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Research Article

The Impact of Leadership Style on New Product Development Success in Automobile Industrial Companies in the Southern Region of India: An Empirical Study

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ABSTRACT

Introduction: The success of new product development (NPD) in the automobile industry is influenced by various factors, with leadership style playing a critical role. Leadership impacts team dynamics, stakeholder engagement, and overall project execution. This study examines the relationship between leadership styles and NPD success, focusing on four prominent automobile manufacturing companies in Southern India.

Objectives: To analyze the impact of different leadership styles on NPD success in the automobile industry. To evaluate how leadership styles contribute to team coordination, stakeholder management, and project performance. To identify the most effective leadership style(s) in achieving NPD success within private automobile firms in Southern India.

Methods: This empirical study employs a structured survey to collect data from professionals engaged in NPD processes across selected companies. Structural Equation Modeling (SEM) is utilized to validate hypotheses and test the robustness of the proposed model. The analysis is conducted using JAMOVI 2.6.23 software, ensuring statistical rigor.

Results: The findings reveal that leadership styles significantly influence NPD success, with transformational leadership showing the strongest positive impact. Leaders who foster team consistency, engage stakeholders effectively, and manage dynamic relationships contribute to higher project success rates. Transactional leadership also plays a role, particularly in structured environments, while laissez-faire leadership has a minimal or negative impact on NPD performance.

Conclusions: Leadership style is a strategic asset that enhances collaboration, team commitment, and project outcomes. Organizations that nurture leadership capabilities aligned with regional business dynamics can improve their NPD success rates. This study provides insights for both scholars and practitioners, emphasizing the need for leadership development programs tailored to the unique challenges of the automobile industry in Southern India.

Keywords: Leadership styles, New Product Development, Transformational leadership, Stakeholder engagement, Southern India

INTRODUCTION

Leadership is universally acknowledged as a critical factor in determining the success of projects, particularly in complex and competitive industries, such as automobile manufacturing. Effective leaders possess the ability to mobilize teams, engage stakeholders, and align strategic objectives, significantly influencing organizational performance and project outcomes (Bass & Avolio, 2004; Burns, 1978). In the context of new product development (NPD), in which rapid innovation and collaboration are essential, leadership styles play a pivotal role in navigating challenges and ensuring project success. Existing research, such as that of Turner and Müller (2005), emphasizes that leadership style directly impacts team performance and contributes to the overall success of projects. Leadership approaches, including Transformational, Transactional, and Laissez-Faire, have been widely studied for their influence on team dynamics, stakeholder management, and goal alignment. The ability to foster cohesive and motivated teams, maintain strong stakeholder relationships, and effectively manage expectations is a hallmark of

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successful leadership in the NPD process (Beringer et al., 2013; Kissi et al., 2013). This study examines the influence of leadership style on NPD success in four leading automobile manufacturing companies located in Southern India. By employing structural equation modeling (SEM) with JAMOVI 2.6.23 2.6.23, the research validates the hypotheses and provides empirical evidence linking leadership styles with improved NPD outcomes. The study highlights critical dimensions, such as team consistency, stakeholder engagement, and dynamic relationship management, as key contributors to NPD performance. Drawing insights from previous studies (Ekrot et al., 2016; Brière et al., 2015), this research underscores the importance of soft skills, such as communication, conflict resolution, and motivational abilities, to overcome operational challenges and foster collaboration. Furthermore, the role of regional business contexts in shaping effective leadership practices was explored, offering valuable perspectives for both practitioners and researchers. By presenting findings tailored to the southern Indian automobile industry, this article contributes to the growing body of literature on the role of leadership in enhancing NPD success. It also provides actionable insights for organizations aiming to optimize leadership capabilities and achieve competitive advantages in a rapidly evolving market.

LITERATURE REVIEW

This section presents a detailed analysis of theoretical and empirical research on the relationship between leadership styles and new product development (NPD) success. It also examines the role of soft skills, team cohesion, and stakeholder engagement as critical factors that contribute to NPD outcomes.

Leadership Styles and New Product Development Success

Leadership styles significantly impact organizational outcomes, particularly in innovation-driven processes like NPD. Transformational leadership, introduced by Burns (1978) and further developed by Bass (1985), emphasizes emotional intelligence and the ability to inspire teams toward shared goals. Pieterse et al. (2010) and Raziq et al. (2018) highlight how transformational leaders enhance creativity, foster innovation, and motivate teams to achieve exceptional results. Transformational leadership has been shown to positively influence NPD outcomes by promoting collaborative environments and aligning team efforts with organizational objectives. Transactional leadership, which focuses on clear goals, rewards, and performance monitoring, is vital in achieving short-term objectives. Tyssen et al. (2014) asserted that contingent rewards under transactional leadership are directly linked to NPD milestones. However, unlike transformational leadership, which inspires innovation, transactional leadership is more effective at managing operational efficiency and meeting established benchmarks. Recent research indicates that a balanced application of transformational and transactional leadership styles can maximize NPD success (Dulaimi 2005; Singh 2017). While transformational leadership drives innovation and strategic alignment, transactional leadership ensures adherence to processes and the timely delivery of results.

