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The Effect of Digital Transformation and Sustainable Leadership on Sustainable Employee Performance through Human Capital Sustainability

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ABSTRACT

Objectives: This study analyses the effect of Digital Transformation and Sustainable Leadership on Sustainable Employee Performance, with Human Capital Sustainability as a mediating variable, among employees of the Payment System Operations Department (DPSP) of Bank Indonesia. The study responds to a performance paradox in which annual KPI realisation consistently exceeds 90 per cent while employee burnout rose to 34.8 per cent in 2023.

Methodology: A quantitative survey design was applied. Data were collected through a structured questionnaire measured on a five-point Likert scale from 129 respondents drawn from a population of 328 DPSP employees, and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS, covering the measurement model, the structural model, and indirect effects through bootstrapping.

Finding: Digital Transformation has a positive and significant effect on Sustainable Employee Performance and on Human Capital Sustainability. Sustainable Leadership also has a positive and significant effect on both variables, with the strongest path found in Sustainable Leadership on Human Capital Sustainability. Human Capital Sustainability significantly affects Sustainable Employee Performance and mediates the effects of both Digital Transformation and Sustainable Leadership. All seven hypotheses are supported.

Conclusion: The success of digital transformation depends not only on technology adoption but also on the organisation's capacity to sustain leadership quality and human capital. Human Capital Sustainability functions as the mechanism that translates digital transformation and sustainable leadership into sustainable employee performance.

Keywords: Digital Transformation; Sustainable Leadership; Human Capital Sustainability; Sustainable Employee Performance; PLS-SEM.

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INTRODUCTION

In contemporary management discourse, organisations are viewed as adaptive entities that must navigate turbulence caused by global technological disruption in order to sustain their operations. Institutional success no longer rests on the ownership of physical assets alone, but on the capacity of leadership to orchestrate human resources effectively amid systemic change (Syupriadin, 2025; Vardelier, 2024). The harmonious integration of digital advancement with

employee professionalism is a fundamental pillar in achieving strategic objectives; without that synergy, even the most advanced technological infrastructure fails functionally (Munawaroh, 2026; Nawaz, 2023). This aligns with the global expectation that organisational growth must rest on the development of resilient and adaptive human capital capabilities (Yu, 2025; Andersen & Sthapit, 2023; Tian, 2024).

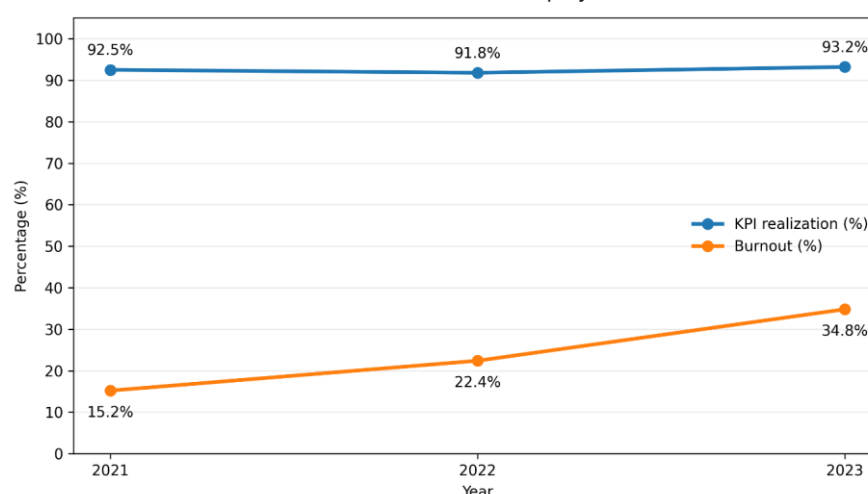
Massive structural and operational change, including the wholesale adoption of digital systems, inherently creates significant psychological and technical pressure on the workforce. Digital transformation contributes substantial variance to performance, yet its effectiveness depends heavily on individual digital literacy and mental readiness for new work patterns (Nurhaatisyah, 2026; Novianto, 2025; Subramaniam, 2025). Organisational failure to mitigate the effects of this transition can trigger organisational anxiety and technostress, which in turn degrade contextual performance and reduce employee engagement (Fauzia, 2024; Marfriady, 2023).

Bank Indonesia, in its capacity as the highest monetary authority, is pursuing a strategic agenda to realise its vision as a credible digital central bank. The Payment System Operations Department (DPSP) serves as the epicentre unit managing high-stakes national payment system infrastructure, including BI-FAST, BI-RTGS, SKNBI, and QRIS. The acceleration of digitalisation within DPSP has produced a performance paradox: formal targets are met, yet collaborative innovation capacity and employee resilience are under extraordinary pressure (Rukan, 2024; Annisa, 2024). Task complexity involving artificial intelligence integration and real-time data processing demands a leadership model capable of balancing technological demands with the sustainability of human capacity (Qiao & Li, 2024; Al-Balushi, 2024; Sowmiya, 2024).

