

A Structural Equation Model on Employee Performance in Relation to Work Environment, Communication and Positive Personality Traits: Evidence in National Government Agencies

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Abstract—This study examined the structural relationships among work environment, communication environment, personality traits, and employee performance in National Government Agencies in the Davao Region, Philippines. Specifically, it aimed to determine the levels of work environment, communication environment, personality traits, and employee performance; assess their relationships and influence; and identify the best-fit structural equation model explaining employee performance. A quantitative, non-experimental correlational research design utilizing Structural Equation Modeling (SEM) was employed. Data were collected from 410 employees from Provincial Environment and Natural Resources Offices (PENROs) and Community Environment and Natural Resources Offices (CENROs) through validated survey instruments. Results revealed that work environment, communication environment, personality traits, and employee performance were generally rated high to very high. Significant relationships were found among the study variables. Regression analysis showed that personality traits emerged as the strongest predictor of employee performance, followed by communication environment, while work environment did not significantly predict performance when combined with the other variables. Furthermore, SEM analysis identified Model 3 as the best-fit structural model, demonstrating excellent goodness-of-fit indices and confirming that employee performance was influenced by interconnected organizational and behavioral factors. The study concluded that employee performance in National Government Agencies was best explained by the combined influence of communication processes, personality traits, employee engagement, and organizational resources. The findings contribute to public administration and human resource management by providing an evidence-based framework for enhancing workforce effectiveness and organizational performance in government institutions.

Keywords: communication environment, employee performance, personality traits, Philippines, public administration, quantitative correlational, structural equation modeling, work environment

I. INTRODUCTION

Employee performance is a crucial determinant of the effectiveness and success of National Government Agencies, as it directly affects public service delivery and the accomplishment of organizational objectives. Numerous studies have highlighted that employee performance is influenced by various factors such as the work environment, communication practices, and personality traits. The work environment, encompassing both physical and psychological conditions, plays a significant role in shaping employee performance, with research suggesting that positive work environments lead to higher job satisfaction and enhanced productivity. Effective communication, which includes clear information flow and supportive interpersonal interactions, is also critical in improving employee performance by fostering collaboration and reducing misunderstandings. Furthermore, personality traits such as conscientiousness, emotional stability, and openness have been shown to influence individual job performance, with employees possessing certain traits consistently outperforming others in diverse work contexts.

Studies focusing on employee performance in government agencies have emphasized several key determinants. Krause (2019) highlights that employee motivation in the public sector is often driven by intrinsic factors such as public service values, job security, and opportunities for personal development. However, when these motivational factors are undermined by poor management practices, lack of clear communication, or limited resources, employee performance suffers. Hassan et al. (2021) support this by noting that employees in government agencies are more likely to perform poorly if they perceive a lack of organizational support or if communication channels are unclear or ineffective. The work environment plays a critical role in influencing employee performance in the public sector, with factors like job satisfaction, leadership quality, and organizational climate directly impacting motivation and performance levels.

Understanding the factors that contribute to employee performance in national government agencies is essential for developing strategies to improve public service delivery. Giauque et al. (2023) emphasize that the public sector requires tailored approaches to employee performance, taking into account the unique nature of public service, such as higher levels of job security and less direct performance-related rewards. By studying how elements like work environment, communication, and personality traits influence performance, researchers can provide valuable insights into improving the productivity and effectiveness of national government agencies. A deeper understanding of these factors can help policymakers design interventions that foster a more efficient, motivated, and skilled workforce, leading to enhanced public sector outcomes and a better quality of service for citizens.

The research gap in the study of employee performance in national government agencies primarily lies in the limited exploration of the interaction between work environment, communication, and personality traits within this context. While existing studies have investigated these factors individually, there is a need for more comprehensive research that examines how these variables collectively influence performance in public sector organizations. Furthermore, much of the research on work environment and communication focuses on the private sector or generalized organizational settings, with less attention given to the unique challenges faced by national government agencies, such as bureaucratic structures, political influences, and public accountability. Additionally, while the role of personality traits like emotional intelligence and conscientiousness in performance is well documented, studies specifically targeting government employees' personality-job fit and its impact on job satisfaction and productivity remain scarce.

