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The Effect of Transformational Leadership on Employee Performance Mediated by Digital Transformation at KPPBC Type Madya Pabean C Kantor Pos Pasar Baru

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A B S T R A C T

This study analyzes the effect of transformational leadership on employee performance and digital transformation, and examines digital transformation as a mediating mechanism, at KPPBC Type Madya Pabean C Kantor Pos Pasar Baru, addressing a gap in customs research where technology-adaptation capability remains unexplored as a performance mediator. Using a quantitative descriptive design, questionnaires were distributed to purposively sampled employees between 26 August and 4 September 2026, yielding 97 valid responses analyzed via Partial Least Squares Structural Equation Modeling with SmartPLS 4.1.1.8. Results show transformational leadership positively affects employee performance and digital transformation, digital transformation positively affects performance, and partially mediates leadership's effect on performance, implying leadership and digitalization should be developed jointly to optimize performance outcomes.

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INTRODUCTION

Indonesia's international trade sector has undergone considerable change in recent years as a result of a series of external shocks. The COVID-19 pandemic, confirmed nationally in early March 2020, altered consumption and distribution patterns and disrupted national logistics and industrial activity (Nurita, 2022). The transition toward endemicity subsequently coincided with the Russia-Ukraine conflict, which disrupted the availability of strategic commodities and pushed up global energy and food prices (Sukmawijaya, 2023). In April 2025, the United States formally imposed reciprocal tariffs on several of Indonesia's leading export products, affecting market access and the price competitiveness of national exports (Fajriadi, 2025), while the outbreak of conflict in the Middle East in early 2026 introduced further volatility in crude oil and gold prices through disruption to maritime energy routes (Andrianto, 2026). Together, these events have fragmented international trade flows, intensified non-tariff protectionism, and placed pressure on the revenue targets managed by Indonesia's customs institution, the Directorate General of Customs and Excise (DJBC, 2025).

Within this environment, KPPBC Type Madya Pabean (TMP) C Kantor Pos Pasar Baru, the only vertical unit of DJBC dedicated to international postal consignments, faces a particularly acute challenge. The implementation of Minister of Trade Regulation No. 31 of 2023, which requires cross-border electronic trade operators to apply a minimum price of USD 100 per unit for imported finished goods, triggered a sharp contraction in the volume of consignment documents, from 875,470 documents in 2023 to 459,156 in 2024 and 424,802 in 2025. Revenue targets, however, moved in the opposite direction, rising from IDR 45 billion in 2023 to IDR 50.8 billion in 2024. This widening gap between a shrinking transaction base and a stable or increasing revenue burden requires the office to pursue extra strategies to secure state revenue.

In response to this environment, structured digital transformation, guided by the Ministry of Finance Decree No. 132 of 2025 on "A New Beginning Transforming Ecosystem and Strengthening Strategic Linkage," has been positioned as a critical foundation for reshaping DJBC's operational ecosystem. Strong leadership direction is considered essential to this process because leaders reduce cultural and bureaucratic resistance to technology adoption and enable employees to integrate digital infrastructure into daily routines (DJBC, 2025). To be effective in inspiring staff to work beyond baseline expectations, leaders require an approach capable of aligning individual and organizational goals; transformational leadership, in which leaders stimulate and inspire followers toward outcomes that exceed conventional performance targets while developing followers' own leadership capacity, is widely regarded as such an approach (Bass & Riggio, 2006).

A substantial body of empirical work confirms that transformational leadership directly improves employee performance in customs and other public-sector settings (Saputra & Pramesti, 2024; Deddy, 2022; Azmy & Perkasa, 2024; Almazrouei & Alnahhal, 2025). Beyond this direct pathway, transformational leaders are also shown to stimulate innovation adoption and guide staff toward sustained use of digitally-based operating systems

(Almazrouei & Alnahhal, 2025; Jain & Sharma, 2025), and the resulting digital transformation is itself associated with faster, more flexible, and more accurate task completion (Kurniyanta et al., 2026; Thania et al., 2024; Pradana et al., 2022; Muktamar B et al., 2023). Several recent studies explicitly confirm that digital transformation mediates the effect of transformational leadership on performance outcomes (Almazrouei & Alnahhal, 2025; Jain & Sharma, 2025), reinforcing the view that leadership effectiveness on performance often operates through an intervening organizational capability rather than through a purely direct channel (Wulansari & Pratama, 2025; Budianto et al., 2023).

