

Impact of Workload and Work Environment on Employee Performance: A Study at PT. Samira Makmur Sejahtera

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ABSTRACT

This study aims to analyze the effect of workload and work environment on employee performance, with work stress as a mediating variable at PT. Samira Makmur Sejahtera. The research employs a quantitative approach with simple random sampling, involving 91 employees as samples. Data were analyzed using path analysis along with outer and inner model analysis, assisted by SmartPLS 4.1.0.5 software. The results indicate that workload has a positive and significant effect on employee performance, as does the work environment. Workload also positively and significantly affects work stress, while the work environment has a negative and significant effect on work stress. Work stress negatively and significantly affects employee performance. Mediation analysis reveals that work stress mediates the effect of the work environment on performance, but not the effect of workload. These findings highlight the importance of managing a conducive work environment to enhance employee performance and reduce work stress at PT. Samira Makmur Sejahtera.

Keywords: Workload, work environment, work stress, employee performance, PT. Samira Makmur Sejahtera.

A. INTRODUCTION

In the rapidly advancing industrial era, especially with the emergence of Industry 5.0, every company is required to enhance its competitiveness to remain relevant and superior in global competition. One crucial aspect that must be addressed is human resource management (HRM) as the main key to strengthening, developing, and transforming corporate culture. Employees, as the company's most valuable assets, play a vital role in shaping the company's reputation and profitability (Chandra & Margono, 2021). Therefore, maintaining and improving employee performance becomes a top priority for management.

Performance refers to the achievements attained by a company within a certain period and significantly affects the company's operational success (Magda, 2022). Optimal employee performance contributes effectively to achieving the company's goals. However, many factors influence employee performance, one of which is excessive workload. A high workload often causes work stress that disrupts employees' physical and psychological balance, thus affecting the quality of their performance.

McGrath's workload theory explains that an imbalance between job demands and individual capacity can lead to stress. Work stress itself is an adaptive response involving psychological processes and individual differences (Saputri, 2021). Robbins and Judge's theory states that stress can be either eustress, which is positive stress that motivates employees, or distress, which is negative stress causing harm. If workload is managed ineffectively and support for stress management is lacking, the work environment becomes unhealthy and negatively impacts overall performance (Rohman & Ichsan, 2021).

Besides workload, work environment conditions also have a significant impact on employee performance. Herzberg's theory emphasizes that a conducive work environment, both physically and non-physically, can enhance productivity and work motivation. Conversely, an unsupportive environment reduces employee enthusiasm and performance. Therefore, effective management of the work environment and stress is key to maintaining employee productivity and work quality (Ndandara et al., 2023).

PT Samira Makmur Sejahtera aims to improve employee performance through targets such as acquiring consumers, sourcing Fresh Fruit Bunch (FFB) suppliers, and producing high-quality palm oil. However, an increased workload not balanced by good working conditions can cause stress and disrupt work focus, ultimately lowering employee performance. Hence, the company needs to take strategic steps to create a supportive work environment, including providing facilities, optimal working conditions, and harmonious relationships among employees to enable them to work optimally.

On December 25, 2023, an initial survey was conducted on 10 employees at PT Samira Makmur Sejahtera in Kuala Batee, Southwest Aceh. The survey results showed a significant increase in tasks and responsibilities leading to increased workload, stress, and decreased work quality. Pressure to achieve certain targets altered the work environment dynamics, resulting in lower job satisfaction, higher

turnover rates, and reduced overall company performance. This condition illustrates how high levels of work stress negatively affect productivity and employee absenteeism.

Based on the above description, the main problem to be addressed is how workload and work environment affect work stress and how work stress subsequently influences employee performance at PT Samira Makmur Sejahtera. It is important to examine whether work stress also acts as a mediating variable between workload and work environment and employee performance.

Therefore, this study aims to examine the effect of workload and work environment on employee performance with work stress as a mediating variable at PT Samira Makmur Sejahtera in Kuala Batee, Southwest Aceh. The results are expected to provide strategic recommendations for the company in managing workload, creating a conducive work environment, and effectively managing work stress so that employee performance can improve optimally and sustainably.

