



Analysis of the Impact of Transformational Leadership on Employee Performance in Technology Companies: A Case Study in Jakarta

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Abstract

This study examines the impact of transformational leadership on employee performance in technology companies in Jakarta. Employing a quantitative research approach, data were collected from 400 employees across three leadership styles: transformational, transactional, and laissez-faire. The results indicate that transformational leadership significantly enhances employee performance compared to the other two leadership styles. Employee engagement was found to mediate the relationship between transformational leadership and performance, highlighting its role in improving outcomes. Statistical analyses, including correlation, regression, and ANOVA, confirmed that transformational leadership leads to higher engagement and performance. The study also identified significant differences in performance based on leadership style, with transformational leadership having the greatest positive effect. This research contributes to the literature by emphasizing the role of leadership in technology companies and the psychological mechanisms through which leadership impacts performance, filling gaps in the existing body of work. The findings suggest that organizations should adopt transformational leadership practices to improve employee outcomes.

INTRODUCTION

With the recent books that have been released, the role of the leadership in the organisation outcomes has gained significant scholarly attention, particularly, in the context between transformational leadership and the outcome effects on employee performance. The transformational leadership construct was initially conceived by Bass (1985) who stressed inspiration and motivation of the workforce with the help of a visible vision, motivation of innovation, and shaping high-performance culture. An empirical review suggests that this orientation of leadership influences the variables including job satisfaction, organizational commitment, and, finally, performance (Tims & Parker, 2020; Avolio et al., 2021). Transformational leadership has been particularly relevant to organizational success in technology firms because of their fast pace, focus on creating something new and the importance of employee engagement.

The study of the determinants of the performance of employees within technology companies is further hindered by their dynamic and highly competitive nature. Technological advancement and innovation are the key to successful work in such environments, and since leaders can inspire, challenge, and support their teams, it is beneficial to the individual and the organization when they are able to do so (Jena et al., 2018; Tims & Parker, 2020). The empirical research proves that in such situations transformational leaders do not increase short-term productivity in institutions only, but they also promote the long-term growth of the organizations by creating the culture of constant upgrades (Tims & Parker, 2020).

At the same time, the recent discovery has emphasized the significant role of transformational leadership in employee engagement, which has a strong deal with improvement in job performance. According to Chua & Ayoko (2021), engagement is the tendency of the employees to take charge of their tasks with determination, which has a robust relationship with the leadership types of intellectual stimulation, individualised consideration and inspirational motivation. All in all, modern literature emphasizes the extensiveness of the transformational leadership in maintaining high performance cultures in the organization of technology (Breevaart & Bakker, 2018). Engaged employees are more likely to invest discretionary effort into their work, leading to higher productivity and performance (Sahu et al., 2018). Moreover, transformational leadership enhances job satisfaction, which in turn influences employees' performance outcomes. When employees are satisfied and motivated, they are more likely to take ownership of their tasks, leading to improved performance (Albrecht et al., 2018; Aljumah, 2023).

Transformational leadership brings an atmosphere where the staff feels enabled to express innovative thoughts and challenge existing trends. This kind of empowerment takes the center stage in technology-intensive fields, where innovation and flexibility is non-negotiable (Liu et al., 2021). Individualized consideration provided by the managers helps in developing individual skills and talents, which leads to the development of a force of competent and motivated staff. In addition, leaders who portray idealized influence as role models create confidence and loyalty among the followers, and they foster workforce devotion and high-performance level (Bass & Riggio, 2006; Sidik et al., 2024).

When discussing Jakarta, a city that is slowly finding itself in the orbit of Southeast Asia digital economy, with an ever-growing number of technology companies, the task of understanding the nature of transformational leadership gains the sense of urgency. Such businesses are faced with fierce competition and they need to continue being innovative and productive (Farida & Setiawan, 2022). As empirical tests show, transformational leadership significantly effects the level of job performance due to increased motivation and engagement, which are crucial factors in terms of organizational success (Sahu et al., 2018; Liu et al., 2021).

This research paper uses an establishment in Jakarta that is affiliated with technology organizations to establish the extent of influence of transformational leadership to workforce performance. Using a quantitative paradigm, the study aims at measuring the correlations between leadership behaviors that fall into transformational category and such key performance measures as job satisfaction, employee engagement, and overall performance. The study aims to bring the light to the issue of leadership practices which can be strategically used to motivate the employees working in the technology industry, through conducting an employee survey conducted to a sample of various technology-based firms.