Even so, most of this evidence draws on general leadership and digital transformation instruments developed for the private sector or for public institutions with markedly different service standards, hierarchical arrangements, and regulatory compliance demands than a customs bureaucracy (Almazrouei & Alnahhal, 2025; Jain & Sharma, 2025). Within the customs literature specifically, prior research on the determinants of employee performance has concentrated on psychological and behavioral mediators such as job satisfaction, competence, emotional intelligence, and work motivation (Saputra & Pramesti, 2024; Ardliyanshah & Diantanti, 2025), leaving the role of digital-technology adaptation capability as a mediating mechanism largely unexplored in this sector. This study addresses that gap by grounding its measurement of digital transformation in Indonesia's Electronic-Based Government System (SPBE) framework under Presidential Regulation No. 95 of 2018, and its measurement of employee performance in the Employee Performance Target (SKP) framework under Government Regulation No. 30 of 2019, thereby producing indicators that are directly relevant to Indonesian public-sector regulation. Accordingly, this study analyzes the effect of transformational leadership on employee performance and on digital transformation, and examines whether digital transformation mediates the effect of transformational leadership on employee performance at KPPBC TMP C Kantor Pos Pasar Baru.

LITERATURE REVIEW

Transformational Leadership

Transformational leadership is defined as a leadership approach in which a leader stimulates and inspires followers to achieve outcomes that exceed conventional expectations while simultaneously developing followers' own leadership capacity (Bass & Riggio, 2006). Rather than relying on the direct exchange of rewards for task completion that characterizes transactional leadership, transformational leaders build trust, admiration, loyalty, and respect among team members, which in turn strengthens organizational agility and adaptive capacity (Robbins & Judge, 2019; Ross, 2021). The construct is commonly operationalized through four components: idealized influence, in which the leader acts as a role model who earns trust through high ethical standards; inspirational motivation, in which the leader articulates an appealing vision of the future; intellectual stimulation, in which the leader encourages critical thinking and innovative problem-solving; and individualized

consideration, in which the leader attends to the specific developmental needs of each follower (Bass & Riggio, 2006; Yukl, 2013).

Digital Transformation

Digital transformation denotes a fundamental and organization-wide shift in how an institution act, makes decisions, and integrates information technology into every dimension of its operations, extending well beyond the simple conversion of physical documents into electronic formats (Larsson & Teigland, 2019). In the public sector, digital transformation is directed at converting conventional service delivery into a more transparent, efficient, and accessible electronic ecosystem, a shift that in Indonesia is formally embodied in the Electronic-Based Government System (SPBE) mandated by Presidential Regulation No. 95 of 2018. SPBE maturity is assessed across the domains of internal policy, governance, management, and service delivery. The management domain covers risk management, information security, data and ICT asset management, human-resource competence, knowledge management, change management, service management, and ICT audit, and it captures the operational reliability of an institution's technology and its enabling human resources most directly (Kementerian PANRB, 2020).

Employee Performance

Employee performance refers to the quality and quantity of work an individual achieves in carrying out assigned tasks and responsibilities (Wardhana et al., 2021), and its evaluation reflects an employee's overall contribution to organizational effectiveness over a given period (Robbins & Judge, 2019). In the Indonesian civil service, employee performance is formally regulated through the Employee Performance Target (Sasaran Kinerja Pegawai/SKP) framework under Government Regulation No. 30 of 2019, which requires that individual performance targets be assessed against at least four dimensions: quantity, quality, time, and cost. These dimensions correspond closely to the classic performance criteria proposed by Bernardin and Russell (2013), namely the volume of output achieved, the degree to which output approaches an ideal standard, timeliness in meeting deadlines, and cost-effectiveness in the use of organizational resources.