B. THEORITICAL

Workload

Workload refers to the amount of tasks or responsibilities assigned to an employee within a specific time frame, including both physical and cognitive demands. According to McGrath's stress theory (1976) and Karasek's Job Demand-Control Model (1979), excessive workload combined with low job control leads to increased psychological strain and job stress. When employees perceive the workload as exceeding their capabilities, it can result in emotional exhaustion and decreased job performance. This aligns with Munandar's (2012) findings that excessive workload can lead to performance decline due to reduced motivation and energy.

Empirical studies support this theoretical basis. Utami and Fadli (2020) found that high workload significantly contributes to increased stress among manufacturing employees, which eventually affects their productivity. Similarly, Saputra and Rahmawati (2021) emphasized that poorly managed workloads lead to burnout and higher turnover intentions. Therefore, workload is not only a technical matter of task distribution but also a psychological stressor that plays a central role in shaping employee behavior and performance outcomes.

Work Environment

The work environment encompasses physical factors such as lighting, temperature, noise, and layout, as well as non-physical factors like interpersonal

relationships, leadership, and organizational culture. According to Herzberg's Two-Factor Theory (1966), the work environment is part of hygiene factors which, when absent or inadequate, cause dissatisfaction. A conducive and supportive work environment can enhance employee well-being, increase motivation, and improve overall performance.

Recent studies reinforce this perspective. Ndandara et al. (2023) found that physical and psychosocial aspects of the work environment have a direct influence on job satisfaction and productivity. A healthy work environment not only minimizes stress but also fosters collaboration and engagement. Conversely, an unsupportive environment can contribute to conflicts, communication breakdowns, and increased absenteeism, all of which negatively impact employee output.

Work Stress

Work stress is defined as a negative psychological and physiological reaction resulting from a mismatch between job demands and an employee's capabilities, resources, or needs. Robbins and Judge (2019) describe job stress as an adaptive response that occurs when an individual faces work-related demands that are perceived as taxing or exceeding their personal resources. Stress can manifest as physical symptoms (e.g., fatigue, headaches) or psychological outcomes (e.g., anxiety, irritability), which disrupt cognitive processes and decision-making.

Studies show that unmanaged stress contributes to reduced job performance, increased mistakes, and lower organizational commitment. Saputri (2021) found that work stress mediates the relationship between workload and performance, particularly when stress levels reach the point of distress rather than eustress. When employees operate under chronic stress without sufficient coping mechanisms or support, their productivity and job satisfaction significantly decline, creating long-term challenges for organizational performance.

Employee Performance

Employee performance refers to the quality and quantity of output generated by an employee in accordance with organizational goals. According to Mangkunegara (2016), performance includes efficiency, punctuality, accuracy, and contribution to team outcomes. High-performing employees not only fulfill individual roles but also add value to the organization by adapting to changes, solving problems, and maintaining a positive work ethic.

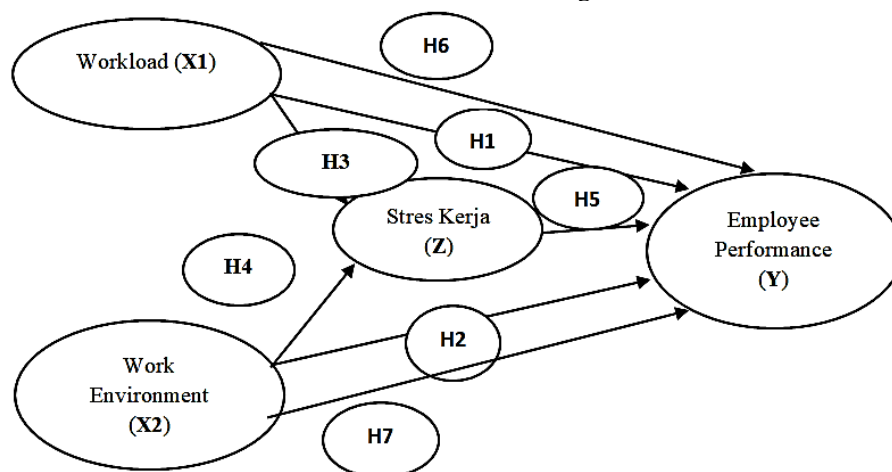
Numerous studies highlight the significance of maintaining optimal performance through sound management practices. Magda (2022) emphasizes that performance is closely linked to mental health, workload balance, and environmental conditions. Rohman and Ichsan (2021) also found that both physical and psychological workplace factors significantly influence job performance. Without proper intervention, stress and poor working conditions can derail even highly capable employees from achieving desired outcomes.

