Workload and Stress: Their Effects on Job Satisfaction at PT. Inhutani I Umi Gresik

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Abstract: This study examines the impact of workload and work stress on employee job satisfaction at PT Inhutani I UMI Gresik, a wood-processing company operating under Perum Perhutani. The research employed a quantitative design with an associative (causal) approach to identify the extent to which workload and stress contribute to variations in job satisfaction. Data were collected through questionnaires distributed to 48 employees selected using a simple random sampling method. The analytical process involved validity and reliability testing, classical assumption tests, multiple linear regression, as well as t-tests, F-tests, and the coefficient of determination (R^2). The results indicate that workload and work stress, when considered simultaneously, have a significant influence on job satisfaction. However, partial testing revealed that workload did not exert a significant effect, while work stress had a statistically significant negative impact on satisfaction. Regression analysis further demonstrated that work stress emerged as the dominant predictor, accounting for a larger proportion of variance compared to workload, as reflected by the higher beta coefficient and partial determination value. These findings suggest that while workload may serve as a motivator when maintained within reasonable limits, unmanaged stress arising from role ambiguity, conflicting demands, and organizational pressures significantly undermines job satisfaction. The study underscores the importance of stress management strategies within organizations, particularly in high-demand industries such as forestry and wood processing. Practical implications include the need for supportive leadership, effective communication, realistic target-setting, and the implementation of employee assistance programs. By addressing stress more effectively, organizations can enhance employee well-being, foster greater job satisfaction, and ultimately improve overall organizational performance.

Keywords: Employee Productivity; Job Satisfaction; Stress Management; Work Stress; Workload.

1. 1. INTRODUCTION

Human resources are essential in realizing organizational objectives, as employee performance is significantly shaped by workload, stress levels, and overall job satisfaction. In today's competitive workplace, excessive demands and high-pressure situations often result in stress, which in turn diminishes motivation and satisfaction among employees (Budiasa, 2020; Mahawati et al., 2021). Workload can be understood as the perception of tasks that employees must complete within a set timeframe, and when these demands surpass individual capacity, they may cause both physical and psychological strain. Meanwhile, work stress arises from imbalances between personality characteristics and job demands, often triggered by role conflicts, unclear responsibilities, or lack of managerial support.

Job satisfaction, defined as a positive feeling resulting from an individual's job evaluation, is essential in fostering employee productivity and loyalty (Robbins & Judge, 2015). However, workload and stress management significantly influence this satisfaction. Poorly managed conditions not only harm productivity but also undermine employees' mental well-being. According to Gallup's *State of the Global Workplace 2024*, 41% of employees worldwide experience high levels of stress, with workers in poorly managed environments being 60% more likely to report stress compared to those in supportive workplaces (Gallup Consulting, 2024). In Indonesia, BPS data (2024) shows that 65.60% of the population works more than 35 hours per week, underscoring the high workload faced by employees nationally.

Within PT Inhutani I UMI Gresik, a wood processing company under Perum Perhutani, employees face high operational demands and tight production deadlines, which can lead to stress and fatigue. Initial observations reveal that workers frequently experience pressure near production targets, accompanied by complaints of insufficient rest. Moreover, the company's industrial management unit recorded a 56.92% decrease in production realization from the 2023 RKAP target, attributed to limited raw materials, staffing shortages, and organizational restructuring. These conditions are suspected to elevate work pressure and diminish job satisfaction, particularly in production and operational divisions. (PT.Inhutani, 2023)

High job satisfaction is strongly linked to productivity, employee loyalty, and a positive workplace atmosphere (Robbins & Judge, 2015). Conversely, dissatisfaction can result in turnover, absenteeism, and conflict. Therefore, understanding how workload and stress impact satisfaction is crucial for improving motivation and performance. Based on these considerations, this study titled *"Workload and Stress: Their Effects on Job Satisfaction at PT. Inhutani I UMI Gresik"* seeks to provide both theoretical insights and practical solutions for effective human resource management, emphasizing the importance of balancing workload and managing stress to enhance employee well-being and organizational success.