Internal data and preliminary observation at DPSP confirm this paradox empirically, as shown in Figure 1. Although annual Key Performance Indicator (KPI) realisation for the 2021–2023 period consistently exceeded 90 per cent, employee burnout showed a significant upward trend, reaching 34.8 per cent in 2023, accompanied by rising early retirement and the resignation of talented staff. This pattern confirms a degradation in Human Capital Sustainability, in which short-term productivity is achieved at the cost of long-term physical and mental health (Al-Balushi, 2024). Rising burnout signals organisational failure to maintain the sustainability of human capital (Sowmiya, 2024). Left without appropriate managerial intervention, the institution risks brain drain that would erode the innovation capacity and operational stability of the central bank.

Interviews with DPSP employees identified a predominantly transactional leadership model as the principal obstacle to managing the complex demands of the digital era. This condition underlines the urgency of applying Sustainable Leadership as an instrument for strengthening Human Capital Sustainability and bridging the gap between technological requirements and the limits of human capacity (Rahmat, 2025). Ethical and sustainable leadership acts as a key moderator in keeping worker productivity optimal without loss of quality under digital pressure (Ludin, 2026).

Figure 1. Performance Paradox of DPSP Employees, 2021–2023
Performance Paradox of DPSP Employees, 2021–2023



Source: Internal DPSP Bank Indonesia data, processed (2026)

Prior studies have examined digital transformation and leadership in relation to employee performance largely as direct relationships, and predominantly in commercial or manufacturing settings. Comparatively little empirical work explains the mechanism through which these two antecedents translate into performance that is sustainable over time, and even less within a central bank operating mission-critical payment infrastructure. This constitutes the research gap addressed here. Accordingly, this study tests empirically the effect of Digital Transformation and Sustainable Leadership on Sustainable Employee Performance while positioning Human Capital Sustainability as the mediating variable, based on 129 DPSP employees of Bank Indonesia.

LITERATURE REVIEW

Resource-Based View and Human Capital Sustainability

The Resource-Based View (RBV) positions human resources as a strategic asset that determines an organisation's competitive advantage. Employees are no longer treated as an operational cost but as capital whose value grows through learning, adaptation, and the accumulation of knowledge. Within RBV, superior human resources become a source of advantage that is difficult for competitors to imitate because it is embedded in organisational routines rather than in individuals alone. Digital transformation, in this perspective, functions as an instrument for strengthening internal capability, while leadership functions as the mechanism that develops and preserves it. Human Capital Sustainability therefore becomes the central element determining whether an organisation can maintain its advantage over the long term.

Sustainable Employee Performance

Sustainable Employee Performance is the accumulation of task completion effectiveness, organisational citizenship behaviour, and adaptive flexibility toward change, achieved without compromising long-term employee wellbeing (Ji et al., 2021). It extends beyond momentary output and focuses on stable, continuous contribution. Its indicators cover

goal attainment, compliance with performance standards, work quality, task mastery, competence growth, work planning, and person-job fit — combining result-oriented, developmental, and psychological dimensions.

Human Capital Sustainability

Human Capital Sustainability emphasises managing human resources so that they remain productive, adaptive, and capable of supporting organisational performance over time. It is understood through three principal indicators: employee wellbeing, which covers physical, mental, and social condition and the balance of workload; employee development, which covers continuous competence and career growth so that staff remain relevant amid change; and employee participation, which covers active involvement in work execution and decision-making (Stankevičiūtė & Savanevičienė, 2018). In this study it is the variable that bridges technology and leadership inputs to performance outcomes.

Digital Transformation

Digital Transformation is defined as the fundamental integration of information and communication technology into organisational work systems, shifting management functions from static administration toward dynamic strategic practice driven by intelligent technology (Vardelier, 2024). Its indicators comprise digital technology adoption, integration of systems and business processes, data-driven decision-making, digital innovation, operational efficiency, user experience, and digital readiness and culture (Novianto, 2025). In a central bank context, these indicators translate into automated administration, real-time analytics, and integrated monitoring across payment system operations.

Sustainable Leadership

Sustainable Leadership is a leadership style oriented toward long-term performance while maintaining a balance between economic and social aspects and the development of human resources. Sustainable leaders do not pursue short-term targets alone but build organisational capacity through human development, continuous learning, and innovation (Avery & Bergsteiner, 2011). The success of digital transformation depends substantially on this future-oriented leadership style (McCann & Holt, 2022). Operationally the construct covers digitalisation of HR processes, the use of HR analytics and artificial intelligence, digital infrastructure, and digital culture and capability (Rahmat, 2025).