Previous Research

Several recent studies provide the empirical foundation for this research. Almazrouei and Alnahhal (2025), studying public-sector employees in the United Arab Emirates, found that transformational leadership positively affects employee performance both directly and indirectly through digital transformation and agility. Jain and Sharma (2025), examining information-technology firms in India, showed that digital transformation sequentially mediates the effect of transformational leadership on employee performance alongside innovative work behavior. Kurniyanta et al. (2026) demonstrated that leadership and IT governance jointly shape digital transformation and innovation capability in Indonesia's public sector, while Boussaidi and Korbi (2025) confirmed that transformational leadership promotes digital

transformation in Tunisian public administration through employee engagement. Compared with these studies, the present research is distinguished by its focus on a single, specialized customs unit and by its use of performance and digital-transformation indicators anchored in Indonesian public-sector regulation rather than generic international instruments.

Conceptual Framework

Based on the theoretical review above, this study proposes a research model in which Transformational Leadership (X) is positioned as the exogenous variable that influences Employee Performance (Y) both directly and indirectly through Digital Transformation (Z) as the mediating variable. Transformational Leadership is also modeled as a direct antecedent of Digital Transformation, which in turn is modeled as a direct antecedent of Employee Performance, forming a mediation structure consistent with prior studies on leadership-driven digital transformation (Almazrouei & Alnahhal, 2025; Jain & Sharma, 2025).

Hypotheses Development

A leader who applies a transformational style provides direction, motivation, and individualized guidance aligned with subordinates' competencies, and the ability to articulate vision effectively has been shown to encourage employees to exert extra effort and exceed baseline job expectations (Qalati et al., 2022; Boussaidi & Korbi, 2025). Empirical evidence from public-sector and customs-adjacent settings consistently confirms a positive and significant direct effect of transformational leadership on employee performance (Almazrouei & Alnahhal, 2025; Helalat et al., 2025; Jain & Sharma, 2025).

H1: Transformational leadership has a positive and significant effect on employee performance at KPPBC TMP C Kantor Pos Pasar Baru.

Transformational leadership is also widely regarded as a critical driver of successful digital transformation, because leaders who inspire, motivate, and articulate a clear technological vision reduce employees' resistance to change and align digital strategy with institutional goals (AlNuaimi et al., 2022; Özkan Alakaş, 2024; Boussaidi & Korbi, 2025). Public-sector evidence indicates that leadership support is essential for the even adoption of digital technology across bureaucratic units, and that digitalization initiatives often stall without strong leadership commitment (Kurniyanta et al., 2026; Jain & Sharma, 2025).

H2: Transformational leadership has a positive and significant effect on digital transformation at KPPBC TMP C Kantor Pos Pasar Baru.

Digital transformation is also expected to directly improve employee performance, because digitalized systems allow employees to execute routine tasks with greater speed, flexibility, and independence, reduce information asymmetry, and support more accurate decision-making (Jain & Sharma, 2025; Almazrouei & Alnahhal, 2025). Evidence from Indonesian state-owned enterprises similarly shows that digitalization improves organizational

performance even without a prior shift in organizational digital culture (Pradana et al., 2022).

H3: Digital transformation has a positive and significant effect on employee performance at KPPBC TMP C Kantor Pos Pasar Baru.

Finally, because transformational leaders both motivate employees directly and facilitate the digital ecosystem through which employees execute their duties, digital transformation is theorized to function as an intermediary mechanism that translates leadership direction into measurable performance gains. This mediating role has been empirically confirmed in public-sector and technology-sector contexts alike (Almazrouei & Alnahhal, 2025; Jain & Sharma, 2025).

H4: Digital transformation mediates the effect of transformational leadership on employee performance at KPPBC TMP C Kantor Pos Pasar Baru.

