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Enhancing ASN Performance through Digital Transformation and Job Satisfaction: The Moderating Role of Work Environment in Kemendukbangga/BKKBN

Mohammad Zakky[1*], Agus Salim[2]
Faculty of Economics and Business, Asian Institute of Banking and Informatics (Perbanas Institute)
mohammadzakky90@gmail.com[1*], agus.salim@perbanas.id[2]

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* Correspondence Author

Abstract

This study aims to examine and analyze the effect of digital transformation and job satisfaction on ASN performance, with the work environment as a moderating variable at the Ministry of Population and Family Development/National Population and Family Planning Agency (Kemendukbangga/BKKBN). Conducted using a quantitative approach, the study involved 138 Civil Servants selected through purposive sampling from a population of 699 employees at the central office. Primary data were collected through questionnaires, observation, and documentation, and analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.1.1.8. The results indicate that digital transformation, job satisfaction, and the work environment have positive and significant effects on employee performance. The work environment significantly strengthens the positive influence of digital transformation on performance. However, it does not moderate the relationship between job satisfaction and performance. This study contributes to the literature by addressing the inconsistent findings of previous research through an integrated model that incorporates the work environment as a moderator within the People Management framework, thus offering a more nuanced understanding of performance drivers in the public sector during digital transformation. Practically, the findings provide valuable insights for public sector digital transformation by highlighting the importance of creating a supportive work environment to maximize the benefits of digital initiatives and enhance ASN performance in delivering national family planning and population development programs.

Keywords*: ASN Performance; Digital Transformation; Job Satisfaction; Work Environment.*

INTRODUCTION

The performance of State Civil Apparatus (ASN) holds strategic significance as it is directly linked to the achievement of public organizational goals and the quality of services delivered to the community. ASN performance plays a vital role in the Ministry of Population and Family Development/BKKBN, given its direct connection to the successful implementation of core national programs, including population control, family planning services, accelerated stunting reduction, and the development of quality families.

Based on the 2024 Performance Assessment Results of Work Units and Employees at Kemendukbangga/BKKBN, as recorded in the E-Kinerja BKKBN system, the following performance achievements were obtained:

Table 1. Performance Assessment Results of Work Units and Employees at Kemendukbangga/BKKBN (2024)

Assessment Category	Work Unit Achievement			Employee Achievement		
	Central Office	Provincial	Total	Central Office	Provincial	Total
Excellent / Exceptional	10	11	21	254	3,004	3,258
Good	16	20	36	441	16,252	16,693
Fair / Needs Improvement	3	1	4	5	672	677
Poor	-	-	-	2	212	214
Very Poor	-	-	-	1	43	44
Total	**29**	**31**	**61**	**703**	**20,183**	**20,886**

Source: E-Kinerja BKKBN, 2024

Based on Table 1, several performance achievements still fall into the categories of "Fair/Needs Improvement," "Poor," and "Very Poor," both at the work unit and individual employee levels. At the work unit level, four units were classified as "Fair/Needs

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Improvement," consisting of three units at the central office and one provincial unit. Although no work units were rated as "Poor" or "Very Poor," the presence of these units that have not yet achieved optimal performance indicates persistent challenges in fully maximizing organizational functions.

A more significant issue is evident at the individual employee level. Of the total 20,886 employees assessed in 2024, 677 employees were rated as "Fair/Needs Improvement" (comprising 5 central office employees and 672 provincial employees). In addition, 214 employees were rated "Poor," and 44 employees were rated "Very Poor." Consequently, a total of 935 employees across Kemendukbangga/BKKBN exhibited suboptimal performance. Although this number represents a relatively small percentage, its absolute scale and potential organizational impact cannot be ignored. Suboptimal employee performance risks impeding the effectiveness of national strategic programs in family development and family planning.