Theoretical and Research Framework

Synthesising the theoretical foundations above, the conceptual framework of this study integrates the Resource-Based View, Dynamic Capabilities Theory, Human Capital Theory, and Social Exchange Theory to explain how Digital Transformation (X1) and Sustainable Leadership (X2) jointly influence Sustainable Employee Performance (Y), both directly and indirectly through Human Capital Sustainability (M) as the mediating variable. Figure 2 presents this structural model together with the seven hypothesised paths (H1–H7).

Digital Transformation (X1) — digital technology adoption; system and process integration; data-driven decisions; digital culture and readiness

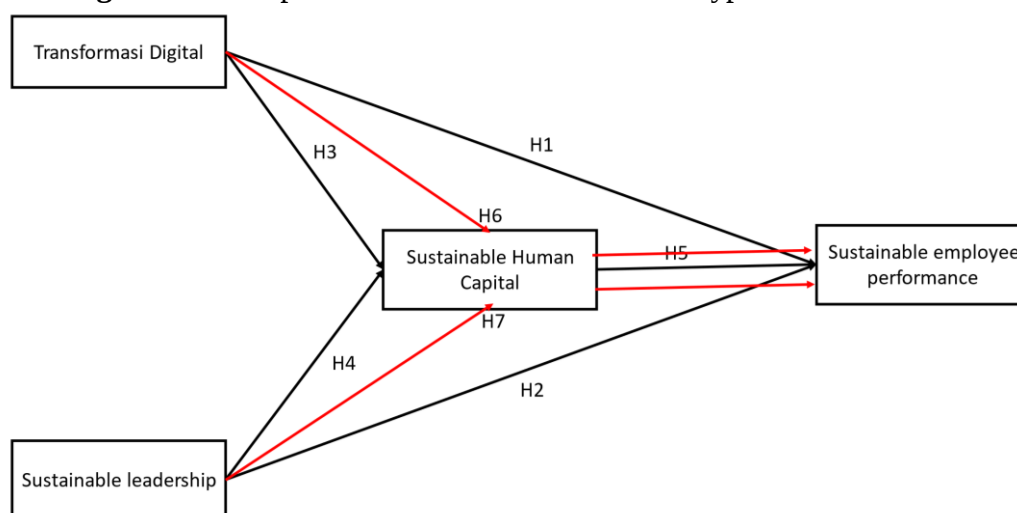
Sustainable Leadership (X2) — HR digitalisation support; strategic analytics and AI; cloud infrastructure support; digital culture and agility

Human Capital Sustainability (M, mediating variable) — employee wellbeing; employee development; employee participation

Sustainable Employee Performance (Y) — goal attainment and standards; work quality and mastery; competence consistency; work planning and fit

Direct paths: H1 Digital Transformation → Sustainable Employee Performance; H2 Sustainable Leadership → Sustainable Employee Performance; H3 Digital Transformation → Human Capital Sustainability; H4 Sustainable Leadership → Human Capital Sustainability; H5 Human Capital Sustainability → Sustainable Employee Performance. Indirect (mediated) paths: H6 Digital Transformation → Human Capital Sustainability → Sustainable Employee Performance; H7 Sustainable Leadership → Human Capital Sustainability → Sustainable Employee Performance.

Figure 2. Conceptual Research Framework and Hypothesized Model



Source: Developed by the authors based on Resource-Based View, Dynamic Capabilities Theory, and Social Exchange Theory (2026)

Based on the conceptual framework, seven research hypotheses are formulated:

H1: Digital Transformation has a positive and significant effect on Sustainable Employee Performance.

H2 : Sustainable Leadership has a positive and significant effect on Sustainable Employee Performance.

H3: Digital Transformation has a positive and significant effect on Human Capital Sustainability.

H4 : Sustainable Leadership has a positive and significant effect on Human Capital Sustainability.

H5 : Human Capital Sustainability has a positive and significant effect on Sustainable Employee Performance.

H6 : Human Capital Sustainability mediates the effect of Digital Transformation on Sustainable Employee Performance.

H7: Human Capital Sustainability mediates the effect of Sustainable Leadership on Sustainable Employee Performance.

Supporting Rationale for Each Hypothesis

Digital transformation changes work patterns to be more efficient and measurable, providing employees with faster access to information and reducing repetitive administrative

burden, so that capacity can be directed toward substantive tasks. Empirical evidence indicates that digital transformation contributes significantly to performance where readiness is adequate (Nurhaatisyah, 2026; Fauzia, 2024).

