
**TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE PERFORMANCE:
THE MEDIATING ROLES OF EMPLOYEE ENGAGEMENT AND
ORGANIZATIONAL COMMITMENT IN INDONESIA CONSTRUCTION
SOEs**

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Abstract

This study aims to examine the influence of transformational leadership on employee performance through the mediating roles of employee engagement and organizational commitment in Indonesian State-Owned Enterprises (SOEs) construction companies. The study was conducted in a high-pressure construction environment characterized by project-based work, strong bureaucracy, and high job security. A quantitative approach was applied using a survey method with purposive sampling involving 104 employees. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that transformational leadership significantly affects employee engagement ($\beta = 0.716$, $p < 0.001$) and organizational commitment ($\beta = 0.686$, $p < 0.001$), but has no significant direct effect on employee performance ($\beta = -0.070$, $p = 0.392$). Employee engagement ($\beta = 0.372$, $p < 0.001$) and organizational commitment ($\beta = 0.603$, $p < 0.001$) both significantly influence employee performance, with organizational commitment showing the stronger effect. Indirect effect analysis shows that organizational commitment ($\beta = 0.413$) mediates the relationship between transformational leadership and employee performance more strongly than employee engagement ($\beta = 0.266$), together producing a significant total indirect effect ($\beta = 0.679$, $p < 0.001$) that indicates full mediation, since the direct effect of transformational leadership on employee performance is not significant. This study contributes to leadership literature by examining the mechanisms through which transformational leadership influences employee performance through employee engagement and organizational commitment within Indonesian construction SOEs. The findings indicate that organizational commitment serves as a stronger mediating mechanism than employee engagement in this specific organizational context.

Keywords: Transformational Leadership, Employee Performance, Employee Engagement, Organizational Commitment, SOEs, Construction

INTRODUCTION

In the construction sector managed by State-Owned Enterprises (SOEs), which is characterized by high work dynamics and fierce competition, the role of leadership is crucial in influencing employee performance. Effective leadership not only provides direction, but also fosters employee engagement and commitment to the organization. In this regard, transformational leadership has been shown to significantly affect employee performance through the mediating roles of employee engagement and organizational commitment (Bass & Riggio, 2006; Korku & Kaya, 2023). This study examines transformational leadership as a leadership style rather than as an attribute of the leader's gender; the sampling context of this study, in which respondents happened to be supervised by female managers at the time of data collection, is addressed separately below and revisited in the Limitations section.

Transformational leadership is a leadership approach that emphasizes the importance of inspiration, motivation, and individual development in an organizational context. Leaders who apply this style serve to encourage team members to achieve higher goals through clear vision delivery, intellectual stimulation, and deep attention to each individual in the group (Hsu et al., 2022). In the State-Owned Enterprises construction sector, where projects are often large and require strong team collaboration, this approach plays an important role in increasing employee trust and commitment to the organization.

Transformational leadership has a significant relationship to employee performance, as revealed in various studies. Leaders who adopt a transformational leadership style are able to increase employee motivation, commitment, and trust, which ultimately positively impacts their performance (Hsu et al., 2022). Transformational leadership focuses on empowering employees through individual inspiration and development, thereby creating a work environment conducive to professional growth and the achievement of organizational goals (Korku & Kaya, 2023). In addition, this leadership style also encourages strong interpersonal relationships between leaders and employees, which contributes to increased productivity and work efficiency (Khushk et al., 2023).

Research conducted by Iqbal et al. (2021) revealed that transformational leadership has a significant influence on organizational commitment, reflecting the level of emotional and psychological attachment of employees to the company. This high commitment contributes to increased employee engagement, which shows enthusiasm, dedication, and active participation in carrying out tasks (Jing et al., 2022). With high engagement rates, employees tend to show better productivity, higher loyalty to the company, as well as lower attendance rates, which ultimately contribute to improved employee performance (Khushk et al., 2023).

Organizational commitment has a significant role in connecting leadership style with employee performance. Iqbal et al. (2021) show that employees who have high organizational commitment tend to be more emotionally engaged in their work and have greater motivation to achieve company goals. In addition, Jing et al. (2022) emphasize that employee engagement serves as a link between organizational commitment and employee performance, indicating that the higher the level of employee engagement, the better the performance they can achieve.

In the context of the state-owned construction industry, where projects are often complex and require intensive coordination between individuals and teams, the implementation of transformational leadership can be an effective strategy to increase employee engagement and organizational commitment. By understanding the contribution of transformational leadership to employee performance, companies can formulate more efficient leadership and human resource management policies. Therefore, this study aims to examine the influence of transformational leadership on employee performance through the mediating roles of employee engagement and organizational commitment in the State-Owned Enterprises construction sector.

This study focuses on transformational leadership behaviors as perceived by employees working in Indonesian construction SOEs. As part of the sampling procedure, respondents were included only if they were currently working under a manager or supervisor who was female at the time of data collection; this criterion defines the sampling context of the study rather than an analytical variable. Prior literature has suggested that female leaders are often associated with transformational leadership characteristics such as empathy and individualized consideration (Wang & Karia, 2024; Khushk et al., 2023), which provides one plausible reason why transformational leadership behaviors could be salient in this particular sample. However, the present study does not compare male- and female-led teams, nor does it operationalize the leader's gender as a construct; leader gender is therefore treated strictly as a boundary condition of the sample, and its implications for the generalizability of the findings are discussed further in the Limitations section.

