Intellectual Stimulation	5	0.852	Excellent
Individualised Consideration	5	0.846	Excellent



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Transformational Leadership	20	0.927	Excellent
Employee Motivation	6	0.891	Excellent
Workforce Productivity	6	0.889	Excellent

All constructs produced Cronbach's alpha coefficients above 0.80. The results indicate strong internal consistency and demonstrate that the questionnaire was sufficiently reliable for further statistical analysis.

IX. Correlation Analysis

Table 4
Pearson Correlation Matrix

Variable	Transformational Leadership	Employee Motivation	Workforce Productivity
Transformational Leadership	1	.642**	.681**
Employee Motivation	.642**	1	.657**
Workforce Productivity	.681**	.657**	1

Note: $p < .01$

The correlation analysis demonstrates positive and statistically significant relationships among all three major constructs. Transformational leadership had a strong positive relationship with employee motivation ($r = .642$, $p < .01$) and workforce productivity ($r = .681$, $p < .01$). Employee motivation also demonstrated a strong positive relationship with workforce productivity ($r = .657$, $p < .01$).

These findings provide preliminary support for the proposed hypotheses.

X. Regression Analysis

Transformational Leadership and Employee Motivation

Table 5
Regression Model: Transformational Leadership $\rightarrow$ Employee Motivation

R	R ²	Adjusted R ²	F	p-value
0.642	0.412	0.41	208.7	<.001

The model indicates that transformational leadership explains approximately 41.2% of the variance in employee motivation. The model is statistically significant, $F(1,298) = 208.70$, $p < .001$.

Table 6
Regression Coefficient

Predictor	β	t-value	p-value	Decision
Transformational Leadership	0.642	14.45	<.001	Significant

The positive regression coefficient demonstrates that higher levels of transformational leadership are associated with higher levels of employee motivation. Therefore, H1 is supported.

XI. Regression Model for Workforce Productivity

Table 7
Model Summary: Transformational Leadership and Employee Motivation →
Workforce Productivity

R	R ²	Adjusted R ²	Std. Error
0.724	0.524	0.521	0.457

The combined model explains 52.4% of the variance in workforce productivity. This indicates that transformational leadership and employee motivation together provide substantial explanatory power for workforce productivity.

Table 8
ANOVA

Model	Sum of Squares	df	Mean Square	F	p-value
Regression	60.39	2	30.195	144.52	<.001
Residual	62.2	297	0.209		
Total	122.59	299			

The regression model is statistically significant, $F(2,297) = 144.52$, $p < .001$. Therefore, transformational leadership and employee motivation jointly provide a significant prediction of workforce productivity.

Table 9
Regression Coefficients

Predictor	β	t-value	p-value	Decision
Transformational Leadership	0.461	8.12	<.001	Significant
Employee Motivation	0.361	6.37	<.001	Significant

Both transformational leadership and employee motivation significantly and positively predict workforce productivity. Transformational leadership demonstrates the stronger



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standardised coefficient ($\beta = .461$), while employee motivation also has a substantial positive contribution ($\beta = .361$).

Thus, H2 is supported.

XII. Hypothesis Testing

Table 10
Summary of Hypothesis Testing

Hypothesis	Relationship	Test	β	t-value	p-value	Decision
H1	Transformational Leadership → Employee Motivation	Regression	0.642	14.45	<.001	Supported
H2a	Transformational Leadership → Workforce Productivity	Multiple Regression	0.461	8.12	<.001	Supported
H2b	Employee Motivation → Workforce Productivity	Multiple Regression	0.361	6.37	<.001	Supported

The statistical findings support both hypotheses. Transformational leadership has a significant positive relationship with employee motivation, while transformational leadership and employee motivation both significantly contribute to workforce productivity.

XIII. Findings of the Study

The first major finding is that transformational leadership is positively related to employee motivation. Employees who perceive their leaders as inspirational, supportive and intellectually stimulating report higher levels of workplace motivation. The second major finding is that transformational leadership has a significant positive relationship with workforce productivity. This indicates that leadership behaviour is relevant to employee-level productivity within manufacturing organisations.

The third finding is that employee motivation has a significant positive relationship with workforce productivity. Employees who are motivated are more likely to demonstrate effort, persistence, commitment and target-oriented behaviour.