Relationships Between Variables

Theoretical models suggest a clear link between workload, work environment, stress, and performance. According to Karasek's Job Demand-Control Model (1979), high job demands paired with low decision-making autonomy trigger stress, which in turn impacts performance. Robbins and Judge (2019) support this, arguing that unmanaged stress acts as a mediator between workplace conditions and employee output. High workload and a poor work environment jointly increase the likelihood of stress, which decreases productivity.

Empirical evidence from studies such as Putri and Wirawan (2021) and Arifin et al. (2022) confirm this pathway. They found that stress significantly mediates the relationship between workload and employee performance as well as between work environment and performance. These findings underscore the importance of integrating stress management strategies into human resource policies. Addressing stress not only improves employee well-being but also boosts organizational effectiveness and goal attainment.

Picture I. Research design



Source: Processed by researchers (2024)

Hypothesis Study

Based on the research objectives and framework of thought, the research hypothesis that can be formulated is:

H1 : Workload has a positive and significant effect on Employee Performance.

H2 : Work environment has a positive and significant effect on employee performance.

H3 : Workload has a positive and significant effect on Employee Work Stress.

H4 : The work environment has a negative and significant effect on employee work stress.

H5 : Work stress has a negative and significant effect on employee performance.

H6 : Job Stress Mediates the Relationship between Workload and Employee Performance.

H7 : Work Stress Mediates the Relationship between Work Environment and Employee Performance.

C. METHODOLOGY

This study uses an associative quantitative approach, which aims to identify the relationship between variables or other elements (Magda, 2022) . In this study, the relationship studied is a causal relationship, where there is a causal relationship between the independent variable, the dependent variable, and the mediating variable. Sample The focus of this research consists of 91 employees who are actively contributing to the work environment at PT Samira Makmur Sejahtera, a company operating in Kuala Batee, Southwest Aceh.

This study applies path analysis techniques using SmartPLS 4.1.0.5 software. Partial Least Square (PLS) is a very powerful analysis method. The use of SmartPLS allows researchers to analyze data quickly and efficiently, and gain in-depth insights into the relationships between variables in the model created. This allows researchers to make more valid and robust conclusions based on the data analysis carried out (Ringle, Wende, & Becker, 2015).