REVIEW OF LITERATURE

Previous research has shown that transformational leadership can improve employee engagement and performance, while organizational commitment plays a role in strengthening their loyalty. This review reviews previous research to understand the relationship between these variables and identify research gaps that can be the basis for further studies.

As noted earlier, the leader's gender in this study is treated purely as a sampling context rather than as an analytical variable. The following review therefore focuses on transformational leadership as a behavioral style, drawing on the established leadership literature to define the construct and to develop the hypotheses tested in this study.

Transformational Leadership

Transformational leadership is a leadership style that emphasizes inspiring, motivating, and developing employees to achieve organizational goals beyond expectations (Bass & Riggio, 2006). Leaders with this style articulate a strong vision, stimulate followers intellectually, and attend to each follower's individual needs, and are commonly assessed along four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio & Bass, 2005). Korku and Kaya (2023) found that transformational leaders play a crucial role in building an adaptive and productive organizational culture, which ultimately improves individual and organizational performance. Transformational leaders are also oriented towards the personal growth of employees,

encouraging them to take the initiative and contribute more deeply to the organization (Hsu et al., 2022).

Empathy, emotional intelligence, and strong interpersonal relationships are core properties of the transformational leadership style itself, regardless of the leader's gender (Bass & Riggio, 2006). Leaders who adopt an inspiring and empowering transformational style can increase employee motivation and strengthen organizational commitment (Korku & Kaya, 2023). Accordingly, the transformational leadership behaviors examined in this study are expected to create a more collaborative and inclusive work environment that supports employee engagement and performance.

Based on the literature review, the hypotheses that are appropriate for the transformational leadership variables in the context of this study are:

H1: Transformational leadership has a positive effect on employee engagement.

H3: Transformational leadership has a positive effect on organizational commitment.

H5: Transformational leadership has a positive effect on Employee Performance.

These findings support that transformational leaders have a strong influence on employee engagement and commitment, ultimately improving overall organizational performance (Chin et al., 2019; Balwant et al., 2020).

Employee Engagement

Employee engagement is a concept that describes the extent to which employees are emotionally and psychologically involved in their work and organization. Jing et al. (2022) define employee engagement as the level of emotional engagement and employee commitment that acts as a mediator in the relationship between organizational commitment and employee performance.

Employee engagement involves three main dimensions: vigor, dedication, and absorption. Vigor refers to the energy and mental resilience of employees while working, dedication reflects high emotional involvement to work, while absorption indicates full concentration in carrying out tasks (Jing et al., 2022). Employees with high levels of engagement tend to show greater loyalty to the organization, are more productive, and have higher levels of job satisfaction.

In Jing et al.'s (2022) study, employee engagement was found to be a key factor in improving employee performance. Employees who have high engagement are more likely to work with dedication, complete tasks better, and have a strong intrinsic motivation to achieve organizational goals. Organizational commitment has a close relationship with employee engagement. Employees who have a high commitment to the organization tend to be more engaged in their work, which ultimately has a positive impact on the performance of the individual as well as the organization as a whole (Jing et al., 2022).

Based on the findings of Jing et al. (2022), the relevant hypotheses related to employee engagement are:

H2: Employee engagement has a positive effect on employee performance.

This hypothesis emphasizes that the higher the employee involvement in work, the higher the performance they produce in the organization.

Organizational Commitment

Organizational commitment is a crucial factor in human resource management related to the extent to which employees feel emotionally, normatively, and continuously attached to the organization they work for. According to Iqbal, Ahmad, and Halim (2021), organizational commitment has an important role in increasing employee engagement, which ultimately contributes to individual and organizational performance as a whole.

In research conducted by Iqbal et al. (2021), organizational commitment is divided into three main dimensions, namely:

1. Affective Commitment

Refers to the emotional attachment of employees to the organization. Employees who have a high affective commitment tend to be more loyal and motivated to contribute optimally to the organization.

2. Continuance Commitment

Relating to rational considerations in maintaining employment. Employees with high continuance commitment will remain in the organization because of the high costs if they leave, such as lost benefits or career opportunities.

3. Normative Commitment

Relates to the feeling of moral obligation to stay employed in the organization. Employees with high normative commitment feel that they have a responsibility to remain loyal to the organization.

Organizational commitment has a significant impact on employee performance. Employees who have a high level of commitment tend to show greater loyalty, have a higher level of engagement, and are willing to work harder to achieve organizational goals (Iqbal et al., 2021). Furthermore, organizational commitment also plays a role in reducing turnover rates and increasing job satisfaction and productivity. Iqbal et al. (2021) highlight that organizational commitment can be a mediator which connects various leadership factors with employee engagement and employee performance. Based on the above discussion, the hypothesis that is in accordance with the organizational commitment variable is:

H4: Organizational commitment has a positive effect on employee performance.

This hypothesis is supported by the findings of Iqbal et al. (2021), which show that increasing organizational commitment will have a positive impact on employee engagement and performance in organizations.

Transformational leadership is recognized as a leadership style that inspires and motivates employees to exceed expected performance by fostering a shared vision, encouraging innovation, and supporting employee development (Bass & Riggio, 2006). Leaders who adopt a transformational approach create a supportive work environment where employees feel valued and empowered, thereby increasing their emotional and psychological attachment to their work. Transformational leadership may be particularly effective when leaders demonstrate empathy, emotional intelligence, and strong interpersonal skills that facilitate employee involvement and motivation (Korku & Kaya, 2023).

