

ORIGINAL CONTRIBUTION

Transformational Leadership and Employee Performance: Organizational Commitment as Mediator and Public Service Motivation as Moderator in Pakistan Railways

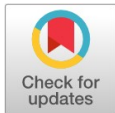
Fozia Maryam Rubbani^{1*}, Rosli Mahmood², Hishamuddin MD³

^{1,2,3}Putra Business School Universiti Putra Malaysia, Serdang, Selangor, Malaysia

Abstract— This paper aims to investigate the relationship between transformational leadership and employee performance, with a focus on the mediating role of organizational commitment and the moderating role of Public Service Motivation (PSM) in this relationship. This study utilized a quantitative approach based on cross-sectional data. A total of 150 questionnaires were distributed, and 100 were returned. The responses were analyzed, and the results were inferred using SEM-PLS. The data collection spanned from June 2023 to September 2023. The findings indicate a positive and significant impact of transformational leadership on employee performance. However, the mediating effect of organizational commitment and the moderating effect of PSM on this relationship were both found to be non-significant. The findings offer practical insights into how transformational leadership, organizational commitment, and PSM influence performance, emphasizing the need to align employee goals with organizational objectives to enhance effectiveness and sustainability in public sector organizations. This research provides a foundation for refining management strategies in entities like Pakistan Railways, offering valuable guidance for improving organizational performance and informing policy development. The findings of the current study may help public sector management in Pakistan gain a better understanding of transformational leadership, organizational commitment, public service motivation, and their association with employee performance. The study's cross-sectional design and reliance on self-reported data are potential limitations. Future research could explore longitudinal designs or incorporate qualitative methods to gain deeper insights.

Index Terms— Employee performance, Transformational leadership, Public service motivation, Organizational commitment and Pakistan railways

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Introduction

The railway sector is highlighted as the safest and most cost-effective mode of transportation, crucial for reducing transportation costs, promoting development, and stimulating commerce (Naurin & Gul, 2023; Saidi, Mani, Mefteh, Shahbaz, & Akhtar, 2020). Despite these benefits, the sector has seen a decline due to competition from road and air transport and several challenges, including political issues, lack of funding, outdated technology, and poor management, especially in developing countries (Bouraima, Qiu, Yusupov, & Ndjegwes, 2020; Jamaludin, Nasir, & Ibrahim, 2022; Qasim, 2021). Major challenges include political factors, insufficient funding, outdated infrastructure,

*Email: mrubbani1@gmail.com

natural disasters, terrorism, system breakdowns, high prices, slow speeds, and unreliability, particularly in developing nations (Awal, Senadjki, & Nee, 2021; Gašparík, Bulková, & Dedík, 2024).

Pakistan Railways, once a dominant player in passenger transportation, has experienced a significant decline in recent years (K. A. Khan K., 2020; Li, Alam, & Wang, 2018). Factors such as diminishing service quality, decreased passenger and freight volumes, branch line closures, poor transportation policies, and a preference for road over rail investments have contributed to this decline (Naurin & Gul, 2023; Tahir & Tahir, 2020). Insufficient financial support has further exacerbated service delivery issues and limited capacity for growth (Tahir, 2021) resulting in a reduction from 230 to 92 daily passenger trains (Qamar & Saeed, 2016). This decline is particularly evident when compared to Bangladesh's 348 daily passenger trains and India's vast network of over 22,593 daily trains.

To enhance operational efficiency and service quality, employee performance is recognized as essential in the railway sector, directly influencing organizational success (Wahyuni et al., 2022). However, Pakistan Railways faces persistent issues like train delays, overcrowded stations, and poor management, which contribute to passenger dissatisfaction. Safety concerns remain high, with frequent accidents often resulting from inadequate infrastructure and human error, while corruption further undermines service integrity (Krisma, Wulandari, Hidayat, Pratiwi, & Wibisono, 2018; Noorliza & Isha, 2023).

The unreliability of Pakistan Railways' services has driven customers to seek alternatives, damaging the organization's reputation and performance (Qasim, 2021). Addressing this requires focused leadership to improve employee productivity and morale. Transformational leadership is particularly effective in fostering employee commitment and enhancing attitudes, behaviours, and performance (Maryani, Entang, & Tukiran, 2021; Rozi, Agustin, Hindriari, Rostikawati, & Akbar, 2020).

