

Work-Life Balance, Job Burnout, And Work Environment Effects on Pharmaceutical Employee Performance

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ABSTRACT: The pharmaceutical industry, characterized by high regulatory standards and a zero error tolerance policy, places significant psychological and physical demands on its workforce. This study aims to investigate the simultaneous and partial effects of work life balance, job burnout, and work environment on employee performance at PT Dexa Medica. Employing a quantitative causal design, data were collected through questionnaires from 276 employees across various operational and quality departments, determined via the Slovin formula. The data were analyzed using multiple linear regression analysis. The results indicate that the work environment and job burnout significantly and positively affect employee performance. Conversely, work-life balance shows no significant impact on performance, likely due to the demographic composition of the technical staff prioritizing basic physiological and financial needs over life-work integration. The findings suggest that providing an optimal physical and non-physical work environment is paramount for sustaining high performance in highly regulated zero-error manufacturing settings.

KEYWORDS: Work-life balance, Job burnout, Work environment, Employee performance, Pharmaceutical.

JEL Classification: J28, M12, M54

1. INTRODUCTION

The pharmaceutical industry is one of the most essential sectors operating under stringent regulations, high precision, and immense pressure. Entering the post-pandemic era, this sector faces dual expectations: maintaining the speed of innovation and production for global health preparedness while adapting to technological disruptions. The strict Good Manufacturing Practice (GMP) standards with a zero-error tolerance policy place human resources as the most crucial asset, where employee performance directly impacts profitability, patient safety, and public health integrity.

Despite the critical role of human capital, several research gaps remain in the existing literature:

- Inconsistencies in Work Life Balance (WLB) Outcomes: While many studies assert that WLB significantly improves performance, anomalies exist where WLB shows no effect, particularly in highly structured manufacturing environments.
- The Paradox of Job Burnout: Most literature views job burnout purely as a negative performance predictor. However, there is a gap in understanding how low levels of emotional exhaustion actually correlate positively with high task performance in high-stakes industries.
- Holistic Work Environment Interplay: Previous studies often isolate physical and non-physical environments. There is a conceptual gap in how the integration of modern digital facilities and psychological safety concurrently drives adaptive performance in pharmaceutical operations.

To address these gaps, this study introduces three primary novelties:

- Contextualizing the JD-R Model in Zero-Error Manufacturing: This research pioneers the application of the Job Demands-Resources (JD-R) model specifically within the stringent Good Manufacturing Practice (GMP) framework of an Indonesian multinational pharmaceutical company.
- Redefining Work-Life Integration (WLI): It shifts the traditional WLB paradigm to Work-Life Integration, evaluating how life enhances work (PLEW) and work enhances life (WEPL) rather than merely measuring time allocation.
- A Comprehensive Multidimensional Construct: Integrating Work-Life Balance, Job Burnout, and Work Environment into a single simultaneous model tailored for production-level employees (Personel Class 40-52) to capture post-pandemic operational complexities.

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Based on these parameters, the research problems are formulated as follows:

- (1) Does work-life balance affect employee performance?
- (2) Does job burnout affect employee performance?
- (3) Does the work environment affect employee performance?
- (4) Do they simultaneously affect the performance of PT Dixa Medica employees?

The contribution of this research provides empirical evidence and strategic managerial insights for the pharmaceutical sector to optimize human resource policies, focusing on physical infrastructure and psychological well-being to sustain zero-error productivity.

2. LITERATURE REVIEW

2.1 Grand Theory

This study is anchored in two prominent organizational behavior theories. First, the Conservation of Resources (COR) Theory explains that individuals have a fundamental drive to protect and accumulate resources such as time, physical energy, and mental capacity. Conflict between work and personal life depletes these resources, triggering stress; conversely, WLB acts as a conservation mechanism. Second, the Job Demands-Resources (JD-R) Theory is utilized to explain burnout and environmental impacts. The JD-R model posits that prolonged job demands lead to a health impairment process (burnout), whereas robust job resources (a supportive work environment) stimulate a motivational process, buffering stress and enhancing engagement.

2.2 Previous Studies and Hypothesis Development

Work-Life Balance and Performance: Modern literature redefines work-life balance as Work-Life Integration (WLI), where work and personal life are mutually reinforcing. Studies by Pebiyanti & Winarno (2021) and Suseno & Febrian (2025) found a positive and significant effect of WLB on employee performance. However, anomalies such as Willem & Wilson (2023) suggest no significant effect, indicating a contextual dependency.

Job Burnout and Performance: Burnout is recognized globally as an occupational phenomenon resulting from chronic workplace stress. Typically, studies like Syifa et al. (2025) demonstrate a negative impact of burnout on performance. Conversely, some research, such as Ramadhan & Winata (2025), found positive significant effects, making this variable highly dynamic and worth exploring.

Work Environment and Performance: The environment functions as a crucial job resource. Both physical (infrastructure, lighting) and non-physical (supervisor support, culture) environments drastically impact capabilities. Studies consistently confirm that a positive work environment significantly enhances performance, as supported by Badrianto (2022) and Arif et al. (2026).