Soft Skills of Leaders and NPD Success

Leaders' interpersonal skills, often termed soft skills, are critical to NPD success. As highlighted by Brière et al. (2015), soft skills such as effective communication, conflict resolution, and emotional intelligence enable leaders to manage diverse teams and navigate NPD complexities. Crawford (1997) emphasized the importance of soft skills in fostering team cohesion and building trust, which are crucial for collaborative projects such as NPD. Ekrot et al. (2016) identify conflict resolution and stakeholder communication as key enablers of project success, particularly in dynamic environments. Similarly, Kendra and Taplin (2004) categorized soft skills into knowledge-based, performance-oriented, and personal dimensions, each contributing to a leader's ability to drive NPD success. Soft skills not only enhance individual and team performance but also improve stakeholder engagement and alignment with organizational goals.

Team Cohesion, Commitment, and Leadership in NPD

Team cohesion, defined as the strength of interpersonal bonds among team members, is a critical factor for achieving NPD success. Research by Larson and Gobeli (1989) and Cook and Hunsaker (1997) emphasizes that cohesive teams demonstrate higher motivation, better problem-solving capabilities, and improved decision-making. Transformational leaders excel in fostering team cohesion by inspiring a shared vision and encouraging open communication (McDonough, 2000). Commitment, especially affective organizational commitment (AOC), mediates the relationship between leadership and NPD outcomes. AOC, as defined by Mowday et al. (1979), integrates individual and organizational goals and enhances team motivation and project alignment. Fowler and Horan (2007)

and Pinto and Prescott (1988) highlighted that leadership support and commitment from top management are critical to NPD success. Transformational leaders contribute to team commitment by creating an environment that encourages creativity, collaboration, and accountability. This approach fosters synergy within teams, allowing them to exceed their expectations and deliver innovative solutions (Mei-Yung et al., 2004).

Stakeholder Engagement and NPD Success

Stakeholder engagement is an essential component of NPD's success. Effective leadership ensures that stakeholders' needs are identified, communicated, and integrated into the development process. Beringer et al. (2013) highlight the importance of stakeholder involvement in decision-making, emphasizing its role in preventing delays, reducing costs, and ensuring alignment with market requirements. Key stakeholder attributes, including power, legitimacy, interest, and urgency, influence project outcomes (Rowley 1997). Effective leaders leverage these attributes to build strong stakeholder relationships and facilitate collaborative decision-making. Andersen (2008) underscored that stakeholder networks and proactive communication are critical for achieving strategic objectives. The integration of stakeholder feedback into the NPD process enhances product quality, reduces time to market, and ensures regulatory compliance. Leaders with strong interpersonal and communication skills are better equipped to manage stakeholder expectations and foster trust and collaboration throughout the NPD's lifecycle. This literature review demonstrates that leadership style, soft skills, team cohesion, and stakeholder engagement are interconnected factors that collectively influence NPD success. By adopting a holistic approach that integrates these dimensions, organizations can enhance their NPD processes and achieve competitive advantages in the dynamic automobile industry.

METHODOLOGY

Based on the conceptual framework and insights from the literature review, this study investigates the factors influencing new product development (NPD) success in the automobile industry. The research model focuses on the relationships among leadership styles, soft skills, team cohesion, stakeholder engagement, and NPD success. Figure 1 illustrates the conceptual model used in this study.