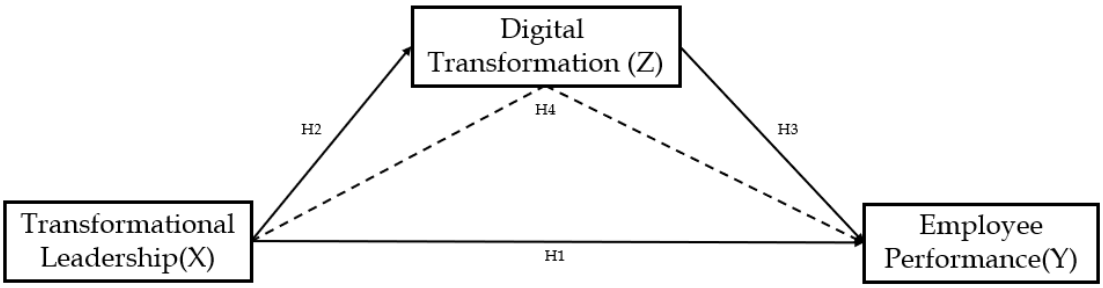


Figure 1. Conceptual Framework

METHODOLOGY

This study applies a quantitative approach through a descriptive research design grounded in a positivist paradigm, which treats social reality as objectively measurable and requires the researcher to maintain objectivity throughout data collection and analysis (Sekaran & Bougie, 2016). The research process follows a deductive logic, in which hypotheses are derived from existing theory and subsequently tested using quantitative survey data. Data were collected through a structured questionnaire administered online via Google Form between 26 August and 4 September 2026, with the individual employee as the unit of analysis and a cross-sectional time horizon.

The population comprised all 109 employees active at KPPBC TMP C Kantor Pos Pasar Baru, consisting of 1 administrator official, 5 supervisory officials, 59 functional officials, and 44 executing staff. Referring to the Krejcie and Morgan (1970) sample-size table as recommended by Sekaran and Bougie (2016), a population of this size requires a minimum of 86 respondents, a figure consistent with the rule of thumb proposed by Roscoe (1975) for sample sizes between 30 and 500 subjects. The study applied purposive sampling, a non-probability technique, with an inclusion criterion of a minimum of one year of service at the office. Of the 101 questionnaires collected, 4 did not meet this criterion and were excluded, leaving 97 valid responses for analysis, above the minimum sample requirement.

Transformational leadership was measured using 12 indicators adapted from Siswanto and Yuliana (2022), covering the dimensions of idealized

influence, inspirational motivation, intellectual stimulation, and individualized consideration. Digital transformation was measured using 11 indicators derived from Presidential Regulation No. 95 of 2018 and Ministry of Administrative and Bureaucratic Reform Regulation No. 59 of 2020, covering SPBE management (risk, information security, data, ICT assets, human-resource competence, knowledge, change, and service management) and ICT audit implementation (infrastructure, application, and security audits). Employee performance was measured using 14 indicators adapted from Bernardin and Russell (2013) and Na-Nan et al. (2018), covering the dimensions of quantity, quality, time, and cost. All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.1.1.8, a non-parametric, variance-based technique well suited to models that explicitly test a mediating pathway and that do not require strict multivariate-normality assumptions (Hair et al., 2021). The measurement model (outer model) was evaluated through indicator reliability (outer loading > 0.708), internal consistency reliability (Cronbach's alpha, composite reliability rho_a and rho_c ≥ 0.70), convergent validity (Average Variance Extracted/AVE ≥ 0.50), and discriminant validity using the Heterotrait-Monotrait Ratio (HTMT < 0.90). The structural model (inner model) was evaluated through collinearity diagnostics (Variance Inflation Factor/VIF < 5), path coefficients, t-statistics and p-values obtained via bootstrapping with 5,000 resamples (significant at $t > 1.96$ or $p < 0.05$), the coefficient of determination (R^2), and an indirect-effect test to assess the mediating role of digital transformation.