In the context of bureaucratic reform and government digital transformation, civil servants (PNS) are required not only to perform administrative tasks but also to adapt to technological advancements, engage in data-driven decision-making, and deliver effective, responsive public services. Digital transformation is expected to create more effective, efficient, transparent, and integrated work systems, from performance planning and evaluation to competency development. However, empirical evidence on the relationship between digital transformation and employee performance remains inconsistent.

Several studies have reported a positive and significant influence of digital transformation on employee performance. Widodo et al. (2024), Ortiz et al. (2020), Alier and Rachmawati (2024), and Abdelaziz and Naama (2023) consistently found that digital transformation enhances performance by improving efficiency, accessibility of information, and service quality. In contrast, other studies have documented negative effects. Salkenov et al. (2022) concluded that digital transformation can reduce employee productivity, while Guo et al. (2023) reported diminished overall company performance. Chen et al. (2024) further highlighted that digital transformation may increase operational costs and ultimately undermine performance. These contradictory findings suggest that the impact of digital transformation is not uniform and may be contingent upon contextual factors that have not been adequately examined in prior research.

Job satisfaction similarly plays a critical role in employee performance. The 2024 Government Agency Performance Accountability Report of BKKBN indicates that the satisfaction index for management support services in family development and family planning programs showed fluctuations between 2020 and 2024. While realizations generally exceeded targets, the 2024 achievement percentage slightly declined relative to the higher target set for that year. This pattern underscores the need for more adaptive strategies to sustain satisfaction amid evolving work demands. Most prior studies support a positive relationship, with Maharani et al. (2023), Diansyah & Dwiyanti (2024), Triastutik et al. (2024), Masum et al. (2020), and Fatari et al. (2022) demonstrating that higher job satisfaction, particularly with human resource services, significantly improves employee performance. However, Qurbani and Indrawan (2023) found a negative and significant effect, indicating that the relationship may vary across different organizational settings or measurement approaches. Such inconsistencies reveal limitations in assuming direct, universal effects without considering moderating influences.

The work environment is frequently proposed as a key contextual factor that may influence these relationships. Positive effects have been documented by Suryaputra (2023), Zamilah (2024), and Azizah and Otok (2024), who found that a supportive work environment enhances both employee performance and job satisfaction. Conversely, Fauziyah et al. (2024) and Nurhalinda et al. (2024) reported no significant direct influence, while Hanum et al. (2024) identified a negative impact. These divergent results highlight the complexity of the work environment's role and suggest that its effects may be more pronounced as a moderator rather than a direct predictor.

The persistent inconsistencies across previous studies on digital transformation, job satisfaction, and the work environment, particularly the mixed direct-effect findings, underscore a clear theoretical gap. Most existing research has examined these variables in isolation or through direct relationships,

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failing to adequately address how situational factors, such as the work environment, may strengthen or weaken the influence of technological and psychological variables on performance. This fragmented understanding limits both theoretical advancement and practical policy formulation in public sector organizations undergoing digital transformation.

The present study addresses this gap by incorporating the work environment as a moderating variable. It examines the extent to which the work environment strengthens or weakens the relationships between digital transformation, job satisfaction, and employee performance among civil servants at Kemendukbangga/BKKBN. Theoretically, this research is expected to enrich the literature by integrating technological, psychological, and situational perspectives in the digital era. Practically, the findings are anticipated to inform targeted policy recommendations for optimizing digital transformation initiatives, enhancing the work environment, and ultimately improving employee performance in support of national family development and family planning programs.

Theoretical Framework

This study is grounded in People Management as the grand theory. According to Purcell et al. (2009), people management encompasses the managerial practices implemented by line managers to foster positive working relationships, enhance employee motivation, and shape behavior in ways that drive improved individual and organizational performance. In this study, People Management theory directly underpins the proposed relationships by positioning managerial practices as the central mechanism through which digital transformation and job satisfaction influence employee performance, with the work environment serving as a critical moderating context.