The relationship between leadership and employee performance has been extensively studied in Western contexts, but research in developing countries, such as Pakistan, remains limited. There is a pressing need for further investigation into how leadership styles influence employee performance in these contexts (Hussain, Khan, Hussain, & Khan, 2020; Malik, Saleem, & Naeem, 2016). Public sector employees, in particular, exhibit a unique motivation to serve the public, which differs from that of private sector employees. PSM not only correlates positively with individual performance but also moderates the relationship between leadership and employee performance (Ripoll & Ritz, 2021).

Research highlights the crucial role of organizational commitment in driving both individual and organizational success. Employees who align with organizational values, show dedication, and are willing to stay with the organization tend to perform better (Hendri et al., 2019). Organizational commitment, which reflects employees' loyalty and effort, significantly impacts performance (Eliyana, Ma'arif, et al., 2019) and serves as a mediator in this study.

In Pakistan's railway sector, research has focused on operational performance but lacks studies on officers' job performance and consumer perspectives, indicating a need for comprehensive research in this area (Qasim, 2021). The conflicting information in the literature regarding the relationships between employee performance and factors like transformational leadership, PSM and organizational commitment underscores the necessity for more targeted studies to clarify these connections (Hasibuan & Ferine, 2023; Purwanto, 2020; Putra & Dewi, 2019).

This study makes significant theoretical and practical contributions. Theoretically, it enhances the field of human resource management by exploring employee performance in Pakistan's public sector, focusing on transformational leadership, organizational commitment and public service motivation. It addresses a notable research gap, as most prior studies centred on other industries or Western contexts. It also introduces an original model tailored to Pakistan Railways. By integrating Social Exchange Theory (SET), the study offers a robust framework to explain the dynamics between leadership, commitment, and performance.

Practically, the research provides actionable insights for improving employee performance in public sector organizations, particularly Pakistan Railways, a key contributor to the nation's economy. The findings serve as a resource for HR professionals, policymakers, and senior management to design effective strategies and policies for enhancing productivity. Furthermore, the study's implications extend beyond Pakistan, offering valuable guidance for other developing nations with similar cultural and organizational contexts.

Research on transformational leadership and employee performance has been extensively conducted in developed countries, often focusing on private-sector organizations. However, studies addressing these dynamics in the public sector of developing nations like Pakistan remain limited (Hassan et al., 2016). Public entities like Pakistan Railways and Pakistan International Airlines, which face challenges such as financial losses and mismanagement, are particularly underexplored in academic literature (Akhtar, Nawaz, Mahmood, & Shahid, 2016).

In the railway sector, research has predominantly examined areas such as quality management, supply chains, and change management. Studies on job performance primarily focus on operational staff, including drivers, station masters, and clerical workers (Bhatti, Nawaz, Ramzan, & Ullah, 2017; Nawaz, Bhatti, Ahmad, & Ahmed, 2018; Pincha, 2022). There is a significant gap in studies targeting officers' performance, necessitating further investigation.

Theoretical ambiguity persists regarding the relationship between transformational leadership and employee performance. While some studies report significant positive relationships (Anwar, Qambrani, Shah, & Mukarram, 2023; Mangkunegara & Huddin, 2016), others find non-significant associations (Paais & Pattiruhu, 2020; Putra & Dewi, 2019). This inconsistency highlights the need for

research tailored to the public sector and developing countries like Pakistan to address these gaps.

Research questions

The research questions are developed based on the problem statement to explore the officers' performance perspectives inside Pakistan Railways. This fills in a gap in the literature by shedding light on the roles and contributions of middle to top management levels. The research questions are to be formulated as follows:

- Is there a significant relationship between transformational leadership and employee performance in Pakistan Railways?
- Does organizational commitment mediate the relationship between transformational leadership and employee performance in Pakistan Railways?
- Does PSM moderate the relationship between transformational leadership and employee performance in Pakistan Railways?

Literature Review and Hypothesis Development

Employee performance

Employee performance is fundamental to organizational success, with effective execution of duties driven by skills, experience, dedication, and timeliness being crucial. Collective performance improvements lead to overall organizational enhancement, as quality job execution positively influences company outcomes and reflects organizational success and failures (Kenedi, Satriawan, & Khaddafi, 2022; Sopiah, Kurniawan, Nora, & Narmaditya, 2020). Employee performance includes outcomes and behaviours during task execution, measured by quality, quantity, accuracy, efficiency, and overall productivity. High performance correlates with positive consumer perceptions, while poor performance leads to customer complaints and brand defection (Setyadi, Helmi, & Hidayat, 2022).