D. RESULTS AND DISCUSSION

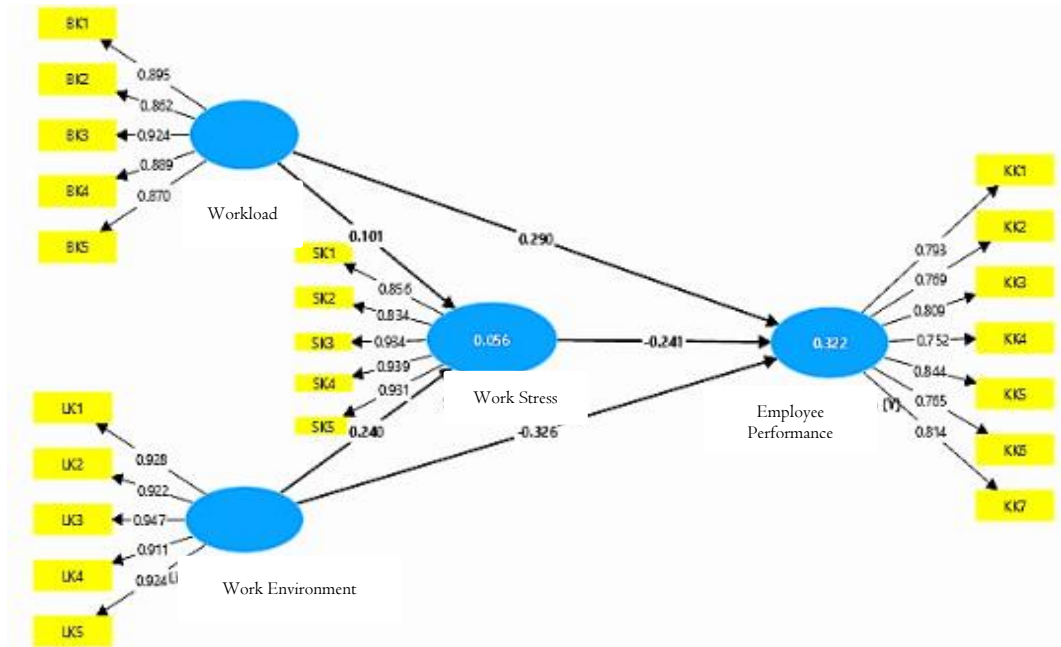
Data Analysis

Outer Model Analysis

In the analysis using SmartPLS, the outer model test includes validity and reliability tests, as suggested by Rahmasari et al. (2019). The validity test aims to ensure that the indicator is able to measure the intended variable accurately, including convergent and divergent tests. Meanwhile, the reliability test is used to assess the reliability of the indicator in measuring the same construct. The results

of these two tests are used to evaluate the quality of the model and the interpretation of relevant empirical data to support valid research decisions.

Figure 2. Outer model



Source: Processed by researchers (2024)

The results of the data processing of the outer model value/correlation between constructs and variables have met convergent validity because they have a fairly reliable loading factor value with all indicator values >0.7 . So it can be interpreted that there is no value below 0.7, and the value is valid.

Table I. Loading factor

Item	Workload (X1)	Employee Performance (Y)	Work Environment (X2)	Work Stress (Z)	Remark
BK1	0.895				Valid
BK2	0.862				Valid
BK3	0.924				Valid
BK4	0.889				Valid
BK5	0.870				Valid
KK1		0.793			Valid
KK2		0.769			Valid
KK3		0.809			Valid
KK4		0.752			Valid
KK5		0.844			Valid
KK6		0.765			Valid
KK7		0.814			Valid
LK1			0.928		Valid

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LK2	0.922	Valid
LK3	0.947	Valid
LK4	0.911	Valid
LK5	0.924	Valid
SK1	0.856	Valid
SK2	0.834	Valid
SK3	0.934	Valid
SK4	0.939	Valid
SK5	0.931	Valid

Discriminant Validity

Discriminant validity refers to the cross loading value of indicators of a construct that should be higher than indicators of other constructs. The results of discriminant validity can be seen in table 4 below:

Table 2. Discriminant validity results

Indicators	Workload (X1)	Employee Performance (Y)	Work Environment (X2)	Work Stress (Z)
BK1	0.895	0.327	-0.179	0.077
BK2	0.862	0.326	-0.221	0.006
BK3	0.924	0.308	-0.179	0.062
BK4	0.889	0.322	-0.215	0.054
BK5	0.870	0.311	-0.288	-0.013
KK1	0.224	0.793	-0.294	-0.227
KK2	0.278	0.769	-0.214	-0.308
KK3	0.168	0.809	-0.412	-0.238
KK4	0.467	0.732	-0.256	-0.127
KK5	0.281	0.844	-0.493	-0.246
KK6	0.297	0.765	-0.436	-0.140
KK7	0.274	0.814	-0.417	-0.351
LK1	-0.260	-0.454	0.928	0.164
LK2	-0.258	-0.420	0.922	0.