People Management theory posits that effective human resource practices such as providing adequate support, resources, and developmental opportunities enable employees to adapt to organizational changes and perform at higher levels. Applied to this research, digital transformation represents a key managerial practice within people management aimed at modernizing work processes and enhancing capability. When supported by strong people management, digital transformation is expected to positively influence employee performance by improving efficiency, data-driven decision-making, and service delivery. Similarly, job satisfaction is viewed as an outcome of sound people management practices (e.g., supportive leadership, fair rewards, and professional development), which in turn drives greater employee commitment and performance.

The work environment functions as a moderating variable because it reflects the organizational conditions created through people management practices. A supportive work environment characterized by adequate resources, collab orative culture, and psychological safetystrengthens the positive effects of digital transformation and job satisfaction on performance. Conversely, an unsupportive environment may weaken these relationships. This alignment clarifies how people management practices operate not only directly but also through contextual conditions to influence performance outcomes.

To strengthen conceptual integration, this study incorporates complementary theories. Digital Leadership (Westerman et al., 2014) serves as a pivotal driver within people management, emphasizing leaders' ability to leverage digital technologies to transform processes and build organizational capabilities, thereby facilitating the successful implement-tation of digital transformation. Employee Engagement theory (Kahn, 1990) explains the psychological mechanisms through which people management practices generate meaningfulness, safety, and availability, which mediate the translation of job satisfaction into higher performance. Finally, Learning Organization theory (Senge, 1990) complements people management by underscoring the importance of creating collective learning environments that empower employees to continuously develop digital competencies and adapt to technological changes.

By integrating these theories under the overarching People Management framework, this study provides a coherent theoretical foundation. It explains how managerial practices related to digital transformation and job satisfaction, enacted within a supportive work environment, foster employee engagement, continuous learning, and ultimately superior performance among civil servants at Kemendukbangga/BKKBN. This

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integrated approach directly supports the hypothesized relationships and addresses the need for a more nuanced understanding of performance drivers in the public sector during the digital era.

Theoretical Review

Performance is defined as behaviors or actions relevant to organizational goals that are under the control of the individual. The primary focus of performance is on what employees do, rather than solely on what they produce (Campbell, 1990). Bernardin and Russell (1993) define performance as the actual work outcomes achieved by individuals or organizations in carrying out their duties and responsibilities over a specific period. The main emphasis of this theory is on results (outcomes), rather than merely activities or efforts. Mathis and Jackson (2011) define performance as both the work outcomes and the work behaviors of employees in executing their tasks and responsibilities. Robbins and Judge (2024) define performance as the extent to which an employee effectively carries out the core tasks of their job.

In this study, performance is understood as the level of work achievement measured through quality, quantity, timeliness, cost-effectiveness, independence, and interpersonal impact, in order to achieve organizational goals and deliver optimal public services. The dimensions of performance used in this study are based on the theory proposed by Bernardin and Russell (1993), which measures performance through six main dimensions: Quality, Quantity, Timeliness, Cost-effectiveness, Need for Supervision (independence), and Interpersonal Impact (working relationships).

Digital Transformation in public services is the process of redesigning how governments design, deliver, and manage services to citizens and businesses by leveraging digital technology, data, and user-centered service design to achieve services that are faster, more affordable, inclusive, transparent, and accountable (United Nations, 2024). Broadly speaking, there are three main theories of digital transformation in public services:

1. Digital Maturity Model (Theory of Digital Maturity Stages).
   Digital transformation in the public sector is a gradual process that requires changes not only in technological aspects but also in organizational structure, business processes, and governance. One of the fundamental theories widely used to explain the development of digital transformation in public services is the E-Government Maturity Model proposed by Layne and Lee (2001).
2. Diffusion of Innovations Theory.
   Proposed by Everett M. Rogers (2003), this theory explains how an innovation is introduced, communicated, adopted, and used by individuals or organizations within a social system over time. Rogers (2003) defines diffusion as a social process involving communication, perception, and interaction among actors in an organization or society.
3. Digital Resource Orchestration Theory.
   This theoretical approach posits that the success of digital transformation is not determined solely by the ownership or adoption of technology, but primarily by the organization's ability to dynamically manage, integrate, and coordinate various digital and non-digital resources. In this study, the dimensions of digital transformation are based on the theory proposed by Westerman, Bonnet, and McAfee (2014), which identifies three main dimensions: Digital Customer (Citizen) Experience, Digitalized Internal Processes (Operational Processes), and Digital Business Model (Public Service Model).

