

The Effect of Workload, Work Stress, and Work Environment on Employee Performance

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Abstract – *This study aims to analyze the influence of workload, job stress, and the work environment on employee performance at PT. Permata Prima Teknologi. The study population included all 42 employees of the company. A saturated sampling technique was used. The sample size consisted of all 42 employees of PT. Permata Prima Teknologi. This quantitative study used a survey as the data collection method, with a questionnaire using a Likert scale as the research instrument. The data were analyzed using multiple linear regression and processed with Partial Least Squares (PLS) 4.0. The results showed that workload had a significant negative effect on employee performance, job stress had a significant negative effect on employee performance, and the work environment had a significant positive effect on employee performance.*

Keywords: *Workload, Work Stress, Work Environment, Employee Performance*

INTRODUCTION

Global environmental changes have caused competition patterns to become more complex and irregular, resulting in intense competition and requiring every business actor to increase their innovative business capacity. At this point, companies realize that the only hope for solving this problem lies in human resources. In other words, optimizing organizational performance boils down to the quality of employee work, so efforts must be made early on, from the initial recruitment stage to the termination of employment. Of course, companies realize that employees do not become professionals instantly; they need support and a management system that is oriented towards developing and enhancing employee potential, so that their performance and productivity contribute significantly to the achievement of the company's interests/goals/challenges (Wahyudi, 2019). Facing increasingly rapid and diverse changes, organizations are required to develop management capabilities. This is useful for anticipating events and changes that may occur in the short or long term. One way to anticipate unexpected events is to improve human resources. High-quality Human resources need to attain elevated levels of work efficiency (Puspitasari and Agustini, 2024; and Affini 2021)

As stated by (Cucun Sundari Putri et al., 2024), performance refers to the results of a particular job role or task carried out over a designated timeframe. Typically, effective employee performance is intended to enhance overall productivity. Consequently, enhancements to work processes are carried out by all parts of the organization. To facilitate this, a robust performance management framework is essential.

This research was conducted at PT. Permata Prima Teknologi and based on interviews with Mr. Hariadi Purboyo, the company's HRD. It concerns employee performance at Permata Prima Teknologi. Permata Prima Teknologi is a company engaged in the electronics sector. The company always needs staff/employees to provide services to customers who visit the company or contact it online. However, the company has experienced several problems related to employee performance.

To that end, Mr. Hariadi Purboyo explained that the reason for the decline in employee performance was due to the quality of work of employees, as not all employees worked diligently, causing work that should have been completed quickly to take a long time, and there were many factors that caused the decline in employee performance. The above phenomenon indicates a problem with employee performance, which refers to the level of success in completing tasks and the ability to achieve predetermined goals. To achieve maximum performance, every company needs to improve employee performance.

Excessive workloads can cause workers to experience stress and trigger other mental disorders. This is because excessive workloads can increase emotional exhaustion. Workers will

often experience feelings of fatigue, both physical and mental. Work-related stress experienced by employees will certainly be detrimental to the company concerned because it will reduce performance.

It is also undeniable that work and the environment can cause pressure and stress for employees. Human resources are often required by companies to improve their abilities and skills in carrying out their work, and without realizing it, this can cause employees to feel stressed, which will ultimately affect their performance. Stress is something that can impact anyone at any point, as it is an unavoidable aspect of being human. Individuals often feel stress when their wishes do not match up with what is real, whether that reality comes from within themselves or from the outside world. Ultimately, all types of stress arise from not fully grasping one's own boundaries.

To determine the similarities between the problems faced by PT. Permata Prima Teknologi and previous studies, the researcher conducted gap research so that the results of this study could be used to develop previous problems. In addition, it is hoped that this study will serve as a reference for future research. This will hopefully lead to solutions that can resolve previous problems.

LITERATURE REVIEW

Grand Theory

The primary theory applied in this research is attribution theory, which was first proposed by Fritz Heider in 1958. This theory indicates that specific actions are connected to personal beliefs and traits, implying that just by watching someone's behavior, one can gain insight into their attitudes or traits and foresee how they might act in specific circumstances. Attribution theory clarifies how individuals respond to occurrences around them by uncovering the motivations behind their reactions to the events they encounter (Syarhayuti, 2016). Fritz Heider also stated that internal forces (personal attributes such as ability, effort, and fatigue) and external forces (environmental attributes such as rules and weather) jointly determine human behavior. Both internal and external attributions have been shown to influence individual performance evaluations. This grand theory serves as a foundation for analyzing employee performance research and its interrelationships. Employee performance is broadly influenced by both individual and situational factors.

