



# Determinants of employee performance: the role of workload and physical work environment

Section:  
HR Management

Amelia Farismawarni & Ignatius Ario Sumbogo

Kalbis Institute of Technology and Business, Jakarta, Indonesia

## Abstract

This research aimed to investigate the impact of work and work environment on the efficiency of staff members in a government unit in Jakarta. A quantitative approach with descriptive statistical data processing techniques was used in this study. The researcher adopted the field research method and conducted direct observations to accurately understand the conditions. 77 employees from the same department were asked to complete questionnaires to collect data. The research findings indicate that workload does not affect employee performance significantly. On the other hand, the physical work environment positively and substantially impacts employee performance.

Received: 10 Apr 2023  
Revised: 05 Jun 2023  
Accepted: 21 Jun 2023  
Online: 30 Jun 2023

JRMB  
Jurnal Riset  
Manajemen dan Bisnis

Vol. 8, No.1, 2023  
pp. 41-48

## Keywords:

*Workload, physical work environment, employee performance, sub-department.*

## Corresponding author

Amelia Farismawarni

Email: [emalia.farismawarni.kalbis@gmail.com](mailto:emalia.farismawarni.kalbis@gmail.com)

© The Author(s) 2023

DOI: <https://doi.org/10.36407/jrmb.v8i1.925>



CC BY: This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use.

## Abstrak

Penelitian ini bertujuan untuk mengetahui dampak beban kerja dan lingkungan kerja terhadap efisiensi pegawai di suatu unit pemerintahan di Jakarta. Pendekatan kuantitatif dengan teknik pengolahan data statistik deskriptif digunakan dalam penelitian ini. Peneliti menggunakan metode penelitian lapangan dan melakukan observasi langsung untuk memahami kondisi secara akurat. 77 karyawan dari departemen yang sama diminta mengisi kuesioner untuk mengumpulkan data. Hasil penelitian menunjukkan bahwa beban kerja tidak berpengaruh signifikan terhadap kinerja pegawai. Di sisi lain, lingkungan kerja fisik berdampak positif dan signifikan terhadap kinerja karyawan.

**Kata kunci:** Kinerja pegawai; beban kerja, lingkungan kerja fisik

## INTRODUCTION

In this era of globalization and technological advances, organizations must be capable of adapting and making changes to stay relevant. These challenges impact government and business agencies. Government institutions must demonstrate optimal management performance by fulfilling public service needs and operating trustworthily. The success of an organization depends on its human resources, who plan, implement, and control all activities. HR is essential to achieving company goals and driving organizational processes. If HR cannot develop and adapt to change, the organization's quality will decline. Therefore, companies must provide positive direction and support to ensure the growth and development of their human resources, which in turn leads to overall company success. The most crucial asset of any organization is its employees. They determine the progress and success of a company. They are a vital pillar for survival in the era of globalization. Effective management of human resources is essential to ensure that employees meet company expectations and achieve common goals.

In today's rapidly changing business landscape and competitive market, it's crucial to comprehend the elements that impact the efficiency of both employees and organizations. The first objective of this research is to explore how workload impacts employee performance in a constantly changing and intricate work setting. We will gather information from diverse industries to determine the correlation between workload and several performance metrics, including productivity, work quality, and employee well-being. Workload is a vital aspect that can influence performance, as it involves the quantity and complexity of tasks an employee handles while working. A suitable workload can boost productivity and aid in achieving organizational goals. However, excessive or disproportionate workloads can have an adverse impact on employee well-being and overall performance.

Even though studies like Dehais et al. (2020) and Pourteimour et al. (2021) have confirmed the link between workload and performance, it's important to note that various work environments can lead to different outcomes. Therefore, it's essential to investigate how workload affects individual and corporate performance in government work units. It's crucial to comprehend how the amount of work employees assign impacts their productivity, motivation, work quality, and well-being. Moreover, studies have found a relationship between workload and performance that follows an inverted U shape. This means that employee output increases as workload increases, up to a certain point. However, once the workload exceeds this point, employee output decreases significantly. If the number of quality problems is lowest when the workload is moderate. When the workload is too low or too high, the number of quality problems increases. This suggests that there is also an inverted U relationship between workload and output quality. In other

words, the high quantitative output is correlated with high-quality performance (Bruggen, 2015). Hence, further research is necessary to gain a comprehensive understanding of this intricate matter (Bruggen, 2015; Dehais et al., 2020; Fan & Smith, 2017; Pourteimour et al., 2021).