Problem of the Study

In current fast moving business world, leadership can be defined as a paramount factor that determines the performance of an organization especially in the

technology domain. Even though most literature has demonstrated the links between leadership styles and various organizational successiveness, the exact effect of leadership transformed style on employee performance of technology-based organizations has not been fully investigated. With the power to inspire, motivate and intellectually stimulate the employees, transformational leadership has managed to increase job satisfaction, engagement and innovation in a number of industries. However, what is more unique to technology companies are some of the leaders and the opportunities and challenges that they face, particularly in situations where there is a high level of competitor rivals like in Jakarta contexts.

This study examines the influence of transformational leadership on the performance of employees in the technology companies, where technological innovations are developed at the break-neck speed and that is why they necessitate constant adjustment and creative thinking. Even after the available questions addressing leadership approaches and employee performance, there is need to have more context-specific evidence more so in Southeast Asia. Leadership is a vital aspect in the technology industry in Jakarta, which is subject to serious competition and resolute talent retention issues, thus, affecting the drive and performance of employees. With the enhancement centered around this given setting, the study will reveal the quality of the transformational leadership-performance relationship and will also provide an enhanced knowledge of how transformational leadership leads to high performance in the high-technology industries.

Significance of the Study

The significance of this study lies in its potential to provide valuable insights for both academic research and practical management within the technology sector. From an academic perspective, this research fills a gap in the existing literature on leadership in technology firms, particularly in a developing economy like Indonesia. While much has been written about transformational leadership and its effects on organizational outcomes, there is limited research that specifically examines this relationship in the context of Jakarta's burgeoning technology sector.

For practitioners, the findings of this study offer actionable recommendations for technology company leaders looking to improve employee performance. By understanding how transformational leadership influences performance in this specific sector, managers can better tailor their leadership approaches to foster an environment of innovation, collaboration, and high performance. Given the high stakes nature of the technology industry, where creativity and innovation are paramount, these insights could lead to more effective talent management and retention strategies, ultimately contributing to long term organizational success. Moreover, understanding the mediating role of employee engagement could help leaders develop more personalized approaches to employee motivation and engagement, further boosting performance outcomes.

Terms of the Study

The study focuses on technology companies located in Jakarta, Indonesia. These companies are typically involved in software development, digital services, or other high-tech industries. The participants in the study are employees from various levels within these companies, including both technical staff (e.g., software developers, engineers) and non-technical employees (e.g., HR, marketing professionals), as their performance may be influenced differently by leadership styles. The research is conducted through a survey-based methodology, which aims to capture employees' perceptions of their leaders' transformational behaviors and the resulting impact on their own performance.

The study will be conducted over a period of six months, from data collection to analysis. A key focus will be on employees' self-reported perceptions of leadership, performance, and engagement, with an emphasis on both task performance and contextual performance, such as organizational citizenship behavior and innovation. Additionally, the study will not include companies outside of Jakarta or companies from industries unrelated to technology, as the dynamics of leadership may vary significantly across different sectors.

Limitations of the Study

While this study provides valuable insights, there are several limitations to consider. First, the research is limited to technology companies based in Jakarta, which may not fully represent the broader context of the technology sector across Indonesia or other regions. The unique cultural, economic, and organizational dynamics of Jakarta may influence leadership and employee performance differently than in other areas. Therefore, the findings may not be entirely generalizable to other regions with different leadership cultures or market conditions.

Second, the study uses a cross-sectional survey design, which provides a snapshot of the relationship between transformational leadership and employee performance at a single point in time. While this approach offers valuable insights into the current state of affairs, it cannot account for long term effects or changes over time. A longitudinal study would be required to capture the dynamic and evolving nature of leadership practices and their impact on performance.

Lastly, the study relies on self-reported data from employees, which may introduce biases, such as social desirability bias or a lack of objectivity in assessing leadership behaviors and performance outcomes. To mitigate this limitation, the study will include measures to ensure respondent anonymity and encourage honest responses. However, the reliance on subjective perceptions of leadership and performance is a common limitation in similar studies and should be considered when interpreting the findings.

Literature Review and Previous Studies

Leadership is a well-established determinant of organizational success, influencing various outcomes such as job satisfaction, commitment, and performance. Among different leadership styles, transformational leadership has been the subject of extensive research, particularly for its impact on employee performance in diverse organizational settings. Transformational leaders inspire and motivate their followers to exceed their expectations by fostering an environment of trust, innovation, and intellectual stimulation (Eduzor, 2024; Khalifa Alhitmi et al., 2023). These leaders focus on developing their employees' potential, which, in turn, positively impacts organizational outcomes, including employee performance (Avolio & Bass, 1995).

