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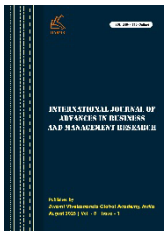
THE IMPACT OF TRANSFORMATIONAL LEADERSHIP ON ORGANIZATIONAL INNOVATION AND JOB PERFORMANCE: THE MEDIATING ROLES OF MANAGEMENT CONTROL SYSTEMS AND EMPLOYEE ENGAGEMENT



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Original Article

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Abstract

This study investigates the impact of transformational leadership (TL) on organizational innovation (OI) in resource-constrained tier-two districts, examining the mediating roles of employee engagement (EE) and management control systems (MCS). A cross-sectional quantitative design was employed, collecting survey data from managers and employees across various sectors in tier-two districts of Karnataka, India. Partial Least Squares Structural Equation Modelling (PLS-SEM) was applied using SmartPLS, with validity checks including HTMT, the Fornell–Larcker criterion, and variance inflation factors. Results reveal a significant direct relationship between TL and OI, with EE serving as a strong mediator in this linkage. Conversely, MCS did not exhibit a significant mediating effect. These findings highlight that in environments with limited resources and competitive pressures, people-centric approaches that enhance employee vigour, dedication, and absorption are more effective at fostering innovation than those relying on formal control mechanisms. The cross-sectional design limits causal inference, and the geographic focus on tier-two districts may affect generalisability. Future research should consider longitudinal approaches and explore interaction effects between EE and MCS in varied contexts. Organisations in similar settings should prioritise leadership development programmes that cultivate employee engagement and drive innovation. Emphasis should be placed on motivating and involving employees rather than depending solely on control systems. This study contributes to TL theory by demonstrating the differential effectiveness of mediating mechanisms across contexts, offering a context-sensitive perspective on innovation in underexplored geographical and economic environments.

Keywords: Employee Engagement; Management Control Systems; Organizational Innovation; SMART PLS; Transformational Leadership

Introduction

In the current milieu of competitive enterprises, organizations are necessitated to engage in perpetual adaptation to sustain performance and maintain a competitive edge [1]. The advancement of organizational innovation plays a crucial role in this adaptability by enhancing flexibility, quality, and cost-efficiency through the adoption of novel management practices and human-centric alterations, such as the restructuring of workflows [2]. Transformational leadership (TL) has been widely recognized as a fundamental catalyst for innovation and performance. By articulating a compelling

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vision, promoting knowledge sharing, and reinforcing collective efficacy, TL significantly boosts employee engagement (EE) and cultivates innovative behaviour [3, 4]. Management control systems (MCS) complement this process by aligning organizational aims with operational strategies, facilitating adaptive decision-making, and ensuring strategic coherence [2]. EE, which encompasses dimensions of Vigor, dedication, and absorption, is vital for realizing strategic objectives and fostering innovative work behaviours [3, 5]. Empirical evidence supports that TL enhances innovation and performance across diverse sectors, with EE frequently serving as a mediating variable [3]. However, there remains a scarcity of research examining the synergistic mediating roles of MCS and EE, particularly in contexts marked by resource scarcity, talent retention difficulties, and competitive pressures arising from urban markets [6, 7].

Literature Review

This study seeks to address this research gap by investigating the influence of TL on organizational innovation and job performance, alongside the mediating functions of MCS and EE, within firms located in Karnataka's Dakshina Kannada and Udupi districts. This research contributes to the existing body of literature in two significant ways. First, it enriches the understanding of transformational leadership by incorporating both MCS and EE as mediators—a relationship that has received inadequate academic attention in prior research [2, 3]. Second, it situates the analysis within tier-two districts in Karnataka, where organizations face distinctive operational challenges and competitive dynamics, thereby offering actionable insights for business leaders and policymakers aiming to enhance innovation and performance. By integrating perspectives on leadership, strategic control, and human engagement, the study presents a holistic framework that links leadership behaviour with measurable organizational outcomes in resource-constrained environments. The expected findings are anticipated to inform managerial practices, enhance innovation capabilities, and contribute to the broader discourse on sustaining competitiveness in emerging market settings.