Employee engagement has been identified as a crucial mechanism through which leadership practices influence employee outcomes. According to Jing et al. (2022), engaged

employees demonstrate greater dedication, stronger intrinsic motivation, and higher levels of productivity, all of which contribute positively to employee performance. Employees who are emotionally connected to their work are more willing to invest additional effort in achieving organizational objectives and maintaining high work standards. Therefore, transformational leadership may not only affect employee performance directly but also indirectly by enhancing employee engagement. Based on these arguments and empirical findings, employee engagement is expected to mediate the relationship between transformational leadership and employee performance in Indonesian construction SOEs (Korku & Kaya, 2023; Jing et al., 2022).

H6: Employee engagement mediates the relationship between transformational leadership and employee performance in Indonesian construction SOEs.

Transformational leadership has been widely associated with the development of positive employee attitudes, including stronger organizational commitment. By articulating a compelling vision, demonstrating individualized consideration, and fostering trust, transformational leaders strengthen employees' emotional attachment to the organization (Donkor et al., 2022). Transformational leaders who build collaborative and inclusive work environments can enhance employees' sense of belonging and loyalty to the organization (Masa'deh et al., 2016).

Organizational commitment has been shown to contribute significantly to employee performance by encouraging employees to remain dedicated, loyal, and willing to exert greater effort in achieving organizational goals (Iqbal et al., 2021). Employees with high organizational commitment are more likely to demonstrate positive work behaviors, maintain high levels of productivity, and contribute to organizational success. Furthermore, Iqbal et al. (2021) emphasize that organizational commitment serves as an important mechanism linking leadership-related factors to employee outcomes. Therefore, transformational leadership may enhance employee performance indirectly through its ability to strengthen organizational commitment. Based on the theoretical arguments and empirical evidence, organizational commitment is expected to mediate the relationship between transformational leadership and employee performance in Indonesian construction SOEs (Donkor et al., 2022; Iqbal et al., 2021).

H7: Organizational commitment mediates the relationship between transformational leadership and employee performance in Indonesian construction SOEs.

RESEARCH METHOD

Research Design

This study uses a quantitative approach with a survey method to examine the influence of transformational leadership on employee engagement and the mediating role of organizational commitment in these relationships and its impact on employee performance. The quantitative approach was chosen because it allows an objective and systematic analysis of the relationships between variables through numerical data processing. In addition, survey methods are considered effective in collecting data from large populations, so they can produce more representative findings.

The design of this study is causal and uses an explanatory research model to explain the cause-and-effect relationship between independent variables (transformational leadership), mediating variables (organizational commitment and employee engagement), and dependent variables (employee performance). This research model was developed based on a review of the literature that has been conducted as well as previous research that shows a positive relationship between transformational leadership, organizational commitment, employee engagement, and employee performance.

This study focuses on transformational leadership behaviors as experienced by employees working in Indonesian construction SOEs—a context that remains underexplored in leadership literature.

Sampling Method, Procedures, and Sample Size

This study uses a non-probability sampling method with a purposive sampling technique, which is the selection of samples based on certain criteria that are relevant to the purpose of the research. This technique was chosen because the research focuses on employees of State-Owned Enterprises Construction who have had work experience in the organization and worked under leadership that applies a transformational leadership style.

In the construction industry, transformational leadership plays a critical role in improving organizational commitment, employee engagement, and workforce performance that is often involved in large-scale projects with complex work dynamics. With purposive sampling, the samples obtained can provide more accurate data and in accordance with research needs, especially in measuring the relationship between transformational leadership, organizational commitment, employee engagement, and employee performance in the work environment of State-Owned Enterprises in Construction.

The sampling procedure is carried out through several stages. First, the researcher identified State-Owned Enterprises that meet the research criteria, namely companies with active projects and have a clear leadership structure in supporting employee engagement and performance. Second, the researcher collaborates with the company's management to gain access to employees who are respondents. Third, after obtaining permission and approval, the researcher distributed a questionnaire to employees who met the inclusion criteria, such as having at least one year of work experience in the company, being involved in a construction project, and working under the leadership of a manager or supervisor who applied a transformational leadership style. As an additional inclusion criterion, respondents were included only if the manager or supervisor they were currently working under was female at the time of data collection; this criterion was applied deliberately to obtain what the researcher refers to as “golden data,” that is, responses gathered specifically from employees who were, at the time of the survey, situated within a female-led reporting line, thereby providing a naturally occurring and relatively homogeneous sampling context for observing transformational leadership behaviors. It is important to reiterate that this criterion defines the sampling context of the study and does not introduce leader gender as an analytical variable; no female transformational leadership or female leadership construct is measured or

tested in this study. Fourth, the collected data is then reviewed to ensure completeness and validity before further analysis is carried out.

The sample size was determined using the inverse square root method (Kock & Hadaya, 2018). Using a minimum expected path coefficient of 0.25, a significance level of 0.05, and a statistical power of 0.80, this method yields a minimum required sample size of approximately 99 respondents. The final sample of 104 respondents exceeds this threshold. This assumption is conservative, as the smallest significant path coefficient observed in this study was 0.372.