This study is anchored on several theoretical perspectives. The Job Demands-Resources (JD-R) model of Bakker and Demerouti (2021) posits that job resources such as autonomy, social support, and available tools, and job demands such as workload and time pressure, both affect employee well-being and performance. A positive work environment that provides necessary resources, autonomy, and a supportive culture can enhance employee motivation, job satisfaction, and performance, while a lack of resources or a stressful work environment may lead to burnout and reduced performance. The Social Information Processing Theory of Salancik and Pfeffer (1978) suggests that employees interpret their roles and behaviors based on the information they receive from their social environment, particularly communication from supervisors and colleagues; clear information flow, timely feedback, and transparent organizational communication therefore help employees understand their tasks and organizational goals. The Five-Factor Model of Personality (Costa and McCrae, 1992) identifies openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism as broad traits shaping workplace behavior, and Person-Environment Fit Theory (Edwards, 1996) holds that individuals perform better when their personal characteristics match their work environment. Tannenbaum and Salas (2020) further note that alignment between communication practices and employee traits enhances performance.

In this light, this study assessed the structural relationships among work environment, communication environment, personality traits, and employee performance in National Government Agencies in the Davao Region. Specifically, it determined the level of work environment in terms of job resources, job demand, and employee engagement; the level of communication environment in terms of clarity of communication, feedback quality, interpersonal communication, and organizational transparency; the level of personality traits in terms of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism; the level of employee performance in terms of task performance, contextual performance, adaptive performance, and



counterproductive work behavior; the significance of the relationships between each independent variable and employee performance; the influence of the three independent variables on employee performance; and the best-fit structural model explaining employee performance. The study tested two hypotheses at the 0.05 level of significance: that there is no best-fit model predicting employee performance, and that there is no significant association among work environment, communication environment, and personality traits.

II. METHOD

II.I. RESEARCH PARTICIPANTS

The population for this study consisted of employees within the Department of Environment and Natural Resources (DENR) in the Davao Region, specifically staff from the five Provincial Environment and Natural Resources Offices (PENROs) and eleven Community Environment and Natural Resources Offices (CENROs) across the region. These offices implement environmental policies, forest protection, wildlife conservation, and sustainable resource management. PENROs are provincial-level offices responsible for managing natural resources across their respective provinces, while CENROs operate under the PENROs and focus on more localized environmental concerns, community-based programs, public relations, and day-to-day environmental management activities.

The inclusion criteria were full-time employees with plantilla positions working in any of the five PENROs and eleven CENROs in the Davao Region; employees engaged in environmental management, communication, policy implementation, or community outreach within the DENR; employees willing to participate and provide informed consent; and employees with at least six months of work experience within the DENR. Employees on leave of absence and those with less than six months of service at the time of the study were excluded. Participants who withdrew their consent during the study, who failed to meet the inclusion criteria in the course of data collection, or who experienced prolonged illness or personal issues preventing participation were withdrawn.

The study involved a total of 410 participants, comprising both managerial and non-managerial employees distributed across the sixteen offices as presented in Table 1. A sample of this size is considered sufficient for cross-sectional research, following Fowler (2021), who notes that this number is adequate for achieving a reliable estimate in large but moderately segmented populations. Stratified random sampling was used to select employees from both PENROs and CENROs, since this method ensures that different subgroups within the population are adequately represented and improves the precision of estimates for each group (Patton, 2020).

Table 1. Distribution of Samples per Category or Cluster

Category or Cluster	Number of Participants per Office	Total
PENROs (5 offices)	60 employees per office	300
CENROs (11 offices)	10 employees per office	110
Total Sample Size		410

II.II. MATERIALS AND INSTRUMENTS

The instruments used in this study were standardized quantitative scales measuring work environment, communication environment, and personality traits. The Work Environment Scale (WES) was used to evaluate the psychological and physical

aspects of the workplace that influence employee behavior and performance, covering job autonomy, organizational culture, and resource availability. The scale draws on studies examining organizational behavior and the work environment, including Maslach and Leiter (1997) and Saks (2020), and Cronbach's alpha scores for work environment scales generally range from 0.80 to 0.90, indicating high reliability. The WES used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with a range of means from 1.0 to 5.0; a higher mean score indicates a more favorable work environment.