Hypotheses Development

- **Transformational Leadership and Organizational Innovation**

  Transformational leadership (TL) embodies the ability to motivate, intellectually engage, and offer personalized support to followers, thereby fostering an atmosphere that promotes the conception and implementation of novel ideas [1, 8]. By articulating a persuasive vision, stimulating innovative cognitive processes, and recognizing individual contributions, transformational leaders enhance creativity, exploratory thinking, and inventive activities [9]. Empirical studies validate TL's positive influence on innovation across multiple settings, including organizations in Spain [10], research and development teams [11], manufacturing firms in China [12, 13], universities in Saudi Arabia [2], and Vietnamese manufacturing companies focused on sustainable innovation [14]. Recent research further highlights TL's crucial function in enhancing innovative work behaviours through mechanisms such as knowledge dissemination and employee involvement [15, 16]. Collectively, these findings illustrate TL as a vital driver of organizational innovation across various industries and cultural contexts.

  H1: Transformational leadership positively influences organizational innovation

- **The Mediating Role of Management Control Systems**

  Management Control Systems (MCS) act as instruments that align organizational activities with strategic goals, thereby improving overall effectiveness. While historically viewed mainly as tools for regulation, modern perspectives highlight their enabling role in enhancing strategic initiatives and fostering innovation. Empirical studies suggest that MCS can function as intermediaries in the relationship between leadership styles and organizational results, especially in innovation-driven contexts [17]. Transformational leaders are adept at designing and deploying MCS that translate strategic aspirations into actionable processes that promote flexibility, resource efficiency, and continuous feedback mechanisms. Such systems reduce ambiguity, synchronize team efforts, and facilitate innovative problem-solving approaches. For example, Le et al. [18] clarified that the application of interactive MCS enhances dynamic capabilities, which are crucial for driving innovation. The Resource-Based View (RBV) further elucidates this relationship by framing leadership style and MCS as strategic resources. When these factors are strategically aligned, they can create a sustainable

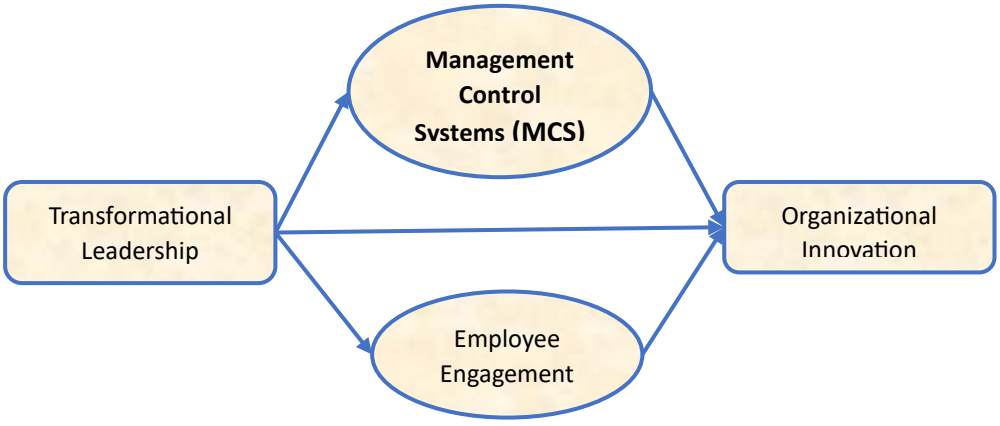
competitive edge through continuous innovation [19]. Supporting this viewpoint, Alharbi et al. [6] found that MCS plays a crucial mediating role between transformational leadership and organizational innovation, thereby empowering leaders to foster innovation by redefining organizational practices and improving performance in knowledge-intensive sectors. In sector-specific contexts, such as financial services, tailored MCS have improved strategic effectiveness by enabling adaptive responses to market challenges [17]. Therefore, MCS surpass their conventional function as mere regulatory tools and transform into strategic facilitators that cultivate an innovation-oriented culture.

H2: Management Control Systems mediate the relationship between transformational leadership and organizational innovation.