In addition to workload, this study emphasizes the importance of the work environment in the modern workplace. The physical conditions of the workplace, including lighting, temperature, noise levels, and room design, can significantly impact employee comfort, well-being, and productivity (Hasanah, 2022; Pawirosumarto et al., 2017). As organizations aim to create a work environment that supports employee welfare and operational efficiency, understanding the connection between the physical work environment and performance is increasingly crucial. The right environmental conditions can help employees feel at ease, motivated, and productive. Conversely, an uncomfortable or poorly designed environment can hinder employee focus, motivation, and productivity. Therefore, researching how good lighting, optimal layout, and noise reduction can affect individual and team performance is vital for organizational management. Optimizing the physical work environment can enhance performance and minimize the risk of health problems and work fatigue (Pawirosumarto et al., 2017). Hence, the second aim of this study is to investigate the effects of the physical work environment on employee performance.

In sum, this study aims to enhance our comprehension of how the workload and physical work environment affect employee performance. The practical implications of these findings will aid human resource management in designing effective workload strategies and reducing the negative impacts of excessive workload. Moreover, this research will add to the existing academic literature on organizational psychology and performance management, potentially promoting better management practices and sustainable achievement of organizational goals.

## THEORETICAL BACKGROUND

The importance of job performance to businesses has been thoroughly investigated in management over the past few decades (Lepine et al., 2005). It refers to the actions and behaviors of individuals that contribute to the organization's goals (Bruggen, 2015). Employee performance is a crucial factor that affects company outcomes and success. A frequently asked question in this context is how workload affects employee performance, especially at low or high levels. Much research has been conducted on the relationship between goals and performance (Bruggen, 2015).

### Workload and performance

Goal-setting and workload are two different concepts. Goals are usually specific, while workload is often described as being busy without a particular target. Without a target, a plan becomes a "do-your-best" goal (Bruggen, 2015). Many studies have linked high workload with stress, which can be caused by the number or difficulty of tasks. Increasing the number or difficulty of tasks can increase workload and job stress. The workload of a worker is determined by the difference between their ability/capacity and the demands of their job. Since each person has different physical and mental abilities, it's essential to ensure that the workload is manageable and manageable. If the workload is too high, it can result in excessive energy expenditure, leading to increased stress. Alternatively, if the workload is too low, it can make the employee feel bored and stressed. Therefore, it's

essential to find a balance and ensure that the workload intensity for each individual is optimal. This means the workload intensity will differ for each person.

The relationship between workload, job stress, and job performance has been extensively studied. While positive and negative effects of stress have been found, the results are mixed. Research conducted by Nabawi (2019: 181) shows that workload significantly impacts employee performance. To ensure maximum performance, organizations should pay attention to one of the workload dimensions (Nabawi, 2019). Regarding workload and performance, research suggests that individuals may need a certain amount of stress or challenge to perform at their best. In fact, performance tends to be lowest when the workload is too low, moderate when the workload is moderate, and high when the workload is high. However, only a few laboratory studies have supported this idea (Bruggen, 2015; Pangestuti, 2020).

**H1:** Workload significantly affects performance

### **Work environment and performance**

The work environment, as defined by Mangkunegara (2017) encompasses the tools and materials that employees encounter and their individual and group work methods and arrangements. It is a crucial factor in achieving optimal employee performance, as it directly impacts the completion of tasks. When employees can optimally carry out their activities and feel safe and comfortable, it indicates a good work environment. Creating a favorable work environment is critical to achieving organizational goals and providing optimal service to the community. Conversely, a poor work environment can lower employee morale and decrease performance, hindering the organization from achieving its goals and ideals (Amalia & Indratono, 2018).