Table 1. Demographic characteristics of the sample

Category	Sub-category	Frequency	Percentage
Gender	Male	38	36.5%
	Female	66	63.5%
Job Position	Manager/Head of Division	15	14.4%
	Staff/Supervisor/Leader	89	85.6%
Work Division	Operational, Technical, & Project	73	70.2%
	Administration, HR & Finance	31	29.8%
Work Tenure	< 2 Years	16	15.4%
	2 – 5 Years	35	33.7%
	5 – 10 Years	32	30.8%
	> 10 Years	21	20.2%
Duration under Female Leadership	1 – 3 Years	65	62.50%
	> 3 Years	39	37.50%

Source: Author, 2026

Table 1 presents the demographic characteristics of the respondents. Of the 104 respondents, the majority were female, accounting for 66 respondents (63.46%), while male employees accounted for 38 respondents (36.54%). Based on job position, most respondents were Staff/Supervisor/Leader (85.58%), with only 13.46% occupying managerial positions. Regarding work division, the majority worked in Operational, Technical, and Project divisions (70.19%), while 29.81% were employed in Administration, HR, and Finance functions. In terms of work tenure, the largest group had worked for 2–5 years (33.65%), followed by employees with 5–10 years of experience (30.77%). In addition, the majority of respondents (62.50%) had been working under their current female leader for 1–3 years, while 37.50% had done so for more than three years.

To ensure better representation in the context of State-Owned Enterprises Construction, the researcher also considered the distribution of the sample based on ongoing projects, job titles (managerial and non-managerial), and work experience. This was done to gain a more comprehensive understanding of how transformational leadership affects organizational commitment, employee engagement, and workforce performance in a construction industry that has specific challenges such as tight deadlines, high mobility, and dynamic job demands.

Data Collection Method and Instrument

Transformational Leadership and Employee Performance ...

In this study, the data collection method applied is a quantitative method with a survey approach, where data is obtained through the distribution of questionnaires to respondents consisting of employees in various organizations. The selection of this method is based on its suitability with the desired research objectives empirically investigate the relationship between transformational leadership, organizational commitment, employee engagement, and employee performance. The survey approach allows for the collection of large amounts of data in a structured and can be analyzed using statistical techniques to identify patterns of relationships between variables.

The main instrument used in this study is a questionnaire consisting of several sections designed to measure each variable studied. The questionnaire was compiled on a 5-point Likert scale, in which respondents were asked to state their level of agreement with various statements that reflected each variable. The selection of this scale was carried out because it can capture variations in respondents' attitudes and perceptions more accurately and has been widely applied in research in the social and management fields.

This study captures employee perceptions in a setting where 70.19% of respondents work in operational, technical, and project divisions roles traditionally associated with masculine work cultures. As shown in Table 1, 37.50% of respondents had worked under their current female leader for more than three years, suggesting sustained exposure rather than a novelty effect and thereby strengthening the validity of the leadership perception measurements.

1. Measurement of Transformational Leadership

Transformational leadership measurement is carried out through an instrument known as the Multifactor Leadership Questionnaire (MLQ). The instrument includes four main dimensions, namely ideal influence, inspirational motivation, intellectual stimulation, and individual consideration. In this questionnaire, there are examples of statements such as "My leader gives the team a clear vision and mission" and "My leader encourages me to think creatively and innovatively". MLQ has been shown to have a high level of validity and reliability in assessing transformational leadership.

2. Measurement of Organizational Commitment

The measurement of organizational commitment is carried out using a scale developed by Meyer and Allen, which includes three main dimensions: affective commitment, sustainable commitment, and normative commitment. In the questionnaire, there are examples of statements such as "I have a strong emotional bond with this organization" and "I remain in this organization because I feel a responsibility to do so". This scale has been widely applied in various previous studies and has proven effective in describing the level of employee attachment to the organization.

3. Measurement of Employee Engagement

Employee engagement is measured using the Utrecht Work Engagement Scale (UWES). This scale includes three main dimensions: vigor, dedication, and absorption. Examples of statements in the questionnaire are "I feel full of energy at work" and "My job

provides me with interesting challenges". UWES has been widely used in human resource management research and has a high level of reliability.

4. Measurement of Employee Performance

Employee performance is measured using the Bernadin and Russell Theory instrument developed and adjusted to the organizational context. The dimensions measured include Quality, Quantity, Timeliness, Cost-effectiveness, Need for Supervision, and Interpersonal Impact. Examples of statements in the questionnaire include "I am able to complete my work tasks efficiently" and "I am willing to help my coworker complete his work." This performance measurement has been tested in various studies and shows high consistency of results.

5. Data Collection Procedure

Data collection is carried out by distributing questionnaires to employees in various organizations online and offline. Prior to the distribution of the questionnaire, a validity and reliability test was carried out on the research instrument using statistical tests such as Cronbach's Alpha to ensure that each item in the questionnaire had a high internal consistency. In addition, the study also conducted a pilot study with a small number of respondents to identify potential problems in the questionnaire before wider distribution.

After the data were collected, data analysis was carried out using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the aid of SmartPLS 3, encompassing measurement model evaluation (convergent and discriminant validity, reliability) and structural model evaluation (collinearity assessment, path coefficients, effect sizes, coefficient of determination, and bootstrapping-based mediation testing). PLS-SEM was selected because it is well suited for testing complex models involving multiple mediating variables and is robust for prediction-oriented research with moderately sized samples. This analysis aims to identify whether employee engagement and organizational commitment play a role as mediating variables in the relationship and the extent to which leadership influences employee performance.