- **Employee Engagement and its Mediating Role in Leadership–Innovation Relationships**
  Employee engagement denotes a positive, work-related phenomenon characterized by energy, commitment, and immersion [5]. Individuals demonstrating elevated levels of engagement are predisposed to share insights, collaborate effectively, and exhibit resilience in overcoming challenges, all of which are vital for the promotion of innovation [20]. Transformational leaders enhance engagement by articulating an inspiring vision, recognizing contributions, and fostering autonomy, thus steering employees' intrinsic motivation towards innovative results [21]. Empirical studies reveal that employee engagement serves as a crucial conduit through which transformational leadership engenders organizational innovation [22]. For instance, Mansoor et al. [23] demonstrated that engagement operates as a mediator at the nexus between transformational leadership and employee performance, highlighting that leaders who motivate and empower their teams amplify engagement, which in turn fosters creative thinking, proactive behaviour, and innovative input. This mediating role strengthens employees' contributions to innovative work practices and supports the realization of sustained innovation objectives.

- **Integrated Model and Research Gap**
  While transformational leadership (TL) promotes the augmentation of innovation through the fostering of creativity, the transfer of knowledge, and the involvement of employees, management control systems (MCS) are designed to synchronize strategic aims with operational practices to enhance innovation [2, 3, 4 17]. However, there is a significant lack of empirical studies investigating their synergistic mediating roles. Additionally, employee engagement (EE) serves as a mediator in the correlation between TL and innovative behaviours [5, 3]. Nevertheless, research that amalgamates TL, MCS, and EE is disproportionately limited, especially in resource-constrained, tier-two environments [6, 7]. This study aims to propose a holistic model in which TL influences organizational innovation and job performance through MCS and EE, thereby addressing the current gaps in understanding how leadership, structural controls, and employee engagement collectively drive innovation within emerging market settings.

Figure 1: Proposed Conceptual Framework Model



Source: Results Obtained by Author

Methodology

Research Design

This investigation utilized a cross-sectional quantitative framework to analyse the interrelations among transformational leadership (TL), management control systems (MCS), employee engagement (EE), and organizational innovation (OI). The Partial Least Squares Structural Equation Modelling (PLS-SEM) methodology was employed to evaluate both direct and mediating effects, selected for its appropriateness in examining complex models featuring multiple mediators and its robustness in handling small to moderate sample sizes.

Population and Sample

The target population comprised employees from various organizations situated in the Udupi and Dakshina Kannada districts of Karnataka, India. Through purposive sampling, a sample of 220 respondents was curated, reflecting a broad spectrum of sectors, including manufacturing, services, and education. This approach facilitated a holistic understanding of leadership, control systems, and innovation across diverse organizational environments.

Data Collection

Data collection was executed through a structured questionnaire that was adapted from established measurement scales utilized in previous research. The surveys were conducted through both online platforms and face-to-face interactions, with respondents being guaranteed confidentiality and anonymity throughout the process. The constructs were assessed using a five-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (5).

Data Analysis

Data were subjected to analysis utilizing SmartPLS. The measurement model underwent evaluation for reliability (including Cronbach’s alpha and composite reliability), convergent validity (average variance extracted, AVE), and discriminant validity (Fornell–Larcker criterion, HTMT ratio). The structural model was examined for the proposed relationships, and the significance of both direct and mediating effects was established through bootstrapping with 5,000 resamples.

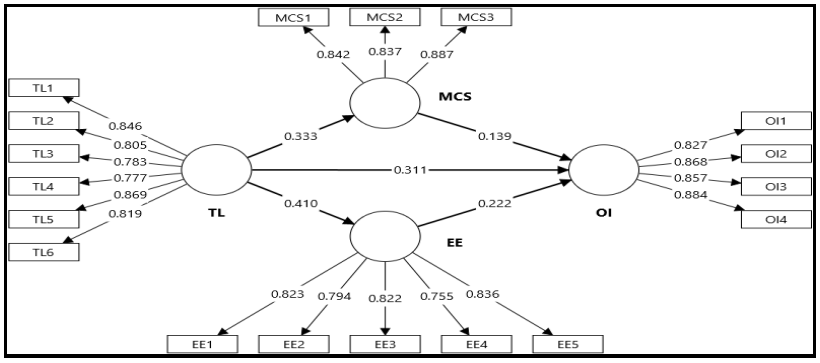
Ethical Considerations

Participants were duly informed about the objectives of the study, guaranteed anonymity, and engaged in the research on a voluntary basis. Ethical clearance was secured from the institutional review board of the university affiliated with the principal investigator.