The performance of government employees is key to the effectiveness of public organizations and building public trust. Strong performance enhances operations, attracts stakeholders, and improves the organization's image and effectiveness. Success in government agencies depends on the collective efforts of employees working toward a shared mission (Keefer & Vlaicu, 2024). Globally, various factors such as cognitive abilities, mental workload, job enlargement, mindfulness, and total quality management have been identified as significant predictors of rail employee performance, underscoring the importance of maintaining high performance for efficient services and safety (Hashemi, Asheghi, & Naami, 2019; Mahmood, Hashim, & Majid, 2022).

Transformational leadership

Effective leadership is vital in inspiring employees to enhance their performance, contributing significantly to organizational success. Various studies emphasize the influence of leadership styles, particularly transformational leadership, on employee performance (Purwanto, 2019; Purwanto, Bernarto, Asbari, Wijayanti, & Hyun, 2020). Transformational leadership is prevalent and effective in navigating organizational change, inspiring employees to exceed expectations, and boosting morale and motivation (Jyoti & Bhau, 2015). Transformational leaders enhance performance and foster creativity through personalized support, yet research on their impact in the public sector remains limited (Apoi & Latip, 2019).

In the railway industry, transformational leadership is essential for guiding employees towards company objectives, transforming them into a focused and proficient team (Jarašūnienė, Sinkevičius, & Mikalauskaitė, 2017). Studies such as those by Haryanto, Suprpti, Taufik, and Maminirina Fenitra (2022) demonstrate the positive impact of transformational leadership on employee performance in the railway sector, highlighting its significance in improving performance within this industry.

Organizational commitment as a mediator

Organizational commitment refers to the loyalty employees exhibit toward their employer and has been widely studied in relation to job satisfaction and performance (Lee & Reade, 2018). It represents the emotional bond employees form with their work, indicating their willingness to stay engaged and actively contribute, which is crucial for retaining skilled personnel in a knowledge-based economy (Saleem, Bhutta, Nauman, & Zahra, 2019).

As noted by Ghiyats and Aulia (2020), organizational commitment fosters internal involvement in supporting operational activities, ultimately aligning with the company's goals, vision, and mission. Increased organizational commitment leads to enhanced employee enthusiasm, productivity, creativity, and innovation over time. Furthermore, studies indicate that organizational commitment reduces absenteeism, turnover, and workplace conflict (Kurniawan, Sularso, & Titisari, 2018).

The relationship between organizational commitment, transformational leadership, and employee performance can be framed as an exchange process, where organizational commitment mediates the effects of transformational leadership on employee performance,

supported by Social Exchange Theory (SET) that illustrates how leaders motivate employees and align their skills with organizational goals (Wiradana & Dewi, 2021). According to SET, employees expect a supportive work environment and positive exchanges to enhance organizational commitment (Melkamu, 2023). Leaders engage with employees to understand their needs and work-life balance, providing necessary support. When employees view their leaders as cooperative and supportive, they feel a moral obligation to reciprocate with improved performance (Astuty & Udin, 2020).

PSM as a moderator

PSM attracts individuals with strong self-confidence and a desire to contribute to their community by working in public sector organizations. Research indicates a positive relationship between PSM and employee performance in public sector roles, where high PSM drives enhanced engagement, competence, and commitment to delivering meaningful public services. Individuals with high PSM excel in roles with significant community impact due to their intrinsic motivation and belief in public values, fostering better alignment with organizational goals and improving job performance (Gan, Lin, & Wang, 2020; Miao, Eva, Newman, & Schwarz, 2019; Nurlita et al., 2019; Ripoll & Ritz, 2021). This altruistic commitment to public service contributes to a productive and motivated workforce across various public sectors.

The relationship between variables is supported by goal-setting theory, which posits that specific and challenging goals significantly enhance performance outcomes. These goals serve as immediate regulators of behaviour, sustaining effort in task execution (Yurtkoru, Bozkurt, Bekta, Ahmed, & Kola, 2017). PSM is a situational factor that can augment the relationship between goal-setting and performance, particularly in public sector contexts where intrinsic motivators are prioritized (Moynihan & Pandey, 2007). PSM reflects an individual's desire to serve the public interest, which can enhance the effectiveness of goal-setting by aligning individual motivations with organizational objectives. This interaction is evident in contexts where transformational leadership is present, as PSM can strengthen the impact of this leadership style on employee performance (Mandla, 2020).

Conceptual Model

The proposed model integrates several key factors from the literature that impact employee performance and organizational outcomes within public sector organizations. At the core of this framework is the independent variable, transformational leadership, characterized by visionary guidance and individualized consideration, which positively influences employee performance. Organizational commitment functions as a mediator within the model and PSM serves as a moderator, shaping the interactions between these variables and their effects on employee performance; high levels of PSM are expected to strengthen the positive effects of transformational leadership.