The working environment includes various factors such as space, physical layout, noise, tools, materials, and co-worker relationships. The quality of these factors significantly impacts the performance of work. A work environment is where employees carry out their activities, and it can affect their results positively or negatively. A favorable work environment can ensure the continuity of employment. In contrast, an unfavorable work environment can have a negative impact on employment continuity (Pawirosumarto et al., 2017). Similarly, Nan Wangi (2020) found that the physical work environment positively and significantly impacts employee performance.

**H2:** Work environment significantly affects performance

## **METHODS**

The research employs the field research method, which involves collecting data directly from the field by observing natural phenomena or situations. The collected data is then recorded, compiled, and presented as a frequency table. It is subsequently measured and tested using statistical values to validate its accuracy.

### **Sample procedure**

Respondents in this study were employees of a South Jakarta government work unit, totaling 77 people. Collecting data in this study using Google Forms is ineffective if the data collection is done directly, considering conditions currently precarious like this. The characteristics contained in this study include age, gender, length of work, and employee

status. From the results of Table 1, it can be concluded that there are 29 employees aged around 20-30 years with a percentage of 37.7%, and those aged approximately 31-46 years, there are 38 people with a percentage of 49.4%, respondents aged around 47-55 years there were 8 people with a portion of 10.4% and the last respondent who was more than 56 years old there were 2 people with a percentage of 2.6%.

Table 1. Respondent characteristics

	Percentase
Age	
20-30 yrs	37,7%
31-46 yrs	49,4%
47-55 yrs	10,4%
>56 yrs	2,6%
Gender	
Male	36,4%
Female	63,6%
Tenure	
< 1 yrs	9,1%
1-5 yrs	53,2%
6-10 yrs	31,2%
> 11 yrs	6,5%
Employment status	
Permanent	58,45%
Contract	41,55%

Table 1 shows 49 female employees, 63.6% of the workforce, and 28 male employees, accounting for 36.4%. The number of employees with less than 1 year of service is 7, which is 9.1% of the total. Furthermore, there are 41 employees with a length of service between 1-5 years, comprising 53.2% of the workforce. Additionally, there are 24 employees with a distance of service between 6-10 years, which is 31.2% of the workforce. Finally, there are 5 employees with more than 11 years of service, 6.5% of the workforce. Based on employment status, there are 45 permanent employees, representing 58.45% of the workforce, and 32 employees with contract status, accounting for 41.55%.

### Measurement

The workload in this study is based on Minister of Home Affairs Regulation No. 2/2008 as the amount of work that must be carried out by a position or unit in an organization and is a result of the volume of work and time specifications. The physical work environment is the totality of all physical aspects that surround/influence each individual. In general, an organization's physical work environment is where employees carry out their daily activities, tasks, and work (Handoko, 2014: 186). Employee performance is the result of work that employees have achieved in carrying out all their responsibilities and duties so that employees can contribute to an organization (Rosita & Cahyani, 2019).

## RESULTS AND DISCUSSION

According to Table 2, using the formula  $(n-k-1)$  or  $76-2-1 = 73$ , the F table value is 3.122. As  $F \text{ count} > F \text{ table}$  ( $82,608 > 3.122$ ),  $H_1$  is rejected. This indicates a significant impact of workload and physical work environment on employee performance. Therefore, employee performance is jointly affected by workload and physical work environment. The R Square column displays a value of 0.694 or 69%, which shows that 69% of the variance in employee performance can be explained by the independent variables, namely workload and physical work environment. The remaining 31% is influenced by other variables not included in this research.