2. LITERATURE REVIEW

Human Resource Management

Human resource management (HRM) constitutes a critical foundation for organizational success, encompassing activities related to the recruitment, development, management, and retention of a skilled workforce Ansory & Indrasari (2018). In the contemporary business landscape, the role of HRM has progressed beyond administrative responsibilities, emerging as a strategic component that significantly supports the attainment of organizational goals (Armstrong & Taylor, 2023). The primary goal of HRM is to optimize workforce productivity and ensure organizational effectiveness through planning, recruitment, development, compensation, and performance evaluation.

Workload

Workload refers to the set of tasks or duties that employees are required to accomplish within a specific timeframe, aligned with their capabilities and job roles (Budiasa, 2020; Mahawati et al., 2021). It is shaped by internal factors, such as gender, age, physical condition, health status, and motivation, as well as external factors, including the work environment, available tools, and the organizational structure. Excessive workload can lead to physical impacts such as fatigue, decreased work quality, and even burnout, while also increasing the risk of turnover.

Work Stres

Work stress occurs when job demands exceed an individual's capacity to cope (Mahawati et al., 2021; Robbins & Judge., 2015). Stressors may arise from environmental conditions, organizational aspects such as task pressure, role demands, and interpersonal relations, as well as personal factors. Work stress can negatively impact employees' physical and psychological well-being, and if left unmanaged, it may lead to health problems and reduced organizational productivity. Stress management can be carried out individually through time management, relaxation, exercise, and expanding social support networks or organizationally, through initiatives such as training, job redesign, effective communication, special leave, and corporate wellness programs.

Job Satisfaction

Job satisfaction is an affective reaction or a positive attitude of individuals toward their job and work environment (Indrasari, 2017; Robbins & Coulter, 2014). The degree of job satisfaction is shaped by multiple factors, such as workload, occupational stress, workplace environment, compensation, opportunities for advancement, supervisory practices, and interpersonal relationships within the organization. Core dimensions used to assess job satisfaction include satisfaction with remuneration, the nature of the work, quality of supervision, relationships with colleagues, prospects for promotion, and overall working conditions. Low levels of job satisfaction may lead to negative consequences such as increased turnover, decreased productivity, and workplace conflict.

Research Gap

Prior research has produced mixed results concerning the relationship between workload, occupational stress, and job satisfaction. Saputra (2022) reported that workload did not have a significant influence on job satisfaction, identifying the work environment as the primary factor affecting satisfaction levels. In contrast, Arisanti & Kusumayadi (2023) highlighted the significant role of workload and stress in shaping employee satisfaction. In a similar vein, research conducted by Egarini and Prastiwi (2022) as well as Retno et al. (2022) highlighted the impact of workload and occupational stress on turnover intention; however, both studies concluded that job satisfaction did not exert a significant influence within this relationship. These variations indicate uncertainty about the direct impact of workload and stress on job satisfaction across different industries.

Moreover, Riznanda & Kusumadewi (2022) confirmed a strong positive correlation between workload and stress but did not examine how these factors affect job satisfaction. Most prior studies have been conducted in manufacturing, energy, or service sectors, leaving limited exploration within the forestry and wood-processing industry. This creates a research gap, as the unique operational characteristics of this sector such as high production demands, fluctuating raw material supply, and organizational restructuring may intensify workload and stress, thereby influencing employee job satisfaction differently.

3. METHODS

Research Design

This research adopted a quantitative design with an associative (causal) approach to investigate the effects of workload and occupational stress on employee job satisfaction at PT Inhutani I UMI Gresik. As noted by Sugiyono (2020), quantitative research is rooted in the positivist paradigm and is applied to test hypotheses through statistical analysis of data obtained from a representative sample. The study was intended to examine the causal linkage between the independent variables—workload and work stress—and the dependent variable, job satisfaction, consistent with approaches commonly employed in human resource management research (Mahawati et al., 2021; Robbins & Judge., 2015).

Variables and Operational Definitions

The study examined workload (X_1) and work stress (X_2) as independent variables, with job satisfaction (Y) serving as the dependent variable.

Workload (X_1): refers to the amount and complexity of tasks assigned to employees within a given period, which must be aligned with the employees' capacity Budiasa, (2020). In this study, workload was operationalized by indicators including workload targets, working conditions, time utilization, and job standards as suggested by Koesomowidjojo (2017).