Result

This segment delineates the empirical results obtained from the analysis performed utilizing SmartPLS. The findings are systematically arranged to initially scrutinize the measurement model, assessing the reliability, validity, and collinearity diagnostics of the constructs, subsequently followed by the outcomes of the structural model that evaluate the proposed hypotheses and mediating effects. Each subsection emphasizes pivotal statistical indicators and their ramifications for the research objectives.

Figure 2: Measurement Model



Source: Results Obtained by Author

Construct Reliability and Validity

Table 1 presents the factor loadings, Cronbach's alpha and average variance extracted (AVE) for all constructs. These measures assess the reliability and convergent validity of the constructs in the measurement model. The recommended thresholds, as outlined by Hair et al. [21] and Raghavendra et al. [24], are used as benchmarks for evaluation.

Table 1: Results of the Construct Reliability and Validity

Construct	Indicator	Loading	Cronbach's Alpha	Composite Reliability	AVE
Employee Engagement (EE)	EE1	0.823	0.865	0.903	0.650
	EE2	0.794			
	EE3	0.822			
	EE4	0.755			
	EE5	0.836			
Management Control Systems (MCS)	MCS1	0.842	0.817	0.891	0.732
	MCS2	0.837			
	MCS3	0.887			
Organizational Innovation (OI)	OI1	0.827	0.882	0.919	0.739
	OI2	0.868			
	OI3	0.857			
	OI4	0.884			
Transformational Leadership (TL)	TL1	0.846	0.900	0.923	0.668
	TL2	0.805			
	TL3	0.783			
	TL4	0.777			
	TL5	0.869			
	TL6	0.819			

Source: Results Obtained by Author

All factor loadings range from 0.755 to 0.887, exceeding the recommended minimum of 0.70, which indicates strong item reliability. Cronbach's alpha values are all above 0.70, with values between 0.817 and 0.900 confirming strong internal consistency. The AVE values range from 0.650 to 0.739, surpassing the minimum threshold of 0.50, thereby establishing adequate convergent validity for all constructs.

Heterotrait–Monotrait Ratio (HTMT) analysis

Table 2 presents the HTMT values used to assess discriminant validity. The HTMT criterion, as proposed by Henseler et al. [25] and reinforced by Hair et al. [22], is widely considered a robust approach for evaluating whether constructs are distinct from one another. According to this method, a value of ≤ 0.85 indicates strict discriminant validity [24].

Table 2: Results of the HTMT analysis

	EE	MCS	OI	TL
EE				
MCS	0.415			
OI	0.454	0.375		
TL	0.464	0.384	0.495	

Source: Authors' assessment based on logistic models

The HTMT values in this study range from 0.375 to 0.495, which are comfortably below the stricter threshold of 0.85. This indicates that the constructs demonstrate adequate discriminant validity and are empirically distinct from one another.

Fornell–Larcker Criterion

Table 3 presents the square root of the AVE values (displayed on the diagonal) alongside the inter-construct correlations (off-diagonal). According to Hair et al. [22] and Raghavendra et al. [26], discriminant validity is established when the square root of a construct's AVE exceeds its highest correlation with any other construct.

Table 3: Results of the Fornell Larcker analysis

	EE	MCS	OI	TL
EE	0.806			
MCS	0.351	0.856		
OI	0.398	0.320	0.859	
TL	0.410	0.333	0.448	0.817

Source: Results Obtained by Author

In this study, the diagonal values range from 0.806 to 0.859, all of which are greater than the maximum corresponding off-diagonal correlation (0.464). This result confirms that discriminant validity is achieved.