Sustainable leadership drives continuous employee performance by creating a work environment that supports engagement and individual development. Leadership oriented toward sustainability exerts a direct influence on sustainable employee performance (Ludin, 2026).

The application of digital transformation encourages employees to raise competence, adaptive capacity, technological literacy, and continuous learning capability. Through digital systems, organisations can develop human resource capacity more systematically (Nurhaatisyah, 2026).

Sustainability-oriented leaders create healthy work cultures, support learning, raise motivation, and strengthen employee involvement, all of which accumulate into the quality of human capital. Sustainable leadership significantly affects the development of employee capacity and organisational quality (Ludin, 2026).

Employees with high competence, good health, and stable work motivation are better able to complete tasks effectively, maintain work quality, and adapt to change. Human capital is a principal predictor of long-term organisational success (Al-Balushi, 2024; Sowmiya, 2024).

From an RBV perspective, digital transformation does not automatically improve employee performance. The effectiveness of technology depends on the readiness of human resources to use it, so that improvement in human capital quality becomes the channel through which technology affects performance.

Similarly, sustainable leadership affects performance not only directly but also through improvement in the quality of human capital. Visionary, long-term oriented leaders raise motivation, loyalty, skills, and employee wellbeing, and sustainable growth in human capital then converts into sustainable performance.

METHOD

This study applies a quantitative approach with an associative causal design, intended to examine and explain cause-and-effect relationships between the variables. The research locus is the Payment System Operations Department (DPSP) of Bank Indonesia.

The variables comprise two independent variables, Digital Transformation (X1) and Sustainable Leadership (X2); one mediating variable, Human Capital Sustainability (M); and one dependent variable, Sustainable Employee Performance (Y). Digital Transformation is measured through digital technology adoption, system and process integration, data-driven decision-making, digital innovation, operational efficiency, user experience, and digital readiness. Sustainable Leadership is measured through digitalisation of HR processes, use of HR analytics and artificial intelligence, digital infrastructure, and digital culture and capability. Human Capital Sustainability is measured through employee wellbeing, employee development, and employee participation. Sustainable Employee Performance is measured through task effectiveness, work quality, competence growth, work planning, and person-job fit.

The population consists of 328 employees of DPSP Bank Indonesia across job strata from Staff and Assistant Manager to Manager and Deputy Director. Sample size was determined with reference to statistical power and effect size considerations following Hair et

al. (2022), and data were obtained from 129 respondents who completed the questionnaire. Distribution covered all divisions of the department to ensure representation of the population and minimise sampling bias.

Primary data were collected through a structured closed questionnaire distributed online. All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with a neutral midpoint retained to capture response variation adequately for structural analysis. Secondary data were drawn from official Bank Indonesia publications, including annual reports and human resource profile documents, and from journal literature used as the theoretical basis and comparison for the findings.

Instrument validity was tested using Pearson product-moment correlation at a five per cent significance level, with an item declared valid where r -count exceeds r -table. Reliability was tested using Cronbach's Alpha, with a construct declared reliable where the value exceeds 0.70.

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS, chosen for its capacity to estimate complex path models containing latent and mediating variables. Analysis proceeded in three stages. First, evaluation of the measurement model (outer model) through outer loading (minimum 0.70), Average Variance Extracted (AVE above 0.50), discriminant validity using the Heterotrait-Monotrait ratio (below 0.90) and the Fornell-Larcker criterion, and construct reliability through Cronbach's Alpha and composite reliability (minimum 0.70). Second, evaluation of the structural model (inner model) through collinearity (VIF), the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2 predict). Third, hypothesis testing through bootstrapping using a one-tailed test consistent with the directional hypotheses, with a relationship declared significant where the t -statistic exceeds 1.96 and the p -value is below 0.05.

Mediation was assessed by decomposing direct, indirect, and total effects. Where the indirect effect is statistically significant, Human Capital Sustainability is confirmed as the mechanism transmitting the effects of digital transformation and sustainable leadership to sustainable employee performance, classified according to the mediation typology of Hair et al. (2017).

RESULTS AND DISCUSSION

Results

Respondent Profile

The study involved 129 respondents, all permanent employees of DPSP Bank Indonesia. By age, the largest group is 26–35 years with 62 respondents (49.2 per cent), indicating the availability of a productive workforce with the capacity to adapt to developments in digital payment technology. By education, 83 respondents (65.9 per cent) hold a bachelor's degree and 42 respondents (33.3 per cent) hold a master's degree, so that 99.2 per cent hold higher education qualifications. By work experience, the largest group has less than five years of service with 43 respondents (34.1 per cent), indicating human resource regeneration that brings new competence in the use of digital technology. The composition shows a workforce that is productive, highly educated, and supported by experienced staff — a profile consistent with the demands of a unit managing high-stakes payment system operations.