Work stress (X_2): is conceptualized as a psychological and physiological reaction to demands that surpass an individual's capacity to manage effectively (Mahawati et al., 2021; Robbins & Judge, 2015). The measurement indicators included task demands, role demands, interpersonal demands, organizational structure, and leadership style, as outlined by Robbins & Judge, (2015).

Job satisfaction (Y): was conceptualized as employees' emotional response and attitude towards various aspects of their work, such as salary, work itself, supervision, coworkers, promotion opportunities, and working conditions, following definitions by Robbins & Coulter (2014) and Indrasari (2017).

All constructs in this study were assessed using a five-point Likert scale, with response options ranging from 1 (strongly disagree) to 5 (strongly agree).

Research Location

According to Sugiyono (2020), the research location is the place where the study is conducted, whether in the field, laboratory, or in the form of a literature study, and it is selected based on its relevance to the research problem. In this study, the research was conducted at **PT Inhutani I UMI Gresik**, located on Jalan Kapten Darmo Sugondo XXII, Kebomas Sub-district, Gresik District.

Population and Sampling

The research was conducted at PT Inhutani I UMI Gresik, located in Gresik, East Java. The population consisted of all employees at the company, totaling 54 individuals. By applying the Yamane formula for sample size determination with a 5% margin of error (Sugiyono, 2020), a sample of 48 employees was obtained. The sampling process employed a simple random sampling technique, ensuring that every individual in the population had an equal probability of being selected (Sugiyono, 2020).

Data Collection Methods

Data collection techniques represent a critical stage in the research process to ensure the acquisition of accurate and scientifically valid information. In this study, the methods of data collection applied were as follows:

Questionnaire: The questionnaire serves as a data collection instrument in which respondents are presented with a series of written questions to which they are required to provide answers. This method is effective when the variables being measured and the expectations of respondents are clearly defined (Sugiyono, 2020). The measurement employs a Likert Scale, which evaluates attitudes, opinions, and perceptions using a range of responses from very positive to very negative. This scale converts responses into quantitative scores and is used to describe the indicators of the variables being tested

Literature Review: The literature review serves to examine theories and previous studies as the foundation for developing hypotheses and research methodology, while also strengthening the validity of the study (Creswell John and Creswell David, 2023)

Data Analysis Techniques

The data obtained were processed and analyzed using the Statistical Package for the Social Sciences (SPSS). The analytical procedures comprised instrument validity and reliability testing, classical assumption testing (normality, multicollinearity, and heteroscedasticity), multiple linear regression analysis, t-tests to examine partial effects, F-tests to evaluate simultaneous effects, and the coefficient of determination (R^2) to measure the extent to which workload and work stress influence job satisfaction (Ghozali, 2016; Sugiyono, 2020).

Instrument Testing

Ensured the measurement instruments accurately reflect the constructs and provide consistent results

Validity Test: Conducted using Pearson's product-moment correlation. An item is valid if $r_{count} > r_{table}$ at $\alpha = 0.05$ (Sugiyono, 2020).

Reliability Test: Measured using Cronbach's Alpha. A variable is reliable if $\alpha \geq 0.6$ (Sugiyono, 2020).

Classical Assumption Tests

To verify the appropriateness of the regression model, several diagnostic tests were performed (Ghozali, 2016):

Normality Test: Using the Kolmogorov-Smirnov method; data are normally distributed if Sig. > 0.05.

Multicollinearity Test: Using Variance Inflation Factor (VIF) and tolerance; multicollinearity is absent if VIF < 10 and tolerance > 0.10.

Heteroscedasticity Test: Using scatterplot analysis; heteroscedasticity is absent if residuals are randomly distributed.