The theory above helps identify how each variable (workload, work stress, work environment) affects employee performance, assesses the quality and quantity of output, as well as reliability as performance indicators, and designs strategies to improve performance by improving workload, job stress, and the work environment.

Employee Performance

According to (Rafii Ar Rasid Mujahidin, 2024) employee performance is a process that has a substantial impact on the success of an organization, and it is the responsibility of managers and employees to collaborate in setting expectations, reviewing results, and rewarding performance. Companies must manage employee performance carefully in order to achieve their goals. Performance will determine the success or failure of an activity.

Workload

According to (Nabila & Syarvina, 2022). Workload refers to a set or quantity of designated tasks that an organizational group needs to finish within a given period. When too many duties and expectations are placed on a worker, it can result in less than ideal outcomes, since individuals have a finite amount of time to manage numerous jobs. If this situation happens often, it can harm employee performance. An alternative definition of workload includes both quantitative and qualitative aspects. Quantitative workload occurs when there are either too many or too few tasks to handle. Qualitative workload takes place when employees feel they cannot meet their obligations or make full use of their abilities or potential (Affini & Perkasa, 2021).

According to research (Rolos et al., 2018), workload has a significant negative impact on employee performance. This negative impact means that as an employee's workload decreases, their performance will improve. This means that workload can control the demands placed on a person's work, and the assignment of excessive tasks to employees can also be detrimental. Companies should also pay more attention to the workload and the capabilities and abilities of their employees.

Work Stress

Basically, stress occurs because of excessive mental burdens and pressure, which cause a lack of concentration. According to Rafii Ar Rasid Mujahidin (2024), work stress is a condition that puts pressure on a person's mind and soul beyond their limits, so that if it is continuously ignored and no solution is found, it will have an impact on their health. Work stress can also cause dissatisfaction related to work. According to research by Wahyu Muji Lestari et al. (2020), work stress has a significant negative impact on employee performance. This means that higher work stress levels result in lower employee performance.

Work Environment

According to Pangaila in (Nazarudin & Suherman, 2024), The concept of a work environment includes all the resources and supplies available in the workplace, the setting where people perform their jobs, their approaches to work, and how their tasks are structured, both individually and in teams. Organizations need to establish an atmosphere that promotes teamwork among managers, junior staff, and peers within the organization. It is essential to create an environment that encourages a positive vibe, effective communication, and personal accountability. The work environment is the space where workers engage in their everyday tasks. A nurturing work environment instills a feeling of safety and enables employees to excel in their roles. The atmosphere of the workplace can affect the feelings of employees Perkasa et al. (2021). Based on previous research conducted (Rahmawati et al., 2021), it was stated that the work environment has a positive and significant effect on employee performance. A good work environment will have a positive impact and increase work enthusiasm. This is because employees experience comfort in carrying out their duties, thus increasing their enthusiasm for the tasks given.

Based on the literature review and previous research related to the research variables proposed in this study, there are independent variables, namely workload, work stress, and work environment, and a dependent variable, namely employee performance. The relationship between these variables can be seen in Figure 1.

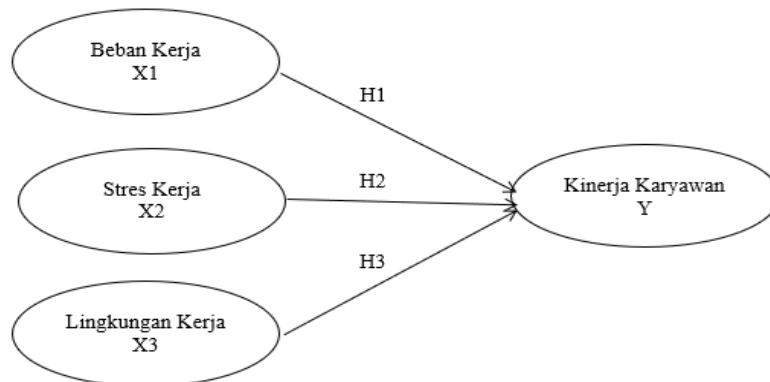


Figure 1. Conceptual Framework
Source: Author 2025

Hypothesis:

H1: There is a negative and significant influence of workload on employee performance at Permata Prima Teknologi

H2: There is a negative and significant influence of work stress on employee performance at Permata Prima Teknologi