RESULTS AND DISCUSSION

Respondent Characteristics

Of the 97 valid respondents, 85 (88%) were male and 12 (12%) were female. By age, respondents aged 25-34 years dominated the sample (54 respondents, 56%), followed by those aged 35-44 years (26 respondents, 27%), 45-54 years (13 respondents, 13%), and 55 years or older (4 respondents, 4%). By education, respondents holding a bachelor's degree (D4/S1) were the largest group (50 respondents, 52%), followed by diploma holders (D1/D2/D3) at 39 respondents (40%), master's degree holders (S2) at 7 respondents (7%), and senior-high-school graduates at 1 respondent (1%). By position, functional officials accounted for 54 respondents (56%), executing staff for 38 respondents (39%), and supervisory officials for 5 respondents (5%). By tenure, 72 respondents (74%) had worked between 2 and 5 years and 25 respondents (26%) between 6 and 10 years. This profile indicates that most respondents were relatively young, well-educated, functionally positioned employees with sufficient tenure to evaluate the institution's leadership and technology-adaptation practices.

Descriptive Statistics

Perceptions of all three variables fell into the high category, with narrow gaps between the highest- and lowest-scoring indicators within each variable. Transformational leadership recorded an average score of 82.44%, with the recognition of employee performance rated highest (83.30%) and the leader's capacity to stimulate new thinking rated lowest, though still high (81.03%), suggesting room to strengthen intellectual stimulation and two-way support. Digital transformation recorded an average score of 82.47%, with data management and ICT asset management rated highest (83.71% each) and knowledge management rated lowest (81.44%), indicating that data and asset governance are comparatively mature while knowledge-sharing mechanisms require reinforcement. Employee performance recorded an average score of 82.14%, with task accuracy and time efficiency rated highest (82.89% each) and quality-control implementation rated lowest (80.82%), pointing to quality control and budget-guideline compliance as the areas most in need of attention.

Measurement Model Evaluation

Convergent validity was assessed through outer loadings and Average Variance Extracted (AVE). All 12 items of transformational leadership loaded between 0.744 and 0.868 (AVE = 0.624); all 11 items of digital transformation loaded between 0.756 and 0.829 (AVE = 0.626); and 13 of the 14 items of employee performance loaded above the 0.708 threshold, with only KP09 slightly below it at 0.701 (AVE = 0.593). Because the overall AVE for employee performance still exceeded the 0.50 threshold, KP09 was retained in the model. All three constructs therefore demonstrated adequate convergent validity.

Table 1. Convergent Validity and Reliability

Construct	Outer Loading Range	AVE	Reliability (α / rho_a / rho_c)
Transformational Leadership (X)	0.744 - 0.868	0.624	0.945 / 0.946 / 0.952
Digital Transformation (Z)	0.756 - 0.829	0.626	0.940 / 0.941 / 0.948
Employee Performance (Y)	0.701 - 0.809	0.593	0.947 / 0.949 / 0.953

Source: Processed data using SmartPLS (2026)

Discriminant validity, assessed via the Heterotrait-Monotrait Ratio (HTMT), showed values of 0.736 between transformational leadership and digital transformation, 0.732 between digital transformation and employee performance, and 0.697 between transformational leadership and employee performance. All three values sit comfortably below the 0.90 threshold. Internal consistency reliability was also confirmed, with Cronbach's alpha, rho_a, and rho_c values for all three constructs exceeding 0.94 (Table 1), well above the 0.70 minimum. On this basis, the measurement model was judged valid and reliable, and the analysis proceeded to the structural model.

Structural Model Evaluation

Collinearity diagnostics showed identical VIF values of 1.965 for both transformational leadership and digital transformation as predictors of employee performance, well below the conservative threshold of 3-5, indicating that the path coefficients are free from collinearity bias. Bootstrapping with 5,000 resamples was then used to test the significance of each hypothesized relationship.