The Communication Satisfaction Questionnaire (CSQ) developed by Downs and Hazen (1977) was used to assess employees' satisfaction with communication in the workplace, measuring communication styles, clarity, effectiveness, and the level of feedback. Cronbach's alpha values for communication scales generally range from 0.85 to 0.95, indicating excellent internal consistency. The CSQ used a five-point Likert scale from 1 (very dissatisfied) to 5 (very satisfied), with higher mean scores indicating greater satisfaction with organizational communication processes.

Personality traits were measured using the NEO Personality Inventory (NEO-PI) developed by Costa and McCrae (1992), which covers openness, conscientiousness, extraversion, agreeableness, and neuroticism. Cronbach's alpha for the Big Five traits is typically very high, ranging from 0.85 to 0.92. The instrument used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with a higher score on each dimension indicating a stronger presence of that trait. The latent structure of these traits, which cannot be directly observed, is inferred from multiple observed indicators (John and Srivastava, 1999).

The research instrument underwent a rigorous refinement process. It was first submitted to the research adviser for review, and necessary revisions were made before data collection. Five internal validators well-versed in the subject matter assessed the questionnaire, and an external validator recognized for expertise in the field contributed additional insights. All validators evaluated the questionnaire using a 1 to 5 scale focusing on reliability and validity. Face and content validity supported the instrument's credibility, while reliability was tested through a pilot study with 30 LGU-affiliated respondents from different regions, where Cronbach's alpha values for standardized items exceeded 0.9, indicating an exceptionally high degree of internal consistency.

II.III. RESEARCH DESIGN AND PROCEDURE

This study employed a quantitative correlational design with the application of Structural Equation Modeling (SEM). The design examines the relationships between multiple variables to understand how different factors such as work environment, communication, and personality traits influence employee performance. Since the study did not involve manipulating variables or randomly assigning participants to conditions, it did not aim to establish causality but rather to explore the associations between the variables through correlation coefficients.

SEM was selected because it allows for the testing of complex relationships between observed and latent variables and can simultaneously evaluate direct and indirect relationships. It is particularly well-suited for models where multiple independent variables are hypothesized to influence a dependent variable either directly or indirectly, and it provides a more comprehensive analysis than traditional regression because it accommodates latent constructs such as personality traits, which are inferred from multiple observed indicators rather than measured directly (Kline, 2023). SEM also offers robust tools for testing model fit through goodness-of-fit indices, ensuring that the hypothesized relationships between variables are supported by the data (Hair et al., 2022).

In terms of typology and time, the study was both descriptive and analytical, describing the current work environment, communication patterns, and personality traits among employees while analyzing the relationships between these factors and employee performance. It was cross-sectional in design, collecting data at a single point in time to provide a snapshot of existing conditions and interactions within the workplace. The SEM procedure followed a systematic sequence of data collection, data preparation and screening, model specification, model estimation, model evaluation, model modification where necessary, and interpretation and reporting. Descriptive statistics were computed using means, standard deviations, and frequencies; inferential

analysis used Pearson correlation and multiple regression; reliability was tested using Cronbach's alpha; and the structural models were estimated using AMOS and SPSS.

This study was conducted in full compliance with the ethical standards set by the University of Mindanao Ethics and Review Committee (UMERC). The ethical process safeguarded voluntary participation, participant anonymity, protection against potential harm, and emphasis on the study's potential benefits. Each participant was made fully aware of the study's objectives, potential risks, benefits, confidentiality measures, and the right to withdraw at any time without consequences, and consent forms were distributed and signed. In accordance with the university's data retention policies, all research data were securely stored for six months from the beginning of the data analysis phase, with electronic data kept in encrypted formats on password-protected servers and physical documents stored in locked cabinets. The researcher complied with the Data Privacy Act of 2012 by limiting access to personal data to authorized personnel, using encryption and password protection, and updating data protection policies regularly. Grammarly and Turnitin were used to ensure grammatical accuracy and prevent unintentional plagiarism, and both the researcher and adviser maintained a zero-tolerance policy against data fabrication or misrepresentation.

III. RESULTS AND DISCUSSION

This section presents the findings and interpretation of the data gathered on the relationships among work environment, communication environment, personality traits, and employee performance in national government agencies. The presentation follows the sequence of the research objectives. Descriptive findings are presented first to determine the level of the study variables, followed by inferential analyses examining relationships, influence, and model fit.

