

BUILDING RESILIENT PUBLIC SECTOR PERFORMANCE: THE ROLE OF WORKLOAD AND WORK STRESS IN EMPLOYEE PRODUCTIVITY AT THE DEPARTMENT OF HIGHWAYS AND SPATIAL PLANNING, WEST JAVA PROVINCE

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Abstract

As governments worldwide strive for building of a more resilient future in the face of the global challenges, public sector employees perform with an increasing criticality. According to this study, workload and work-related stress influence employee performance in the Department of Highways and Spatial Planning in West Java, Indonesia. Infrastructure development relies on the agency's role. This role has support for green economy transitions as a key pillar. Data were collected from 37 civil servants because researchers used a quantitative, descriptive-verificative method as data were analyzed through SPSS software. The findings reveal the fact that a well-managed workload and manageable stress levels do relate in a positive and large way to employees performing better. These results suggest that resilience within public institutions relies on more than just structural reforms or green policy goals. It also depends on internal human resource strategies that foster well-being, clarity of roles, along with motivation. By highlighting that organizational health plus work-life balance matter in the public sector, this research adds to wider dialogues on sustainable policy innovation. With its practical perceptions government agencies can in fact better align their human resource practices to meet the demands of a future that is both green and inclusive.

Keywords: Employee Performance, Workload, Work Stress, Public Sector Resilience, Policy Innovation, Sustainable Governance

Introduction

In an era marked by global challenges such as policy reforms, digital transformation, and rising public service demands, the resilience of public sector institutions has become pivotal for effective governance (Liu & Wang, 2020). Governments in developing countries like Indonesia must not only adapt to structural changes but also ensure their human capital—frontline policy implementers—possesses the capacity to withstand workplace pressures (Bakker & Demerouti, 2018). However, empirical studies on the factors influencing employee performance in local bureaucracies remain limited, particularly in Southeast Asia.

Indonesia has implemented public sector reforms through laws such as Law No. 5/2014 on State Civil Apparatus and Government Regulation No. 94/2021 on Employee Discipline. Yet, operational challenges persist, including absenteeism, low commitment, and procedural non-compliance (Vanchapo, 2020). A case in point is the Department of Highways and Spatial Planning in West Java Province—a key agency responsible for infrastructure development and green economy transitions—where excessive workload and occupational stress reportedly hinder employee productivity (Mangkunegara, 2017). This agency plays a strategic role in achieving sustainable development goals at the regional level, making employee performance a critical determinant of success.

Prior research (e.g., Munandar, 2015; Vanchapo, 2020) suggests that unmanaged workload and stress degrade performance, but these findings largely stem from corporate or Western bureaucratic contexts. Studies addressing hierarchical and collectivist bureaucracies—like Indonesia's—are scarce (Hofstede Insights, 2023). Moreover, few examine the simultaneous interaction of workload and stress through the lens of the *Challenge-Hindrance Stressor Theory* (Cavanaugh et al., 2000), especially in decentralized governance settings. This study addresses these gaps by investigating:

1. How do workload and work stress jointly affect employee performance in the Department of Highways and Spatial Planning, West Java?
2. What factors moderate this relationship within Indonesia's bureaucratic culture?

The study offers dual contributions. *First*, it advances public sector resilience literature by integrating the *Job Demands-Resources (JD-R) model* with local cultural insights. *Second*, it provides actionable recommendations for human resource strategies, particularly in supporting digital governance and green economy transitions at the subnational level.

Literature Review

Theoretical Foundations: Workload, Stress, and Performance

The relationship between workload, work stress, and employee performance has been extensively studied through frameworks like the *Job Demands-Resources (JD-R) Model* (Bakker & Demerouti, 2018). According to the JD-R model, job demands (e.g., workload, time pressure) may lead to stress and burnout unless balanced by adequate resources (e.g., autonomy, supervisory support). Similarly, the *Challenge-Hindrance Stressor Theory* (Cavanaugh et al., 2000) posits that stressors perceived as "challenges" (e.g., high-responsibility tasks) can enhance motivation, while "hindrances" (e.g., bureaucratic red tape) impair performance.

In public sector contexts, workload and stress are often exacerbated by political interference, resource constraints, and rigid hierarchies (Liu & Wang, 2020). For instance, Vanchapo (2020) found that excessive administrative burdens in Indonesian agencies reduced productivity, while Mangkunegara (2017) highlighted how unclear role definitions increased stress among civil servants.