3. METHODS

This research employs a quantitative causal design to analyze the relationships between independent and dependent variables. The population comprises 888 active employees at PT Dixa Medica within the Personel Class (PC) 40-52. Using the Slovin formula with a 5% margin of error, a sample of 276 employees from various departments (Production, Quality, Technical Service, Logistics, Engineering, HRGA) was established.

Data were collected via closed-ended questionnaires utilizing a Likert scale. The analytical methods included data transformation (Method of Successive Interval/MSI), classical assumption tests (normality, multicollinearity, heteroscedasticity), and Multiple Linear Regression Analysis using SPSS software. These statistical approaches are grounded in established econometric and multivariate methodologies commonly utilized in reputable international research (Ghozali, 2018; Sugiyono, 2019).

4. RESULTS AND DATA ANALYSIS

4.1 Instrument Test Results (Validity and Reliability)

Validity testing was conducted by comparing the Pearson Product Moment correlation value (r_{hitung}) with r_{table} (0.1345 at 5% significance for $N=276$). All indicator items for Work Life Balance (23 items), Job Burnout (19 items), Work Environment (10 items), and Employee Performance (14 items) yielded $r_{hitung} > 0.1345$, declaring them all valid.

Reliability testing was performed using the Cronbach's Alpha method, with a cut-off value of > 0.60 . The summary of reliability test results is presented in Table 1.

Variable	Cronbach's Alpha	Cut Off	N of Items	Conclusion
Work Life Balance (X_1)	0.927	> 0.60	23	Reliable
Job Burnout (X_2)	0.949	> 0.60	19	Reliable

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Work Environment (X_3)	0.944	> 0.60	10	Reliable
Employee Performance (Y)	0.954	> 0.60	14	Reliable

4.2 Classical Assumption Tests

a) Normality Test

The normality test ensures that the residual values are normally distributed. Visual analysis via Histogram and Normal P-P Plot indicates that the data points spread around the diagonal line and follow the diagonal direction, indicating normal distribution.

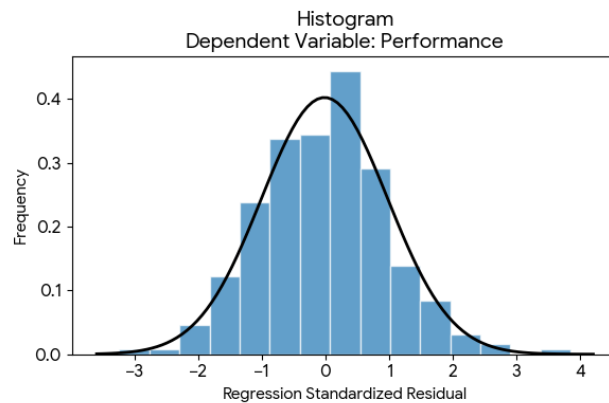


Figure 1. Histogram of Regression Standardized Residual

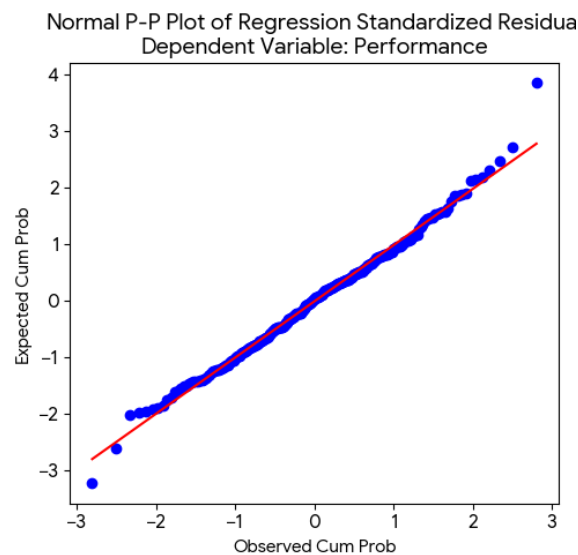


Figure 2. Normal P-P Plot

This is further supported by the Kolmogorov-Smirnov statistical test in

Table 2: yielding an Asymp. Sig (2-tailed) value of 0.069, which is > 0.05, confirming normality.

Test Metric	Value
N	276
Test Statistic (Absolute)	0.052
Asymp. Sig. (2-tailed)	0.069

b) Multicollinearity Test

The multicollinearity test checks for correlations among independent variables.

Table 3: shows that all VIF values are < 10 and Tolerance values are > 0.1, indicating no multicollinearity issues.

Variable	Tolerance	VIF	Conclusion
Work Life Balance (X_1)	0.267	3.742	No Multicollinearity

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Job Burnout (X_2)	0.238	4.209	No Multicollinearity
Work Environment (X_3)	0.391	2.556	No Multicollinearity

c) Heteroscedasticity Test

The scatterplot in Figure 3 reveals that the data points do not form any clear or regular pattern and spread randomly above and below the 0 mark on the Y-axis. Thus, there is no heteroscedasticity.