Table 1.  
*Regression results*

Variable	Coefficient	SE	Prob.
Workload	.066	.112	.557
Work environment	.666	.084	.000
Adj. R <sup>2</sup>	.694		
F-statistics	82.608		

Source: SPSS 25 output results

Table 2 shows that workload does not significantly affect employee performance, as the calculated t value (0.590) is smaller than the t table value (1.971) and  $\text{Sig} < \alpha$  ( $0.557 > 0.05$ ). Thus,  $H_1$  was rejected. On the other hand, the physical work environment has a positive and significant effect on employee performance, as the calculated t value (7.940) is greater than the t table value (1.971) and  $\text{Sig} < \alpha$  ( $0.000 < 0.05$ ). Therefore,  $H_2$  is accepted.

The study did not demonstrate a clear link between workload and performance. However, the findings support the concept of an inverted U relationship, as suggested by Bruggen (2015). This theory, known as Activation Theory or Arousal Theory, proposes that an individual's psychological activation is necessary for effective and efficient performance and to achieve goals. With this activation, an individual is likely to succeed in their work. However, there is a limit to the activation level, beyond which an individual becomes overworked and overstressed, resulting in reduced performance. Yerkes and Dodson (Bruggen, 2015) proposed a curvilinear relationship between workload and job performance, with performance increasing as workload increases, but only up to a certain point. Once the workload becomes too high, performance decreases. Therefore, optimal performance is achieved at moderate levels of workload. At low levels, activation may be too intense for effective implementation. In contrast, it may be too high at high levels to be beneficial. A workload that is too light or too heavy can also affect productivity. A workload that is too low may reduce productivity levels. At the same time, a workload that is too heavy may result in fatigue and confusion. Quality of work can also be affected by workload. More tasks in a short time may result in rushed and low-quality work, harming a company's reputation and requiring additional resources to improve.

In the variable measuring workload, the BK\_3 statement has the smallest average mean value of only 4.013, and it states that the workload assigned to employees by the leadership exceeds the predetermined portion, causing them to feel overwhelmed. The managerial implication is that this issue must be addressed and corrected to maintain the

company's progress and development. If employees cannot perform optimally, the company will fail to achieve its targets.

In the variable measuring physical work environment, the LKF\_9 statement has a mean value with the most minor average of 4.09211, and it states that the lighting sources in the employee's room are inadequate. The managerial implication is that this issue needs to be improved because it can negatively affect employee performance. Companies should increase lighting sources to help employees carry out their activities comfortably and effectively. Moreover, employee performance, statement KK\_4 has the smallest average mean value of only 4.07895, and it states that the employee receives a volume of work that does not follow their job description or abilities. The managerial implication is that this issue must be addressed and reviewed to ensure the company can achieve its targets. If the company assigns work inaccurately, it can cause chaos and result in unsatisfactory outcomes.

Based on the findings of this study, it is recommended that organizations make improvements to the physical work environment. Specifically, the walls of the main access room should be repainted, and additional lighting should be installed in the workroom to enhance brightness. This will enable employees to perform their duties optimally. Additionally, a dedicated storage room should be provided for archives to ensure that employees can easily access the data they need. Organizing archives can also improve efficiency and effectiveness, streamlining the time required to complete tasks. Moreover, having neatly arranged files can enhance the room's overall aesthetics, creating a clean and comfortable atmosphere.

## CONCLUSION

The primary objective of this investigation is to scrutinize the influence of workload and physical work environment on the performance of employees in a government service unit. The methodology employed to gather the necessary information involved the distribution of questionnaires to 77 participants, and the data was analyzed using SPSS for Windows software version 20.0. Based on the outcomes of the study, it can be deduced that workload does not significantly impact employee performance. On the other hand, the physical work environment has a positive and significant effect on the performance of employees. Therefore, a conducive physical work environment is crucial in enhancing employee performance.

In this research, the variables being studied are limited in scope. Future researchers need to explore other variables that could impact employee performance. By doing so, a more comprehensive understanding can be gained through the perspectives and opinions of a broader range of individuals. While the number of participants in this study was relatively small, increasing the sample size in future research can provide a more accurate representation of the conditions within the studied companies. It is recommended that future researchers choose a research location that offers convenient access to both primary and secondary data sources, as this can streamline the data collection process.