Job Satisfaction arises from factors directly related to job content, while job dissatisfaction stems from factors related to job context (Herzberg, 1959). Edwin A. Locke (1976) defines job satisfaction as a positive emotional state resulting from an employee's evaluation of the extent to which their job and work environment fulfill important personal values, expectations, and needs. According to Luthans (2011), satisfaction is an emotion that emerges in response to working conditions.

The dimensions of job satisfaction used in this study are based on Locke's (1976) theory, which includes: The Work Itself, Pay, Promotion Opportunities, Co-workers, Working Conditions, and Recognition.

Work Environment encompasses everything around the worker that has the potential to influence how employees perform the tasks and responsibilities assigned by the organization (Nitisemito, 2015). Farida and Hartono (2016) define the work environment as

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everything surrounding workers that can affect them in carrying out their assigned duties. Sedarmayati (2017) defines it as the totality of tools, materials, the surrounding environment where a person works, work methods, and work arrangements, whether individually or in groups.

In this study, the dimensions of the work environment are based on Nitisemito's (2015) theory, which divides the work environment into two main categories: physical and non-physical. The physical work environment includes lighting, temperature and air circulation, noise, room color scheme, cleanliness and tidiness, and security. The non-physical work environment includes relationships among employees, superior-subordinate relationships, and the overall work atmosphere and psychological climate. Based on the background, literature review, and previous studies presented earlier, the hypotheses of this study are as follows:

H1: The better the digital transformation, the higher the employee performance.
H2: The higher the job satisfaction, the higher the employee performance.
H3: The better the work environment, the higher the employee performance.
H4: The better the work environment, the stronger the positive effect of digital transformation on performance improvement.
H5: The better the work environment, the stronger the positive effect of job satisfaction on performance improvement.

METHOD

This study employs a quantitative approach with a survey design. The population consists of all active Civil Servants (PNS) at the central office of the Ministry of Population and Family Development/BKKBN who are directly involved in the use of the Human Resource Management Information System (SIMSDM), totaling 699 employees. A sample of 138 employees was selected using non-probability purposive sampling. The selection criteria were: (1) permanent employees who are still actively working; (2) employees who regularly use the digital transformation system for personnel management; (3) employees with at least one year of work experience; and (4) employees with more than one year remaining until retirement.

Primary data were collected through structured questionnaires (Likert-scale measurements), supported by observation and documentation. The questionnaire was developed based on established instruments from previous studies and adapted to the research context. A pilot test was conducted with 30 respondents to assess instrument clarity, reliability, and validity before full-scale distribution. Questionnaires were distributed both online and offline with informed consent, ensuring respondent anonymity and confidentiality to minimize social desirability bias.

To strengthen methodological rigor and transparency, several procedural safeguards were implemented. Data screening was performed to handle missing values, outliers, and response patterns. Common method bias (CMB) was assessed using two complementary approaches: Harman's single-factor test and the Variance Inflation Factor (VIF) assessment. Harman's single-factor test showed that no single factor accounted for more than 50% of the total variance. Additionally, all inner VIF values were below the threshold of 3.3, indicating that common method bias is not a serious concern in this study.

This study applied Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS software version 4.1.1.8. The analysis followed a systematic procedure consisting of: measurement (outer) model evaluation, structural (inner) model evaluation, hypothesis testing.

The sample size of 138 was determined based on the recommendation of Hair et al. (2022) for PLS-SEM (minimum of 10 times the maximum number of arrows pointing to a construct) and confirmed through statistical power analysis. All ethical considerations were observed in accordance with research standards, including voluntary participation and data protection. This comprehensive methodological approach ensures the reliability, validity, and credibility of the research findings while maintaining high standards of transparency.