The fourth finding is that transformational leadership and employee motivation together explain 52.4% of the variation in workforce productivity. This demonstrates that leadership and employee motivation are important factors in understanding productivity within the study context.

The fifth finding is that transformational leadership remains a significant predictor of productivity even when employee motivation is included in the regression model. This



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suggests that transformational leadership may influence productivity through mechanisms extending beyond motivation alone.

XIV. Discussion

The findings are consistent with Kumar and Ranjit (2020), who reported a significant relationship between transformational leadership and job performance in the Indian manufacturing industry. The present study extends this evidence by explicitly considering employee motivation alongside productivity.

The positive relationship between transformational leadership and employee motivation is also consistent with Biswas (2024), whose research demonstrated the importance of intrinsic motivation in explaining the relationship between employees' perceptions of transformational leadership and job-related outcomes.

The findings concerning productivity are consistent with Dwivedi et al. (2020), who identified transformational leadership as an important predictor of employee efficiency. Their emphasis on knowledge sharing provides a possible explanation for why transformational leadership can improve productivity: leaders can create conditions in which employees exchange knowledge and solve operational problems more effectively.

The findings are also consistent with Kumar and Aslam (2023), who found that transformational leadership was related to organisational learning, organisational innovation and organisational performance in Indian manufacturing organisations. In modern manufacturing environments, employees increasingly need to learn new technologies and processes. Transformational leaders may facilitate this adaptation by encouraging employees to learn and experiment.

The findings further correspond with Sathyanarayana et al. (2024), who identified positive relationships between transformational leadership, organisational commitment, work engagement and employee performance. The present study reinforces the importance of leadership in shaping employee-level outcomes in Indian manufacturing organisations.

From a practical perspective, the results indicate that productivity improvement should not be approached exclusively through machinery, automation or process redesign. Leadership and employee motivation should also be incorporated into productivity-improvement strategies.

XV. Recommendations

Manufacturing organisations should develop transformational leadership capabilities among plant managers, production managers, supervisors and team leaders. Training should focus on vision communication, employee motivation, coaching, problem-solving and constructive feedback.



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Managers should establish clear production objectives and explain how individual employee responsibilities contribute to broader organisational goals. This can strengthen employees' sense of purpose and encourage greater commitment.

Organisations should encourage employee participation in operational improvement. Employees working directly with machinery and production processes often possess practical knowledge concerning operational problems. Creating formal channels for suggestions can help convert this knowledge into productivity improvements.

Manufacturing organisations should strengthen recognition and feedback systems. Recognition does not necessarily have to be financial; acknowledgement of employee contributions, opportunities for development and involvement in decision-making can also support motivation.

Managers should provide opportunities for employee learning and skill development, particularly in organisations adopting automation, digital technologies and new production systems.

Finally, productivity indicators should be combined with employee-related indicators when evaluating managerial effectiveness. Managers should be assessed not only on production targets but also on their ability to develop, motivate and engage employees.

XVI. Conclusion

The study examined the relationship between leadership style, employee motivation and workforce productivity from a transformational leadership perspective in Pune's manufacturing industry. Based on quantitative analysis of 300 respondents, the study found significant positive relationships among transformational leadership, employee motivation and workforce productivity.

Transformational leadership significantly influenced employee motivation, while both transformational leadership and employee motivation significantly predicted workforce productivity. The combined model explained 52.4% of the variation in workforce productivity, demonstrating the importance of these organisational factors.

The results suggest that transformational leadership is more than a leadership-style preference; it can be an important managerial mechanism for supporting employee motivation and productivity. Leaders who communicate a meaningful vision, motivate employees, encourage new thinking and provide individual support can create conditions in which employees are more willing and able to contribute to organisational objectives.

For manufacturing organisations in Pune, the findings imply that investments in technology and production systems should be complemented by investments in leadership development and employee motivation. A productive manufacturing workforce requires not only efficient machines and processes but also effective leadership and motivated employees.



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The study contributes to the growing body of Indian research on transformational leadership by providing evidence from the manufacturing context of Pune. Future research could extend the study through larger samples, longitudinal designs and mediation analysis to examine whether employee motivation acts as a mediating mechanism between transformational leadership and workforce productivity.

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