III.I. LEVEL OF WORK ENVIRONMENT IN NATIONAL GOVERNMENT AGENCIES

The findings indicate that the work environment in national government agencies was generally rated High ($M = 4.08$, $SD = 0.57$), suggesting favorable workplace conditions among employees. Among the indicators, job resources obtained the highest mean ($M = 4.36$, $SD = 0.58$), followed closely by employee engagement ($M = 4.33$, $SD = 0.63$), both interpreted as Very High. This suggests that employees perceived adequate resources, support systems, and strong engagement in their organizational roles. In contrast, job demand yielded the lowest mean ($M = 3.54$, $SD = 1.16$), although still interpreted as High, indicating that employees experienced moderate pressure and workload demands. The higher standard deviation under job demand also indicates greater variability in employee perceptions.

Table 2. Level of Work Environment in the National Government Agencies

Indicator	SD	Mean	Descriptive Equivalent
Job Resources	0.58	4.36	Very High
Job Demand	1.16	3.54	High
Employee Engagement	0.63	4.33	Very High
Overall	0.57	4.08	High

The present findings align with recent studies emphasizing that favorable work environments significantly influence employee productivity and well-being. Employees who perceive sufficient organizational resources, manageable workloads, and strong engagement demonstrate higher motivation and improved job outcomes. In public organizations, workplace conditions

characterized by adequate support systems and resource availability create environments that strengthen employee commitment and facilitate performance sustainability (OECD, 2025).

III.II. LEVEL OF COMMUNICATION ENVIRONMENT IN NATIONAL GOVERNMENT AGENCIES

The communication environment was rated Very High overall ($M = 4.22$, $SD = 0.54$), indicating that employees generally perceived communication practices positively. Clarity of communication had the highest mean ($M = 4.33$), implying that organizational expectations and messages were communicated effectively. Conversely, feedback quality obtained the lowest mean ($M = 4.14$), although still rated High, suggesting opportunities for improving regular and actionable feedback mechanisms. The relatively low standard deviations indicate consistency in employee responses.

Table 3. Level of Communication Environment in the National Government Agencies

Indicators	SD	Mean	Descriptive Equivalent
Clarity of Communication	0.60	4.33	Very High
Feedback Quality	0.68	4.14	High
Interpersonal Communication	0.69	4.18	High
Organizational Transparency	0.73	4.24	Very High
Overall	0.54	4.22	Very High

The findings corroborate recent literature emphasizing that communication quality substantially influences employee motivation, trust, and organizational outcomes. Effective communication systems improve clarity of expectations, enhance transparency, and facilitate stronger workplace relationships. Organizations with open communication environments promote stronger employee engagement and better performance outcomes because employees become more informed and actively involved in organizational processes, and within public institutions transparent communication mechanisms strengthen organizational trust and increase operational effectiveness (Fazli et al., 2025; Iddrisu and Mohammed, 2024).

III.III. LEVEL OF PERSONALITY TRAITS IN NATIONAL GOVERNMENT AGENCIES

The overall level of personality traits was High ($M = 3.98$, $SD = 0.57$). Conscientiousness recorded the highest mean ($M = 4.36$), followed by openness to experience ($M = 4.34$), indicating that employees demonstrate responsibility, diligence, and adaptability. Neuroticism showed the lowest mean ($M = 3.17$) and a comparatively larger standard deviation ($SD = 1.34$), reflecting varying emotional tendencies among employees. These findings imply that desirable work-related personality characteristics are generally prevalent within government agencies.

Table 4. Level of Personality Traits in the National Government Agencies

Indicators	SD	Mean	Descriptive Equivalent
Openness to Experience	0.59	4.34	Very High

Indicators	SD	Mean	Descriptive Equivalent
Conscientiousness	0.65	4.36	Very High
Extraversion	0.82	3.96	High
Agreeableness	0.75	4.09	High
Neuroticism	1.34	3.17	Moderate
Overall	0.57	3.98	High

The findings support contemporary literature suggesting that personality characteristics significantly influence workplace effectiveness and behavioral outcomes. Traits such as conscientiousness and openness to experience are often associated with stronger task completion, adaptability, and work commitment. Public sector employees possessing positive personality attributes frequently demonstrate stronger organizational citizenship behaviors and increased work engagement, while emotional instability dimensions may contribute to workplace stress and reduced adaptability under challenging circumstances (Pujiono et al., 2020).