RESULTS and DISCUSSION

Outer Model Analysis (Measurement Model)

The initial outer loading results from SmartPLS 4.1.1.8 showed that several indicators had correlation values (loading factors) below 0.70. The indicators with outer loadings below 0.70 were X1.5, X1.8, X1.9,

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X2.3, X2.10, Z.2, Z.7, Z.8, Z.11, Z.12, Z.13, Z.16, Y.7, Y.8, and Y.10. These indicators were eliminated to improve the quality of the measurement model. Subsequently, a second-stage outer loading test was conducted, with the following results:

Table 2. Outer Loading Test for Each Variable (Stage 2)

Variable	Indicator	Outer Loading	Description
Digital Transformation	X1.1	0.784	Valid
	X1.2	0.851	Valid
	X1.3	0.825	Valid
	X1.4	0.788	Valid
	X1.6	0.771	Valid
	X1.7	0.778	Valid
Job Satisfaction	X2.1	0.795	Valid
	X2.2	0.778	Valid
	X2.4	0.846	Valid
	X2.5	0.819	Valid
	X2.6	0.847	Valid
	X2.7	0.831	Valid
	X2.8	0.827	Valid
	X2.9	0.813	Valid
Work Environment	Z.1	0.880	Valid
	Z.3	0.794	Valid
	Z.4	0.885	Valid
	Z.5	0.907	Valid
	Z.6	0.890	Valid
	Z.9	0.721	Valid
	Z.10	0.702	Valid
	Z.14	0.875	Valid
	Z.15	0.882	Valid
	Z.17	0.898	Valid
	Z.18	0.843	Valid
Performance	Y.1	0.788	Valid
	Y.2	0.857	Valid
	Y.3	0.852	Valid
	Y.4	0.876	Valid
	Y.5	0.846	Valid
	Y.6	0.907	Valid
	Y.9	0.901	Valid

Source: Processed by the researcher (2026)

Discriminant validity was then assessed using the Average Variance Extracted (AVE) value. The AVE value for each variable must exceed 0.50 for the convergent validity test to be considered valid.

Table 3. Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)	Description
Job Satisfaction	0.601	Valid
Performance	0.528	Valid
Work Environment	0.516	Valid
Digital Transformation	0.554	Valid

Source: SmartPLS 4.1.1.8 Output (2026)

Reliability testing used two parameters: Cronbach's Alpha and Composite Reliability. A variable is considered reliable if both Cronbach's Alpha and Composite Reliability values exceed 0.70.

Table 4. Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Description
Job Satisfaction	0.923	0.930	Reliable
Performance	0.859	0.937	Reliable
Work Environment	0.944	0.956	Reliable
Digital Transformation	0.898	0.908	Reliable

Source: SmartPLS 4.1.1.8 Output (2026)

Model Fit

Before interpreting the hypotheses, the overall model fit and predictive capability were evaluated. The Standardized Root Mean Square Residual (SRMR) value was 0.068 (below the recommended threshold of 0.08), indicating good model fit. Predictive relevance was assessed using the blindfolding procedure, yielding Q^2 values of 0.312 for employee performance, 0.245 for digital transformation, and 0.278 for job satisfaction all positive and greater than zero demonstrating the model's adequate predictive relevance. Multicollinearity was not an issue, as all inner VIF values remained below 3.3.

Hypothesis Testing

Hypothesis testing statistics were determined by comparing the t-statistic values generated by SmartPLS 4.1.1.8 with the t-table value. The t-table value was calculated based on the degrees of freedom (DF), where DF = n – k (number of respondents minus number of variables). Thus, DF = 138 – 4 = 134. For a significance level (α) of 5% (0.05) with DF = 134, the t-table value is 1.977.

The decision rules are as follows: 1) If p-value > 0.05 or t-statistic < t-table, then H_0 is accepted and H_a is rejected, and 2) If p-value < 0.05 or t-statistic > t-table, then H_0 is rejected and H_a is accepted.