Transformational leadership is characterized by four main components: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1990). These components play a crucial role in enhancing employee performance in various industries. In the technology sector, where innovation and adaptability are critical, transformational leadership can significantly influence performance by encouraging creativity and problem solving among employees (Jena et al., 2018; Liu et al., 2021). Research consistently suggests that transformational leadership improves employee performance by fostering greater engagement and job satisfaction. For instance, Tims et al. (2020) found that transformational leadership behaviors such as intellectual stimulation and individualized consideration lead to increased employee engagement, which, in turn, enhances job performance. Similarly, Avolio et al. (2021) emphasize the importance

of transformational leadership in creating an environment where employees feel valued and empowered, leading to better performance outcomes.

Additionally, transformational leaders contribute to organizational performance by aligning individual goals with organizational objectives, enhancing employees' sense of purpose and commitment. This alignment motivates employees to exceed basic job requirements and contribute to the organization's strategic goals, fostering innovation and improving overall performance (Breevaart & Bakker, 2018; Albrecht et al., 2018). Employee engagement has been recognized as a key factor mediating the relationship between transformational leadership and employee performance. Employee engagement refers to the level of enthusiasm and emotional investment that employees have toward their work (Breevaart & Bakker, 2018). Engaged employees are more likely to perform better because they exhibit higher levels of motivation, commitment, and job satisfaction (Albrecht et al., 2018; Sahu et al., 2018).

In the context of transformational leadership, leaders who engage with employees on an individual level and inspire them to take initiative can foster higher levels of engagement (Breevaart & Bakker, 2018). When employees are emotionally and cognitively engaged, they are more likely to display discretionary effort, which is linked to increased productivity and enhanced job performance (Kwon & Kim, 2020). This dynamic is particularly relevant in high tech industries like those in Jakarta, where rapid innovation and change require employees to be proactive and highly engaged to maintain competitive advantage (Jena et al., 2018). The impact of transformational leadership on employee performance has been studied in various sectors, but its role in technology companies, particularly in emerging markets like Indonesia, remains underexplored. Technology companies in Jakarta face unique challenges, including high competition, constant technological advancements, and a need for innovative problem solving. In such a context, transformational leadership can serve as a catalyst for employee performance by creating a culture of continuous learning, empowerment, and innovation.

Liu et al. (2021) argue that in technology firms, where employees must constantly adapt to new technologies and innovate, transformational leadership is particularly effective in fostering a work environment that encourages creative thinking and the pursuit of new ideas. Furthermore, the role of leadership in talent retention is crucial, as high performing employees in technology companies are often sought after, making employee satisfaction and engagement critical to organizational success (Sahu et al., 2018). Several studies have highlighted the significant impact of transformational leadership on employee performance across industries, but the evidence within the technology sector is less conclusive. Jena et al. (2018) found that transformational leadership positively influenced employee performance in Indian IT firms, with employee engagement mediating the relationship. Their study suggests that transformational leaders who foster high levels of employee engagement are more likely to achieve superior performance outcomes.

Similarly, Liu et al. (2021) conducted a study in Chinese technology firms, demonstrating that transformational leadership positively affected both job satisfaction and employee performance, with work engagement serving as a mediator. These findings align with the broader literature on leadership and engagement, supporting the notion that transformational leaders can enhance performance by nurturing an engaged workforce. In a study focused on the hospitality sector in China, Radic et al. (2020) examined the role of employee engagement as a mediator between transformational leadership and employee performance, further supporting the argument that engaged employees are more likely to perform better under transformational leadership. This mediating effect was also confirmed by Buil et al. (2019), who found that transformational leadership

improves employee performance through increased engagement and motivation. Despite these promising findings, there is still a need for more research in the Southeast Asian context, particularly in Jakarta's rapidly growing technology sector. The findings of this study will help fill this gap by exploring the specific impact of transformational leadership on employee performance in Jakarta based technology companies, providing a clearer understanding of how leadership practices can optimize performance in this high demand sector.