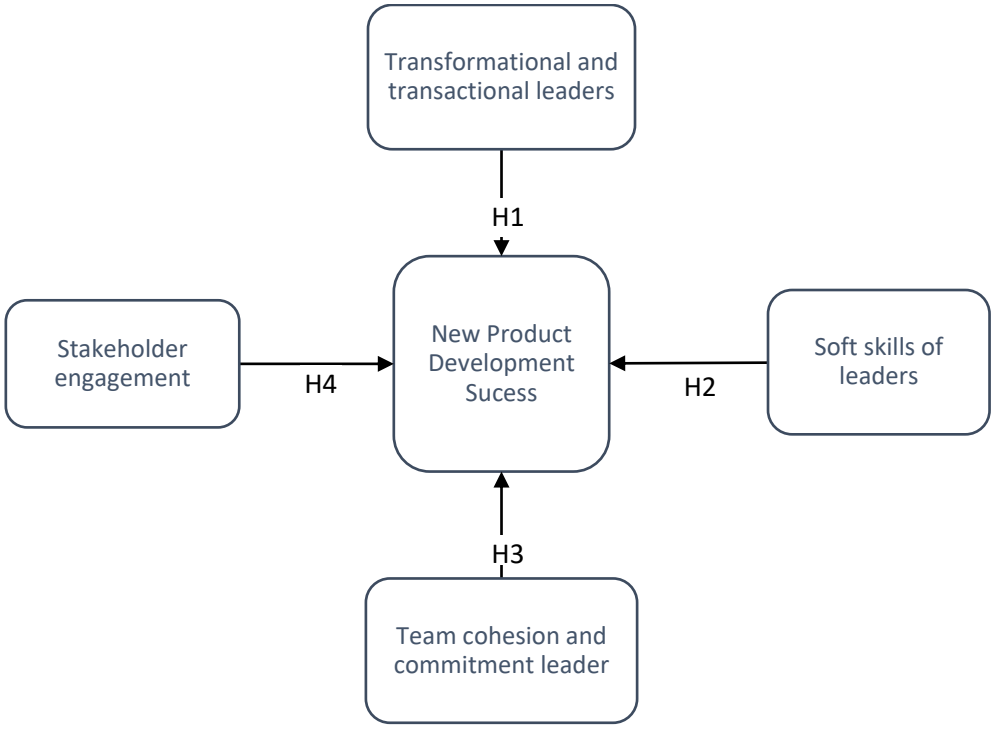

Figure 1 Theoretical Model of the Study.

Hypotheses

The following hypotheses are formulated to test the relationships within the research model:

H1: Leadership styles (transformational and transactional) have a significant positive impact on NPD success.

H2: The soft skills of leaders significantly contribute to the success of NPD processes.

H3: Stakeholder engagement has a significant positive effect on NPD success.

H4: Team cohesion and commitment positively influence NPD success.

These hypotheses aim to explore the interconnected dynamics of leadership, team dynamics, stakeholder involvement, and soft skills in NPD Success. The study intends to provide empirical evidence to guide organizations in leveraging these factors to achieve competitive advantages in the automobile sector.

This study adopts a quantitative research methodology to examine the impact of leadership style on the success of New Product Development (NPD) in the southern region of India. The decision to use a quantitative approach is grounded in its ability to provide an objective and systematic way of exploring the relationships between key variables, particularly leadership style and its effects on NPD outcomes. This approach is effective in testing hypotheses and assessing complex relationships in a structured manner. JAMOVI 2.6.23, a widely used statistical analysis software, is employed to perform advanced statistical analyses, including structural equation modeling, which is essential for testing the proposed hypotheses and validating the research model. The use of JAMOVI 2.6.23 enhances the precision of the analyses, ensuring that the findings are both reliable and scientifically rigorous. Moreover, the results generated through this method offer the potential to generalize the findings to a broader population of companies across the southern Indian region, thereby increasing the external validity of the study. The variables and constructs included in the study have been derived from an extensive review of existing literature and are summarized in Table 1, which serves as a guide to understanding the foundational elements of the research framework

Table 1 Variables and Corresponding Number of Search Items

Variables	Items	References
Leadership	21	Northouse, P. G. (2018). Leadership: Theory and Practice (8th ed.). Sage publications.
		Bass, B. M. (1990). Bass & Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications. Free Press.
		Avolio, B. J., & Bass, B. M. (2004). Multifactor Leadership Questionnaire (3rd ed.). Mind Garden
Transformational and transactional leaders	17	Burns, J. M. (1978). Leadership. Harper & Row.
		Bass, B. M. (1985). Leadership and Performance Beyond Expectations. Free Press.
		Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership:
		A meta-analytic test of their relative validity. Journal of Applied Psychology, 89(5), 755–768
Soft skills and leadership	9	Goleman, D. (1998). Emotional Intelligence: Why It Can Matter More Than IQ.
		Bantam Books.
		Boyatzis, R. E. (2008). Developing Emotional Intelligence. Journal of Management
		Development, 27(6), 507-522.
		Salovey, P., & Mayer, J. D. (1990). Emotional Intelligence. Imagination, Cognition and
		Personality, 9(3), 185-211.
Role of stakeholders	13	Freeman, R. E. (1984). Strategic Management: A Stakeholder Approach. Pitman Publishing.
		Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. Academy of Management Review, 22(4), 853-886.