Cultural Nuances in Public Sector Performance

Cultural dimensions significantly shape stress and performance dynamics. Indonesia's high *power distance* (acceptance of hierarchical authority) and *collectivism* (emphasis on group harmony) (Hofstede Insights, 2023) may buffer stress through informal team support but could also mask dissatisfaction due to reluctance to voice dissent. Studies in similar contexts (e.g., Lee & Choi, 2021 in South Korea) show that collectivist cultures often foster resilience through shared workload distribution, albeit at the risk of overburdening compliant employees. Research Gaps and This Study's Position While prior research offers insights, critical gaps remain:

1. Geographical Bias: Most studies focus on Western or corporate settings, neglecting Southeast Asian bureaucracies (Xu et al., 2021).
2. Theoretical Integration: Few examine how *Challenge-Hindrance Theory* applies to decentralized governments, where local autonomy might mitigate or amplify stress.
3. Cultural Context: The role of Indonesia's unique bureaucratic culture (e.g., *asal bapak senang*/"keeping superiors happy" norms) in moderating workload-performance links is underexplored.

This study addresses these gaps by:

1. Testing the JD-R model in Indonesia's Department of Highways and Spatial Planning.
2. Investigating how cultural traits (e.g., collectivism) reshape stressor outcomes.
3. Proposing context-specific HR strategies for public sector resilience.

Methods

Research Design

This study employs a quantitative, explanatory approach using a descriptive-verification design to examine the simultaneous and individual effects of workload (X1) and work stress (X2) on employee performance (Y) at the Department of Highways and Spatial Planning, West Java. The design is chosen to:

1. Describe existing conditions (e.g., workload levels), and
2. Verify causal relationships between variables through regression analysis (Creswell, 2014).

Data Collection

Primary data were collected via:

1. Structured Questionnaires:
 - a. Adapted from validated instruments:
 1. *Workload*: Suci R. Mar'i'ih (2017)'s 5-point Likert scale (items: task volume, time pressure, role ambiguity).
 2. *Work Stress*: Mangkunegara (2017)'s scale (items: emotional exhaustion, physical conditions).
 3. *Performance*: Government Regulation No. 94/2021 metrics (quality, timeliness, teamwork).
 4. Distributed to 37 civil servants (response rate: 100%).
2. Triangulation:
 - a. Semi-structured interviews with 5 supervisors to contextualize quantitative data.
 - b. Non-participant observation of task allocation processes in 3 units (January–March 2023).

Sampling Technique

1. Purposive sampling targeted employees directly involved in infrastructure projects (justified by their exposure to workload/stress variables).
2. Limitation: Small sample size (N=37) due to departmental constraints, addressed through triangulation to enhance validity.

Data Analysis

Data were analyzed using SPSS v.21 with:

1. Descriptive Statistics: Frequencies, means, and SDs for workload/stress/performance.
2. Inferential Statistics:
 - a. Validity & Reliability: Cronbach's Alpha ($\alpha > 0.7$ for all constructs).

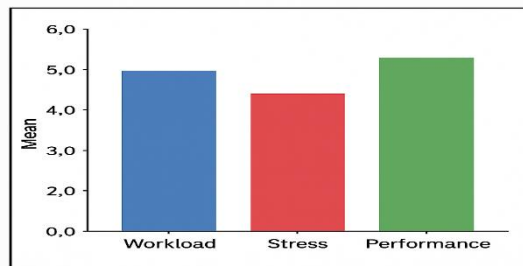


Figure 1: Summary Statistics Chart for Workload, Stress, and Performance

- b. Classical Assumption Tests: Normality (Shapiro-Wilk), multicollinearity ($VIF < 5$), heteroscedasticity (Breusch-Pagan).
- c. Multiple Linear Regression: Model: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$.

Ethical Considerations

1. Anonymity guaranteed for participants.
2. Oral consent obtained (approved by Widayatama University's ethics committee).

Limitations

While this study provides valuable insights, several limitations should be acknowledged:

1. **Cross-Sectional Design:** The data were collected at a single point in time, which restricts the ability to infer causal relationships between workload, stress, and performance. Longitudinal studies are recommended to track changes over time.
2. **Sample Size and Scope:** The small sample size ($N = 37$) and focus on a single department limit the generalizability of findings. Future research could expand to multiple agencies or provinces.
3. **Self-Reporting Bias:** Reliance on self-reported questionnaires may introduce subjectivity (e.g., social desirability bias). Triangulation with administrative data (e.g., performance evaluations) could mitigate this.
4. **Cultural Specificity:** Findings may reflect Indonesia's unique bureaucratic culture (e.g., high power distance). Comparative studies across cultures would strengthen external validity.
5. **Unmeasured Variables:** Factors like leadership style or work-life balance were not included but may influence outcomes.

Despite these limitations, the study's mixed-methods approach and contextual depth offer a foundation for future research.