H3: There is a positive and significant influence of the work environment on employee performance at Permata Prima Teknologi

METHODS

This study uses a quantitative approach with a causal design that aims to analyze the effect of workload, job stress, and work environment on employee performance. This study was conducted from September 2024 to December 2025 at PT. Permata Prima Teknologi, Central

Jakarta, with a population of 42 employees. The sampling technique used a saturated sampling method, so that the entire population became respondents. The independent variables consist of workload (X1) with dimensions of mental, time, and physical burden, work stress (X2) with dimensions of environmental, organizational, and individual stress and work environment (X3) with physical and non-physical dimensions. The dependent variable is employee performance (Y) with dimensions of work results, work behavior, and personal traits. Data collection was carried out through a questionnaire with a 5-point Likert scale. The data analysis method used was Partial Least Square (PLS) with SmartPLS 4.0 software, including external model testing (convergent validity, discriminant validity, and reliability) and internal model testing (R-square, goodness of fit, and hypothesis testing with bootstrapping at a significance level of 5%).

RESULTS and DISCUSSION

The analytical method used in this study is component-based SEM, with an alternative model in component-based SEM in the form of data processing using the Partial Least Squares (SmartPLS) program (Hair et al., 2022). Partial Least Squares is used to assist researchers in obtaining latent variable values for making predictions.

Table 1. convergent validity test

Variable	Indicator	Value	Description
Workload	BK1	0.902	Valid
	BK2	0.523	invalid
	BK3	0.848	Valid
	BK4	0.883	Valid
	BK5	0.789	Valid
	BK6	0.861	Valid
	BK7	0.550	invalid
	BK8	0.863	Valid
	BK9	0.920	Valid
	BK10	0.492	invalid
Work stress	SK1	0.813	Valid
	SK2	0.863	Valid
	SK3	0.931	Valid
	SK4	0.831	Valid
	SK5	0.890	Valid
	SK6	0.847	Valid
	SK7	0.814	Valid
	SK8	0.835	Valid
	SK9	0.354	invalid
Work environment	LK1	0.772	Valid
	LK2	0.804	Valid
	LK3	0.780	Valid
	LK4	0.847	Valid
	LK5	0.871	Valid
	LK6	0.872	Valid
	LK7	0.871	Valid
	LK8	0.841	Valid
	LK9	0.847	Valid
	LK10	0.861	Valid
	LK11	0.733	Valid
Employee performance	KK1	0.798	Valid
	KK2	0.852	Valid
	KK3	0.851	Valid
	KK4	0.826	Valid
	KK5	0.842	Valid

	KK6	0.815	Valid
	KK7	0.846	Valid
	KK8	0.864	Valid
	KK9	0.854	Valid

Source: 2026 Data Processing Results

From Table 1 above, it can be seen that the factor loading values of indicators BK2, BK7, BK10, and SK9 are less than 0.70. Therefore, the model no longer includes these indicators in the model. Statements on indicators for each invalid variable will be excluded from the model as described above. This is because the AVE (Average Variance Extracted) value is what we want to achieve in this case.

Table 2. convergent validity test (modification)

Variable	Indicator	Value	Description
Workload	BK1	0.902	Valid
	BK3	0.848	Valid
	BK4	0.883	Valid
	BK5	0.789	Valid
	BK6	0.861	Valid
	BK8	0.863	Valid
	BK9	0.920	Valid
Work stress	SK1	0.813	Valid
	SK2	0.863	Valid
	SK3	0.931	Valid
	SK4	0.831	Valid
	SK5	0.890	Valid
	SK6	0.847	Valid
	SK7	0.814	Valid
	SK8	0.835	Valid
Work environment	LK1	0.772	Valid
	LK2	0.804	Valid
	LK3	0.780	Valid
	LK4	0.847	Valid
	LK5	0.871	Valid
	LK6	0.872	Valid
	LK7	0.871	Valid
	LK8	0.841	Valid
	LK9	0.847	Valid
	LK10	0.861	Valid
	LK11	0.733	Valid
Employee performance	KK1	0.798	Valid
	KK2	0.852	Valid
	KK3	0.851	Valid
	KK4	0.826	Valid
	KK5	0.842	Valid
	KK6	0.815	Valid
	KK7	0.846	Valid
	KK8	0.864	Valid
	KK9	0.854	Valid

Source: 2026 Data Processing Results

Table 3. Discriminant Validity test result (Cross Loading)