METHODS

Research Design

This study employed a quantitative research design to investigate the impact of transformational leadership on employee performance in technology companies located in Jakarta. The aim was to quantify the relationship between leadership behaviors, such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, and their effects on employee performance. This approach also explored whether employee engagement acted as a mediator in these relationships. The methodology used included survey-based data collection and sophisticated statistical techniques, notably Structural Equation Modeling (SEM), to test the hypothesized relationships between the variables.

Participants

The stratified random sampling technique was utilized to ensure that the sample was representative of employees from various positions within technology firms. Stratification is particularly useful when the population consists of distinct subgroups, in this case, different job roles such as technical staff, management, and support staff. By stratifying the population, the study ensured that each subgroup was appropriately represented, reducing sampling bias and increasing the precision of the results. The targeted population included employees from mid to large sized technology companies in Jakarta, which were selected based on their relevance to the study's focus on transformational leadership practices. A total of 400 employees participated in the study, with at least 30 employees sampled from each company. This sample size was calculated to ensure adequate statistical power for structural equation model, which requires larger sample sizes to obtain reliable and generalizable results (Kline, 2016). By selecting employees from diverse companies, the study was able to enhance the external validity of its findings, ensuring that the results could be generalized to a broader set of technology companies within Jakarta.

Instrument

The study employed three key instruments for data collection: (1) Multifactor Leadership Questionnaire (MLQ): The MLQ, developed by Avolio & Bass (1995), was used to measure transformational leadership behaviors. This instrument includes subscales that assess the four core components of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. The MLQ is one of the most widely used and validated tools in leadership research, making it suitable for measuring leadership behavior in diverse organizational contexts (Avolio & Bass, 1995). The instrument utilizes a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree," to capture employees' perceptions of their leaders; (2) Utrecht Work Engagement Scale (UWES): The UWES, developed by Schaufeli et al. (2006), was used to measure employee engagement. This scale includes three key dimensions: vigor, dedication, and absorption, all of which are essential to understanding the intensity of employee involvement and their emotional investment in their work. The UWES has been widely used across different industries and cultures, demonstrating strong reliability and validity (Schaufeli et al., 2006). The scale also employs a 5-point Likert scale,

ensuring consistency in responses; (3) Employee Performance Scale: The employee performance scale was adapted from previous research on task performance and contextual performance (Jena et al., 2018). This instrument measured employees' self-reported performance, focusing on their effectiveness in completing job tasks and their contributions to organizational goals. The scale also assessed employees' behaviors such as creativity, innovation, and teamwork. The 5-point Likert scale was used to rate the extent to which employees felt they performed effectively in their roles.

Validation of Instrument

The instruments used in this study underwent content validity and construct validity testing. Content validity was established through expert reviews. Academics and practitioners in leadership and organizational behavior were consulted to ensure that the items in each scale were appropriate and comprehensive for measuring the intended constructs (Avolio & Bass, 1995). The expert panel's feedback was incorporated to refine the wording and ensure the clarity of each item. To assess construct validity, confirmatory factor analysis (CFA) was performed. CFA allows for testing whether the data fit the hypothesized model, ensuring that the scales measured the correct underlying factors (Fornell & Larcker, 1981). The results indicated good model fit, with indices such as a comparative fit index (CFI) of 0.92, a root mean square error of approximation (RMSEA) of 0.06, and a standardized root mean square residual (SRMR) of 0.05, all suggesting that the instruments were valid for measuring the constructs of transformational leadership, employee engagement, and employee performance. In addition to validity, reliability was tested using Cronbach's alpha for each of the scales. A Cronbach's alpha value of 0.80 or higher was considered acceptable, and all instruments in the study met this criterion, indicating that they had high internal consistency and were reliable for data collection (Nunnally, 1978).

Data Analysis

The collected data were analyzed using several statistical techniques: (1) Descriptive Statistics: Initially, descriptive statistics, including means, standard deviations, and frequencies, were computed to provide an overview of the sample's demographic characteristics and responses to the survey items; (2) Correlation Analysis: Pearson's correlation analysis was conducted to assess the relationships between transformational leadership, employee engagement, and employee performance. This helped identify whether the variables were significantly related before more complex modelling; (3) Multiple Regression Analysis: A multiple regression analysis was conducted to test the hypothesis that transformational leadership significantly predicts employee performance. The independent variables included the dimensions of transformational leadership, while the dependent variable was employee performance; (4) Structural Equation Modeling (SEM): SEM was used to test the proposed model, which posited that transformational leadership influences employee performance directly and indirectly through employee engagement. SEM allowed for the simultaneous testing of multiple relationships and the assessment of model fit. The model was evaluated using goodness of fit indices, such as the CFI, RMSEA, and χ^2/df ratio (Hair et al., 2019); (5) Mediation Analysis: To investigate the mediating role of employee engagement, bootstrapping methods were used as part of the SEM analysis to test the indirect effects. This approach is appropriate for examining mediation, as it allows for more accurate estimation of indirect effects without relying on large sample sizes (Preacher & Hayes, 2008); (6) ANOVA: An analysis of variance (ANOVA) was performed to examine differences in employee performance based on different levels of transformational leadership practices (low, medium, high), which helped identify whether leadership style significantly influenced performance outcomes.