Fig. 1 Conceptual model of the study

Transformational Leadership and Employee Performance

Transformational leadership theories emphasize that leaders who inspire and intellectually stimulate their followers while empowering them to develop their own leadership abilities can significantly enhance employee performance. These leaders establish challenging objectives and clear goals, fostering an environment of motivation and innovation. Numerous studies, including those by Mahfouz, Awang, Muda, and Bahkia (2020), Ekhsan and Setiawan (2021), Anwar et al. (2023), H. Khan, Rehmat, Butt, Farooqi, and Asim (2020), Idris, Suyuti, Supriyanto, and As (2022), and Purwanto et al. (2020), consistently demonstrate the significant positive impact of transformational leadership on employee performance.

However, some research presents contrasting results, such as the study by Elgelal and Noermijati (2015) indicating no significant impact of transformational leadership on employee performance. Despite these conflicting findings, the majority of research underscores the importance of transformational leadership in fostering a motivated and high-performing workforce, particularly in the public and private sectors globally. However, there remains a gap in research specifically targeting the railway sector in Pakistan. Therefore, to check the association between transformational leadership and employee performance, the following hypothesis is proposed:

H1: There is a significant relationship between transformational leadership and employee performance.

Organizational commitment, transformational leadership and employee performance

Extensive research has established a significant positive relationship between organizational commitment and employee performance (Donkor & Zhou, 2020; Jufrizen, Mukmin, Nurmala, & Jasin, 2021; Suryaningsih, Mareni, & Suardhika, 2018). Previous studies, such as Ribeiro, Yücel, and Gomes (2018) and Mahfouz et al. (2020), suggest that organizational commitment fully mediates the relationship between transformational leadership and employee performance. Their findings indicate that transformational leaders inspire followers to align with organizational goals, motivating employees to exceed expected levels of performance. This, in turn, fosters affective commitment and personal fulfilment, ultimately leading to enhanced performance. Similar results were also found in the studies by Indriasari et al. (2023), Almahri and Abd Wahab (2023), and Nugraheni, Triatmanto, et al. (2022). Therefore, the following hypothesis is developed to test this relationship.

H2: Organizational Commitment mediates the relationship between transformational leadership and employee performance.

Public service motivation, transformational leadership and employee performance

Extensive research highlights that transformational leadership, especially within public service, positively impacts employee performance by promoting organizational values and fostering motivation to serve societal well-being (Caillier, 2014; Jensen & Bro, 2018). Alongside this, Public Service Motivation (PSM) also plays a crucial role, with studies by De Gennaro (2019) and Padilla (2019) showing a strong positive correlation between PSM, transformational leadership, and employee performance. Employees high in PSM demonstrate a strong commitment to organizational goals aligned with public service values, thereby achieving enhanced performance outcomes.

However, Caillier (2014) notes that while PSM enhances motivation and commitment, it may not necessarily moderate the relationship between transformational leadership and performance. Employees with high PSM are already intrinsically motivated to serve the public, potentially diminishing the impact of external leadership goals that do not align with their personal motivations.

Overall, while transformational leadership fosters goal alignment and motivation among employees, the extent of its influence on performance may vary based on employees' levels of PSM. This interaction highlights the complexity of motivating individuals driven by intrinsic values in public sector contexts. Further research is needed to explore effective strategies for optimizing performance among employees with high PSM under transformational leadership. Therefore, the following hypothesis is developed to test this relationship.

H3: PSM moderates the relationship between transformational leadership and employee performance.

Methodology

The study targeted a population of 811 employees working in positions from BPS 17 to BPS 22. From this population, a sample of 100 employees was selected using simple random sampling, a method chosen for its ability to reduce bias and enhance the generalizability of findings (Saadouli & Al-Khanbashi, 2020). Employee performance was assessed using an adapted version of the instrument developed by Williams and Anderson (1991) and evaluated through 7 items measuring individuals' overall performance levels. Transformational leadership was measured using an adapted instrument based on the Multifactor Leadership Questionnaire (MLQ) Form 06 by Dr Al Restivo, as used in the study by Nilwala, Gunawardana, and Fernando (2017), tailored for the public sector. PSM was measured using a 12-item scale adapted from Kim (2009). The instruments adapted from the research of Allen and Meyer (1990) are used to measure organizational commitment. Responses to each item in the study were measured on a five-point Likert scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree. Questionnaires were distributed in both soft copies (in the form of a Google Form) and hard copies based on the convenience of participants. 150 questionnaires were distributed, and 105 were returned with a 70% response rate. The data collection spanned from June 2023 to September 2023. Data were gathered from participants located in Pakistan Railways offices across various cities. A mixed approach was employed: questionnaires were distributed to participants in the same location personally, while others received Google Form links or soft copies via email and hard copies through postal mail. Regular follow-ups through emails and phone calls ensured timely and accurate responses, achieving a high response rate with minimal missing data.