Table 2. Direct-Effect Hypothesis Testing

Relationship	Path Coef. (β)	t-statistic	p-value	Result
Transformational Leadership → Employee Performance (H1)	0.351	3.207	0.001	Supported
Transformational Leadership → Digital Transformation (H2)	0.701	12.669	0.000	Supported
Digital Transformation → Employee Performance (H3)	0.451	4.327	0.000	Supported

Source: Processed data using SmartPLS (2026)

All three direct relationships were positive and statistically significant at the 5% level. The path from transformational leadership to digital transformation (β = 0.701, t = 12.669, p = 0.000) was the strongest and most consistent relationship in the model, while transformational leadership's direct effect on employee performance (β = 0.351, t = 3.207, p = 0.001) was the weakest of the three, and digital transformation's effect on employee performance (β = 0.451, t = 4.327, p = 0.000) exceeded the direct effect of leadership itself.

Table 3. Coefficient of Determination (R^2)

Endogenous Variable	R-square	R-square adjusted
Employee Performance	0.549	0.539
Digital Transformation	0.491	0.486

Source: Processed data using SmartPLS (2026)

Transformational leadership and digital transformation jointly explained 54.9% of the variance in employee performance (R^2 = 0.549, moderate category), while transformational leadership alone explained 49.1% of the variance in digital transformation (R^2 = 0.491, at the boundary between the moderate and weak categories), indicating that other factors outside the model also contribute meaningfully to both outcomes.

The indirect effect of transformational leadership on employee performance through digital transformation was 0.316 (t = 3.964, p = 0.000), closely matching the product of the two constituent path coefficients (0.701 × 0.451). Because both the indirect effect and the direct effect (0.351) were positive and significant, the mediation is classified as complementary (partial mediation): digital transformation channels part of the influence of

transformational leadership on employee performance, while a direct pathway independent of digital transformation also remains significant. The total effect of transformational leadership on employee performance, combining the direct and indirect paths, reached 0.667, with the indirect path contributing almost as much as the direct path. H4 is therefore supported.

The Effect of Transformational Leadership on Employee Performance

Transformational leadership was found to have a positive and significant effect on employee performance, confirming H1. This finding is consistent with the descriptive result that recognition of employee performance was the highest-scoring leadership indicator, aligning with the similarly high scores recorded for task accuracy and time efficiency among the performance indicators. Leaders who set clear standards and consistently recognize employees' achievements appear to encourage more accurate and timelier task completion, consistent with earlier evidence from customs and other public-sector settings (Almazrouei & Alnahhal, 2025; Helalat et al., 2025; Qalati et al., 2022). Nevertheless, this path coefficient was the weakest among the three direct relationships tested, and the moderate R^2 for employee performance (0.549) indicates that roughly 45% of its variance is explained by factors outside this model, such as work motivation, compensation, or the broader work environment. Strengthening transformational leadership alone is therefore unlikely to maximize performance gains without complementary attention to these other drivers.

The Effect of Transformational Leadership on Digital Transformation

Transformational leadership also had a positive and significant effect on digital transformation, confirming H2, with the strongest and most consistent path coefficient in the model. This result confirms the central role of leadership in setting high standards, stimulating new thinking, and supporting the adoption of new technology, consistent with the descriptive finding that perspective-broadening and intellectual stimulation are core components of the leadership construct here. The result is consistent with prior findings that transformational leaders reduce employees' resistance to new digital systems and accelerate the integration of automation and information systems into daily work (AlNuaimi et al., 2022; Boussaidi & Korbi, 2025; Kurniyanta et al., 2026). At the same time, the R^2 for digital transformation (0.491) sits at the boundary between the moderate and weak categories, indicating that leadership alone does not fully determine the success of digital transformation; individual readiness and existing work-system support also play a role.

The Effect of Digital Transformation on Employee Performance

Digital transformation had a positive and significant effect on employee performance, confirming H3, with a path coefficient exceeding the direct effect of transformational leadership itself. This finding is consistent with the descriptive result that data management and ICT asset management were the highest-scoring digital-transformation indicators, which plausibly support the high scores recorded for task accuracy and time efficiency among the performance indicators: well-managed data and technology assets allow

employees to access the information they need more quickly, directly supporting more precise and efficient task execution. This result aligns with prior evidence that digitally enabled employee's complete tasks with greater flexibility, accuracy, and speed (Almazrouei & Alnahhal, 2025; Jain & Sharma, 2025). Because digital transformation exerted the largest influence among the three direct relationships tested, strengthening its weaker components, particularly knowledge management and SPBE risk management, which scored lowest in the descriptive analysis, offers a promising lever for further performance gains.