The results of the hypothesis testing using SmartPLS 4.1.1.8 can be seen in the bootstrapping output presented in the following figure.

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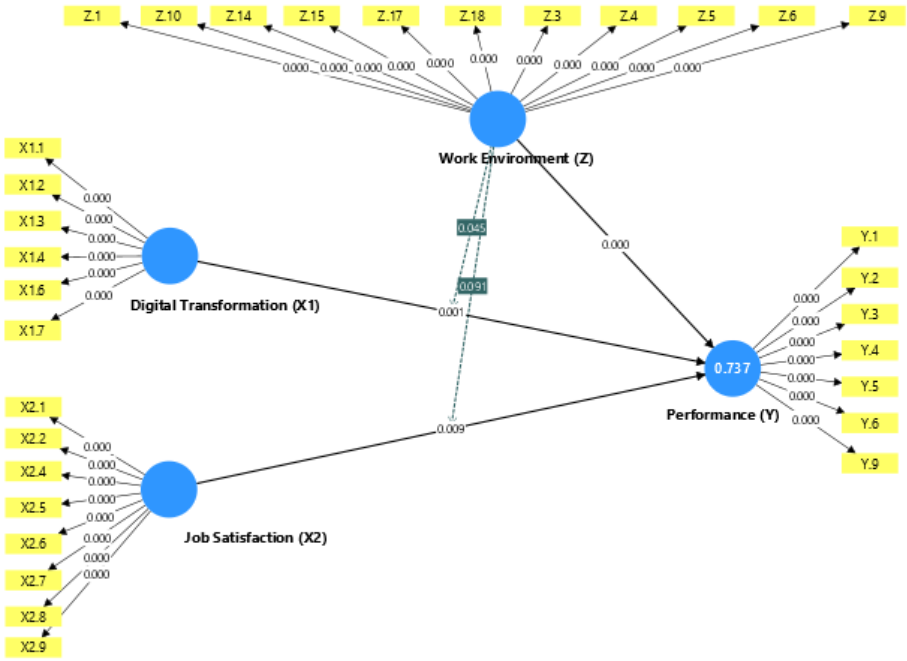

Figure 1. Bootstrapping Output
Source: SmartPLS 4.1.1.8 Output (2026)

Based on the hypothesis testing model results shown in Figure 1, both direct and indirect effects among the variables can be identified. The results of the direct effect testing are presented in the table below.

Tabel 5. Direct Effects Between Variables

	Original sample (O)	*Sample mean (M)*	*Standard deviation (STDEV)*	*T statistics (|O/STDEV|)*	*P values*	**Description**
Digital Transformation → Performance	0.344	0.335	0.103	3.338	0.001	Significant
Job Satisfaction → Performance	0.262	0.234	0.100	2.620	0.009	Significant
Work Environment → Performance	0.357	0.347	0.077	4.629	0.000	Significant

Source: SmartPLS 4.1.1.8 Output (2026)

Based on Table 5, the results of the direct effect testing are as follows:

1. The digital transformation variable has a path coefficient of 0.344, with a t-statistic of 3.338 and a p-value of 0.001. This indicates that digital transformation has a positive and significant effect on employee performance. Therefore, Hypothesis 1 (H1) is accepted.
2. The job satisfaction variable has a path coefficient (original sample) of 0.262, with a t-statistic of 2.620 and a p-value of 0.009. This shows that job satisfaction has a positive and significant effect on employee performance. In other words, the higher the level of job satisfaction, the higher the resulting performance. Thus, Hypothesis 2 (H2) is accepted.
3. The work environment variable has a path coefficient of 0.357, with a t-statistic of 4.629 and a p-value of 0.000. These results indicate that the work environment has a positive and significant effect on employee performance. Therefore, Hypothesis 3 (H3) is accepted.

Testing of indirect effects was conducted to determine whether the work environment moderates the relationships between job satisfaction and digital transformation on performance.