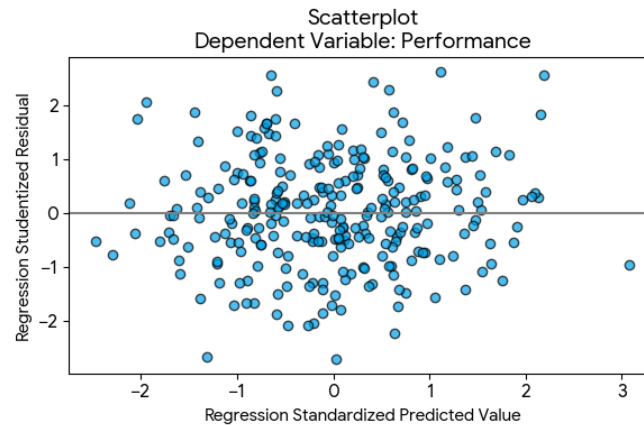


Figure 3. Scatterplot of Predicted vs. Residual

4.3 Research Analysis Results

a) Multiple Linear Regression Analysis

The regression model results are presented in Table 4.

Model	Unstandardized B	t-value	Sig.
(Constant)	7.185	3.327	0.001
Work Life Balance	-0.043	-0.901	0.369
Job Burnout	0.309	5.667	0.000
Work Environment	0.724	9.972	0.000

The multiple linear regression equation is formed as follows:

$$Y = 7.185 - 0.043X_1 + 0.309X_2 + 0.724X_3$$

b) Correlation (r) and Determination Coefficient (R^2)

Table 5: shows a correlation coefficient (R) of 0.823, indicating a very strong relationship. The R Square (R^2) value is 0.678, meaning that 67.8% of the variance in employee performance is explained by Work Life Balance, Job Burnout, and Work Environment, while 32.2% is explained by other variables outside the model.

R	R Square	Adjusted R Square	Std. Error of Estimate
0.823	0.678	0.674	5.54161

c) Partial Test (t-test)

As seen in Table 4, the partial tests reveal:

Work Life Balance (X_1) has a t-value of -0.901 and sig. 0.369 (>0.05). It does not significantly affect performance.

Job Burnout (X_2) has a t-value of 5.667 and sig. 0.000 (<0.05). It positively and significantly affects performance.

Work Environment (X_3) has a t-value of 9.972 and sig. 0.000 (<0.05). It positively and significantly affects performance.

d) Simultaneous Test (F test)

Table 6: displays the ANOVA results for the F-test.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	17575.334	3	5858.445	190.770	0.000
Residual	8352.978	272	30.709		

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Total	25928.312	275			
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The F value of 190.770 with a significance of 0.000 (<0.05) concludes that Work Life Balance, Job Burnout, and Work Environment simultaneously and significantly affect Employee Performance.

5. DISCUSSION

The Effect of Work-Life Balance on Performance: The results reveal that work-life balance has no significant effect on the performance of employees at PT Deka Medika. This anomaly can be explained by the demographic dominance of technical field staff (Personel Class 40-45), making up 62.7% of respondents. Drawing upon Maslow's Hierarchy of Needs, employees at this level prioritize physiological and financial security over work-life integration. They may intentionally sacrifice WLB to gain financial compensations such as overtime. Furthermore, based on the Work-Family Enrichment theory by Greenhaus & Powell (2006), the employees have already reached a stable "baseline" of WLB, meaning minor fluctuations in work-life integration no longer serve as a primary trigger for performance changes.

The Effect of Job Burnout on Performance: Interestingly, the model demonstrates a positive and significant effect of job burnout on performance. Contextually, this translates to the phenomenon where low levels of burnout (low emotional exhaustion and low depersonalization) correlate with high task performance. According to Edu Valsania et al. (2022), emotional exhaustion depletes cognitive resources. Because PT Deka Medika employees exhibit low emotional exhaustion, they retain the cognitive resources required to meet the high-precision and zero-error tolerances of the pharmaceutical industry. The lack of depersonalization acts as a robust job resource under the JD-R theory, leading to strong Contextual Performance where employees willingly assist colleagues.

The Effect of Work Environment on Performance: The work environment exhibits the strongest positive and significant impact on performance. This aligns perfectly with the pharmaceutical sector's stringent GMP standards. The physical environment modern equipment, adequate lighting, and strict safety gear is not merely for comfort but is an absolute prerequisite for operational precision. Furthermore, the non-physical environment, characterized by supervisor support and a culture valuing data integrity, drives Adaptive and Contextual Performance. Under Peter Blau's Social Exchange Theory, when a company provides psychological safety, employees reciprocate with heightened cooperation and resilience in facing sudden regulatory shifts.

6. CONCLUSION

Work-life balance does not significantly impact employee performance at PT Deka Medika. However, job burnout and work environment have a positive and highly significant effect on employee performance. The physical and psychosocial environmental infrastructures serve as the most critical backbone for maintaining the zero-error quality required in pharmaceutical manufacturing.

7. RECOMMENDATIONS

For management: Management is strongly advised to prioritize capital expenditure on maintaining and upgrading physical work facilities, as well as fostering a transparent, non-toxic managerial culture. Although work life balance did not statistically boost performance, maintaining current baseline WLB policies is essential to act as a buffer against future mental fatigue (burnout).

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