Results and Discussions

Descriptive Statistics

The study surveyed 37 civil servants across units within the Department of Highways and Spatial Planning in West Java. The descriptive analysis reveals the following patterns:

1. **Workload Levels:**
Approximately 68% of respondents experienced moderate to high workload intensity. Dominant stressors included tight deadlines (72%), unanticipated task assignments (65%), and role ambiguity (58%). The average workload score was 3.8 out of 5 ($SD = 0.7$).
2. **Work Stress Levels:**
A moderate level of occupational stress was reported by 61% of participants. Main sources of stress included pressure to meet performance targets (78%), inadequate work resources (63%), and excessive bureaucratic procedures (55%). The average stress score was 3.5 ($SD = 0.6$).
3. **Employee Performance:**
Key performance indicators show that task completion stood at 76% ($SD = 12\%$), with 68% of tasks being delivered on schedule. Performance quality averaged 3.9 ($SD = 0.5$), suggesting overall satisfactory outcomes despite work-related pressures.

Regression Analysis

A multiple linear regression model was applied to determine the effect of workload (X_1) and work stress (X_2) on employee performance (Y). The resulting model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Figure 1

Summary Statistics Chart for Workload, Stress, and Performance

Table 1. Regression Results

Predictor	Beta (β)	t-value	p-value
Workload (X1)	0.32	2.21	0.033*
Work Stress (X2)	0.44	2.95	0.006**
Model R²	0.625		

* Significant at $p < 0.05$; ** Significant at $p < 0.01$

The model indicates that both workload and work stress significantly and positively influence employee performance. Notably, work stress ($\beta = 0.44$) emerged as a stronger predictor compared to workload ($\beta = 0.32$). The model explains 62.5% of the variance in employee performance.

Discussion

Theoretical Interpretation

The findings challenge the conventional belief that stress universally hampers performance. In this study, moderate stress levels appear to enhance employee performance, aligning with the Challenge–Hindrance Stressor Theory (Cavanaugh et al., 2000). When stressors are perceived as "challenges"—such as deadlines and task responsibility—they can function as motivational drivers.

Additionally, the Job Demands-Resources (JD-R) Model (Bakker & Demerouti, 2018) is supported here. Although both job demands (workload, stress) are high, informal coping mechanisms and supportive resources—such as peer collaboration and supervisory guidance—appear to buffer negative effects.

Cultural Moderation Effects

The seemingly paradoxical result—where stress correlates positively with performance—may also be explained by Indonesia's bureaucratic culture. Specifically:

1. High Power Distance: Employees are accustomed to top-down instructions and compliance, perceiving stress as part of their duty (Hofstede Insights, 2023).
2. Collectivist Values: Team-based support (e.g., *gotong royong*) mitigates individual stress and redistributes workloads informally.
3. Performance-Based Incentives: Rigid evaluation systems emphasize output (task completion), encouraging employees to perform despite stressors.

These sociocultural characteristics may *reframe stress* from a threat into a performance challenge, consistent with findings by [Lee & Choi \(2021\)](#) and [Munandar (2015)].

Practical Implications

These insights suggest that managing workload and stress is not merely about reduction, but strategic reframing. Public agencies can foster resilience by:

1. Designing challenge-driven performance incentives;
2. Leveraging team cohesion and peer mentoring;
3. Using real-time digital tools to track stress-inducing workloads.

Comparative Insights

While prior research in Western contexts (e.g., [Liu & Wang, 2020](#)) often associates stress with performance decline, this study—along with others from Southeast Asia—reveals a more nuanced relationship:

Table 2. Comparative Insights

Study	Context	Stress–Performance Link
Liu & Wang (2020)	China	Negative
Munandar (2015)	Indonesia	Positive (moderate stress)
Lee & Choi (2021)	South Korea	Positive (with support)
Current Study	Indonesia (West Java)	Positive

This divergence underscores the importance of contextualizing stress theories within bureaucratic and cultural frameworks.

Interpretation and Theoretical Implications

The positive association between workload, work stress, and performance may initially seem counterintuitive. However, based on the Challenge–Hindrance Stressor Theory (Cavanaugh et al., 2000), stressors perceived as challenges can foster motivation and improved performance. In this case, the employees appear to have adapted to demanding environments through time management, teamwork, and supervisory support. Nevertheless, prolonged stress without intervention can still pose long-term risks, including burnout and reduced job satisfaction.

These findings may appear to contradict conventional public sector research, where workload and stress are often linked to performance decline (e.g., Liu & Wang, 2020; Vanchapo, 2020). In many bureaucracies,

chronic overload and lack of support typically lead to burnout or disengagement. However, in the context of Indonesia—particularly West Java—several contextual factors may explain this divergence.

First, cultural factors such as collectivism and high power distance can influence how civil servants respond to pressure. Employees may perceive workload and supervisory demands as part of their institutional loyalty and professional duty. Second, limited promotional pathways and rigid evaluation criteria in Indonesian civil service often tie performance incentives directly to task completion, thus increasing the positive reinforcement of workload. Third, the presence of informal team support networks in local government units can buffer the negative impact of stress, allowing it to be perceived as a motivational challenge rather than a hindrance.