Variance Inflation Factor (VIF) analysis for multicollinearity

Table 4 presents the Variance Inflation Factor (VIF) values, which are used to evaluate collinearity among predictor constructs. According to Hair et al. [22], VIF values should ideally be ≤ 3 to confirm the absence of critical collinearity issues, although values up to 5 can be considered acceptable in less strict research contexts.

Table 4: VIF analysis results

	EE	MCS	OI
EE			1.281
MCS			1.200
TL	1.000	1.000	1.264

Source: Results Obtained by Author

The results indicate that the VIF values in this study range from 1.000 to 1.281, which are well below the recommended threshold. This indicates that multicollinearity is not a concern in the model, and the predictor constructs are sufficiently independent for reliable analysis.

Hypothesis Test

Table 5 presents the results of the hypotheses testing based on the path coefficients from the PLS-SEM model. For each hypothesised relationship, the table includes the original sample estimate, standard deviation, t-statistic, and p-value. Path significance was evaluated at the 5% level ($p < 0.05$).

Table 5: Hypotheses test results

	Original sample	Standard deviation	*T* statistics	*p* values	Decision
TL -> OI	0.311	0.085	3.647	0.000	Supported
TL -> MCS -> OI	0.046	0.032	1.462	0.144	Not Supported
TL -> EE -> OI	0.091	0.044	2.079	0.038	Supported

Source: Results Obtained by Author

The findings indicate that transformational leadership exerts a substantial direct influence on organisational innovation ($\beta = 0.311$, $p < 0.001$), thereby corroborating Hypothesis 1 (H_1). Conversely, the mediating role of the management control system between transformational leadership and organisational innovation is observed to be positive but statistically insignificant ($\beta = 0.046$, $p = 0.144$), resulting in a lack of support for Hypothesis 2 (H_2). In contrast, employee engagement was found to significantly mediate the association between transformational leadership and organisational innovation ($\beta = 0.091$, $p = 0.038$), thereby affirming Hypothesis 3 (H_3). Regarding the direct effects, employee engagement has been shown to have a positive and statistically significant impact on organisational innovation ($\beta = 0.222$, $p = 0.011$). The direct effect of the management control system on organisational innovation is also positive and demonstrates marginal support ($\beta = 0.139$, $p = 0.051$, achieving the 10% significance threshold but failing to meet the 5% threshold). This observation implies the existence of a relationship that necessitates further exploration in larger or longitudinal studies. Transformational leadership is found to significantly affect both employee engagement ($\beta = 0.410$, $p < 0.001$) and the management control system ($\beta = 0.333$, $p < 0.001$).

Discussion

The empirical results yield significant insights into the processes by which transformational leadership exerts an influence on organizational innovation. The noteworthy direct correlation between transformational leadership and organizational innovation (H_1 supported) is consistently corroborated by existing literature across a variety of contexts, including organizations within Spain [10], research and development teams [11], manufacturing enterprises in China [12, 13], universities in Saudi Arabia [2], and manufacturing firms in Vietnam [14]. This finding reinforces the global relevance of transformational leadership as a facilitator of innovation through mechanisms such as vision articulation, intellectual stimulation, and individualized consideration [27]. The affirmation of employee engagement as a significant mediating variable (H_3 supported) offers empirical substantiation for the theoretical claims posited by Mansoor et al. [23]. Employees who exhibit engagement characterized by Vigor, dedication, and absorption function as the essential conduit through which transformational leadership catalyses innovative outcomes [28, 29]. This discovery emphasizes the necessity of activating human capital within the innovation paradigm, particularly in environments with resource constraints where employee motivation and commitment are of utmost importance [30]. In contrast, the non-significant mediating effect of management control systems (H_2 not supported) introduces a compelling divergence from the findings of Alharbi et al. [6] in academic settings. This implies that within tier-two districts marked by resource limitations and competitive dynamics, the influence of informal leadership through employee engagement may prevail over formal control mechanisms as the primary avenue to foster innovation [31]. The contextual nature of this observation accentuates the significance of environmental variables in assessing the efficacy of various organizational mechanisms [32].