Descriptive Analysis

Descriptive results for the four constructs are summarised in Table 1. For Sustainable Leadership, the highest mean is 4.1667 with a standard deviation of 0.74565, indicating that leaders use performance analytics as the basis for proactively resolving team problems. For Digital Transformation, the highest mean is 3.9286 with a standard deviation of 0.88705, indicating that the organisation provides fast, real-time information access to support work execution. For Human Capital Sustainability, the highest mean is 4.3254 with a standard deviation of 0.76764, indicating that respondents are able to deliver performance consistent with organisational standards. For Sustainable Employee Performance, the highest mean is 4.3254 with a standard deviation of 0.87480, indicating that employees are mentally and professionally prepared to accept greater responsibility.

Table 1. Descriptive Statistics of Research Variables

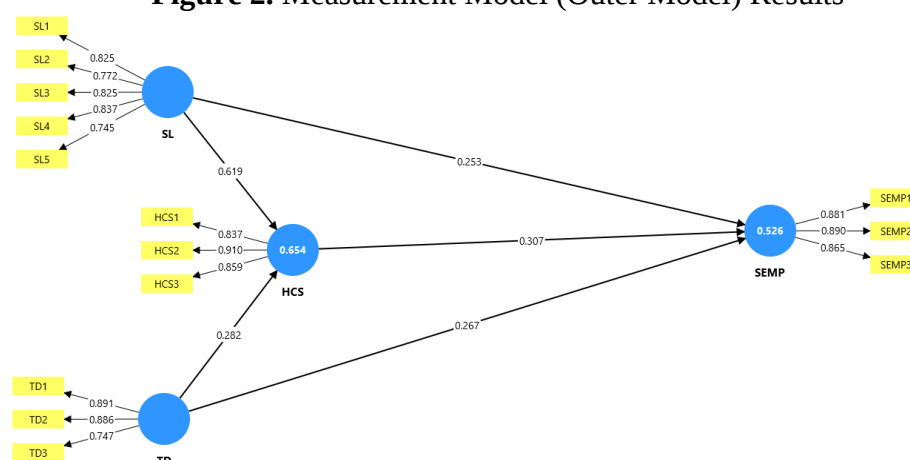
Variable	Highest Mean	Std. Deviation	Category
Digital Transformation (X1)	3.9286	0.88705	High
Sustainable Leadership (X2)	4.1667	0.74565	High
Human Capital Sustainability (M)	4.3254	0.76764	Very High
Sustainable Employee Performance (Y)	4.3254	0.87480	Very High

Source: Processed primary data (2026)

Measurement Model (Outer Model)

Evaluation of the measurement model, presented in Figure 2, confirms that the instrument satisfies the required validity and reliability thresholds. All reflective indicators recorded outer loading values above 0.70, ranging from 0.745 to 0.910, indicating that the indicators explain their latent variables strongly and consistently. All constructs recorded Average Variance Extracted values above the minimum threshold of 0.50, confirming convergent validity. Discriminant validity was confirmed through the Heterotrait-Monotrait ratio, where all values fall below the maximum limit of 0.90, and through the Fornell-Larcker criterion, where the square root of AVE on the diagonal exceeds the correlation with other constructs in the corresponding rows and columns. Construct reliability was confirmed with all Cronbach's Alpha values above 0.70 and all composite reliability values above 0.70, with the highest composite reliability reaching 0.992.