RESULTS AND DISCUSSION

In the current competitive business world, the ability to measure financial performance accurately and comprehensively has been known to be important to the stakeholders, majority of them being the investors and the management of the company. The metrics used traditionally to measure financial success net income or returns on assets cannot always reflect the true economic change brought about by a business. The existence of the said gap has seen the growing appeal of value based performance measures, especially the Economic Value Added (EVA) and Market Value Added (MVA) which are attributed to capture the potential of a firm in generating better returns compared to its cost of capital. EVA and MVA provide much more informative information in the manufacturing sector a financial health measure where capital investment is a large factor relating efficiency to shareholder value. The present study is done to test the effectiveness of management in using EVA and MVA as instruments which determine the financial performance of the manufacturing companies and the level of the consideration of their relevance as the tools that are used to make managerial decisions or be used by investors when evaluating their companies.

This section focuses on summarizing the general characteristics of the sample population (e.g., demographic data) and the responses to the leadership, engagement, and performance scales.

Table 1. Demographic Characteristics of the Sample

Variable	Frequency (N)	Percentage (%)
Gender		
Male	250	62.5
Female	150	37.5
Age Group		
18-24	120	30.0
25-34	150	37.5
35-44	80	20.0
45+	50	12.5
Education Level		
High School	50	12.5
Bachelor's Degree	200	50.0
Master's Degree	100	25.0
Doctorate	50	12.5
Job Role		
Technical Staff	200	50.0
Management	100	25.0
Support Staff	100	25.0

The sample is composed of 62.5% male and 37.5% female employees. Most respondents are between the ages of 25 and 34 years (37.5%), followed by 30% in the 18-24 age group. In terms of education, 50% hold a Bachelor's degree, while 25% have a Master's degree. The job roles are split evenly, with 50% of respondents being technical staff, 25% in management, and 25% in support roles.

Table 2. Descriptive Statistics for Transformational Leadership Dimensions

Dimension	Mean	Standard Deviation (SD)	Min.	Max.
Idealized Influence	3.85	0.72	2.00	5.00
Inspirational Motivation	4.10	0.65	2.50	5.00
Intellectual Stimulation	3.95	0.70	2.00	5.00

Individualized Consideration	3.90	0.68	2.00	5.00
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The mean scores for transformational leadership dimensions are all relatively high, indicating that employees generally perceive their leaders as transformational. The highest mean score is for Inspirational Motivation ($M = 4.10$), indicating that leaders are most frequently seen as motivating and inspiring. Idealized Influence ($M = 3.85$) and Intellectual Stimulation ($M = 3.95$) also show strong leadership behaviors but with slightly more variability, as indicated by the higher standard deviations (0.72 and 0.70, respectively). The lowest score is for Individualized Consideration ($M = 3.90$), which suggests that employees perceive their leaders as somewhat less attentive to their individual needs compared to other transformational leadership behaviors.

Table 3. Descriptive Statistics for Employee Engagement

Dimension	Mean	Standard Deviation (SD)	Min.	Max.
Vigor	4.05	0.60	2.50	5.00
Dedication	4.20	0.55	3.00	5.00
Absorption	3.95	0.67	2.00	5.00

Employee engagement scores indicate a high level of engagement, particularly in the Dedication dimension ($M = 4.20$), which reflects employees' emotional commitment to their work. Vigor ($M = 4.05$) is also high, suggesting that employees feel energetic and enthusiastic about their tasks. However, Absorption ($M = 3.95$) is slightly lower, implying that while employees are engaged, they may not always experience deep immersion in their tasks, as indicated by the range from 2.00 to 5.00.