To address common method bias (CMB) concerns arising from the single-source, cross-sectional, self-reported nature of the data, two complementary tests were conducted. First, Harman's single-factor test was performed, in which the first unrotated factor explained 47% of variance, below the 50% threshold (Podsakoff et al., 2003). However, Harman's single-factor test is a relatively weak diagnostic and does not by itself rule out CMB (Podsakoff et al., 2003). Therefore, a full collinearity assessment using the Variance Inflation Factor (VIF) was also conducted following Kock (2015), in which VIF values below 3.3 for all constructs indicate that CMB is unlikely to contaminate the results. As reported in Table 6 in the Results section, all inner VIF values ranged from 1.000 to 2.432, well below the 3.3 threshold, providing stronger evidence that common method bias is not a serious concern in this study than Harman's test alone.

RESULTS AND DISCUSSION

Results

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3. The analysis consisted of two main stages: evaluation of the measurement model and evaluation of the structural model. The measurement model was assessed to examine the reliability and validity of the constructs, while the structural model was evaluated to test the proposed relationships among the research variables. The results of the hypothesis testing and mediation analysis are presented subsequently.

Measurement Model (Outer Model)

1. Convergent Validity

Convergent validity was assessed based on the outer loading of each indicator and the Average Variance Extracted (AVE) of each construct. An indicator is considered valid if its outer loading value exceeds 0.6, while a construct is considered to meet convergent validity if the AVE value exceeds 0.5 (Hair et al., 2019).

Table 2. Outer Loadings

Construct	Indicator	Outer Loading
Employee Engagement	EE1	0.755
	EE2	0.831
	EE3	0.899
	EE4	0.845
	EE5	0.881
Employee Performance	EP1	0.858
	EP2	0.754
	EP3	0.748
	EP4	0.797
	EP5	0.711
	EP6	0.790
	EP7	0.910
	EP8	0.652
Organizational Commitment	OC1	0.799
	OC2	0.869
	OC3	0.904
	OC4	0.896
	OC5	0.853
	OC6	0.639
Transformational Leadership	TL1	0.775
	TL2	0.944
	TL3	0.878
	TL4	0.912
	TL5	0.898
	TL6	0.855

Source: SmartPLS 3 Output, 2026

Table 2 shows that all indicator outer loadings range from 0.639 to 0.944, exceeding the minimum threshold of 0.6. Although two indicators (OC6 and EP8) show relatively lower loadings of 0.639 and 0.652 respectively, they were retained because the corresponding constructs still achieved an adequate Average Variance Extracted, as presented in Table 3.

Table 3. Construct Reliability and Convergent Validity

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Employee Engagement	0.898	0.908	0.925	0.712
Employee Performance	0.908	0.920	0.925	0.610
Organizational Commitment	0.908	0.926	0.930	0.692
Transformational Leadership	0.940	0.944	0.953	0.772

Source: SmartPLS 3 Output, 2026

Table 3 presents the results of the construct reliability and convergent validity assessment. The Cronbach's Alpha values ranged from 0.898 to 0.940, indicating high internal consistency across all constructs. Similarly, the rho_A values ranged from 0.908 to 0.944, further confirming the reliability of the measurement model. In addition, the Composite Reliability (CR) values ranged from 0.925 to 0.953, exceeding the recommended threshold of 0.70 (Hair et al., 2019), which demonstrates that all constructs possess satisfactory internal consistency reliability.

Regarding convergent validity, the Average Variance Extracted (AVE) values ranged from 0.610 to 0.772, all exceeding the recommended threshold of 0.50 (Hair et al., 2019). Specifically, Employee Engagement obtained an AVE value of 0.712, Employee Performance 0.610, Organizational Commitment 0.692, and Transformational Leadership 0.772. These findings indicate that each construct explains more than 50% of the variance in its respective indicators, confirming adequate convergent validity. Overall, the results demonstrate that the measurement model satisfies the recommended criteria for reliability and convergent validity and is therefore suitable for subsequent structural model evaluation.

2. Discriminant Validity

Discriminant validity was examined using the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT). The Fornell-Larcker criterion requires the square root of a construct's AVE (shown on the diagonal) to be greater than its correlations with other constructs, while HTMT values should be below 0.90 (Hair et al., 2019).

Table 4. Fornell-Larcker Criterion

Construct	EE	EP	OC	TL
Employee Engagement (EE)	0.844			

Employee Performance (EP)	0.739	0.781		
Organizational Commitment (OC)	0.692	0.812	0.832	
Transformational Leadership (TL)	0.716	0.610	0.686	0.879

Source: SmartPLS 3 Output, 2026

Table 4 presents the results of the Fornell-Larcker criterion. The diagonal elements represent the square root of the Average Variance Extracted (AVE) for each construct, whereas the off-diagonal elements represent the correlations among constructs. The results indicate that the square root of AVE for Employee Engagement (0.844), Organizational Commitment (0.832), and Transformational Leadership (0.879) exceeded their corresponding inter-construct correlations. However, the square root of AVE for Employee Performance (0.781) was slightly lower than its correlation with Organizational Commitment (0.812), indicating that the Fornell-Larcker criterion was not fully satisfied for this construct.