Figure 2. Measurement Model (Outer Model) Results

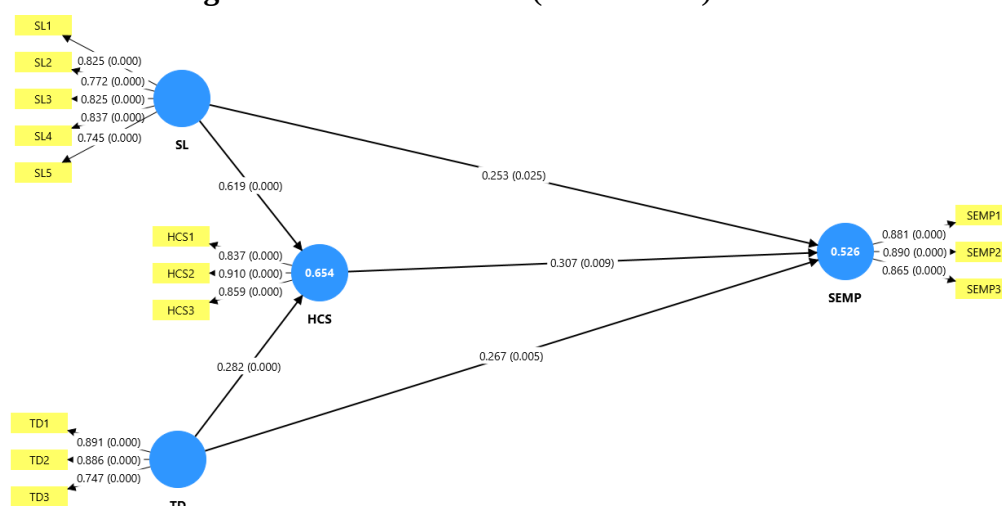


Source: Processed PLS-SEM output (2026)

Structural Model (Inner Model)

The structural model is presented in Figure 3. Collinearity testing returned inner VIF values within the acceptable range, confirming the absence of problematic collinearity among the independent variables and therefore the stability of the path coefficient estimates. The coefficient of determination for Human Capital Sustainability is 0.654, or 65.4 per cent, and for Sustainable Employee Performance 0.526, or 52.6 per cent. Both fall in the moderate category, following the classification in which values around 0.50 indicate moderate explanatory power (Sarstedt et al., 2017), and indicate that the model explains the variance of the mediating and dependent variables adequately. Effect size analysis shows that Sustainable Leadership exerts a large effect on Human Capital Sustainability, while Digital Transformation exerts a medium effect. Predictive relevance testing (Q^2 predict) confirms that the endogenous constructs hold predictive relevance in the model.

Figure 3. Structural Model (Inner Model) Results



Source: Processed PLS-SEM output (2026)

Hypothesis Testing

Hypothesis testing was conducted through bootstrapping using a one-tailed test, evaluating path coefficients, t-statistics, and p-values. The results are presented in Table 2. All seven hypotheses are supported, with every path recording a t-statistic above 1.96 and a p-value below 0.05.

Table 2. Results of Hypothesis Testing

Hypothesis	Path	Coefficient	t-Statistic	p-Value	Result
H1	Digital Transformation → Sustainable Employee Performance	0.267	2.786	0.005	Supported
H2	Sustainable Leadership → Sustainable Employee Performance	0.253	2.245	0.025	Supported
H3	Digital Transformation → Human Capital Sustainability	0.282	3.964	0.000	Supported
H4	Sustainable Leadership → Human Capital Sustainability	0.619	10.198	0.000	Supported
H5	Human Capital Sustainability → Sustainable Employee Performance	0.307	2.618	0.009	Supported

Hypothesis	Path	Coefficient	t-Statistic	p-Value	Result
H6	Digital Transformation → Human Capital Sustainability → Sustainable Employee Performance	0.087	2.255	0.024	Supported
H7	Sustainable Leadership → Human Capital Sustainability → Sustainable Employee Performance	0.190	2.468	0.014	Supported

Source: Processed PLS-SEM output (2026)

Digital Transformation has a positive and significant effect on Sustainable Employee Performance ($\beta = 0.267$; $t = 2.786$; $p = 0.005$) and on Human Capital Sustainability ($\beta = 0.282$; $t = 3.964$; $p = 0.000$). Sustainable Leadership has a positive and significant effect on Sustainable Employee Performance ($\beta = 0.253$; $t = 2.245$; $p = 0.025$) and the strongest effect in the model on Human Capital Sustainability ($\beta = 0.619$; $t = 10.198$; $p = 0.000$). Human Capital Sustainability has a positive and significant effect on Sustainable Employee Performance ($\beta = 0.307$; $t = 2.618$; $p = 0.009$). The indirect effects are also significant: Human Capital Sustainability mediates the effect of Digital Transformation on Sustainable Employee Performance ($\beta = 0.087$; $t = 2.255$; $p = 0.024$) and the effect of Sustainable Leadership on Sustainable Employee Performance ($\beta = 0.190$; $t = 2.468$; $p = 0.014$). Since both direct and indirect effects are significant and share the same direction, the mediation is classified as complementary mediation.

Discussion

Digital Transformation and Sustainable Employee Performance

The finding that digital transformation positively and significantly affects sustainable employee performance indicates that the better the implementation of digital transformation, the greater the employee's capacity to maintain performance over time. The result supports Digital Transformation Theory, which holds that digital transformation is a process of organisational change through the use of digital technology to improve process effectiveness, decision quality, and value creation (Teece, 2018; Vial, 2019). At DPSP the mechanism is concrete: integrated systems and real-time information access reduce repetitive administrative work and shorten the decision cycle, so that employee capacity can be redirected toward analytical and supervisory tasks that determine the reliability of national payment infrastructure.