	Workload	Employee performance	Work environment	Work stress
BK1	0.903	-0.599	-0.422	0.368
BK3	0.851	-0.633	-0.401	0.456
BK4	0.897	-0.715	-0.488	0.498
BK5	0.792	-0.601	-0.418	0.536
BK6	0.857	-0.634	-0.462	0.569
BK8	0.877	-0.608	-0.464	0.443
BK9	0.921	-0.733	-0.528	0.467
K1	-0.548	0.798	0.633	-0.452
K2	-0.643	0.852	0.780	-0.441
K3	-0.630	0.851	0.715	-0.600
K4	-0.626	0.826	0.575	-0.579
K5	-0.593	0.842	0.702	-0.404
K6	-0.593	0.815	0.529	-0.609
K7	-0.682	0.846	0.605	-0.606
K8	-0.681	0.864	0.624	-0.518
K9	-0.617	0.854	0.616	-0.536
LK1	-0.575	0.658	0.772	-0.337
LK10	-0.481	0.687	0.861	-0.315
LK11	-0.415	0.571	0.733	-0.336
LK2	-0.378	0.578	0.804	-0.288
LK3	-0.328	0.534	0.780	-0.278
LK4	-0.419	0.692	0.847	-0.245
LK5	-0.538	0.729	0.871	-0.380
LK6	-0.432	0.637	0.872	-0.237
LK7	-0.273	0.528	0.771	-0.249
LK8	-0.388	0.609	0.841	-0.376
LK9	-0.435	0.651	0.847	-0.349
SK1	0.541	-0.502	-0.316	0.813
SK2	0.497	-0.595	-0.307	0.863
SK3	0.469	-0.524	-0.342	0.930
SK4	0.497	-0.536	-0.301	0.831
SK5	0.474	-0.516	-0.260	0.893
SK6	0.400	-0.590	-0.386	0.848
SK7	0.440	-0.541	-0.372	0.812
SK8	0.420	-0.460	-0.276	0.834

Source: 2026 Data Processing Results

Based on Table 3, the cross-loading test results show that all indicators meet the criteria for good and valid discriminant validity because they have values above 0.7.

Table 4. Average Variance Extracted (AVE) test result

Variable	Average Variance Extracted (AVE)
Workload	0.760
Work stress	0.729
Work environment	0.672
Employee performance	0.704

Source: 2026 Data Processing Results

Table 5. Discriminant Validity test result (Fornell-Larcker Criterion)

	workload	Employee performance	Work environment	Work stress
workload	0.872			
Employee performance	-0.745	0.839		
Work environment	-0.524	0.768	0.820	
Work stress	0.547	-0.628	-0.377	0.854

Source: 2026 Data Processing Results

Tables 4 and 5 show that there is a correlation between each construct in the model that is less than the square root of the average variance extracted (AVE) for each construct. The estimated model constructs have met the discriminant validity requirements, in accordance with the (AVE) values obtained from the tables above.

Table 6. result of Cronbach's Alpha dan Composite Reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
workload	0.947	0.951	0.957
employee	0.947	0.948	0.955
Work environment	0.951	0.954	0.957
Work stress	0.947	0.949	0.956

Source: 2026 Data Processing Results

Referring to Table 6, all variables have achieved composite reliability and Cronbach's alpha values above 0.7. Therefore, it can be concluded that the test results meet the minimum expected standards and show good and reliable values.

Structural model testing (inner model)

Table 7. Result of the coefficient of determination (R²) test

	R-square	R-square adjusted
Employee performance	0.795	0.779

Source: 2026 Data Processing Results

Based on the results of data processing using SmartPLS 4.0, the R-Square value obtained is as shown in Table 7, which is 0.795, with an Adjusted R-Square value of 0.779. An R-Square value of 0.795 indicates that 79.5% of the variation in Employee Performance can be explained by the variables of Workload, Work Stress, and Work Environment. Meanwhile, the remaining 20.5% is explained by other variables.