Multiple Linear Regression Analysis

Multiple linear regression was used to estimate the magnitude and direction of the relationships between independent variables and job satisfaction (Sugiyono, 2020):

$$Y = a + \beta 1 X1 + \beta 2 X2 + e$$

Explanation:
Y = Variabel Kepuasan Kerja Karyawan
$X1$ = Variabel Beban Kerja
$X2$ = Variabel Stres Kerja
a = konstanta

$b1$ dan $b2$ = Koefisien regresi untuk masing-masing variabel independen
e = Error term

Hypothesis Testing

t-test (Partial Test): This test is utilized to assess the individual influence of each independent variable on the dependent variable. The effect is considered statistically significant when the calculated t-$_{value}$ exceeds the critical t-$_{table}$ value and the p-$_{value}$ is less than 0.05 (Ghozali, 2016)

F-test (Simultaneous Test): Assesses the combined effect of all independent variables. Significance is confirmed if $F_{count} > F_{table}$ and p-value < 0.05. (Ghozali, 2016)

Coefficient of Determination (R²): This statistic indicates the proportion of variance in the dependent variable that can be explained by the independent variables, thereby reflecting the explanatory power of the regression model (Ghozali, 2016).

4. RESULTS AND DISCUSSION

Respondent Profile

The study involved 48 employees of PT INHUTANI I UMI Gresik. The majority were male (73%), with females comprising 27%. Most respondents were in the age group of 51-60 years (40%) followed by 41-50 years (29%), 21-30 years (23%), and 31-40 years (8%). Almost all respondents (100%) resided in Gresik city, with most living within 1 to 5 km from the workplace (40%). Regarding education, 60% were high school graduates (SMA/SMK), 33% were diploma or undergraduate degree holders (D3/S1), 4% had a master's degree (S2), and 2% had completed junior high school (SMP). The dominant department was the Industry Division (40%), with respondents having varied lengths of work tenure, predominantly 31-35 years (40%) and 0-5 years (23%).

Instrument Validity and Reliability

Validity testing for the variables Workload, Work Stress, and Job Satisfaction was performed using Pearson Product Moment correlation with a significance level of 5%. All items for each variable showed correlation coefficients greater than the threshold (r-table), resulting in valid instruments for all items measuring Workload, Work Stress, and Job Satisfaction.

Reliability was assessed using Cronbach's Alpha. The results for the variables were in Table 1.

Table 1 Reliability using Cronbach's Alpha

Variabel	Cronbach Alpa	Keterangan
X1	0.875	Reliabel
X2	0.908	Reliabel
Y	0.925	Reliabel

Classical Assumption Testing

Normality

The Kolmogorov–Smirnov test yielded a significance value of **0.200** (> 0.05), confirming normal distribution of residuals.

Multicollinearity

Tolerance values were 0.973 for both Workload and Work Stress, with Variance Inflation Factors (VIF) of 1.028, indicating no multicollinearity issues between the independent variables.

Heteroscedasticity

The Glejser test showed significance values of 0.320 for Workload and 0.254 for Work Stress, both > 0.05, indicating homoscedasticity and no heteroscedasticity problem..

Multiple Linear Regression Analysis

The regression equation derived from the data is as follows:

$$Y = 106.037 + 0.185X_1 - 0.534X_2 + e$$

Where Y is Job Satisfaction, $X1$ is Workload, and $X2$ is Work Stress. The regression results reveal that workload exerts a positive yet statistically insignificant influence on job satisfaction ($\beta = 0.200$, $p = 0.097$). In contrast, work stress demonstrates a significant negative effect on job satisfaction ($\beta = -0.561$, $p = 0.000$).

Hypothesis Testing

Partial Test (t-test)

Variable	t-table	Sig.	Conclusion
Workload	1.696	0.097	Not Significant
Work Stress	-4.763	0.000	Significant effect

Work Stress significantly influences Job Satisfaction negatively, while Workload does not show a statistically significant effect.

Simultaneous Test (F-test)

The F-test produced an F-value of 14.514 with a significance level of 0.000 (< 0.05), demonstrating that workload and work stress collectively exert a significant influence on job satisfaction..

Coefficient of Determination (R²)

The model explains 39.2% of the variance in Job Satisfaction ($R2 = 0.392 R2 = 0.392$). The remaining 60.8% is explained by variables outside the mode

Coefficient of Determination Partial (r²)

Work Stress alone contributes 33.49% to explaining Job Satisfaction.
Workload alone contributes 6.01%.
This confirms Work Stress as the more dominant factor influencing Job Satisfaction.