Table 5. Heterotrait-Monotrait Ratio (HTMT)

Construct	EE	EP	OC	TL
Employee Engagement (EE)				
Employee Performance (EP)	0.781			
Organizational Commitment (OC)	0.736	0.852		
Transformational Leadership (TL)	0.766	0.634	0.724	

Source: SmartPLS 3 Output, 2026

Table 5 presents the HTMT values for all construct pairs. The HTMT values ranged from 0.634 to 0.852, all of which were below the recommended threshold of 0.90 (Hair et al., 2019). These findings indicate that all constructs are empirically distinct and satisfy the discriminant validity criterion based on the HTMT assessment.

Structural Model (Inner Model)

The structural model was evaluated after the measurement model met the required reliability and validity criteria. The evaluation aimed to examine the relationships among the latent constructs and assess the model's explanatory and predictive capabilities. Specifically, the structural model assessment included collinearity assessment using the Variance Inflation

Factor (VIF), the coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), hypothesis testing, and mediation analysis.

1. Collinearity Assessment

The collinearity assessment was conducted using the Variance Inflation Factor (VIF) to determine whether multicollinearity existed among the predictor constructs. The VIF values are presented in table 6

Table 6. Collinearity Assessment (VIF)

Path	VIF
Transformational Leadership → Employee Engagement	1.000
Transformational Leadership → Organizational Commitment	1.000
Transformational Leadership → Employee Performance	2.392
Employee Engagement → Employee Performance	2.432
Organizational Commitment → Employee Performance	2.236

Source: SmartPLS 3 Output, 2026

As presented in Table 6, all inner VIF values range from 1.000 to 2.432, well below the conservative threshold of 3.3. These results indicate that collinearity among the predictor constructs is not a concern in this structural model. Following Kock's (2015) full collinearity assessment approach, these VIF values below 3.3 also provide stronger evidence against common method bias than the Harman's single-factor test reported in the Methodology section, since a full collinearity test is capable of detecting both vertical and lateral collinearity that may signal CMB.

2. Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

The structural model was evaluated by examining the coefficient of determination (R^2) for each endogenous construct and the predictive relevance (Q^2) obtained through the blindfolding procedure. R^2 values of 0.75, 0.50, and 0.25 are interpreted as substantial, moderate, and weak, respectively, while a Q^2 value greater than zero indicates that the model has predictive relevance for the corresponding construct (Hair et al., 2019).

Table 7. R-Square and Q-Square

Endogenous Construct	R Square	R Square Adjusted	Q^2 (=1-SSE/SSO)
Employee Engagement	0.513	0.508	0.348
Employee Performance	0.722	0.714	0.403

Organizational Commitment	0.470	0.465	0.309
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Source: SmartPLS 3 Output, 2026

Table 7 shows that Transformational Leadership, together with the mediating variables, explains 72.2% of the variance in Employee Performance, 51.3% of the variance in Employee Engagement, and 47.0% of the variance in Organizational Commitment, indicating moderate to substantial explanatory power. Furthermore, the Q^2 values for Employee Engagement (0.348), Employee Performance (0.403), and Organizational Commitment (0.309) are all greater than zero, confirming that the model has adequate predictive relevance for the endogenous constructs.

3. Effect Size (F^2)

The effect size (f^2) indicates the relative impact of an exogenous construct on an endogenous construct within the structural model. Values of 0.02, 0.15, and 0.35 represent small, medium, and large effect sizes, respectively (Hair et al., 2019).

Table 8. F-Square (Effect Size)

Path	f Square	Category
Transformational Leadership → Employee Engagement	1.052	Large
Transformational Leadership → Organizational Commitment	0.887	Large
Organizational Commitment → Employee Performance	0.585	Large
Employee Engagement → Employee Performance	0.204	Medium
Transformational Leadership → Employee Performance	0.007	Negligible

Source: SmartPLS 3 Output, 2026

Table 8 shows that Transformational Leadership has a large effect on both Employee Engagement ($f^2 = 1.052$) and Organizational Commitment ($f^2 = 0.887$), while Organizational Commitment exerts a large effect on Employee Performance ($f^2 = 0.585$). Employee Engagement shows a medium effect on Employee Performance ($f^2 = 0.204$), whereas the direct effect of Transformational Leadership on Employee Performance is negligible ($f^2 = 0.007$), suggesting that its influence on performance operates mainly through the mediating variables.

4. Hypothesis Testing (Direct Effect)

Table 9. Path Coefficient and Hypothesis Testing

Path	(O)	T	P	Decision
TL → EE	0.716	19.027	0.000	Accepted
EE → EP	0.372	4.431	0.000	Accepted
TL → OC	0.686	11.803	0.000	Accepted
OC → EP	0.603	7.526	0.000	Accepted
TL → EP	-0.070	0.857	0.392	Not Accepted

Source: SmartPLS 3 Output, 2026

Table 9 shows that four of the five hypothesized direct paths are statistically significant. Transformational Leadership has a significant positive effect on Employee Engagement ($\beta = 0.716$; $t = 19.027$; $p < 0.001$) and on Organizational Commitment ($\beta = 0.686$; $t = 11.803$; $p < 0.001$), supporting H1 and H3. Employee Engagement ($\beta = 0.372$; $t = 4.431$; $p < 0.001$) and Organizational Commitment ($\beta = 0.603$; $t = 7.526$; $p < 0.001$) both have a significant positive effect on Employee Performance, supporting H2 and H4. In contrast, the direct effect of Transformational Leadership on Employee Performance is not statistically significant ($\beta = -0.070$; $t = 0.857$; $p = 0.392$), so H5 is not supported.