Based on table 4, it can be seen that the cross loading value for each indicator already has a value that is greater than the indicators of other construct variables. So it can be said that all constructs already have high discriminant validity.

The Average Variance Extracted (AVE) results indicate that all constructs Workload, Work Environment, Work Stress, and Employee Performance have AVE values greater than 0.50. This implies that more than 50% of the variance

in the indicators is captured by the respective constructs, confirming that each construct has good discriminant validity. Therefore, the data used in this study is valid and meets the criteria for continuing further structural model analysis.

Table 3. Discriminant validity (AVE) and reliability test results

Variable	Cronbach's Alpha	Composite Reliability (rho_A)	Average Variance Extracted (AVE)	Validity
Workload (X1)	0.933	0.933	0.788	Valid
Employee Performance (Y)	0.902	0.909	0.628	Valid
Work Environment (X2)	0.959	0.962	0.858	Valid
Work Stress (Z)	0.941	0.950	0.810	Valid

Reliability is demonstrated by the values of Cronbach's alpha and composite reliability (rho_A), where all variables scored above 0.70. According to Ghazali (2006), these values confirm the internal consistency of the constructs. With Cronbach's alpha ranging from 0.902 to 0.959 and composite reliability from 0.909 to 0.962, it can be concluded that the indicators consistently measure the intended latent variables. Thus, the constructs used in this study are both valid and reliable.

Inner Model Analysis

The test the significance and strength of the relationship between variables in the structural model, an inner model analysis is conducted. This analysis includes the evaluation of the direct influence between constructs, which is essential to assess the predictive relevance of the model and test the research hypotheses. Table 6 presents the direct influence between workload, work environment, work stress, and employee performance, including their respective standard deviations, t-statistics, and p-values.

Table 4. Direct influence

Relationship	Standar deviation	T-Statistic	P Values
Workload (X1) → Employee Performance (Y)	0.107	2.717	0.007
Workload (X1) → Work Stress (Z)	0.124	2.224	0.027
Work Environment (X2) → Employee performance (Y)	0.105	2.282	0.023
Work Environment (X2) → Work Stress (Z)	0.097	3.375	0.001
Work Stress (Z) → Employee Performance (Y)	0.091	2.642	0.008

The results shown in Table 6 indicate that all direct path coefficients in the model are statistically significant, as the p-values for each relationship are below the 0.05 threshold. Specifically, workload (X1) has a positive and significant

effect on employee performance (Y) and also significantly increases work stress (Z). Similarly, the work environment (X2) significantly affects both employee performance positively and work stress negatively, indicating that a better work environment reduces stress levels.

Furthermore, work stress (Z) has a significant negative impact on employee performance (Y), implying that higher levels of stress are associated with decreased performance. These findings support the theoretical framework and suggest that both workload and work environment not only influence performance directly but also indirectly through work stress, thus validating the mediating role of stress in the model.

Table 5. Indirect influence

Relationship	Standar deviation	T-Statistic	P Values
Work Stress (Z) → Workload (X1) → Employee Performance (Y)	0.051	1.736	0.083
Work Stress (Z) → Work Environment (X2) → Employee Performance (Y)	0.044	3.141	0.002

The results of Table 7 demonstrate the indirect influence between variables through the mediating role of work stress. The relationship between Workload (X1) → Work Stress (Z) → Employee Performance (Y) has a standard deviation of 0.051, a t-statistic of 1.736, and a p-value of 0.083, indicating that the mediating effect of stress in this path is statistically insignificant at the 5% level. In contrast, the relationship between Work Environment (X2) → Work Stress (Z) → Employee Performance (Y) shows a standard deviation of 0.044, a t-statistic of 3.141, and a p-value of 0.002, which is highly significant. This implies that work stress significantly mediates the effect of the work environment on employee performance, highlighting the crucial role of a supportive work environment in reducing stress and enhancing performance.