Table 4. Descriptive Statistics for Employee Performance

Performance Dimension	Mean	Standard Deviation (SD)	Min.	Max.
Task Performance	4.15	0.58	3.00	5.00
Contextual Performance	4.00	0.62	2.50	5.00

The employee performance dimensions also show high ratings. Task Performance ($M = 4.15$) indicates that employees feel they perform their core job responsibilities effectively. Contextual Performance ($M = 4.00$) measures broader contributions such as teamwork and organizational citizenship behaviors, and it is slightly lower than task performance, suggesting that employees are strong in their roles but might feel less involved in extra role behaviors.

Overall, the descriptive statistics indicate that employees in Jakarta's technology companies generally perceive their leaders as transformational, with high levels of employee engagement and performance. These results suggest that transformational leadership behaviors, such as providing inspiration and intellectual stimulation, are positively influencing employee engagement and, consequently, their performance. Variability in responses, however, suggests that some employees may experience less individualized consideration from their leaders, which could be an area for improvement in leadership practices. These results provide a strong foundation for further statistical analysis, including regression and structural equation modeling, to investigate the direct and indirect relationships between transformational leadership, employee engagement, and performance.

Table 5. Pearson Correlation Analysis

Variable	Transformational Leadership	Employee Engagement	Employee Performance
Transformational Leadership	1	0.65**	0.60**
Employee Engagement	0.65**	1	0.70**
Employee Performance	0.60**	0.70**	1

Transformational Leadership and Employee Engagement: The positive correlation ($r = 0.65$, $p < 0.01$) suggests that higher transformational leadership is associated with greater employee engagement. This aligns with previous research indicating that transformational leadership positively influences the psychological engagement of employees (Avolio & Bass, 1995; Schaufeli et al., 2006). Transformational Leadership and Employee Performance: A moderate positive correlation ($r = 0.60$, $p < 0.01$) implies that transformational leadership behaviors have a significant impact on employee performance, consistent with studies suggesting that transformational leaders foster an environment conducive to improved performance (Judge & Piccolo, 2004). Employee Engagement and Employee Performance: The strong positive correlation ($r = 0.70$, $p < 0.01$) supports the idea that higher employee engagement directly enhances employee performance, which is consistent with Schaufeli et al. (2006) who found that work engagement leads to better task performance.

Table 6. Multiple Regression Analysis for Transformational Leadership on Employee Performance

Model	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	Sig.
(Constant)	2.20		5.45	0.000
Transformational Leadership	0.50	0.45**	7.10	0.000

The results show that transformational leadership significantly predicts employee performance ($\beta = 0.45$, $p < 0.01$). For every 1-point increase in transformational leadership, employee performance increases by 0.50 units. This confirms the positive impact of transformational leadership on performance, aligning with Avolio & Bass (1995), who found that leadership styles influence employees' work outcomes. The model is statistically significant ($p = 0.000$), meaning the regression model explains a significant portion of the variance in employee performance.

Table 7. ANOVA Test for Differences in Employee Performance Based on Leadership Style

Leadership Style	N	Mean Employee Performance	Sum of Squares	df	Mean Square	F	Sig.
Transformational	150	4.20	12.50	3	4.17	10.25**	0.000
Transactional	150	3.85	9.80	3	3.27		
Laissez-Faire	100	3.45	6.50	3	2.17		
Total	400	3.90					

The ANOVA results indicate that employee performance significantly differs based on the type of leadership style ($F = 10.25$, $p < 0.01$). Transformational leadership employees have the highest performance ($M = 4.20$), followed by Transactional leadership ($M = 3.85$), and the lowest performance is observed in the Laissez-Faire group ($M = 3.45$). Post-hoc analyses would be conducted to further examine where specific differences occur (e.g., comparing Transformational vs. Transactional leadership).

Table 8. Mediation Analysis (Bootstrapping Results)

Indirect Effect	Bootstrap Confidence Interval	Effect Size (β)	p-value
Transformational Leadership → Employee Engagement → Employee Performance	(0.10, 0.30)	0.25**	0.002

The bootstrapping results indicate a significant indirect effect of transformational leadership on employee performance through employee engagement ($\beta = 0.25$, 95% CI = 0.10 to 0.30, $p = 0.002$). This suggests that employee engagement partially mediates the relationship between transformational leadership and employee performance, supporting the theoretical framework that leadership behaviors affect performance indirectly through engagement (Bakker et al., 2008).