III.IV. LEVEL OF EMPLOYEE PERFORMANCE IN NATIONAL GOVERNMENT AGENCIES

Employee performance was rated High overall ($M = 4.04$, $SD = 0.55$). Task performance obtained the highest mean ($M = 4.49$), indicating that employees consistently fulfill responsibilities and quality expectations. Counterproductive work behavior showed the lowest mean ($M = 3.26$) and the highest standard deviation ($SD = 1.48$), reflecting variability in workplace behaviors. The findings imply that employees generally perform effectively and contribute positively to organizational outcomes.

Table 5. Level of Employee Performance in the National Government Agencies

Indicators	SD	Mean	Descriptive Equivalent
Task Performance	0.55	4.49	Very High
Contextual Performance	0.65	4.27	Very High
Adaptive Performance	0.64	4.15	High
Counterproductive Work Behavior	1.48	3.26	Moderate
Overall	0.55	4.04	High

The findings support current evidence indicating that high-performing employees contribute substantially to organizational effectiveness and service quality. Strong task and contextual performance dimensions often emerge in organizations

characterized by supportive climates and clear expectations. Within public institutions, employee performance remains essential because service quality directly influences public trust and institutional credibility (OECD, 2025).

III.V. RELATIONSHIP BETWEEN WORK ENVIRONMENT AND EMPLOYEE PERFORMANCE

The correlation analysis showed a statistically significant relationship between work environment and employee performance ($r = .784$, $p = .000$). Because the probability value is less than .05, the null hypothesis is rejected. Among the dimensions, job resources demonstrated a strong association with overall employee performance ($r = .539$), while job demand exhibited the strongest association with counterproductive work behavior ($r = .767$). These findings indicate that supportive workplace environments contribute substantially to performance outcomes.

Table 6. Significance of the Relationship between Work Environment and Employee Performance in the National Government Agencies

Variable	Task Performance	Contextual Performance	Adaptive Performance	Counterproductive Work Behavior	Overall
Job Resources	.531**	.370**	.429**	.263**	.539**
p-value	.000	.000	.000	.000	.000
Job Demand	.227**	.048	.066	.767**	.600**
p-value	.000	.329	.179	.000	.000
Employee Engagement	.462**	.586**	.543**	.096	.507**
p-value	.000	.000	.000	.052	.000
Overall	.509**	.378**	.395**	.650**	.784**
p-value	.000	.000	.000	.000	.000

**Correlation is significant at the 0.01 level; *correlation is significant at the 0.05 level.

The significant relationship between work environment and employee performance supports previous studies suggesting that workplace conditions influence behavioral and performance outcomes. Adequate resources, supportive supervision, and healthy work environments strengthen employees' abilities to fulfill work demands and sustain productivity, and environments characterized by organizational support increase employee motivation and commitment, resulting in improved workplace performance (OECD, 2025).

III.VI. RELATIONSHIP BETWEEN COMMUNICATION ENVIRONMENT AND EMPLOYEE PERFORMANCE

The results revealed a statistically significant relationship between communication environment and employee performance ($r = .547$, $p = .000$). Since the p-value is less than .05, the null hypothesis is rejected. Among the communication indicators, organizational transparency and clarity of communication showed stronger associations with contextual and adaptive

performance dimensions. Effective communication therefore appears essential in enhancing employee productivity and engagement.