Discussion

The results of the inner model analysis indicate that workload (X1) has a significant positive effect on employee performance (Y) with a t-statistic of 2.717 and a p-value of 0.007. This finding aligns with the research by Pratiwi & Yuniarsih (2020), who found that an optimal workload, when managed effectively, can enhance employee productivity. However, it is important to note that while workload increases performance, excessive workload can lead to stress,

which ultimately reduces performance. Hence, balance is key. This study provides empirical evidence that workload, when within acceptable limits, motivates employees to perform better.

Furthermore, the analysis shows that workload (X1) also has a significant positive effect on work stress (Z) (t-statistic = 2.224; $p = 0.027$). This supports the Job Demand-Control model by Karasek (1979), which posits that high job demands (such as heavy workload) can increase psychological strain and stress. This finding is in line with research by Sutanto & Dewi (2021), who concluded that employees under constant pressure from high workloads experience increased levels of stress, potentially leading to burnout if not accompanied by adequate job control and support.

Interestingly, work stress (Z) significantly and negatively affects employee performance (Y) (t-statistic = 2.642; $p = 0.008$). This is consistent with the findings of Robbins & Judge (2017), who explain that stress can reduce motivation, concentration, and decision-making abilities. The negative relationship confirms that prolonged stress levels can reduce work quality and lead to performance deterioration. It highlights the importance of organizational interventions aimed at managing employee stress through counseling, workload balancing, and a supportive environment.

The role of work environment (X2) is also significant in this study. The results indicate a positive and significant effect of the work environment on employee performance ($t = 2.282$; $p = 0.023$). This is supported by findings from Indrawati & Sudibya (2015), who argue that a conducive work environment encompassing physical layout, psychological safety, and supportive culture positively influences employee motivation and performance. A safe and supportive environment increases employee engagement and reduces job dissatisfaction, which ultimately enhances productivity.

Moreover, the work environment (X2) significantly and negatively influences work stress (Z) ($t = 3.375$; $p = 0.001$), confirming that a poor environment can be a source of stress. This is in line with research by Bakker & Demerouti (2007) on the Job Demands-Resources (JD-R) model, which highlights that job resources, such as a supportive environment, help buffer the negative impact of job demands on stress. A well-structured environment can thus serve as a protective factor, mitigating stress and its impact on performance.

The indirect effect analysis revealed that work stress mediates the relationship between work environment and employee performance significantly

($p = 0.002$), while it does not mediate the relationship between workload and performance ($p = 0.083$). These results reinforce the idea that stress plays a more critical role in the context of environmental conditions than in workload. This suggests that improving the work environment is a more effective strategy for performance enhancement than simply adjusting workload. The findings offer a valuable contribution to strategic HR management, particularly in prioritizing workplace design, mental health support, and stress-reducing policies.

E. CONCLUSION

Based on the results of the analysis, this study concludes that workload (X1), work environment (X2), and work stress (Z) all play significant roles in influencing employee performance (Y). Workload has a direct positive effect on employee performance, indicating that a balanced level of work can motivate employees to be more productive. However, workload also increases work stress, which in turn negatively affects employee performance. This suggests the existence of a complex dynamic where workload can both enhance and undermine performance depending on how it impacts stress levels.

The work environment, on the other hand, has a dual role. It not only directly enhances employee performance but also indirectly improves performance by reducing stress. A supportive, comfortable, and well-managed work environment can act as a buffer against stress and help optimize employee output. These findings support prior theoretical frameworks such as the Job Demands-Resources (JD-R) model and reinforce the importance of environmental factors in shaping organizational outcomes.

This study, however, is not without limitations. The sample was limited to a specific organizational context and geographical area, which may affect the generalizability of the findings. Additionally, the cross-sectional design limits the ability to observe changes over time or establish stronger causal inferences. Psychological variables such as individual resilience, coping strategies, or emotional intelligence were not included in the model, although they could significantly mediate or moderate the observed relationships.