5. Mediation Analysis (Indirect Effect)

The mediating roles of Employee Engagement and Organizational Commitment were tested by examining the indirect effects of Transformational Leadership on Employee Performance through the bootstrapping procedure.

Table 10. Mediation Analysis (Indirect Effect)

Path	Original Sample	T Statistics	P Values	Decision
TL → EE → EP	0.266	4.304	0.000	Accepted
TL → OC → EP	0.413	5.406	0.000	Accepted

Source: SmartPLS 3 Output, 2026

As shown in Table 10, the total indirect effect of Transformational Leadership on Employee Performance through Employee Engagement and Organizational Commitment is 0.679 ($t = 9.656$; $p < 0.001$), which is statistically significant. The specific indirect effect through Organizational Commitment (0.413) is larger than the specific indirect effect through Employee Engagement (0.266), suggesting that Organizational Commitment plays a stronger mediating role. The total effect of Transformational Leadership on Employee Performance is 0.609 (direct: -0.070; total indirect: 0.679), yielding a VAF of 111.5%. A VAF above 100% reflects the negative sign of the (non-significant) direct effect; the combination of significant indirect effects and a non-significant direct effect indicates full mediation (Hair et al., 2019; Zhao et al., 2010). Since the direct effect of Transformational Leadership on Employee Performance is not significant (H5 not supported) while the total indirect effect is significant, the results indicate that Employee Engagement and Organizational Commitment fully mediate the relationship between Transformational Leadership and Employee Performance.

Discussion

Transformational Leadership and Employee Performance ...

Leadership has a very crucial role in determining the success of an organization, including government institutions. In addition, leadership also contributes to the formation of an organizational culture that can encourage growth and employee engagement. Therefore, much research has been done on transformational leadership in an organizational context, although there is still a lack of understanding of how transformational leadership affects employee engagement and commitment to the organization, as well as its impact on their performance. Based on the results of a survey conducted on State-Owned Enterprises employees, the first hypothesis test showed an influence between transformational leadership and employee engagement. These findings are in line with research conducted by Sahu et al. (2018), Balwant et al. (2020), and Chin et al. (2019), which indicate that transformational leadership has a significant positive influence on employee engagement.

This research is also supported by findings from Song et al. (2022), which show that transformational leadership has a positive and significant effect on employee engagement, because leaders who build strong relationships, are friendly, provide support, and inspire employees can improve their engagement levels and well-being. A positive relationship between transformational leadership and employee engagement occurs because transformational leadership emphasizes the expansion of individual employee responsibilities to deal with greater challenges in the work environment (Avolio, 2005; Fredrickson & Branigan, 2005).

The results of the second hypothesis test show that Employee Engagement has a significant influence on mediating transformation leadership on Employee Performance. These findings are in line with research conducted by Nazir & Islam (2017), Abdullahi et al. (2021), which affirms that employee engagement contributes positively and significantly to employee performance. This engagement can encourage more attention, intrinsic motivation, creativity, authenticity, non-defensive communication, and ethical behavior. If all these aspects are improved, then employees will become more productive and happy, as expressed by Bedarkar & Pandita (2014). According to Hughes and Rog (2008), employee engagement arises from a strong emotional and intellectual connection between employees and their work, organization, manager, or co-worker, which in turn can increase discretionary efforts in their performance. Engaged employees will feel tied to their duties as well as to their peers, which ultimately contributes to improved employee performance (Sahu et al., 2018).

The results of the third hypothesis test show that transformational leadership has a significant influence on organizational commitment. These findings are in line with previous research indicating that transformational leadership contributes positively and significantly to organizational commitment (Masa'deh et al, 2016).

As a result, employees will show greater loyalty and commitment to their work, which in turn will increase dedication to the organization. This confirms that transformational leadership styles are effective in building employee commitment, which means that employees will try harder without the desire to leave the organization. Thus, it can be concluded that transformational leadership is a statistically significant predictor of organizational commitment (Donkor et al., 2022).

The results of the last hypothesis test show that organizational commitment has a significant impact on mediating transformation leadership on employee performance. These findings indicate that the higher the level of organizational commitment that an employee has, the better the performance shown. With employee commitment increasing, their ability to contribute will also increase. Eliyana et al. (2019) explain that employee commitment includes a sense of identification (belief in the values of the organization), participation (the desire to try one's best for the benefit of the group), and discipline (the desire to remain part of the organization). This commitment reflects a strong desire to contribute as a special team member, strive to meet the group's expectations, and have confidence and recognition to the values and goals of the organization.

Organizational Commitment exerts a stronger effect on Employee Performance (EP) compared to Employee Engagement (EE) because in the context of construction SOEs which have high job security, strong bureaucracy culture, and stable career path, employees are more likely to maintain long-term relationships with the organization based on institutional attachment and the need to remain in the organization (continuance commitment), not only because of emotional engagement toward their work. This condition makes organizational commitment a more important factor in maintaining consistent employee performance.