Results and Discussion

This section discusses the results of the statistical analysis used in this research.

Descriptive analysis

Missing value analysis

Missing data, defined as the absence of data values for a variable in the observation of interest, poses a significant concern in research (Kang, 2013). Among the returned questionnaires, five had twelve missing values and were therefore removed from the analysis.

Assessment of outliers

Outliers can skew results in data analysis, but Leys, Delacre, Mora, Lakens, and Ley (2019) recommend retaining them by default, as their impact on statistical conclusions is often minimal despite the potential downsides of removal. Therefore, the outliers were retained in this study.

Demographics of the respondents

The demographic profiles of the respondents are given below:

Table I
Respondent profile

Demographics	Valid N	Frequency	Per cent
Gender			
Female	100	23	23
Male		77	77
Age			
Less than 25 years	100	2	2
25-30 years		21	21
31-35 years		24	24
36-40 years		18	18
More than 40 years		35	35
Qualification			
Bachelors	100	45	45
Master		36	36
M. Phill		16	16
Others		3	3
Level/Grade in the organization			
BS-17	100	33	33
BS-18		37	37
BS-19		15	15
BS-20		11	11
BS-21		4	4
Experience			
Less than 5 years	100	33	33
5-9 years		17	17
10-14 years		21	21
15-20 years		19	19
More than 20 years		10	10

Model assessment

This study utilized the Partial Least Squares (PLS) method, implemented with Smart-PLS software (Ringle, Sarstedt, Mitchell, & Gudergan, 2020), to investigate the research model. Following the recommended two-stage analytical approach, the study first assessed the measurement model and then examined the structural model.

Assessment of measurement model

The measurement model evaluates construct quality through assessments of reliability and validity, ensuring that instruments consistently yield dependable results and accurately measure intended concepts (Cooper & Schindler, 2014). This model includes evaluating item reliability, internal consistency reliability (via construct reliability), discriminant validity, and convergent validity (Hair Jr et al.,

2021). Composite reliability (CR), with a threshold of 0.70, checks internal consistency (Akindele et al., 2023; Kasasbeh, Alzureikat, Alroud, & Alkasasbeh, 2021), while convergent validity is confirmed through factor loadings (≥ 0.708 preferred, 0.6-0.7 acceptable in social sciences) and an AVE exceeding 0.5, indicating adequate measurement accuracy (Chergarova, 2020; Hair Jr, Hult, Ringle, & Sarstedt, 2016).

In the context of the present study, this methodical assessment resulted in the deletion of 26 out of 47 items measuring three reflective constructs, ensuring that only the most reliable and valid indicators were retained for further analysis using Partial Least Squares (PLS) (See Figure 2). The decision to retain certain items was based on the minimal impact their elimination would have had on Average Variance Extracted (AVE) and Composite Reliability (CR). Keeping these items strengthens the measurement model's robustness and accuracy in representing the underlying constructs. Thus, all retained items are considered reliable indicators of their respective reflective latent constructs, supporting the integrity and reliability of the study's measurement model. The graphical representation of a model in PLS is given below:

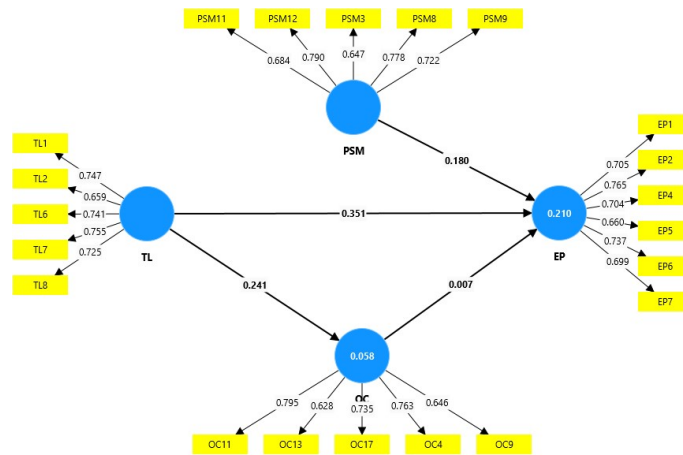


Fig. 2 Graphical representation of model

Internal consistency reliability

Hair (2017) emphasize composite reliability (CR) over Cronbach's alpha due to CR's capacity to account for varying indicator loadings. CR values, ranging from 0 to 1, reflect reliability levels, with 0.60 to 0.70 being acceptable for exploratory research and 0.70 to 0.90 suitable for more established studies. The values in Table 2 are showing satisfactory results.