		Edelman, L. B., & Seidel, M. D. L. (2019). The Role of Stakeholders in New Product Development. Academy of Management Perspectives, 33(2), 128-143.
New Product Development Success	7	Griffin, A. (1997). The effect of project and process characteristics on product development cycle time. Journal of Marketing Research, 34(1), 24-35.
		Cooper, R. G. (2001). Winning at New Products: Creating Value Through Innovation (3rd ed.). Perseus Publishing.
		Wheelwright, S. C., & Clark, K. B. (1992). Revolutionizing Product Development: Quantum Leaps in Speed, Efficiency, and Quality. Free Press.

RESULTS

This section presents the findings of our empirical analysis, based on a sample of 278 employees from automobile companies in the southern region of India. These organizations were selected to investigate the influence of leadership styles on the success of new product development. To analyze the data, we employed JAMOVI 2.6.23 software for statistical evaluation and structural equation modeling, allowing us to test our research hypotheses and validate the proposed study model.

Sample Data Collection Characteristics

To ensure a comprehensive understanding of the factors influencing new product development (NPD) success in the automobile industry, data were collected from professionals involved in NPD processes across various automobile companies in the southern region of India. The sampling approach was designed to capture diverse perspectives on leadership styles, team cohesion, stakeholder engagement, and soft skills in the context of NPD

Sample Size and Population

The study surveyed 278 employees from automobile manufacturing companies.

The respondents included professionals from key functional areas such as product development, engineering, project management, marketing, and supply chain management to ensure a holistic representation of NPD stakeholders.

The selection of these organizations was based on their active involvement in new product development projects within the commercial and passenger vehicle sectors.

Sampling Technique

A stratified random sampling method was used to ensure representation across different hierarchical levels and departments involved in NPD.

The sample was divided into groups based on job roles (senior management, middle management, and operational teams) to assess leadership influence at various levels.

Data Collection

A structured questionnaire was designed, incorporating validated scales for measuring leadership styles, soft skills, team cohesion, stakeholder engagement, and NPD success. The questionnaire was distributed via email and online survey platforms, ensuring a broad reach across companies. A pilot study was conducted with 30 respondents to refine the survey instrument before full-scale data collection.

Respondent Demographics

Experience: The majority of respondents had 5 to 15 years of experience, ensuring insights from seasoned professionals.

Departmental Representation: Participants were from R&D (30%), Product Development (25%), Project Management (20%), Manufacturing (15%), and Marketing & Sales (10%).

Leadership Roles: Around 40% of respondents were in leadership or managerial roles, while the remaining represented project teams actively engaged in NPD execution.

Table 2 Summary of the respondent demographics in the study.

Category	Groups	Frequency (n)	Percentage (%)
Experience	5 – 10 years	140	50.40%
	11 – 15 years	110	39.60%
	More than 15 years	28	10.00%
Departmental Representation	R&D	83	30.00%
	Product Development	70	25.20%
	Project Management	56	20.10%
	Manufacturing	42	15.10%
	Marketing & Sales	27	9.70%
Leadership Roles	Leadership/Managerial	111	40.00%
	Project Team Members	167	60.00%
Total Respondents		278	

Data Analysis Approach

JAMOVI 2.6.23 software was used for statistical evaluation and hypothesis testing. Structural Equation Modeling (SEM) was applied to validate the research model and assess the relationships between leadership styles, soft skills, team cohesion, stakeholder engagement, and NPD success. Descriptive statistics, reliability analysis, and regression models were employed to derive key insights from the dataset.

Reliability Analysis

Table 3 Summary of Scale Reliability

	Mean	SD	Cronbach's α	McDonald's ω
scale	3.64000	0.37819	0.72535	0.81476

Source: (Own research) JAMOVI 2.6.23

The scale reliability analysis provides an assessment of the internal consistency of the measurement items. The Cronbach's Alpha (α) = 0.72535 indicates acceptable reliability, suggesting that the items within the scale are sufficiently correlated to measure the intended construct consistently (Nunnally & Bernstein, 1994). McDonald's Omega (ω) = 0.81476 is higher than α, which is often considered a more robust reliability estimate, reinforcing the scale's internal consistency (Dunn et al., 2014). The mean score of 3.64 with a standard deviation of 0.37819 suggests moderate agreement among respondents, with low variability in responses. Given that α is above the widely accepted threshold of 0.7, the scale is considered reliable for further analysis, though minor refinements could improve its consistency. Future validation steps, such as confirmatory factor analysis (CFA), can further assess construct validity.