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Table 6. Indirect (Moderating) Effects Between Variables

	Original sample (O)	*Sample mean (M)*	*Standard deviation (STDEV)*	*T statistics (|O/STDEV|)*	*P values*	**Description**
Work Environment × Digital Transformation → Performance	0.159	0.187	0.079	2.010	0.045	Significant
Work Environment × Job Satisfaction → Performance	-0.158	-0.134	0.093	1.691	0.091	Not Significant

Source: SmartPLS 4.1.1.8 Output (2026)

Based on Table 6, the results of the indirect (moderating) effect testing are as follows:

1. The moderating role of the work environment on the relationship between digital transformation and performance produced a coefficient of 0.159, with a t-statistic of 2.010 and a p-value of 0.045. This result indicates that the moderating effect is statistically significant, as the p-value is less than 0.05 and the t-statistic exceeds 1.96. Therefore, the work environment has been proven to moderate the relationship between digital transformation and employee performance. Accordingly, Hypothesis 4 (H4) is accepted.
2. The moderating role of the work environment on the relationship between job satisfaction and performance yielded a coefficient of -0.158, with a t-statistic of 1.691 and a p-value of 0.091. Since the p-value is greater than 0.05 and the t-statistic is lower than 1.96, this moderating effect is not statistically significant. This finding suggests that the work environment does not significantly moderate the relationship between job satisfaction and employee performance. Furthermore, the negative coefficient indicates that the work environment tends to weaken the positive relationship between job satisfaction and performance. Consequently, Hypothesis 5 (H5) is rejected.

Discussion

The results of this study indicate that digital transformation has a positive and significant effect on employee performance at Kemendukbangga/BKKBN (β = 0.344, t = 3.338, p = 0.001). This finding aligns with the majority of recent studies (Widodo et al., 2024; Lou et al., 2024; Abdelaziz & Naama, 2023; Alier & Rachmawati, 2024; Shen et al., 2025), which demonstrate that digital transformation enhances efficiency, information accessibility, and service quality. However, this positive effect contrasts with earlier studies reporting negative or null impacts (Salkenov et al., 2022; Guo et al., 2023; Chen et al., 2024). The inconsistencies in prior literature highlight a critical theoretical gap: the effect of digital transformation on performance is highly context-dependent and contingent upon organizational and individual readiness factors that many previous studies failed to examine systematically. The current study addresses this gap by incorporating the work environment as a moderator within a People Management framework, thereby providing a more nuanced understanding of when and how digital transformation translates into performance gains in the Indonesian public sector.

Job satisfaction also exerts a positive and significant influence on employee performance (β = 0.262, t = 2.620, p = 0.009). This result is consistent with extensive empirical evidence (Maharani et al., 2023; Diansyah & Dwiyanti, 2024; Triastutik et al., 2024; Masum et al., 2020; Cao et al., 2024). It reinforces the psychological mechanism through which positive job evaluations enhance motivation, commitment, and effort. The few contradictory findings, such as those reported by Qurbani and Indrawan (2023), further underscore the need for contingency models, as examined in this research.

The work environment demonstrates the strongest direct effect on performance (β = 0.357, t = 4.629, p < 0.001), supporting studies by Zamilah (2024), Azizah and Otok (2024), and Suryaputra (2023). This confirms that both physical and non-physical aspects of the work environment remain foundational to performance in public organizations.

The work environment significantly strengthens the positive relationship between digital transformation and performance (β = 0.159, t = 2.010, p = 0.045). This result supports the central proposition of the People Management grand theory that managerial

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practices are most effective when enacted within a supportive contextual environment. A conducive work environment amplifies the benefits of digital tools by reducing resistance, enhancing digital literacy, and fostering psychological safety for technology adoption.