For future research, it is recommended to adopt a longitudinal design to observe how workload, stress, and performance evolve over time. Including a more diverse sample across different sectors and locations would improve generalizability. Practically, organizations should implement balanced workload policies, stress management programs, and invest in improving the work

environment. Managers should also consider individual differences in stress perception and resilience to design more personalized employee support systems.

REFERENCES

- Ahmad, Y., Tewal, B., & Taroreh, R. N. (2019). The influence of job stress, workload, and work environment on employee performance at PT. FIF Group Manado. *EMBA Journal: Journal of Economic, Management, Business and Accounting Research*, 7(3), 1174–1184. <https://ejournal.unsrat.ac.id/index.php/emba/article/view/23747>
- Asbath, R. (2017). *The effect of workload on employee performance with work stress as an intervening variable* (Bachelor's thesis, Maulana Malik Ibrahim State Islamic University). UIN Malang Repository.
- Chandra, V., & Margono, Y. C. W. A. (2021). The effect of satisfaction at work in employee turnover intention. *Journal of Economic and Business Research*, 14(3), 201–211. <https://doi.org/10.26623/jreb.v14i3.4311>
- Gunawan, A., & Sari, M. (2022). Exploring the link between workload, stress and employee productivity: A literature review. *Jurnal Administrasi dan Organisasi*, 9(4), 103–110.
- Magda, M. (2022). The influence of work stress, motivation and compensation on employee performance of PT. Sinarmas Multifinance Malang Branch during the COVID-19 pandemic. *Journal of Economics, Management and Business*, 3(1), 47–57. <https://doi.org/10.32815/jubis.v3i1.1087>
- Nabawi, R. (2019). The influence of work environment, job satisfaction and workload on employee performance. *Maneggio: Scientific Journal of Master of Management*, 2(2), 170–183. <https://doi.org/10.61132/manuhara.v2i1.426>
- Ndandara, V., Manafe, H. A., Yasinto, Y., & Man, S. (2023). The influence of workload, and work environment through job satisfaction as a mediating variable on employee work discipline: A study of human resource management literature. *Journal of Educational Management and Social Sciences*, 4(1), 173–187. <https://doi.org/10.38035/jmpis.v4i1.1416>
- Nisa, N., & Novriansyah, R. (2022). The effect of workload on employee performance moderated by work motivation at Muara Bungo University. *Scientific Journal of Economics & Science*, 3(2), 1–11.
- Nugroho, M. A. (2022). Impact Of Islamic Character, Information, And Innovation On Business Performance In The Tempe Industry. *Journal of Principles Management and Business*, 1(02), 104–114. <https://doi.org/10.55657/jpmb.v1i02.78>

- Putri, A. Y., & Hidayat, R. (2022). Effect of workload and work environment on employee performance mediated by job satisfaction. *Journal of Management and Indonesian Business*, 8(2), 55–70.
- Rahmat, A., & Wibowo, T. (2023). Psychological impact of excessive workload on employee wellbeing and its influence on performance. *Journal of Work and Organizational Psychology*, 5(1), 23–34.
- Risambessy, A. (2022). Workload factors affecting the performance of Ambon City Land Office employees. *Cita Ekonomika Journal*, 13(2), 19–27. <https://doi.org/10.51125/citaekonomika.v13i2.2118>
- Rizky, D., & Afrianty, T. W. (2018). The effect of workload on work stress with work life balance as a mediating variable. *Jurnal Psikologi Indonesia*, 15(2), 134–145.
- Siregar, L. N., & Raharjo, B. (2021). Work stress as a determinant of employee performance in public sector. *Jurnal Administrasi Publik*, 11(2), 115–123.
- Setiawan, H., & Fitriani, D. (2023). The role of work environment and workload in shaping employee performance: Mediating role of work stress. *Jurnal Ilmu Manajemen Terapan*, 6(1), 1–12.
- Yuliana, N., & Nugroho, A. (2021). Job stress as a mediator between work environment and employee performance: A case study in manufacturing industry. *International Journal of Management Research and Economics*, 4(3), 89–101.