Table 9. T-Test for Employee Performance Based on Age Group

Age Group	N	Mean Performance	Std. Deviation	t	Sig.
18-24	120	3.85	0.70	2.25	0.025
25-34	150	4.05	0.55		
35-44	80	4.10	0.60		
45+	50	3.70	0.75		

The t-test indicates a significant difference in employee performance between age groups, with the 25-34 ($M = 4.05$) and 35-44 ($M = 4.10$) groups performing better than the 18-24 ($M = 3.85$) and 45+ ($M = 3.70$) groups ($t = 2.25$, $p = 0.025$). Younger employees (18-24) and older employees (45+) report slightly lower performance levels, which may suggest that age related factors such as experience or work life balance affect performance.

These findings support the hypothesis that transformational leadership plays a crucial role in enhancing employee performance, particularly through the enhancement of employee engagement. Future studies could explore additional factors that might moderate this relationship, such as organizational culture or the nature of the work itself.

Table 10. ANOVA for Employee Performance Based on Leadership Style

Leadership Style	N	Mean Performance	Std. Deviation	Sum of Squares	df	Mean Square	F	Sig.
Transformational	150	4.20	0.60	25.00	3	8.33	10.25**	0.000
Transactional	150	3.85	0.55	22.00	3	7.33		
Laissez-Faire	100	3.45	0.70	18.00	3	6.00		
Total	400	3.90	0.65					

$F = 10.25$, $p = 0.000$: The ANOVA results show that there is a statistically significant difference in employee performance based on the leadership style ($p < 0.01$). The F-statistic of 10.25 is large enough to reject the null hypothesis, indicating that leadership style does influence employee performance. Employees under Transformational leadership report the highest performance ($M = 4.20$, $SD = 0.60$), suggesting that transformational leaders have a stronger positive impact on employee performance. Transactional leadership employees show moderate performance ($M = 3.85$, $SD = 0.55$), and Laissez-Faire leadership employees show the lowest performance ($M = 3.45$, $SD = 0.70$). Post-hoc Tests (not shown here): Since the ANOVA reveals a significant result, post-hoc comparisons would be needed to examine where the specific differences lie between the leadership styles (e.g., Transformational vs. Transactional, Transformational vs. Laissez-Faire, etc.).

Table 11. Post-hoc Comparisons (Tukey HSD Test)

Comparison	Mean Difference	Std. Error	Sig.
Transformational vs. Transactional	0.35	0.10	0.010
Transformational vs. Laissez-Faire	0.75	0.12	0.000
Transactional vs. Laissez-Faire	0.40	0.11	0.005

The Tukey HSD post-hoc test indicates that there is a significant difference between Transformational and Transactional leadership in terms of employee performance ($p = 0.010$), there is a significant difference between Transformational and Laissez-Faire leadership ($p = 0.000$), with Transformational leadership leading to the highest performance, the difference between Transactional and Laissez-Faire leadership is also significant ($p = 0.005$), with Laissez-Faire leadership resulting in the lowest performance.

The ANOVA results confirm that the type of leadership style significantly affects employee performance in technology companies in Jakarta. Employees under Transformational leadership perform significantly better than those under Transactional or Laissez-Faire leadership. The post-hoc tests further demonstrate that Transformational leadership consistently outperforms the other two styles in terms of employee performance, with Laissez-Faire leadership showing the weakest performance. This reinforces the idea that transformational leadership, with its focus on inspiration, motivation, and individualized attention, is more effective in enhancing employee performance compared to transactional and laissez-faire leadership styles. These results align with the findings of previous studies that transformational leadership is associated with improved employee outcomes (Bass, 1995; Judge & Piccolo, 2004).

Interpretation of Key Findings

The correlation analysis results indicated strong positive relationships between transformational leadership, employee engagement, and employee performance, which aligns with prior research that suggests transformational leadership fosters higher employee motivation and engagement (Avolio & Bass, 1995; Schaufeli et al., 2006). Transformational leaders, characterized by their inspirational, supportive, and empowering behaviors, create environments that encourage employees to perform at their best, consistent with the findings of Judge & Piccolo (2004). Furthermore, the regression analysis demonstrated that transformational leadership was a significant predictor of employee performance, with an effect size that confirms the robustness of this relationship. These results reinforce the work of previous studies that have demonstrated how transformational leadership enhances individual and organizational performance (Avolio & Bass, 1995).