Table 8. Hypothesis testing result

Variable	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Description
workload -> employee performance	-0.351	0.096	3.649	0.000	Negatif Signifikan
Work stress -> employee performance	-0.252	0.076	3.301	0.001	Negatif Signifikan
Work environment -> employee performance	0.489	0.107	4.557	0.000	Positif Signifikan

Source: 2026 Data Processing Results

The effect of workload on employee performance

Based on the results of the hypothesis test, it is explained that H1 is accepted. Thus, hypothesis H1 in this study states that workload has a negative and significant effect on employee performance. This means that the higher the level of workload experienced by employees, the lower their performance will be. Conversely, the lower the workload, the higher the performance of PT. Permata Prima Teknologi employees. This is indicated by a t-statistic value of 3.649 and an original sample value of -0.351 from the t-table value of 1.96, thus confirming that workload has a negative and significant effect. Based on the highest mean value of 3.619 for the statement "I feel that I have no free time due to my heavy workload," it can be explained that the respondents agree more with this statement. This shows that the workload felt by employees is relatively high, which has an impact on the limited free time they have. The results of this study are consistent with the research of Putri & Handayani (2021) which stated that workload has a significant negative effect on employee performance.

The effect of work stress on employee performance

Based on the results of the hypothesis test, it is explained that H2 is accepted. Thus, hypothesis H2 in this study states that work stress has a negative and significant effect on employee performance. This means that the higher the work stress experienced by employees, the lower their performance will be. Conversely, the lower the level of work stress, the higher the performance of PT. Permata Prima Teknologi employees. This is indicated by a t-statistic value of 3.301 and an original sample value of -0.252 from the t-table value of 1.96, which is declared to be negatively significant. Based on the highest mean value of 3.786 for the statement "I feel that I do not have a balance between work and personal life," it can be explained that respondents tend to agree with this statement. This shows that the work stress felt by employees is relatively high, thus impacting the imbalance between their work and personal lives.

The results of this study align with previous research by Rahmawati et al. (2022), which found that work stress significantly negatively impacts employee performance in the technology industry. When stress impacts the stability and resilience of individuals, it can lead to decreased performance and hinder their careers, which in turn can lead to lower employee performance.

The influence of work environment on employee performance

Based on the results of the hypothesis test, it is explained that H3 is accepted. Thus, hypothesis H3 in this study states that the work environment has a positive and significant effect on employee performance. This means that the higher the work environment experienced by employees, the higher their performance will be. Conversely, the lower the work environment, the lower the performance of PT. Permata Prima Teknologi employees. This is indicated by a t-statistic value of 4.557 and an original sample value of 0.489 from the t-table value of 1.96, which is considered significant. Based on the highest mean value of 3.976 for the statement "I receive social support from colleagues and superiors," it can be explained that respondents tend to agree with this statement. This shows that employees generally feel that there is adequate support from

colleagues and superiors in the work environment, which can support conditions and improve the performance of PT. Permata Prima Teknologi employees.

Thus, the results of this study are in line with research according to Estiana et.al (2023) which states that the work environment has a positive and significant influence on employees providing the quality they have because they feel comfortable and happy in doing their work, so that employees show good quality for the company's goals. Employee performance is the main thing for the company.

CONCLUSION

Workload has a negative and significant effect on the performance of PT. Permata Prima Teknologi employees. This shows that the higher the workload felt by employees, the more their performance tends to decline. Excessive workload can cause physical and mental fatigue, resulting in employees becoming less than optimal in completing their tasks and responsibilities.

Work stress has a negative and significant effect on the performance of PT. Permata Prima Teknologi employees. This shows that the higher the level of work stress felt by employees, the more their performance tends to decline. Excessive work stress can cause significant pressure at work, resulting in employees becoming less than optimal in carrying out their duties.

The work environment has a positive and significant effect on the performance of PT. Permata Prima Teknologi employees. This shows that a good work environment will further improve employee performance.

Suggestions for PT. Permata Prima Teknologi The company is advised to review and adjust the distribution of workload by considering the capacity and competence of each employee. In addition, the company needs to consider adding human resources to minimize work overload. The implementation of effective time management and the provision of supporting facilities and technology are also important aspects in increasing work efficiency. In addition, the company can implement stress management programs, such as counseling services, stress management training, and activities oriented towards improving employee welfare to maintain optimal psychological conditions. The company is advised to maintain and improve the quality of a conducive work environment. These efforts can be made by ensuring the availability of adequate work facilities, creating safe and comfortable working conditions, and building harmonious working relationships both among employees and between superiors and subordinates.

Future research should further develop variables and indicators not yet used in this study, such as work motivation, job satisfaction, leadership, or compensation, to achieve more comprehensive results. Furthermore, future researchers could expand the research to include different companies or industrial sectors with a larger population and sample size to achieve greater diversity in respondent responses and, therefore, more accurate data testing results.

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