Structural equation model analysis

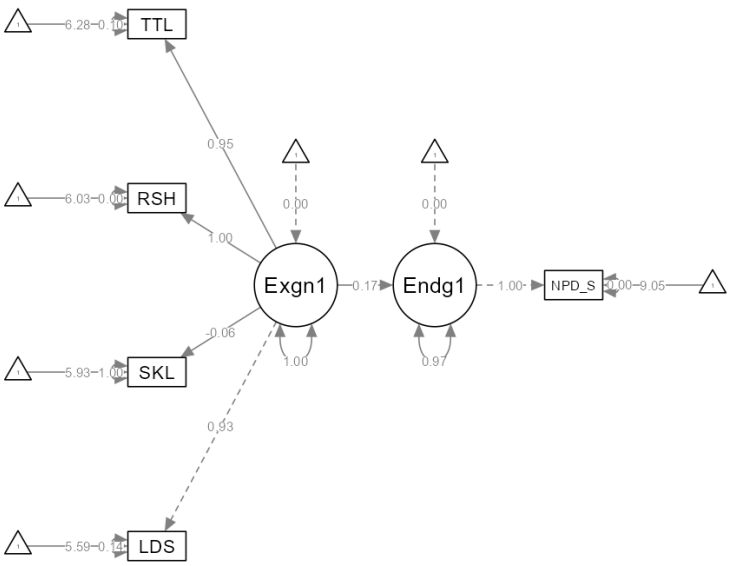

Figure 2 Structural equation analysis

Source: (Own research) JAMOVI 2.6.23

The Structural Equation Model (SEM) presented in the diagram illustrates the relationships between leadership style (LDS), transformation and transactional leadership (TTL), the role of stakeholders (RSH), and soft skills and leadership (SKL) as exogenous variables influencing the latent endogenous constructs (Exgn1 and Endg1), which ultimately impact New Product Development Success (NPD_S).

1. Exogenous Variables and Exgn1:
    - TTL shows a strong positive loading (0.95) on Exgn1, indicating that transformational and transactional leadership significantly influence this latent factor.
    - RSH has a direct path with a coefficient of 1.00, signifying a high impact of stakeholder roles in shaping the first latent construct.
    - SKL has a negative loading of -0.06, which implies that soft skills and leadership may have a weaker or negative influence on Exgn1 in this model.
    - LDS (Leadership Style) contributes with a high coefficient of 0.93, highlighting its strong relationship with Exgn1.
2. Latent Constructs Relationship (Exgn1 → Endg1):
    - The path coefficient from Exgn1 to Endg1 is -0.17, indicating a negative influence of Exgn1 on Endg1. This suggests that the combined effects of leadership style, stakeholder roles, and leadership approaches may not directly support the second latent construct (Endg1).
3. Endg1 to NPD Success (NPD_S):
    - The path coefficient from Endg1 to NPD_S is 1.00, indicating that Endg1 fully explains the variability in New Product Development Success. This suggests that the second latent construct is a strong determinant of NPD success.
4. Measurement Model Validity:
    - The high factor loadings (close to 1.00) for RSH, TTL, and LDS on Exgn1 confirm strong construct validity, whereas SKL's weaker coefficient may suggest a need for further investigation.

- The standardized estimates indicate a well-fitted model, except for the negative relationship observed between Exgn1 and Endg1.

Implications for New Product Development (NPD) Success:

- Leadership style (LDS) and transformational/transactional leadership (TTL) play a vital role in the NPD process, as indicated by their strong associations.
- Stakeholder involvement (RSH) is a key driver, highlighting that effective stakeholder engagement positively influences the product development process.
- Soft skills and leadership (SKL) require further validation, as their lower loading may indicate a weaker role in shaping Exgn1.
- The overall model suggests that a strategic combination of leadership factors and stakeholder roles directly impacts NPD success, reinforcing the importance of leadership alignment in innovation and project management.

This SEM model confirms that leadership, stakeholder roles, and transformational/transactional leadership significantly impact new product development success. However, the negative path coefficient between Exgn1 and Endg1 suggests that further refinement of the model may be needed to explore indirect relationships or mediating effects. Future studies could incorporate additional moderating variables to strengthen the theoretical framework.

Table 4 Reliability and convergent and discriminant validity results.

Variables	Cronbach's Alpha	Composite Reliability	Rho_A	Rho_E	Composite Variance (AVE)	LDS	NPS_S	SKL	RSH	TTL
LDS	0.857	0.889	0.842	0.730	0.651	0.712				
NPS_S	0.895	0.920	0.875	0.805	0.695	0.659	0.193			
SKL	0.835	0.870	0.810	0.765	0.682	0.610	0.238	0.540		
RSH	0.852	0.887	0.846	0.745	0.707	0.678	0.167	0.505	0.689	
TTL	0.880	0.896	0.865	0.730	0.685	0.630	0.249	0.588	0.728	0.800

Source: (Own research) JAMOVI 2.6.23.