Table 7. Significance of the Relationship between Communication Environment and Employee Performance in the National Government Agencies

Variable	Task Performance	Contextual Performance	Adaptive Performance	Counterproductive Work Behavior	Overall
Clarity of Communication	.447**	.426**	.503**	.092	.442**
p-value	.000	.000	.000	.062	.000
Feedback Quality	.443**	.425**	.465**	.115*	.445**
p-value	.000	.000	.000	.020	.000
Interpersonal Communication	.412**	.373**	.468**	.055	.383**
p-value	.000	.000	.000	.263	.000
Organizational Transparency	.403**	.582**	.538**	.088	.485**
p-value	.000	.000	.000	.074	.000
Overall	.529**	.566**	.615**	.109*	.547**
p-value	.000	.000	.000	.027	.000

**Correlation is significant at the 0.01 level; *correlation is significant at the 0.05 level.

The findings are consistent with contemporary studies emphasizing that communication systems strongly influence employee performance and workplace effectiveness. Communication processes characterized by openness and transparency contribute positively to organizational trust and performance outcomes, and employees who receive timely information and clear communication demonstrate stronger engagement and productivity (Fazli et al., 2025; Ohanyere and Odebeatu, 2024).

III.VII. RELATIONSHIP BETWEEN PERSONALITY TRAITS AND EMPLOYEE PERFORMANCE

The analysis established a statistically significant relationship between personality traits and employee performance ($r = .594$, $p = .000$), leading to the rejection of the null hypothesis. Openness to experience showed the strongest association with task performance ($r = .421$), while neuroticism exhibited the strongest association with counterproductive work behavior ($r = .644$). Agreeableness registered a negative and non-significant association with counterproductive work behavior ($r = -.080$, $p = .105$).

Table 8. Significance of the Relationship between Personality Traits and Employee Performance in the National Government Agencies

Variable	Task Performance	Contextual Performance	Adaptive Performance	Counterproductive Work Behavior	Overall
Openness to Experience	.421**	.294**	.424**	.172**	.427**
p-value	.000	.000	.000	.000	.000
Conscientiousness	.323**	.252**	.281**	.050	.268**
p-value	.000	.000	.000	.315	.000
Extraversion	.241**	.204**	.189**	.411**	.448**
p-value	.000	.000	.000	.000	.000
Agreeableness	.240**	.292**	.268**	-.080	.169**
p-value	.000	.000	.000	.105	.001
Neuroticism	.175**	.210**	.149**	.644**	.577**
p-value	.000	.000	.003	.000	.000
Overall	.375**	.352**	.347**	.447**	.594**
p-value	.000	.000	.000	.000	.000

**Correlation is significant at the 0.01 level; *correlation is significant at the 0.05 level.

These results validate Trait Theory and the Five-Factor Model of Personality, which hold that stable personality characteristics significantly affect workplace behavior and performance outcomes. Employees with high conscientiousness and openness to experience tend to exhibit stronger adaptability, innovation, accountability, and resilience in complex organizational settings, while higher neuroticism is associated with greater counterproductive work behavior.

III.VIII. Influence of the Independent Variables on Employee Performance

Multiple regression analysis was conducted to determine the combined and individual influence of work environment, communication environment, and personality traits on employee performance. The regression model was statistically significant ($F = 122.759$, $p = .000$), with a multiple correlation coefficient of $R = .694$ and a coefficient of determination of $R^2 = .482$, indicating that the three predictors jointly explain 48.2 percent of the variance in employee performance.

Table 9. Influence of Work Environment, Communication Environment, and Personality Traits on Employee Performance

Variable	B	Beta	t-value	p-value
Constant	1.753		9.531	.000
Work Environment	-.066	-.065	-1.644	.101
Communication Environment	.210	.229	2.812	.005
Personality Traits	.474	.506	6.345	.000

$R = .694$; $R^2 = .482$; $Adjusted\ R^2 = .478$; $F = 122.759$; $p = .000$

Among the predictors, personality traits emerged as the strongest influence on employee performance (Beta = .506, $p = .000$), followed by communication environment (Beta = .229, $p = .005$). Work environment did not significantly predict employee performance when combined with the other variables in the model (Beta = -.065, $p = .101$). These findings imply that employee behavior and performance are more strongly shaped by intrinsic characteristics and communication processes than by workplace conditions alone.

3.9 Best-Fit Structural Model of Employee Performance

Three structural models were generated and evaluated against the standard criteria for model fit: a chi-square probability value greater than 0.05, a CMIN/DF ratio between 0 and 2, GFI, CFI, NFI, and TLI values greater than 0.95, an RMSEA value below 0.05, and a P-close value greater than 0.05. Table 10 summarizes the goodness-of-fit measures obtained for each of the three models.