Sustainable Leadership and Sustainable Employee Performance

Sustainable leadership was also shown to raise sustainable employee performance, consistent with Ludin (2026). The result supports Sustainable Leadership theory, which holds that sustainability-oriented leaders do not pursue short-term targets alone but build organisational capacity through human development, continuous learning, and innovation (Avery & Bergsteiner, 2011). Within DPSP, leaders must balance payment system innovation against financial system stability. Employees work in an environment requiring high accuracy, regulatory compliance, cross-departmental coordination, and rapid response to potential system disruption. Sustainable leadership is therefore realised through coaching, knowledge sharing, and workload management that protects capacity rather than consuming it.

Digital Transformation and Human Capital Sustainability

The positive and significant effect of digital transformation on human capital sustainability supports Dynamic Capability Theory, which holds that organisations must continuously develop the capability of their human resources in order to adjust to environmental change (Fauzia, 2024). Digital transformation drives the formation of new competences in the form of digital literacy, analytical thinking, cyber security awareness, and data-driven decision-making (Teece, 2018). In the DPSP setting, exposure to analytics platforms and integrated monitoring systems functions as a continuous learning environment that accumulates into the sustainability of human capital.

Sustainable Leadership and Human Capital Sustainability

Sustainable leadership recorded the strongest path in the model ($\beta = 0.619$). The result supports RBV, which holds that superior human capital is the principal source of sustainable performance, and Human Capital Theory, which holds that human resource quality develops through organisational investment in education, training, learning, and competence development facilitated by leadership (Becker, 1993). The magnitude of this coefficient carries a clear managerial implication: within DPSP, human capital quality is shaped more strongly by leadership practice than by technology adoption alone.

Human Capital Sustainability and Sustainable Employee Performance

The finding that human capital sustainability positively affects sustainable employee performance confirms that the higher the quality of employee competence, knowledge, skills, and learning capability, the better the performance produced on a continuing basis. This supports Human Capital Theory, which treats competence, experience, knowledge, and learning capability as strategic assets determining organisational productivity (Becker, 1993). Performance sustainability is therefore not determined by technology or leadership alone, but by the quality of individual capability that employees hold.

The Mediating Role of Human Capital Sustainability

Human capital sustainability was shown to mediate the effects of both digital transformation and sustainable leadership on sustainable employee performance, and in both cases the direct and indirect effects are significant and share the same direction, indicating complementary mediation. For digital transformation, the result indicates that the success of technology in improving performance depends on the organisation's ability to build human resource competence; failures of digital transformation frequently arise not from weakness in the technology but from low human resource readiness to adopt change. For sustainable leadership, the result indicates that leadership does not raise performance directly so much as through success in developing human resource quality. The implication is that a leader's achievement is measured not only by attainment of organisational targets but by the capacity to produce employees who are adaptive, innovative, resilient, and able to learn continuously.

CONCLUSION

This study addressed a performance paradox within the Payment System Operations Department of Bank Indonesia, where annual KPI realisation consistently exceeded 90 per cent while employee burnout rose to 34.8 per cent in 2023, and a gap in the literature concerning the mechanism through which digital transformation and leadership translate into performance that is sustainable over time within a central bank managing mission-critical payment infrastructure.

All seven hypotheses are supported. Digital transformation positively and significantly affects sustainable employee performance and human capital sustainability. Sustainable leadership positively and significantly affects both variables, and records the strongest path in the model on human capital sustainability. Human capital sustainability positively and significantly affects sustainable employee performance, and mediates the effects of both digital transformation and sustainable leadership, in each case as complementary mediation. The model explains 65.4 per cent of the variance in human capital sustainability and 52.6 per cent of the variance in sustainable employee performance.

The findings imply that the success of digital transformation depends not only on the adoption of technology but on the organisation's capacity to sustain leadership quality and human capital. Human capital sustainability is the mechanism that converts technological investment and leadership practice into performance that endures. Because the leadership path to human capital is substantially stronger than the technology path, investment in leadership capability yields greater returns for human capital quality than technology procurement alone.

Practically, DPSP is advised to extend automation of administrative processes so that employee capacity can be directed toward analytical and supervisory work; to strengthen integration of operational data through unified monitoring dashboards, real-time analytics, and decision support systems; to prioritise the development of human capital through payment system competence certification and continuous learning programmes; and to prepare employees for increasingly complex responsibility through cross-functional assignment, job rotation across payment system functions, and digital leadership development.