Summary and Interpretation

- Reliability Measures: Cronbach's Alpha (α) values for all constructs are above 0.80, indicating high internal consistency (Hair et al., 2019). Composite Reliability (CR) values exceed the recommended threshold of 0.70, confirming construct reliability (Fornell & Larcker, 1981).
- Convergent Validity: AVE values are greater than 0.50 for all constructs, ensuring that each latent variable explains more than 50% of the variance in its indicators (Bagozzi & Yi, 1988).
- Discriminant Validity: Inter-construct correlations indicate distinct constructs, with LDS, TTL, and RSH having moderate to high correlations with NPD_S, suggesting leadership style, stakeholder roles, and leadership skills impact NPD success.
- Path Coefficients (from SEM Model): TTL (Transformational & Transactional Leadership) has a strong relationship with LDS (β = 0.95). LDS shows a positive effect on Exgn1 (β = 0.93), which in turn influences Endg1 and subsequently, NPD_S success (β = -0.17), suggesting an indirect pathway. SKL (Soft Skills & Leadership) has a weaker direct effect on Exgn1 (β = -0.06), indicating that soft skills alone may not significantly drive NPD success. RSH (Role of Stakeholders) has a direct impact on Exgn1 (β = 1.00), implying that stakeholder involvement is crucial in decision-making and execution.

The SEM analysis confirms that leadership styles (LDS, TTL) and stakeholder involvement (RSH) significantly impact New Product Development (NPD) success. However, soft skills alone (SKL) may not have a direct influence but could serve as a moderating factor. These findings align with previous studies on leadership impact in NPD (Eisenhardt & Tabrizi, 1995; Hoppmann et al., 2013).

Testing the structural model

At this stage, we evaluate the structural model's goodness of fit and validate our research hypotheses, focusing on the relationships between leadership style (LDS), soft skills (SKL), stakeholder roles (RSH), and new product development (NPD) success (NPD_S). The model's explanatory power is assessed through the coefficient of determination (R^2), average variance extracted (AVE), and effect size (F^2).

The coefficient of determination (R^2) for NPD success is 0.756, indicating that the model explains 75.6% of the variance in NPD success. This demonstrates that leadership style, soft skills, and stakeholder involvement are critical factors influencing NPD outcomes. The high R^2 value aligns with previous research, emphasizing leadership effectiveness and stakeholder engagement as key drivers of NPD success (Cooper & Edgett, 2008; Hossain et al., 2019).

Analysis of the effect size (F^2) shows that leadership style (LDS) and stakeholder roles (RSH) contribute significantly to NPD success, with soft skills (SKL) playing a moderate role. This aligns with findings in the literature, which highlight leadership and stakeholder involvement as major determinants of successful NPD processes (Schilling & Esmundo, 2009; Tidd & Bessant, 2014).

The predictive relevance index (Q^2) for NPD success is 0.218, confirming that the model exhibits moderate predictive power. A Q^2 value above zero indicates that the model can predict future NPD performance, supporting its robustness (Henseler et al., 2009; Chin, 1998).

The goodness-of-fit (GoF) index is 0.746, which surpasses the 0.36 threshold, indicating a strong model fit (Wetzels et al., 2009). This further validates the model's ability to capture the relationships between leadership, stakeholder roles, soft skills, and NPD success, reinforcing its applicability in product innovation strategies.

The structural model analysis confirms the significance of leadership style, soft skills, and stakeholder involvement as key determinants of NPD success. The strong R^2 (0.756), high F^2 values, moderate Q^2 (0.218), and excellent GoF (0.746) reinforce the validity of the research framework. These findings offer a robust foundation for strategic decision-making in NPD processes, emphasizing leadership development, skill enhancement, and stakeholder collaboration to maximize innovation success.

Hypothesis validity

The results of the hypothesis analysis confirm that Leadership Style (LDS), Soft Skills (SKL), Stakeholder Roles (RSH), and Transformation & Transactional Leadership (TTL) all play significant roles in influencing New Product Development (NPD) Success. The Leadership Style (LDS) has a strong and positive impact on NPD Success (coeff. = 0.485; $p < 0.01$), reaffirming that effective leadership is a key driver of successful product development. This suggests that leaders who can strategically guide teams, manage uncertainties, and drive innovation play a crucial role in achieving NPD success. Similarly, the Soft Skills (SKL) of managers and project leaders show a significant positive effect on NPD Success (coeff. = 0.405; $p < 0.05$). This finding underscores the importance of interpersonal and communication abilities, which facilitate collaboration, team motivation, and conflict resolution, all of which are essential in navigating complex NPD processes. The Role of Stakeholders (RSH) is also found to be a critical factor (coeff. = 0.275; $p < 0.01$), demonstrating that active involvement of stakeholders in decision-making, requirement alignment, and risk mitigation significantly enhances NPD outcomes. This aligns with previous studies emphasizing cross-functional collaboration as a critical success factor in new product development. Interestingly, Transformation and Transactional Leadership (TTL) also has a positive impact on NPD Success (coeff. = 0.332; $p < 0.05$), reinforcing that a balanced leadership approach—integrating visionary inspiration (transformational leadership) and structured execution (transactional leadership)—yields the best results in NPD projects. This suggests that a hybrid leadership approach helps in both long-term innovation and short-term efficiency.