Table II
Composite reliability

Construct	Cronbach's alpha	Composite reliability
EP	0.81	0.86
PSM	0.77	0.85
OC	0.77	0.84
TL	0.78	0.85

Convergent validity

Convergent validity measures how well items for the same construct correlate, confirming measurement quality. Hair (2017) emphasize the importance of item loadings and Average Variance Extracted (AVE) in this evaluation, especially in Partial Least Squares Structural Equation Modeling (PLS-SEM). Factor loadings above 0.708 indicate strong validity by explaining at least 50% of variance. Items with loadings below 0.4 are typically removed, while those between 0.4 and 0.7 may be reconsidered if their removal improves composite reliability or AVE (Al-Zwainy & Al-Marsomi, 2023). An AVE threshold of 0.5 is recommended for adequate convergent validity (Hair, 2017).

Table III
Convergent validity

Construct	Average variance extracted (AVE)
EP	0.507
OC	0.513
PSM	0.528
TL	0.527

Discriminant validity

Discriminant validity ensures each construct's distinctiveness within a research model, verifying that constructs are empirically unique. Key methods for assessing discriminant validity include cross-loadings, where indicators should load more strongly on their respective constructs, and the Fornell-Larcker criterion, which compares the square root of each construct's AVE with its correlations to other constructs, confirming validity if AVE exceeds these correlations (Fauzi, 2022). The heterotrait-monotrait (HTMT) ratio further strengthens discriminant validity assessment by clarifying distinct construct relationships (Sarstedt et al., 2022).

Table IV
Fornell-Larcker criteria

Construct	EP	OC	PSM	TL
EP	0.712			
OC	0.079	0.716		
PSM	0.327	-0.068	0.726	
TL	0.428	0.241	0.422	0.726

Table V
Cross loadings

Items	EP	OC	PSM	TL
EP1	0.705	-0.009	0.17	0.393
EP2	0.765	0.066	0.238	0.347
EP4	0.704	-0.152	0.224	0.17
EP5	0.66	0.182	0.283	0.244
EP6	0.737	0.132	0.239	0.376
EP7	0.699	0.055	0.262	0.211
OC11	0.029	0.795	-0.111	0.218
OC13	-0.001	0.628	-0.129	0.08
OC17	0.122	0.735	0.041	0.211
OC4	0.074	0.763	-0.071	0.131
OC9	0.012	0.646	-0.043	0.153
PSM11	0.188	-0.016	0.684	0.285
PSM12	0.232	-0.042	0.79	0.388
PSM3	0.223	-0.068	0.647	0.289
PSM8	0.257	-0.144	0.778	0.309
PSM9	0.272	0.025	0.722	0.266
TL1	0.378	0.13	0.352	0.747
TL2	0.294	0.087	0.357	0.659
TL6	0.212	0.179	0.268	0.741
TL7	0.261	0.161	0.301	0.755
TL8	0.358	0.28	0.261	0.725

Table VI
HTMT

	EP	OC	PSM	TL
EP				
OC	0.193			
PSM	0.412	0.203		
TL	0.494	0.292	0.546	

Indicator multicollinearity

The Variance Inflation Factor (VIF) assesses multicollinearity in regression analysis by measuring how much the variance of a regression coefficient is inflated due to collinearity among predictor variables Hair (2017). High VIF values, typically above 5 or 10, indicate significant multicollinearity, requiring further analysis or the removal of highly correlated predictors. According to Hair Jr et al. (2016)), multicollinearity is not a concern if VIF values are below 5. As shown in Table 7, all VIF values are below this threshold.

Table VII
Multicollinearity

Items	VIF
EP1	1.434
EP2	1.763
EP4	1.743
EP5	1.432
EP6	1.469
EP7	1.556
OC11	1.624
OC13	1.669
OC17	1.258
OC4	1.936
OC9	1.337
PSM11	1.636
PSM12	1.95
PSM3	1.298
PSM8	1.607
PSM9	1.354
TL1	1.543
TL2	1.395
TL6	1.645
TL7	1.645
TL8	1.29

Assessment of structural model

After confirming the properties of the measurement model, the next step is to evaluate the structural model within the partial least squares structural equation modelling (PLS-SEM) framework.