Contrary to expectations, the work environment did not significantly moderate the relationship between job satisfaction and performance ($\beta = -0.158$, $t = 1.691$, $p = 0.091$). This unexpected finding requires critical interpretation. At Kemendukbangga/BKKBN, the work environment may have reached a relatively high baseline level, creating a ceiling effect whereby further improvements yield diminishing returns in moderating already strong intrinsic motivational factors. Job satisfaction in this organization appears to be driven more by internal psychological conditions, such as meaningfulness and responsibility (Kahn, 1990) and organizational culture than by external environmental conditions. Furthermore, the negative moderating coefficient suggests a possible substitution effect: in a stable and supportive environment, highly satisfied employees may rely primarily on intrinsic motivation, thereby reducing the incremental influence of environmental factors. This aligns with studies reporting insignificant or negative environmental effects (Fauziyah et al., 2024; Nurhalinda et al., 2024) and highlights the contextual boundaries of contingency theories in mature public sector settings. The finding also points to the potential dominance of organizational culture and digital readiness over general work environment perceptions when moderating psychological variables.

The results carry important practical implications for Kemendukbangga/BKKBN and similar public institutions. Accelerating digital transformation must be accompanied by deliberate investments in digital readiness, particularly through digital literacy training and infrastructure support, to maximize performance gains. Strengthening organizational culture that promotes learning, psychological safety, and adaptive leadership, consistent with People Management and Learning Organization theories, is equally essential. ASN competency development should extend beyond technical skills to include change management capabilities and digital leadership at all managerial levels. Regarding the insignificant moderating effect on job satisfaction, policies should focus on sustaining intrinsic motivators through meaningful work design, career progression, and recognition systems rather than relying solely on environmental improvements. Overall, an integrated approach that combines digital transformation initiatives with targeted people management practices and cultural transformation is recommended to achieve sustainable performance improvements in Indonesia's family planning and population development programs. These findings contribute theoretically by demonstrating the conditional nature of digital transformation and job satisfaction effects within a public sector context, thereby refining existing models and resolving some of the contradictions found in prior literature.

CONCLUSION

This study concludes that digital transformation, job satisfaction, and the work environment are significant determinants of employee performance among Civil Servants at Kemendukbangga/BKKBN. Specifically, digital transformation positively and significantly influences employee performance, indicating that the implementation of digital systems, service integration, and information technology significantly enhances work effectiveness and efficiency. Job satisfaction also exerts a positive and significant effect on performance, as employees who experience higher satisfaction with their jobs, supervisory support, working relationships, and career opportunities demonstrate greater motivation and productivity. The work environment similarly shows a strong positive direct effect on performance, underscoring the importance of both physical and non-physical aspects in creating a conducive atmosphere for optimal task execution. Regarding the moderating role of the work environment, the findings reveal that it significantly strengthens the positive relationship between digital transformation and employee performance. However, it does not significantly moderate the relationship between job satisfaction and performance, suggesting that intrinsic motivational factors play a more dominant role once a satisfactory work environment has been established.

Theoretically, this study contributes to the literature by integrating People Management as the grand theory with digital leadership, employee engagement, and learning

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organization perspectives. It addresses the inconsistencies in previous research by demonstrating the conditional and context-dependent nature of the relationships among digital transformation, job satisfaction, and employee performance. By positioning the work environment as a moderator, this research provides a more nuanced understanding of how technological, psychological, and situational factors interact within public sector organizations in the digital era.

From a practical standpoint, the findings offer several concrete policy recommendations for digital governance and ASN management at Kemendukbangga/BKKBN and similar institutions. First, digital transformation initiatives should be accompanied by comprehensive digital governance frameworks, including clear standards for data integration, cybersecurity, and system interoperability. Second, targeted investments in ASN digital competency development, through continuous training programs, certification, and mentorship are essential to accelerate technology adoption. Third, organizational leaders should prioritize the cultivation of a supportive work culture that promotes psychological safety, collaborative learning, and adaptive leadership to maximize the benefits of digital transformation. Fourth, human resource policies should focus on sustaining job satisfaction through transparent career pathways, performance-based recognition systems, and meaningful work assignments that align with employees' intrinsic values.

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