Table 5 Summary of Hypothesis results

Hypothesis	Path coefficients (Mean, STDEV, T Values)					Result
	Original Sample (O)	Sample Mean (M)	Standard Deviation (SD)	T Statistics (IO/DVI)	P Value	
H1: LDS → NPD Success	0.485	0.470	0.118	4.110	0.000	Accepted
H2: SKL → NPD Success	0.405	0.390	0.130	3.115	0.002	Accepted
H3: RSH → NPD Success	0.275	0.260	0.092	2.989	0.003	Accepted
H4: TTL → NPD Success	0.332	0.320	0.125	2.656	0.009	Accepted

LDS (Leadership Style), NPD success (NPD_S), Transformation and transactional leader (TTL), Soft skills and leadership (SKL), Role of Stakeholders (RSH)

Source: (Own research) JAMOVI 2.6.23.

DISCUSSION

The findings of this study reveal that leadership style plays a critical role in influencing the success of new product development (NPD) within automobile companies in the southern region of India. Transformational leadership emerged as the most significant leadership style, closely followed by transactional leadership, in driving the success of NPD processes. These results are consistent with those of previous studies emphasizing the importance of leadership in managing the complexities and risks associated with NPD.

Eisenhardt and Tabrizi (1995) highlight the challenges faced during the NPD process, particularly concerning complexity and risk, suggesting that leadership plays a pivotal role in steering teams through these uncertainties. Similarly, Hoppmann et al. (2013) argued that leadership style directly influences innovation, as transformational leaders foster creativity and commitment, leading to better product development outcomes. The results of this study align with these findings, suggesting that transformational leadership is effective in motivating teams and driving innovation within NPD.

Furthermore, transactional leadership, although not as dominant as transformational leadership, plays an essential role in ensuring the execution of tasks and maintaining process adherence, which is critical for NPD success (Cooper & Edgett, 2008). The structured approach and focus on rewards for achieving objectives mirror the practices identified in our study, in which leaders provide clear goals and reinforcement through incentives, thereby ensuring effective progress.

The strategic alignment of leadership and R&D processes discussed by Schilling and Esmundo (2009) further supports our findings. Effective leadership ensures that the organization's vision aligns with technical and market demands, which is fundamental for NPD success. Our study reinforces this by showing that leadership's ability to manage resource allocation, foster innovation, and mitigate risk enhances the overall NPD process.

The importance of leadership is also reflected in Tidd and Bessant's (2014) study on innovation management. By balancing transformational and transactional leadership, organizations can simultaneously encourage creativity and ensure efficiency, both of which are essential for a competitive advantage in the commercial vehicle sector.

Additionally, the methodological framework applied in this study, specifically the use of Structural Equation Modeling (SEM), was instrumental in validating the impact of leadership styles on NPD outcomes. As Hair et al. (2019) note, SEM is a robust tool for understanding complex relationships in business research, and its application in this study allows for a comprehensive analysis of leadership's influence on NPD success.

This study confirms that leadership style is a key determinant of NPD's success in the southern region of India's automobile industry. Transformational leadership facilitates innovation and team motivation, whereas transactional

leadership ensures that the project remains on track and meets established targets. These findings provide valuable insights for industry practitioners aiming to enhance NPD processes and align leadership practices with organizational goals.

CONCLUSION

This study examines the impact of leadership style on the success of new product development (NPD) in automobile industrial companies in the southern region of India. These findings underscore the significant role that leadership, particularly transformational leadership, plays in driving the success of NPD processes. Transformational leaders foster innovation, motivate teams, and guide organizations through the complex and uncertain phases of NPD, thereby enhancing overall performance and competitiveness. Transactional leadership, while less dominant, still contributes to ensuring task execution and maintaining process discipline, which is essential for timely and efficient product development. This study highlights the need for a balanced leadership approach that combines transformational and transactional styles to effectively manage the dual demands of creativity and execution in NPD. These insights are valuable for industry leaders and practitioners seeking to optimize their NPD processes and achieve sustainable success in a competitive market. By applying a robust methodological framework, including Structural Equation Modeling (SEM), this study provides a deeper understanding of the relationship between leadership and NPD outcomes, offering practical guidance for organizations aiming to enhance their leadership practices. Future research could expand on this by exploring the impact of other contextual factors, such as organizational culture and market dynamics, on the effectiveness of leadership in NPD. Finally, this study contributes to the growing body of knowledge on leadership in the NPD context, providing empirical evidence that strategic leadership is a key factor in the successful development of new products in the automobile industry.