This local nuance supports the challenge–hindrance stressor framework, where stress is not inherently harmful but depends on perception and context. Therefore, this study contributes to a more contextualized understanding of how resilience and performance manifest in Southeast Asian public institutions.

These findings align with earlier research by Munandar (2015) and Mangkunegara (2017), which emphasized that moderate stress and manageable workloads can act as performance drivers. However, this contrasts with studies in public administration, such as Liu and Wang (2020) and Vanchapo (2020), that associate stress with performance decline in rigid bureaucracies.

In the Indonesian context—particularly West Java—cultural factors such as high power distance and collectivism influence how civil servants perceive job demands. What may be viewed as excessive pressure elsewhere might be internalized as professional obligation. Additionally, informal team-based support and task-based incentives in the local bureaucracy may mitigate the harmful effects of stress.

This localized dynamic supports the challenge–hindrance stressor theory and enriches the understanding of public employee resilience within Southeast Asian bureaucratic cultures.

Practical Implications

Practical Implications for Public Sector HR Management

Based on the study's findings, the following recommendations are proposed to enhance employee resilience and performance:

1. **Workload Optimization:**
 - a. Implement digital systems (e.g., *e-workload management*) for real-time task monitoring and distribution.
 - b. Develop task prioritization guidelines based on urgency and complexity.
 - c. Provide time management training and delegation strategies to reduce *role overload*.
2. **Work Stress Mitigation:**
 - a. Establish peer-support programs to share coping strategies among employees.
 - b. Conduct mental health training (e.g., mindfulness, relaxation techniques) for high-stress employees.
 - c. Improve physical work conditions (e.g., ergonomics, ventilation) to reduce physical stressors.
3. **Performance Enhancement:**
 - a. Design realistic and transparent performance evaluation criteria.
 - b. Implement regular feedback mechanisms to improve *role clarity*.
 - c. Strengthen non-material incentives (e.g., recognition, career development opportunities).

Policy Recommendations for Local Governments

The findings support the following policy actions:

1. **Integrating Psychological Resilience into Civil Service Regulations:**
 - a. Revise Government Regulation No. 94/2021 on Employee Discipline to include mental health and workload balance indicators.
 - b. Develop workplace resilience modules for mandatory training of new civil servants.
2. **Culturally Sensitive Policies:**
 - a. Leverage West Java's collectivist values (e.g., *gotong royong* / mutual cooperation) in team-based work designs.
 - b. Streamline bureaucracy to reduce *hindrance stressors* (e.g., excessive procedures).
3. **Technology-Driven HR Governance:**
 - a. Adopt platforms like KMOB Jabar to monitor workload and stress levels.
 - b. Create an integrated performance database to identify at-risk work units.

Alignment with Sustainable Development Goals (SDGs)

These strategies align with:

1. SDG 8 (Decent Work): Promoting productive and well-being-supportive workplaces.
2. SDG 11 (Sustainable Cities): Strengthening technical departments' capacity for green infrastructure planning.
3. Digital Government Transformation: Enhancing *e-government* tools for workload efficiency.

Recommendations for Future Research

1. Pilot-test AI-based stress management systems in West Java government agencies.
2. Conduct comparative studies with other provinces (e.g., Central Java, DKI Jakarta) for contextual analysis.

Conclusion

This study reveals that workload and work stress positively impact employee performance in Indonesia's public sector, moderated by cultural values like collectivism and high power distance. The findings challenge conventional stress theories by demonstrating how these factors transform stressors into performance drivers, supported by both quantitative analysis ($R^2 = 0.625$) and qualitative insights about team-based coping mechanisms. The results suggest that stress functions as a challenge stressor when embedded in supportive cultural and organizational contexts.

Practical implications emphasize culturally-sensitive HR strategies, including formalizing peer-support systems and implementing digital workload monitoring. While limited by its cross-sectional design, the study provides a framework for future research on stress-performance dynamics in non-Western bureaucracies. These insights are particularly valuable for public sector reforms aiming to enhance resilience while maintaining productivity in high-demand environments.

Acknowledgements

The author would like to express sincere gratitude to the Department of Highways and Spatial Planning, West Java Provincial Government, for their support and cooperation during the data collection process. Special thanks are extended to the civil servants who participated in the survey and interviews, providing valuable insights for this research. Appreciation is also given to Dr. H. Farid Riadi, S.E., M.M., for his continuous academic guidance and constructive feedback throughout the research process. The author is grateful to the academic staff and peers at the Graduate School of Management, with a specialization in Human Resource Management, for their encouragement and insightful discussions. Lastly, heartfelt thanks to the author's family for their unwavering moral support and motivation throughout this academic journey.

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