Hypothesis Testing Results for the Third Hypothesis

The third hypothesis posited that workload would serve as the dominant factor affecting employee job satisfaction at PT Inhutani I UMI Gresik. Nevertheless, the findings derived from the multiple regression analysis did not support this assumption. The *t*-test revealed that Work Stress ($t = -4.763$; sig. = 0.000) had a stronger and more significant effect compared to Workload ($t = 1.696$; sig. = 0.097). Similarly, the beta coefficient for Work Stress (-0.561) was higher in absolute value than that of Workload (0.200), indicating that stress exerts greater explanatory power on job satisfaction.

The partial coefficient of determination reinforced this conclusion, with Work Stress accounting for 33.49% of the variation in Job Satisfaction, compared to only 6.01% for Workload. Therefore, the third hypothesis was rejected. The findings suggest that while workload does contribute to job satisfaction, work stress emerges as the more dominant factor influencing employee perceptions and outcomes.

Discussion

The results indicate that although workload and work stress jointly exert a significant influence on job satisfaction, only work stress demonstrates a statistically significant effect when examined individually. This is consistent with Robbins & Judge., (2015) theory stating that stress arises when job demands exceed an individual's capacity, thereby decreasing job satisfaction. The non-significant positive relation of workload suggests that workload per se is not directly detrimental unless it escalates to stress. This aligns with Munandar (2014) view that workload is manageable if balanced with employee capacity and support. The dominance of Work Stress over Workload in affecting job satisfaction highlights the importance of managing psychological and environmental stressors, such as role ambiguity, conflicting demands, and unsupportive leadership as mentioned in this study and supported by Mahawati et al. (2021)

Implications

The study implies that organizations like PT Inhutani I UMI Gresik should prioritize the management of workplace stress through effective role clarity, supportive leadership, and conflict resolution to elevate job satisfaction. Although workload should not be neglected, ensuring employees do not experience high levels of stress is critical to maintaining their well-being and performance. Managers are encouraged to implement stress management strategies suggested by Robbins & Judge (2015) including time management training, relaxation techniques, and enhanced communication to foster a psychologically healthy environment. From a practical standpoint, balancing workload with employee capability and providing resources to reduce stress could improve employee satisfaction and potentially impact productivity and turnover rates positively

5. CONCLUSION AND RECOMMENDATION

Conclusion

Drawing from the findings of the study on the influence of workload and work stress on employee job satisfaction at PT. INHUTANI I UMI Gresik, several conclusions can be formulated as follows: (1) Work stress is the dominant variable that significantly influences employee job satisfaction, having a stronger effect compared to workload. (2) The work stress experienced by employees is closely related to high job demands, role ambiguity, pressure from supervisors, and an inflexible organizational structure, which cause psychological strain, fatigue, and decreased work motivation, ultimately resulting in lower job satisfaction (3) Most employees are in their productive age and have long years of service in the company; however, this does not guarantee freedom from work-related stress. Leadership factors and interpersonal role demands are identified as the main sources of stress, particularly in the production and operational divisions. (4) Workload still has an effect, although not as strong as work stress. Many employees consider work targets as motivation as long as they remain realistic, but without proper stress management, these targets can worsen employees' psychological condition.

Recommendations

Based on the following conclusions, here are the researchers' recommendations for companies: (1) Enhance work stress management through soft skills training such as time management, emotional regulation, and interpersonal communication, while also considering the implementation of employee assistance programs (work counseling) as a preventive solution. (2) Improve leadership systems, particularly in communication and supervision. Supervisors should be more open, responsive, and supportive, while adopting participative leadership to reduce emotional pressure resulting from authoritarian styles. (3) Reevaluate organizational structure and workload distribution across departments, especially in production and operational divisions, to ensure fairer and more flexible task allocation, thereby reducing excessive work pressure. (4) Foster a supportive and open work culture by strengthening teamwork, minimizing interpersonal conflicts, and providing space for dialogue between management and employees to express workload and stress concerns. (5) Increase job satisfaction by offering psychological support and non-financial rewards, such as recognition for performance, work flexibility, and career development opportunities, which can serve as protective factors against work stress.

These recommendations are expected to help PT. INHUTANI I UMI Gresik improve employee well-being and productivity through more effective management of workload and work stress.

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