According to Eliyana et al. (2019), organizational commitment reflects identification with organizational values, participation to give best effort for organization, and desire to stay as part of organization. In SOE environments characterized by extensive regulations and stability orientation, loyalty and long-term employment relationship become more dominant than engagement which is more affective and fluctuates. This finding is also supported by Donkor et al. (2022) which stated that transformational leadership can increase employee loyalty and commitment, so employees are motivated to work harder without desire to leave the organization. OC has stronger effect on EP than EE because commitment in SOE context is more rooted in job stability, security feeling, and obligation toward organization, which directly encourage sustainable employee performance.

From a theoretical perspective, this study extends Social Exchange Theory by demonstrating that the reciprocal relationship between employees and organizations may be manifested differently across organizational contexts. While Social Exchange Theory generally suggests that positive leadership behaviors generate employee engagement and commitment through reciprocal exchanges (Udin et al., 2025). The findings indicate that in Indonesian construction SOEs, organizational commitment serves as a stronger mechanism than employee engagement in translating transformational leadership into employee performance (Qin, 2024). This suggests that employees may respond to transformational leadership not only through increased enthusiasm and involvement in their work, but also through a stronger sense of obligation, loyalty, and attachment to the organization.

This finding also contributes to Organizational Commitment Theory by highlighting the importance of commitment in organizations characterized by high job security, strong bureaucratic structures, and stable career paths (Suzuki & Hur, 2020). In such environments, employees tend to develop long-term relationships with their organizations because of the

perceived value of organizational membership and career continuity (Afshari et al., 2020). As a result, organizational commitment becomes a more stable and enduring predictor of employee performance than employee engagement, which is often influenced by short-term emotional and situational factors. The results therefore suggest that the relative importance of commitment and engagement may depend on the organizational context in which employees operate.

The findings contribute to the Public Sector Motivation literature by providing evidence that employees in construction SOEs may be motivated not only by individual work experiences but also by a broader sense of responsibility toward organizational goals and public-sector values (Phinaitrup, 2026). The presence of bureaucratic procedures, long-term employment opportunities, and organizational stability may reinforce employees' commitment to the institution, thereby strengthening the effect of transformational leadership on performance. Consequently, this study suggests that organizational commitment plays a particularly important role in public-sector organizations, where institutional attachment and long-term organizational relationships remain central drivers of employee behavior and performance.

Interestingly, the bootstrapping results show that the direct effect of transformational leadership on employee performance is not statistically significant ($\beta = -0.070$; $t = 0.857$; $p = 0.392$), whereas both indirect paths through employee engagement ($\beta = 0.266$) and organizational commitment ($\beta = 0.413$) are significant, yielding a substantial total indirect effect ($\beta = 0.679$; $t = 9.656$; $p < 0.001$). This pattern indicates that in the high-pressure environment of construction SOEs characterized by tight deadlines and project-based work transformational leadership shapes employee performance almost entirely through psychological mechanisms, namely by fostering engagement and building commitment, rather than through a direct behavioral pathway. This contrasts with findings in some other sectors, such as healthcare, where transformational leadership has been shown to retain a significant direct effect on performance alongside partial mediation (Chu et al., 2021), indicating that industry context shapes the transmission mechanism through which leadership translates into performance.

The findings suggest that transformational leadership is effective in enhancing employee engagement, organizational commitment, and employee performance. However, because the study does not include a male-led comparison group, the findings should not be interpreted as evidence that female leaders are more effective than male leaders.

CONCLUSION

Based on the analysis and findings of this study, which focuses on employees of State-Owned Enterprises (SOEs), it can be concluded that Employee Engagement has a significant influence on employee performance, while Organizational Commitment also demonstrates a significant impact on employee performance. In addition, Transformational Leadership has been proven to significantly influence Employee Engagement and Organizational Commitment, and to influence employee performance indirectly through these two mediating

variables rather than through a significant direct effect. Based on these findings, it is recommended that management within the SOE sector continue to maintain and strengthen effective transformational leadership practices to ensure a sustainable positive impact on employee performance. Management is also encouraged to consider adopting leadership approaches that better align with the evolving needs of employees in the SOE environment. Furthermore, it is important for organizations to continuously provide leadership development programs, guidance, and motivation to leaders so that they remain capable of driving positive change among employees.

The findings indicate that transformational leadership positively influences employee engagement and organizational commitment, and indirectly influences employee performance through these mediators among employees working in Indonesian construction SOEs. This study contributes evidence from an underexplored context construction SOE sector. Furthermore, the findings highlight organizational commitment as a stronger mediating variable than employee engagement in explaining how transformational leadership affects employee performance.

Several limitations should be acknowledged. First, all respondents were sampled under a specific boundary condition, namely that they were currently working under a female manager or supervisor at the time of data collection; although leader gender was not operationalized as a study variable, this sampling context means the findings cannot be generalized to teams led by male managers, and future studies employing a comparative design with male-led teams are recommended to examine whether the observed relationships hold across leader genders. Second, the cross-sectional design and reliance on self-reported data from a single source may introduce common method bias; while Harman's single-factor test suggested that this issue was not a major concern, this test alone is a relatively weak diagnostic, and the full collinearity VIF assessment (Kock, 2015) reported in the Results section provides more robust, though still not conclusive, evidence that CMB is unlikely to have materially affected the findings. Third, the sample was drawn from construction SOEs located in Greater Jakarta, which may limit the generalizability of the findings to other regions or private-sector construction firms. Finally, while this study captures employees' perceptions, it does not include leaders' self-assessments or objective performance measures, providing opportunities for future research using multiple data sources.

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