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Managing Employee Productivity under Work Pressure: The Role of Competency and Work Stress in Construction Organizations

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Abstract: Purpose. This study examines how employee competency and work stress influence employee productivity in construction organizations operating under high work pressure.
Design/methodology/approach. A quantitative survey design was employed. Data were collected from employees of a state-owned construction organization in a developing economy. Structural Equation Modeling (SEM) was used to test the direct and joint effects of employee competency and work stress on productivity.
Findings. The results indicate that employee competency has a significant positive effect on employee productivity, while work stress has a significant negative effect. The findings further demonstrate that competency plays a critical role in sustaining productivity in high-pressure work environments.
Practical implications. Construction organizations should prioritize competency-based human resource development while simultaneously implementing proactive stress management practices to maintain sustainable productivity.
Originality/value. This study contributes to organizational behavior literature by integrating competency and work stress as key determinants of employee productivity in high-pressure construction environments, particularly within the context of a developing economy.

Keywords: employee competency, work stress, employee productivity, construction organizations, organizational behavior, developing economy

INTRODUCTION

The construction industry is widely recognized as one of the most demanding organizational environments, characterized by tight deadlines, complex coordination, high safety risks, and continuous performance pressure. In such conditions, employee productivity becomes a critical determinant of organizational success. Productivity in construction organizations is not solely driven by technological advancement or capital investment, but is

strongly influenced by human factors, particularly employee competency and work-related stress.

Global competition and accelerated project timelines have intensified work pressure across construction organizations worldwide. Employees are frequently required to perform efficiently under conditions of uncertainty, role complexity, and psychological strain. As a result, sustaining productivity while maintaining employee well-being has become a major managerial challenge.

From an organizational behavior perspective, employee productivity reflects the extent to which individuals can transform their capabilities into effective work outcomes. Prior studies indicate that employee competency—defined as a combination of knowledge, skills, and work-related attitudes—plays a crucial role in enabling effective task performance. Competent employees tend to demonstrate higher adaptability, problem-solving ability, and work efficiency, which are essential in project-based environments.

However, productivity is also affected by work stress. Work stress arises when job demands exceed an individual's capacity to cope, leading to psychological and emotional strain. In construction organizations, common stressors include workload pressure, role ambiguity, safety concerns, and coordination challenges across multiple stakeholders. Excessive stress can impair concentration, reduce motivation, and ultimately lower productivity.

Although previous studies have examined the effects of competency and work stress on performance and productivity, most have treated these variables independently. Limited empirical research has explored their combined influence within a single analytical framework, particularly in construction organizations operating under high pressure. This gap is especially evident in the context of state-owned enterprises in developing economies, where institutional constraints and public accountability add further complexity.

In line with the scope of the *International Journal of Organizational Analysis*, this study adopts an organizational behavior perspective to examine how employee competency and work stress jointly influence productivity in construction organizations. By using a quantitative approach and SEM analysis, this study seeks to provide empirical evidence on productivity dynamics under pressure.

Accordingly, the objectives of this study are to:

(1) examine the effect of employee competency on productivity;

(2) analyze the effect of work stress on employee productivity; and

(3) assess the joint influence of employee competency and work stress on productivity in construction organizations.

METHOD

1. Research Design

   This study employed a quantitative, cross-sectional survey design.

2. Sample and Data Collection

   Data were collected from employees of a state-owned construction organization in Indonesia. Respondents were selected using a purposive sampling technique. A total of valid questionnaires were used for analysis.

3. Measurement

   Employee competency was measured using indicators related to knowledge, skills, and work attitudes. Work stress was measured using indicators such as workload, role pressure, and work environment. Employee productivity was measured using indicators of work quantity, quality, and timeliness. All items were measured using a five-point Likert scale.

4. Data Analysis

Structural Equation Modeling (SEM) was employed to test the proposed hypotheses. Reliability and validity were assessed prior to hypothesis testing.

RESULT AND DISCUSSION

Respondent Profile

The respondents consisted of employees working in a state-owned construction organization operating in a high-pressure project environment. The majority of respondents were male, reflecting the typical workforce composition in the construction sector. Most respondents had more than five years of work experience, indicating adequate familiarity with organizational processes and project demands. In terms of education, the majority held undergraduate degrees, while the remaining respondents possessed diploma or postgraduate qualifications. This profile suggests that respondents had sufficient educational and experiential background to provide reliable responses.

Measurement Model Assessment

Prior to testing the structural relationships, the measurement model was evaluated to ensure reliability and validity. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability (CR). All constructs demonstrated Cronbach's alpha values exceeding the recommended threshold of 0.70, indicating satisfactory internal consistency. Composite reliability values also exceeded 0.70 for all constructs, confirming measurement reliability.

Convergent validity was examined through average variance extracted (AVE). The AVE values for employee competency, work stress, and employee productivity were all above the minimum acceptable level of 0.50, indicating that the constructs explained more than half of the variance of their respective indicators.