Hypotheses Testing for Direct Relationships

The structural model's path coefficients were evaluated through an examination of the regression weights within the inner model and the significance of hypothesized paths using bootstrap t-values with 10,000 sub-samples.

Table VIII
Structural model: Bootstrapping results for indirect effect

Hypothesis	Relation	Beta Coefficient	Standard deviation	T statistics	P values	Decision
H1	TL -> EP	0.342	0.096	3.568	0.000	supported

H1: There is a significant relationship between Transformational leadership and employee performance.

The results show that transformational leadership also demonstrates a significant and positive impact on employee performance (H1: $\beta=0.342$, $t=3.568$, $p<0.001$). The results indicate that higher levels of transformational leadership are associated with increased employee performance, highlighting the positive influence of this leadership style on employee performance.

Table IX
Direct hypothesis

Total Effect (TL->EP)				Direct Effect (TL->EP)			Indirect Effect (TL->EP)						
β	T	P	H3	β	T	p	β	SE	t	p	CI 95%		Decision
											L	U	
0.342	3.568	0	TL -> OC -> EP	0.341	3.447	0.001	0.001	0.034	0.032	0.975	-0.066		Not Supported

Mediator

Organizational commitment serves as a mediator in research, clarifying how transformational leadership impacts outcomes like employee performance. It reveals the mechanism through which independent variables influence dependent ones, making it essential for understanding organizational dynamics (Maseer, Zghair, & Flayyih, 2022).

H2: Organizational commitment mediates the relationship between transformational leadership and employee performance. The results revealed an insignificant mediating effect of organizational commitment on the relation between transformational leadership and employee performance (H2: $\beta = 0.342, t = 3.447, p > 0.05$). The absence of statistical significance suggests that organizational commitment may not significantly mediate the relationship between employee performance and transformational leadership.

Moderator

A moderator variable affects the relationship between an independent and a dependent variable. It defines the conditions under which an effect occurs and can modify the direction or strength of that effect depending on its level or value (Nafees, Cook, Nikolov, & Stoddard, 2021).

Table X

Structural model: Bootstrapping results for moderating relationships

Relationship	Beta Coefficient	Standard deviation	T statistics	P values	Decision
PSM x TL -> EP	0.093	0.098	0.951	0.342	Not Supported

H3: PSM moderates the effect of Transformational leadership on employee performance.

The results revealed a negative and insignificant moderating impact of PSM on the relation between transformational leadership and employee performance (H2: $\beta = 0.093, t = 0.951, p > 0.05$). The absence of statistical significance suggests that PSM may not significantly moderate the relationship between employee performance and transformational leadership. As the results are insignificant, there is no need to perform slope analysis.

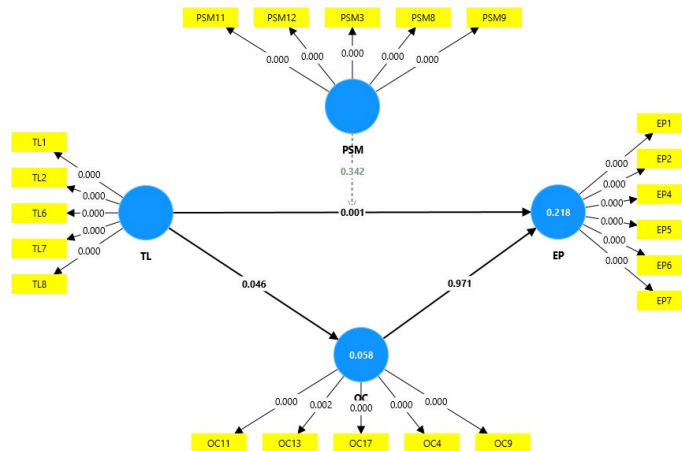


Fig. 3 Graphical representation of mediation and moderation

Assessment of the level of R-square

In PLS-SEM, the R-squared (R^2) coefficient assesses the predictive accuracy of structural models by measuring the variance in endogenous constructs explained by exogenous constructs, with thresholds of 0.75, 0.50, and 0.25 indicating substantial, moderate, and weak explanatory power, respectively Hair (2017).