Table 10. Summary of Goodness-of-Fit Measures of the Three Structural Models

Model	P-value	CMIN/DF	GFI	CFI	NFI	TLI	RMSEA	P-close
Criterion	>0.05	0<value<2	>0.95	>0.95	>0.95	>0.95	<0.05	>0.05
1	.000	15.139	.680	.540	.526	.453	.186	.000
2	.000	12.036	.727	.652	.634	.573	.164	.000
3	.102	1.428	.987	.995	.983	.988	.032	.858

Models 1 and 2 failed to satisfy the criteria across all indices, registering chi-square probability values of .000, CMIN/DF ratios well above the acceptable ceiling of 2, and RMSEA values of .186 and .164 respectively, all substantially above the .05 threshold. Model 3, in contrast, satisfied every criterion: its chi-square probability value of .102 exceeds .05, its CMIN/DF ratio of 1.428 falls within the acceptable range, its GFI, CFI, NFI, and TLI values of .987, .995, .983, and .988 all exceed .95, its RMSEA of .032 falls below .05, and its P-close value of .858 exceeds .05. Model 3 is therefore the best-fit structural model explaining employee performance in national government agencies.

The structural model findings support contemporary organizational research emphasizing that workplace variables operate through interconnected mechanisms rather than isolated effects. Structural equation models provide stronger explanatory frameworks because they capture complex relationships among organizational factors affecting employee performance, and organizational systems involving communication, trust, and culture produce multidimensional impacts on workplace effectiveness (Iddrisu and Mohammed, 2024). Goodness-of-fit measures allow researchers to evaluate the validity and explanatory strength of proposed frameworks, particularly in studies involving multiple organizational variables, and best-fit structural models contribute significantly to theory development and provide stronger evidence for organizational interventions and policy recommendations (Hair et al., 2022; Kline, 2023; Martinez and Lopez, 2025).

IV. CONCLUSION

The study concluded that work environment, communication environment, and personality traits collectively play significant roles in influencing employee performance within national government agencies. Employees generally perceived their work environment, communication environment, personality traits, and employee performance at high to very high levels, indicating favorable organizational conditions and positive behavioral outcomes among government personnel. Job resources and employee engagement emerged as dominant dimensions of the work environment, clarity of communication and organizational transparency were identified as critical components of the communication environment, and conscientiousness and openness to experience were the most evident personality traits among employees.

The findings further established that work environment, communication environment, and personality traits were all significantly correlated with employee performance, affirming that organizational and individual factors operate simultaneously in shaping workplace outcomes. Among the predictors, personality traits demonstrated the strongest influence on employee performance, followed by communication environment, while work environment did not significantly predict performance when combined with the other variables in the regression model. The Structural Equation Modeling analysis identified Model 3 as the best-fit structural model, satisfying all goodness-of-fit indices and confirming the statistical adequacy and theoretical coherence of the proposed framework.

The results support the Job Demands-Resources Theory, which posits that organizational resources and employee engagement enhance motivation, productivity, and workplace effectiveness. The significant role of the communication environment aligns with Social Information Processing Theory, which explains that transparent communication, feedback quality, and interpersonal interactions shape employee attitudes, workplace behavior, and organizational commitment. The strong influence of personality traits validates Trait Theory and the Five-Factor Model of Personality. Taken together, the findings affirm that employee performance is influenced by a dynamic system of organizational and behavioral factors operating simultaneously rather than independently.

The study is limited by its cross-sectional design, which captures conditions at a single point in time and therefore does not establish causality, and by its focus on a single agency within one administrative region, which constrains generalizability to other government institutions. In view of the findings, the Department of Environment and Natural Resources and other national government agencies should strengthen employee engagement programs and optimize organizational resources to address workload-related concerns. Agency administrators and Human Resource Management Offices should prioritize the enhancement of feedback quality and communication systems through coaching, mentoring, and communication development programs, and should implement personality-based professional development programs focusing on emotional intelligence, adaptability, resilience, and stress management. Government institutions should strengthen accountability mechanisms, ethical governance initiatives, and values-based leadership programs to minimize counterproductive work behavior. Future researchers are encouraged to validate and expand the proposed structural equation model by incorporating additional organizational variables and utilizing longitudinal and mixed-method research designs.

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