## REFERENCES

- Amalia, N. M. R., & Indratono, S. (2018). Pengaruh Lingkungan Kerja Dan Motivasi Kerja Terhadap Kinerja Pegawai Di Dinas Tenaga Kerja Dan Sosial Kabupaten Sleman the. *Jurnal Fakultas Ekonomi*, 046, 622–634.

- Bruggen, A. (2015). An empirical investigation of the relationship between workload and performance. *Management Decision*, 53(10), 2377–2389. <https://doi.org/10.1108/MD-02-2015-0063>
- Dehais, F., Lafont, A., Roy, R., & Fairclough, S. (2020). A Neuroergonomics Approach to Mental Workload, Engagement and Human Performance. *Frontiers in Neuroscience*, 14. <https://doi.org/10.3389/fnins.2020.00268>
- Fan, J., & Smith, A. P. (2017). The Impact of Workload and Fatigue on Performance. In L. Longo & M. Leva (Eds.), *Communications in Computer and Information Science* (pp. 90–105). [https://doi.org/10.1007/978-3-319-61061-0\\_6](https://doi.org/10.1007/978-3-319-61061-0_6)
- Hasanah, U. (2022). Negative Work Psychology Perspective and Work Environment on Performance. *PRODUKTIF: Jurnal Kepegawaian Dan Organisasi*, 1(1), 19–27.
- Lepine, J. A., Podsakoff, N. P., & Lepine, M. A. (2005). A Meta-Analytic Test of the Challenge Stressor–Hindrance Stressor Framework: An Explanation for Inconsistent Relationships Among Stressors and Performance. *Academy of Management Journal*, 48(5), 764–775. <https://doi.org/10.5465/amj.2005.18803921>
- Mangkunegara, A. A. P. (2017). *Manajemen Sumber Daya Manusia*. Remaja Rosdakarya.
- Nabawi, R. (2019). Pengaruh Lingkungan Kerja, Kepuasan Kerja dan Beban Kerja Terhadap Kinerja Pegawai. *Maneggio: Jurnal Ilmiah Magister Manajemen*, 2(2), 170–183. <https://doi.org/https://doi.org/10.30596/maneggio.v2i2.3667>
- Nan Wangi, V. K. (2020). Dampak Kesehatan Dan Keselamatan Kerja, Beban Kerja, Dan Lingkungan Kerja Fisik Terhadap Kinerja. *Jurnal Manajemen Bisnis*, 7(1), 40–50. <https://doi.org/10.33096/jmb.v7i1.407>
- Pangestuti, N. A. (2020). Pengaruh Lingkungan Kerja Fisik dan Non Fisik Serta Stres Kerja Terhadap Kinerja Karyawan Pabrik Suka Rasa Bakery. *Jurnal Manajemen*, 10(2), 79. <https://doi.org/10.26460/jm.v10i2.1407>
- Pawirosumarto, S., Sarjana, P. K., & Gunawan, R. (2017). The effect of work environment, leadership style, and organizational culture towards job satisfaction and its implication towards employee performance in Parador Hotels and Resorts, Indonesia. *International Journal of Law and Management*, 59(6), 1337–1358. <https://doi.org/10.1108/IJLMA-10-2016-0085>
- Pourteimour, S., Yaghmaei, S., & Babamohamadi, H. (2021). The relationship between mental workload and job performance among Iranian nurses providing care to COVID-19 patients: A cross-sectional study. *Journal of Nursing Management*, 29(6), 1723–1732. <https://doi.org/10.1111/jonm.13305>

## Declarations

### Funding

The authors received no financial support for the research and publication of this article.

### Conflicts of interest/ Competing interests:

The authors have no conflicts of interest to declare that are relevant to the content of this article.

### Data, Materials and/or Code Availability:

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

### How to cite this Article

Mais, R., & Hastuti, D. D. (2023). Profitability and zakat payment: The role of firm size. *Jurnal Riset Manajemen Dan Bisnis*, 8(1), 33–40. <https://doi.org/10.36407/jrmb.v8i1.882>