Table XI

R-square

Variable	R-square
EP	0.295

Findings and Discussions

The research found a significant correlation between transformational leadership and employee performance among Pakistan Railways officers, highlighting the importance of a leadership culture focused on motivation and empowerment. It advocates for transformational leadership to enhance employee performance and navigate organizational challenges effectively. Numerous studies affirm the significant positive impact of transformational leadership on employee performance across various sectors, including government, insurance, and banking (Hasibuan & Ferine, 2023; H. Khan et al., 2020; Mahfouz et al., 2020; Purwanto et al., 2020). Research in Pakistan's public banking sector further confirms this relationship (Anwar et al., 2023), highlighting the role of transformational leadership in fostering improved performance outcomes (Putra & Dewi, 2019).

In Pakistan Railways, transformational leadership significantly improves employee performance through behaviours like inspiring vision and individualized consideration. However, Public Service Motivation (PSM) does not significantly moderate this relationship, which aligns with findings by Caillier (2014) and Ronikko and Sunaryo (2021) but contradicts Han, Abdullah, and Hwang (2023), who found PSM to be a moderating factor in organizational citizenship behaviour. The lack of PSM moderation may stem from individuals with high PSM being inherently motivated by societal service, which could overshadow leadership influences, as well as a potential misalignment between transformational leaders' goals and the altruistic values of high PSM individuals. Additionally, strong intrinsic motivation and bureaucratic processes within Pakistan Railways may further diminish the impact of transformational leadership. Further research is needed to better understand these dynamics for developing targeted interventions to enhance motivation and performance.

The analysis indicates that organizational commitment does not mediate the relationship between transformational leadership and employee performance, suggesting that the effects of transformational leadership on performance are not conveyed through organizational commitment. These findings challenge prior research that supports both the direct impact of transformational leadership on performance and the mediating role of organizational commitment (Almutairi, 2016; Dewi, Syaifuddin, & Adam, 2019; Purwanto et al., 2020). The discrepancies may be attributed to political and bureaucratic factors that hinder leadership effectiveness, as corruption and political interference have been shown to adversely affect employee performance (Shah et al., 2015). The study also reveals low employee commitment, indicating a need for better motivation and communication from leaders. While transformational leadership may encourage loyalty, it does not significantly improve employee performance through organizational commitment. Instead, individual skills, task clarity, and available resources are likely more impactful. To enhance employee performance, Pakistan Railways should address systemic issues, provide adequate support, clarify roles, and align individual and organizational goals, leading to more effective strategies for organizational performance (Meiryani et al., 2022; Novianti, 2021).

Implications

The study confirmed a strong link between transformational leadership and employee performance in Pakistan Railways but found that PSM did not moderate this relationship, nor did organizational commitment mediate it. This research marks the first effort to integrate these variables in a single model for Pakistan Railways, focusing on employees from BS-17 to BS-21. Future studies could replicate this research across various public sector organizations in Pakistan and compare insights between public and private sectors. Expanding the study to include neighbouring countries would also deepen understanding. The findings provide valuable theoretical insights into the roles of transformational leadership, PSM, and organizational commitment in enhancing performance, underscoring the importance of aligning employee and organizational goals. This research offers a foundation for refining management strategies in Pakistan Railways and similar entities, guiding improvements in organizational performance and policy development.

Limitations and directions for future research

Every research project has limitations that may constrain the scope of its findings. This study examined only the mediating effect of organizational commitment and the moderating effect of PSM, overlooking other potential influences like organizational politics or perceived organizational support, which could also impact employee performance. Additionally, it did not establish a moderating effect of public service motivation or a mediating effect of organizational commitment on the relationship between transformational leadership and employee performance, possibly due to limitations in measurement scales. Relying solely on quantitative surveys may also affect data reliability, suggesting a need for qualitative methods to deepen insights. Furthermore, focusing solely on Pakistan Railways restricts the generalizability of findings to other sectors, particularly outside Pakistan's public transportation sector. These limitations highlight areas for future research to enhance the robustness and external validity of the study's findings.

Conclusion

In conclusion, this study underscores the strong link between transformational leadership and employee performance in Pakistan Railways, shedding light on critical factors influencing organizational effectiveness. Although PSM did not moderate and organizational commitment did not mediate this relationship, the research provides a foundational view of these interactions in the public sector. The findings highlight the importance of aligning employee and organizational goals to boost performance and sustainability. These insights offer valuable guidance for Pakistan Railways' management and policymakers, suggesting ways to enhance organizational effectiveness. The study also paves the way for further research into the complex dynamics of leadership and performance within public sector organizations, supporting the development of strategies to drive positive outcomes.

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