The Mediating Role of Digital Transformation

The results confirm that digital transformation partially mediates the effect of transformational leadership on employee performance, supporting H4. Because both the direct effect (0.351) and the indirect effect through digital transformation (0.316) are significant and positive, and the indirect path contributes almost as much as the direct path to the total effect of 0.667, leadership at KPPBC TMP C Kantor Pos Pasar Baru appears to shape employee performance through two complementary channels: directly, by motivating and guiding employees, and indirectly, by cultivating the digital ecosystem within which employees carry out their duties. This finding is consistent with Almazrouei and Alnahhal (2025) and Jain and Sharma (2025), both of whom found digital transformation to be a significant mediator between transformational leadership and performance outcomes, and it extends that evidence to a highly specialized customs-service context. The practical implication is that performance-improvement strategies in this setting are unlikely to be optimal if leadership development and digital-transformation initiatives are pursued as separate programs rather than as an integrated effort.

CONCLUSION AND RECOMMENDATION

This study confirms four main findings regarding the relationship between transformational leadership, digital transformation, and employee performance at KPPBC TMP C Kantor Pos Pasar Baru. First, transformational leadership has a positive and significant direct effect on employee performance ($\beta = 0.351$, $p = 0.001$), although this is the weakest of the three direct relationships tested, indicating that leadership is an important but not sole determinant of performance. Second, transformational leadership has a strong positive and significant effect on digital transformation ($\beta = 0.701$, $p = 0.000$), the strongest relationship in the model, confirming that leadership direction is central to the success of digital adaptation in this office. Third, digital transformation has a positive and significant effect on employee performance ($\beta = 0.451$, $p = 0.000$) that exceeds the direct effect of leadership itself, making it the single strongest driver of performance identified in this study. Fourth, digital transformation partially mediates the effect of transformational leadership on employee performance (indirect effect = 0.316, $p = 0.000$; total effect = 0.667), confirming that leadership shapes performance through both direct and technology-mediated pathways.

Based on these findings, the office is encouraged to design managerial development programs that specifically train leaders to stimulate employees' critical thinking and to build two-way feedback mechanisms, since these were the lowest-scoring aspects of transformational leadership observed. On digital transformation, priority should be given to strengthening knowledge-management practices and SPBE risk-management policy, the two lowest-scoring indicators, given that digital transformation exerts the strongest direct influence on performance among the variables tested. On employee performance, quality-control mechanisms and socialization of budget-allocation guidelines warrant closer attention to complement the already-strong accuracy and time-efficiency of task execution. Because digital transformation partially mediates the leadership-performance relationship, leadership-development policy should not be designed independently of digital-transformation initiatives; integrating the two is likely to maximize their combined contribution to sustained performance improvement.

FURTHER STUDY

This study has several limitations that suggest directions for future research. First, transformational leadership and digital transformation together explain only 54.9% of the variance in employee performance, suggesting that future studies should incorporate additional variables such as work motivation, compensation, organizational culture, or organizational commitment to build a more comprehensive model of performance determinants in the customs bureaucracy. Second, transformational leadership explains only 49.1% of the variance in digital transformation, indicating room to examine additional predictors such as technology-infrastructure readiness, employees' digital literacy, or organizational budget support. Third, this study was conducted at a single work unit with a limited number of respondents, which constrains the generalizability of the findings to other DJBC units with different task characteristics and workloads; future research should broaden the sample across multiple customs units. Finally, the cross-sectional design captures only a single point in time; a longitudinal design would allow future researchers to observe how the relationships among leadership, digital transformation, and performance evolve as digital-transformation policy is implemented over time.

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