This study is limited to employees of a single department of Bank Indonesia, whose high-stakes operational characteristics constrain the generalisability of the findings, and to four constructs. Future research should extend the object of study to other departments, financial authorities, banking institutions, and financial technology firms, and should develop the conceptual model by adding mediating or moderating variables such as organisational learning, employee engagement, digital organisational culture, knowledge sharing, psychological safety, organisational resilience, or digital readiness.

REFERENCES

- Al-Balushi, A. (2024). Human capital sustainability and long-term organisational success: An empirical review. *International Journal of Human Resource Studies*, 14(2), 45–62.
- Andersen, S., & Sthapit, E. (2023). Digital employee experience and operational performance in technology-driven banking environments. *Journal of Financial Services Marketing*, 28(3), 412–429.
- Annisa, S. (2024). Dampak transformasi digital terhadap kinerja karyawan perbankan dengan efikasi diri sebagai mediator. *Jurnal Ilmu Manajemen*, 12(3), 310–324.
- Avery, G. C., & Bergsteiner, H. (2011). Sustainable leadership practices for enhancing business resilience and performance. *Strategy & Leadership*, 39(3), 5–15.
- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis with special reference to education* (3rd ed.). University of Chicago Press.
- Fauzia, N. N. (2024). Digital transformation, technostress, and employee engagement: A dynamic capability perspective. *Jurnal Manajemen dan Bisnis*, 12(1), 33–48.

- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage.
- Marfriady, D. (2023). Pengaruh budaya organisasi, transformasi digital, dan produktivitas karyawan di perusahaan. *Jurnal Ilmu Manajemen Terapan*, 4(5), 621–633.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced issues in partial least squares structural equation modeling*. Sage.
- Ji, T., de Jonge, J., Peeters, M. C. W., & Taris, T. W. (2021). Employee sustainable performance: A conceptualisation and measurement. *International Journal of Environmental Research and Public Health*, 18(19), 10112.
- Ludin, M. (2026). Sustainable leadership and employee performance: The moderating role of ethical orientation. *Journal of Leadership Studies*, 18(1), 21–39.
- McCann, J., & Holt, R. (2022). Sustainable leadership and digital change readiness. *Journal of Organizational Change Management*, 35(4), 612–630.
- Munawaroh, S. (2026). Integrating digital advancement and employee professionalism in achieving strategic objectives. *Jurnal Ekonomi dan Bisnis Berkelanjutan*, 5(1), 11–27.
- Nawaz, N. (2023). Artificial intelligence and human resource management: A strategic integration for organizational agility. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(3), 100115.
- Novianto, A. Y. (2025). Digital transformation and performance: Digital competence and employee agility. *Jurnal Manajemen Teknologi*, 24(1), 55–71.
- Nurhaatisyah, N. (2026). Digital literacy, mental readiness, and the performance impact of digital transformation. *Jurnal Sumber Daya Manusia*, 9(1), 1–18.
- Qiao, Y., & Li, H. (2024). Balancing technological demand and human capacity in AI-enabled organisations. *Technology in Society*, 77, 102–118.
- Rahmat, I. (2025). Indicators of sustainable leadership in digital human resource management. *Jurnal Kepemimpinan dan Organisasi*, 7(2), 88–104.
- Rukan, M. (2024). Performance paradox in high-stakes public institutions: Evidence from payment system operations. *Jurnal Administrasi Publik*, 15(2), 130–147.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial least squares structural equation modeling. In C. Homburg, M. Klarmann, & A. Vomberg (Eds.), *Handbook of market research* (pp. 1–40). Springer.
- Sowmiya, S. (2024). Burnout as a signal of failure in human capital sustainability. *Journal of Human Resource Management Research*, 13(3), 77–93.
- Stankevičiūtė, Ž., & Savanevičienė, A. (2018). Designing sustainable HRM: The core characteristics of emerging field. *Sustainability*, 10(12), 4798.
- Subramaniam, S. N. (2025). Sifat kepribadian dan kinerja karyawan dalam transformasi digital: Efek mediasi dari kemampuan dinamis karyawan. *Jurnal Psikologi Industri dan Organisasi*, 14(1), 33–50.

- Syupriadin, S. (2025). Leadership orchestration of human resources in periods of systemic change. *Jurnal Manajemen Strategik*, 11(1), 40–58.
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49.
- Tian, Y. (2024). Pemilihan unit demonstrasi digital unggul berdasarkan metode TOPSIS bobot entropi. *Sistem Informasi dan Teknologi Terapan*, 6(2), 112–126.
- Vardelier, P. (2024). From administrative function to strategic partner: The evolution of digital HRM. *European Journal of Management Studies*, 29(2), 201–219.
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144.
- Yu, J. (2025). Human capital capability development and adaptive organisational growth. *Asia Pacific Journal of Human Resources*, 63(1), 66–85.