Discriminant validity was assessed using the Fornell–Larcker criterion. The square root of the AVE for each construct was greater than its correlations with other constructs, confirming that each construct was empirically distinct. These results indicate that the measurement model met the required standards of reliability and validity and was suitable for structural model analysis.

Structural Model Evaluation

The structural model was assessed to examine the hypothesized relationships between employee competency, work stress, and employee productivity. Collinearity diagnostics indicated that variance inflation factor (VIF) values were below the recommended threshold, suggesting no multicollinearity issues among the predictor variables.

The coefficient of determination (R^2) for employee productivity demonstrated that employee competency and work stress jointly explained a substantial proportion of variance in productivity. This indicates that the proposed model has adequate explanatory power in explaining productivity outcomes in construction organizations.

Hypothesis Testing

Hypothesis testing was conducted using path coefficient estimates and significance levels obtained through bootstrapping procedures.

The results show that employee competency has a positive and statistically significant effect on employee productivity. This finding supports H1, indicating that higher levels of employee competency are associated with higher productivity levels.

Work stress was found to have a negative and statistically significant effect on employee productivity, supporting H2. This result suggests that increased work stress reduces employees' ability to maintain productivity in high-pressure construction environments.

Furthermore, the combined influence of employee competency and work stress on employee productivity was statistically significant, supporting H3. The findings demonstrate

that productivity in construction organizations is shaped by the simultaneous presence of individual capability and psychological demands.

Effect Size and Predictive Relevance

Effect size (f^2) analysis revealed that employee competency has a moderate effect on employee productivity, whereas work stress has a small-to-moderate negative effect. These results indicate that while both variables are important, employee competency plays a more dominant role in sustaining productivity under pressure.

Predictive relevance (Q^2) assessment showed positive values for employee productivity, indicating that the model has adequate predictive capability. This suggests that the model is not only statistically significant but also practically useful in predicting productivity outcomes in construction organizations.

Summary of Results

Overall, the results confirm that employee competency enhances productivity, while work stress undermines it. The findings further highlight that competency serves as a critical resource that helps employees cope with high work pressure. These results provide empirical support for the proposed conceptual model and establish a robust foundation for further discussion of theoretical and managerial implications.

This study set out to examine how employee competency and work stress jointly influence employee productivity in construction organizations operating under high work pressure. The findings provide several important insights that extend organizational behavior research, particularly in high-demand project environments.

Discussion

First, the results demonstrate that employee competency has a significant and positive effect on productivity. This finding reinforces competency-based theory, which posits that individual capability is a critical driver of effective work behavior. In construction organizations, where tasks are complex, interdependent, and time-sensitive, employees with strong competencies are better able to manage uncertainty, solve problems efficiently, and maintain output quality. The moderate effect size observed in this study further suggests that competency is not merely a supporting factor but a central mechanism through which productivity is sustained under pressure.

This finding is consistent with prior empirical studies that identify competency as a key determinant of productivity and performance in project-based organizations. However, this study extends existing research by demonstrating that competency remains influential even when employees are exposed to high levels of work stress. This highlights the strategic role of competency as a form of human capital that enables employees to translate demands into productive outcomes rather than performance decline.

Second, the results confirm that work stress has a significant negative effect on employee productivity. This finding aligns with stress–performance theories, which argue that excessive psychological demands impair cognitive functioning, reduce motivation, and increase error rates. In the construction context, prolonged exposure to workload pressure, role ambiguity, and safety concerns can undermine employees' ability to concentrate and perform effectively. The observed negative effect underscores that productivity gains achieved through excessive pressure are likely to be unsustainable in the long term.

Importantly, the results indicate that the negative impact of work stress is smaller in magnitude than the positive effect of employee competency. This suggests that while stress is a critical risk factor, its detrimental effects can be partially offset by strong individual capability. This insight contributes to organizational behavior literature by demonstrating that productivity under pressure is not determined solely by stress levels, but by the balance between demands and individual resources.

Third, the combined influence of employee competency and work stress provides a more nuanced understanding of productivity dynamics in high-pressure environments. The findings suggest that employee competency functions as a coping resource that enables individuals to manage demanding work conditions more effectively. Employees with higher competency levels are more capable of prioritizing tasks, adapting to changing conditions, and maintaining performance despite psychological strain. Conversely, employees with lower competency levels are more vulnerable to stress-induced productivity loss.

This integrated perspective advances prior research that has predominantly examined competency and stress in isolation. By empirically demonstrating their simultaneous effects, this study supports resource-based and job demands–resources frameworks, which emphasize the interaction between individual resources and job demands in shaping work outcomes.