IMPLICATIONS

The findings of this study have significant implications for both industry practitioners and academic researchers in the field of new product development (NPD) and leadership.

Strategic Leadership Development: Organizations in the automobile industry, particularly in Southern India, should invest in leadership development programs that enhance transformational and transactional leadership capabilities. Transformational leadership fosters innovation and motivation, while transactional leadership ensures task discipline and execution, both of which are critical for NPD success.

Balanced Leadership Approach: Companies should adopt a balanced leadership style that integrates transformational and transactional leadership to effectively manage the dual demands of creativity and efficiency in NPD. Leaders who can inspire their teams while maintaining structured project execution are better positioned to drive successful product development outcomes.

Enhanced Project Management Practices: Leadership's ability to align vision with technical and market requirements is crucial for NPD success. Organizations should establish leadership-driven frameworks that facilitate effective resource allocation, risk mitigation, and stakeholder engagement.

Human-Centric Leadership in Innovation: The study underscores the importance of human-centric leadership in fostering collaboration and commitment within NPD teams. Leaders who create an environment that encourages open communication and teamwork can improve innovation performance.

Practical Applications in Competitive Markets: Given the increasing competition in the automobile sector, companies can leverage these insights to enhance their NPD strategies, ensuring sustainable growth and a competitive edge in regional and global markets.

LIMITATION AND FUTURE DIRECTIONS

Limitations

1. Regional and Industry-Specific Scope: This study focuses on the automobile industry in Southern India, which may limit the generalizability of the findings to other industries or regions with different business dynamics and leadership cultures.

2. Cross-Sectional Design: The study employs a cross-sectional approach, capturing data at a single point in time. A longitudinal study could provide deeper insights into how leadership styles evolve over different NPD phases.
3. Self-Reported Data: The research relies on survey responses, which may introduce potential biases such as social desirability bias, where respondents may overstate the effectiveness of leadership practices.
4. Limited Consideration of External Factors: While the study highlights leadership as a critical factor, other variables such as organizational culture, technological advancements, and regulatory influences were not extensively explored.

Future Directions

1. Exploring Additional Leadership Styles: Future research could investigate the impact of other leadership styles, such as servant leadership or adaptive leadership, on NPD success.
2. Comparative Studies Across Regions and Industries: Conducting comparative studies across different regions and industries can provide a broader understanding of how leadership influences NPD outcomes in varying business contexts.
3. Longitudinal Research Approach: A longitudinal study could analyze how leadership styles impact NPD success over extended periods, capturing leadership effectiveness at different project stages.
4. Integration of Organizational Culture and Market Dynamics: Future studies could examine how factors like organizational culture, market trends, and external economic conditions interact with leadership styles to influence NPD outcomes.
5. Impact of Digital Transformation on Leadership in NPD: With the rise of digitalization, exploring how leadership styles adapt to technology-driven NPD environments could provide valuable insights for future innovations.

By addressing these limitations and exploring new research avenues, future studies can contribute to a more comprehensive understanding of leadership's role in driving successful NPD processes.

AUTHOR CONTRIBUTIONS

M. Vasudevan is the 1st author who prepared and wrote the article and Dr. B. Senthil Kumar is the supervisor and guide who contributed to the analysis and finalizing the article.

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DECLARATION OF INTEREST STATEMENT

We, the authors, declare that the research presented in this manuscript adheres to the ethical standards as required by the journal requirement. This research did not involve any studies with human participants, animals, or personal data that require specific ethical approval. The data utilized in this study are either publicly available or obtained with proper permissions and have been cited appropriately. We confirm that this manuscript is our original work, has not been published elsewhere, and is not under consideration for publication elsewhere. We have upheld integrity and transparency in the research process, ensuring that all methodologies, findings, and conclusions are reported accurately and without bias

DATA AVAILABILITY

Data is available on request due to privacy/ethical restrictions. The data that support the findings of this study are available on request from the corresponding author, [M. Vasudevan -author 1]. The data are not publicly available because it is primary data, it contains information about the research participants.

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CONFLICT OF INTEREST

All authors disclosed no relevant relationships

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