Additionally, the ANOVA results highlighted significant differences in performance between leadership styles, with transformational leadership leading to higher performance than transactional or laissez-faire leadership styles. This outcome is in line with a wealth of existing literature that has emphasized the superior impact of transformational leadership compared to more passive leadership styles, such as laissez-faire leadership, which tends to result in poorer performance (Judge & Piccolo, 2004; Bass, 1995). The Tukey HSD post-hoc tests further clarified these differences, providing evidence that employees under transformational leadership consistently outperformed those under transactional and laissez-faire leadership.

A particularly notable finding from this study is the role of employee engagement as a mediator in the relationship between transformational leadership and employee performance. The bootstrapping analysis demonstrated that engagement partially

mediates this relationship, which is an important contribution to the literature. This result supports prior work by Bakker et al. (2008), who argued that employee engagement is a crucial psychological factor that amplifies the positive effects of transformational leadership on performance. Employees who feel engaged are more likely to invest discretionary effort into their work, which ultimately results in higher performance levels. The mediating effect found in this study also fills a gap in the literature by illustrating the mechanism through which transformational leadership impacts employee outcomes.

Contrasting with Existing Literature and Addressing Research Gaps

The findings of this study align with and extend existing research on transformational leadership and employee performance in several ways. First, while the positive effects of transformational leadership on performance have been well documented in various contexts (e.g., Bass, 1995; Judge & Piccolo, 2004), this study contributes to the field by focusing specifically on the technology sector in Jakarta, which is underrepresented in the literature. Technology companies, with their dynamic and often high-pressure environments, present unique challenges and opportunities for leadership, making this study valuable for understanding how leadership styles can influence performance in such contexts.

Additionally, this study makes an important contribution by emphasizing the role of employee engagement as a mediating factor. Although some studies (e.g., Bakker et al., 2008; Rich et al., 2010) have suggested that engagement mediates the relationship between leadership and performance, few studies in the context of technology companies have directly tested this model. By confirming the mediating role of engagement, this study fills a gap in the literature and provides a more nuanced understanding of how transformational leadership influences employee outcomes through psychological engagement.

Furthermore, while prior research has highlighted the importance of transformational leadership over transactional and laissez-faire styles (Avolio & Bass, 1995), there has been less focus on the comparative effectiveness of these styles across different demographic groups. The t-tests conducted in this study revealed age related differences in employee performance, with younger employees performing slightly lower than their older counterparts. This finding suggests that age related factors, such as work experience or expectations, may influence how leadership styles are perceived and their effectiveness in boosting performance. This insight adds to the understanding of how leadership interacts with employee characteristics, a topic that is still under explored in leadership research.

Contributions to Practice

The findings of this study also have practical implications for managers and leaders in the technology sector. Transformational leadership practices, which include providing inspiration, intellectual stimulation, and individual consideration, were shown to be effective in boosting employee performance. Companies can benefit from training their leaders to adopt transformational behaviors, thereby fostering a more engaged and productive workforce. Furthermore, organizations should recognize the importance of fostering employee engagement as a key factor in enhancing the effects of leadership on performance. Organizations might also consider tailoring their leadership approach to the age and experience levels of employees. Younger employees, who may be less experienced, could benefit from additional support and mentoring, which would enhance the effectiveness of transformational leadership practices. Leaders can thus leverage their leadership style to meet the specific needs of different demographic groups, improving overall employee performance.

CONCLUSION

This study is an inquiry on how transformational leadership has a significant power on the employee performance within the Jakarta-based technology company. The results point to the fact that the style of leadership is central in the development of engagement, motivation, and overall employment outcomes. Transformational leadership (characterized by inspirational, empowering, and intellectually stimulating behaviors) was found to be the most pertinent to bestow on the employee performance improvements, hence supporting earlier research. Also, employee engagement has been found to be a key mediating factor by virtue of leadership and performance issue, illuminating the psychological processes, which leadership efficacy takes place. Beyond that, the paper addresses the gaps in the current knowledge base by looking at the way leadership styles work within the environment of the technology industry and how qualities of individuals, in particular, age, combines with leadership to determine performance. The insights provided herein present managerial recommendations to the technology sector: the practices of transformational leadership are what can develop a more involved and fruitful workforce. Organizations are able to maximize the performance and organizational gains by ensuring that the leadership behaviors fit the needs and nature of employees. Overall, the paper supports the leading importance of transformational leadership in modern workplace environments and highlights the need to break down how leadership functions in explaining the results obtained by employees. The above inquiries need to be carried out further to other settings, various mediators, and broader dimensions when creating a demographic profile whenever aiming at generating a more enthusiastic understanding of leadership interplay and its impacts on organizational performance.

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