Theoretical, Methodological, and Practical Implications

This research contributes to the body of knowledge surrounding transformational leadership theory by demonstrating that employee engagement serves as a significant mediating factor, whereas management control systems do not, thereby underscoring the relevance of the Resource-Based View's focus on human capital in contexts characterized by resource limitations. It broadens the comprehension of how contextual elements affect the relationships between leadership, organizational frameworks, and innovation outcomes [33, 34, 35]. From a methodological perspective, the implementation of SmartPLS complemented by comprehensive validity assessments (HTMT, Fornell-Larcker, VIF) exemplifies exemplary practices for the analysis of intricate mediation models, and the emphasis on tier-two districts provides a foundational model for investigative efforts in less-explored environments [36]. From a practical standpoint, organizations operating in analogous conditions ought to allocate resources towards leadership development initiatives that prioritize employee engagement, thereby nurturing Vigor, dedication, and absorption, as strategies centred on individuals may yield superior innovation outcomes compared to a reliance on formal control mechanisms [37, 38].

Limitations and Future Research Directions

Several constraints necessitate careful examination. First, the cross-sectional methodology constrains causal interpretations, indicating a requisite for longitudinal investigations to ascertain temporal precedence. Second, the geographic emphasis on tier-two districts in Karnataka, while offering contextual richness, may restrict the applicability

of findings to other locales or organizational classifications. Third, the investigation centred on organisational innovation in a broad sense; subsequent enquiries could analyse specific categories of innovation (products, processes, and organisations) to yield more refined insights. Future enquiries should investigate the contextual parameters under which management control systems serve as more efficacious mediators, potentially assessing the influence of organizational size, industry classification, or competitive intensity. Furthermore, exploring the interaction between employee engagement and management control systems could uncover synergistic effects that remain unaddressed in the current framework.

Conclusion

This study provides evidence that transformational leadership significantly enhances organizational innovation in tier-two districts, with employee engagement acting as a critical mediating mechanism. The results demonstrate that leaders who inspire, empower, and connect with their employees are better able to translate vision into innovative outcomes, particularly in environments characterized by resource constraints and competitive pressures. In contrast, management control systems did not exhibit a significant mediating role, suggesting that in such contexts, formal systems may be less effective than approaches that mobilize human capital. By focusing on underexplored geographical settings, this research illustrates the value of aligning leadership strategies with contextual realities. It highlights the value of fostering Vigor, dedication, and absorption among employees as a pathway to innovation, offering a nuanced understanding of how leadership dynamics interact with organizational and environmental factors. These insights contribute to the ongoing discourse on leadership effectiveness in emerging markets and provide a foundation for future work examining the conditions under which different mediating mechanisms are most influential.

Significance of the Study

Of theoretical, methodological and practical significance, this inquiry is important too. This investigation theoretically enriches the understanding of what makes transformational leadership effective, as mediating mechanisms work better at high fuel prices in one context, whereas they are more efficient at low fuel prices in another context-- hence the potential to add to higher-level discussions on leadership effectiveness by highlighting some nuanced characteristics and requirements for social science measures in emerging markets. The current study addresses a gap in the existing literature regarding the dual mediation model by examining a broad geographic context that has been somewhat overlooked, and it provides evidence on how leadership functions in resource-poor settings. Methodologically, this work demonstrates the use of advanced structural equation modelling strategies in organizational research, which will serve as a solid foundation for future intricate tests of very complex mediation dynamics. The contextually bounded view employs this as a methodological paradigm to help academics understand organisational phenomena in similar emerging market contexts. In more practical terms, the findings provide evidence-backed advice for district and like-level leaders as well as policymakers. Prioritizing employee engagement over more formal control mechanisms provides us with practical insights right down to resource and strategic prioritization. This research informs our understanding of how leadership development interventions, human resources strategies, and organizational design choices can be made in resource-challenged yet competitive environments.

Conflict of Interest

The authors declare no conflict of interest associated with this study. The research was conducted independently by the authors without any financial, commercial, or personal relationships that could have influenced the results or interpretations. Data collection, analysis, and reporting were conducted ethically and solely for academic and research purposes.

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