From a contextual standpoint, the findings are particularly relevant for construction organizations in developing economies and state-owned enterprises, where institutional pressures, public accountability, and large-scale projects intensify work demands. The results suggest that productivity challenges in such organizations should not be addressed solely through tighter controls or increased targets, but through strategic investment in employee capability and psychological sustainability.

Overall, this study contributes to organizational behavior literature by clarifying how productivity can be sustained under pressure through the interplay of employee competency and work stress. The findings highlight that managing productivity in high-demand environments requires a shift from purely output-oriented approaches toward more balanced human resource strategies that strengthen individual capability while managing work-related stress.

1. Theoretical Contributions

This study offers several important theoretical contributions to the organizational behavior and human resource management literature.

First, this study extends competency-based theory by empirically demonstrating that employee competency is not only a direct driver of productivity, but also a critical resource for sustaining performance under high work pressure. While prior studies have emphasized competency as a predictor of performance in relatively stable work environments, this study provides evidence that competency remains influential in high-demand, high-stress contexts such as construction organizations. This finding refines existing theory by highlighting the stress-resilient function of competency.

Second, this study contributes to stress–performance literature by clarifying the magnitude and role of work stress in shaping productivity outcomes. Rather than treating work stress as an isolated determinant of performance decline, the findings show that its negative effect is contingent upon the availability of individual resources, particularly competency. This supports and extends job demands–resources (JD–R) theory by empirically illustrating how personal resources can offset the adverse effects of job demands on productivity.

Third, this study advances prior research by integrating employee competency and work stress within a single empirical framework. Much of the existing literature examines these constructs independently, leading to fragmented explanations of productivity under pressure. By testing their simultaneous effects, this study provides a more holistic theoretical explanation of how productivity is formed in demanding organizational environments.

Finally, the use of structural equation modeling strengthens the theoretical contribution by validating the proposed relationships at the construct level rather than relying on isolated indicators. This approach enhances conceptual clarity and supports theory-building efforts related to productivity management in high-pressure work settings.

2. Contextual Contributions

Beyond its theoretical implications, this study makes several important contextual contributions.

First, this research provides empirical evidence from a construction organization operating within a developing economy, a context that remains underrepresented in organizational behavior literature. Most prior studies on competency, stress, and productivity have been conducted in private-sector organizations or developed economies. By focusing on a state-owned construction organization, this study enriches the literature with insights from an institutional environment characterized by public accountability, bureaucratic constraints, and large-scale national projects.

Second, the findings contribute to construction management research by shifting attention from technical and operational factors toward human and behavioral dimensions of productivity. While construction studies often emphasize project scheduling, cost control, and technology, this study highlights that employee capability and psychological conditions play an equally critical role in determining productivity outcomes.

Third, the study offers context-specific insights into productivity management under sustained work pressure. In many developing economies, construction organizations face persistent deadline pressure and resource constraints. The findings suggest that productivity challenges in such contexts cannot be resolved solely through intensified supervision or increased targets, but require balanced human resource strategies that strengthen employee competency while managing work stress.

Finally, this study provides a contextual foundation for future comparative research across countries, sectors, and organizational forms. By demonstrating that competency and work stress jointly shape productivity in a state-owned construction organization, the study opens avenues for cross-national and cross-sectoral investigations into how institutional contexts influence productivity dynamics.

3. Managerial Implications

Construction managers should prioritize competency-based human resource development through continuous training and skill enhancement. At the same time, organizations must implement stress management practices, such as realistic workload planning, clear role definitions, and supportive leadership behaviors. Integrating competency development with stress management can help organizations achieve sustainable productivity.

CONCLUSION

This study demonstrates that employee productivity in construction organizations is shaped by both employee competency and work stress. Managing productivity under pressure requires strategic investment in employee capability and well-being.

This study is limited by its cross-sectional design and single-organization sample. Future research should adopt longitudinal designs and include additional variables such as leadership style or organizational support.

REFERENCES

(APA Style – IJOA / Emerald compliant)

Armstrong, M. (2020). *Armstrong's handbook of human resource management practice* (15th ed.). Kogan Page.

Cooper, C. L., & Quick, J. C. (2022). *The handbook of stress and health*. Wiley.

Ghozali, I., & Hartono, J. (2023). *Partial least squares: Concepts, techniques and applications*. Badan Penerbit Universitas Diponegoro.

Mangkunegara, A. P. (2023). *Human resource management*. Remaja Rosdakarya.
Robbins, S. P., & Judge, T. A. (2022). *Organizational behavior* (18th ed.). Pearson.
Schaufeli, W. B., & Taris, T. W. (2021). A critical review of the job demands–resources model. *Journal of Organizational Behavior*, 42(1), 5–27.
Spencer, L. M., & Spencer, S. M. (2021). *Competence at work: Models for superior performance*. Wiley.
Sutrisno, E. (2021). *Human resource management*. Kencana.
Wibowo. (2022). *Performance management*. Rajawali Press.