How workload impacts the employee performance and how work stress acts as a mediating variable in shoes manufacturing company

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Abstract

The global industry has been significantly affected by Covid 19, resulting in a reduction in organizational structure, an increase in demand for raw materials and delivery services, and a rise in prices that negatively affect the manufacturing industry. The department responsible for managing these issues is the purchasing department, which will experience a surge in workload and work pressure for its employees. Improving employee performance is a challenge for companies to maintain survival. The thing that needs to be considered is the workload of employees which affects work stress and ultimately causes a decrease in employee performance. The main objective in this research is to examine the effect of workload on performance through work stress. Research using quantitative research methods. The questionnaire has been tested for validity and reliability and distributed to 110 purchasing employees. SmartPLS 3 is used to process data from research results. The results of the study are that there is a negative effect of workload on performance, there is a positive influence of workload on work stress, there is a negative effect from work stress on employee performance, there is a negative effect of workload on performance through work stress on purchasing employee. The results of this study can be used by companies to improve their performance, especially from factors related to workload and employee work stress.

Introduction

The Ministry of Industry (2020) reports that manufacturing is a continuously growing industry in Indonesia and relies on production to sustain company operations. It is crucial to achieve production targets for a company’s success, and this requires the entire supply chain process to run smoothly. Any disruption in the supply chain can negatively impact the production process as the input process becomes output.

Purchasing is a crucial process in the supply chain. However, the current pandemic conditions have presented several challenges to the company's purchasing process. These challenges include disruptions in raw material supply from suppliers affected by the COVID-19 pandemic, an overwhelming demand for shipping services that has rapidly increased, rising raw material prices due to high demand, the impact of the country's economy, and the inability of human resources to operate the purchasing process efficiently in the face of the pandemic.

Companies require human resources to accomplish various tasks. Human resources are active participants in company activities, as they act as performers, planners, and decision-makers responsible for achieving the company's objectives. Ganyang (2018;187) suggests that employee performance significantly influences a company's success. Furthermore, Lauren et al. (2017;1) argued that employees with talent and creativity dominate organizational success by achieving organizational goals. According to Zakaria et al. (2017;83), companies that manage their human resources effectively provide employees with the ability to adapt to changes in the business environment and continuously deploy their capabilities.
Company, particularly those involved in purchasing manufacturing, have observed their employees' performance during the COVID-19 pandemic. Unfortunately, it has been discovered that employees are presently underperforming. The company evaluates employee performance using key performance indicators (KPIs) on a monthly basis. These KPIs had four components: quality, SM, work attitude, and satisfaction.

At the beginning of 2020, there was a restructuring in the organization of the Company's purchasing department. From 2020 to 2022, the Purchasing Department was placed under Production GM. Initially, the company had 25 production lines and only one purchasing department. However, due to the company's growth in 2020 to 2021, it expanded to 30 production lines, requiring the division of the company into two parts: West, consisting of Admin and production, with a total of 10 production lines; and East, which focuses solely on production, with a larger number of production lines, totaling 20.

As a result, the purchasing department in the East region has to handle the procurement of materials and non-materials for production in twice as many lines as in the West region. Although the purchasing department will be incorporated into the administration section in 2022, the number of production lines managed by the purchasing department in the East/North region will still be 20.

The difference in the number of production lines between Purchasing East/North and West implies that Purchasing East/North faces a heavier workload. This situation is in line with Kaheman's viewpoint in Rolos et al. 's (2018; 23) study, which suggests that workload is a competition for limited mental resources. One of the factors that can lead to decreased performance under heavy workloads is the requirement to handle multiple tasks concurrently. The more tasks that need to be handled simultaneously, the lower is the work performance. Previous research conducted by Priyandi et al. (2020; 377) demonstrated that an increased workload is associated with reduced performance.

Other factors that can influence performance include work stress caused by the workload. the results of research from Elsafty (2022; 35), workload is the most influential thing on employee performance. Robbins (2018; 649-650) states that stress, at low to moderate levels, can enhance an individual's ability to respond to tasks by making them more productive and efficient. However, excessive stress can lead to a decrease in performance. Moderate stress is beneficial to performance, as it stimulates energy resources, but excessive stress can hinder job execution. Stress can have both positive and negative effects on work performance depending on its level. In the absence of stress, work challenges are non-existent and performance tends to be low. On the other hand, an increase in stress tends to boost work performance, as it helps employees mobilize their resources to meet work demands. However, if stress reaches an extreme level, work performance can be impaired. In accordance with Pradoto’s (2020; 348) previous study, he assumes that work stress can negatively affect performance.

To investigate the current situation, we conducted interviews with 11 purchasing employees in December 2022 to identify the factors that contribute to work stress. The findings indicate that employees experienced work stress, with the most significant factor being individual stressors. Furthermore, employees reported that work stress was mainly due to excessive workload caused by the large amount of work they had to handle. Consequently, they often felt tired, lethargic, and sometimes even became ill.

The structure of this paper is as follows: The first is introduction, the second section presents a review of relevant literature encompassing both theoretical and empirical studies, which provides insights into the connection between theory and practice. The third section provides background information on the research and methodology employed. Following the analysis and findings, the authors engage in discussion and examine the implications of their study. Finally, the paper concludes by summarizing key points, offering recommendations, suggesting future research directions, and acknowledging limitations.
Literature Review

Theoretical and Conceptual Background

Workload

Astuti et al (2018:44) defined workload as the tasks or group of tasks completed by an individual within a specific timeframe under normal conditions. On the other hand, Johari et al. (2018;7) defined workload as all activities that require an employee's time to fulfill their responsibilities, duties, and desires at work, whether it is done directly or indirectly. Koesomowidjojo in Maulida and et al (2019;95) explains that the workload can be measured through three factors: the work dimension, which refers to the expected work output from employees; work conditions, which refers to an employee's understanding of their working environment; and the use of working time, which refers to the amount of time employees spend on their tasks each day.

Work Stress

Robbins (2018:641) suggests that stress is a state that constantly changes as people encounter situations or challenges related to their desires, limitations, or requirements that they perceive as significant but uncertain. Additionally, Moslem et al. (2020:156), Kreitner and Kinicki state that stress can be measured through stressor dimensions, which include Individual Stressor, referring to the direct job-related causes of stress, Group Stressor, relating to group dynamics and managerial behavior, Organizational Stressor, which pertains to factors within the organization that affect employees, and Extraorganizational Stressor, which involves external factors outside of the organization.

Employee Performance

Johari et al (2018;4-5) defines performance as an employee's capacity to effectively execute their duties utilizing the available resources. Permadi et al. (2018;1252) proposed five different factors to assess employee performance. These include work quality, which refers to the level of quality in the outcomes produced by employees, work quantity, which is the level of work activities completed by employees, punctuality, which measures the ability of employees to finish tasks on time, work effectiveness, which assesses how efficiently employees use organizational resources to complete tasks, and independence, which refers to the level of autonomy and motivation employees demonstrate in performing their job functions and pursuing self-improvement to enhance their performance.

Empirical Review and Hypothesis Development

When the workload given exceeds the capabilities of an individual where an employee or employees will experience pressure from the work undertaken, the cause can be due to too many tasks assigned to employees or from the conditions of the work environment. An employee who experiences conditions like this will have a negative impact on employee performance which can result in less efficiency at work (Vanchapo, 2020). According to Robbins (2018) stress at low to moderate levels can increase the ability to react. At that time the individual does his job better, more intensively, and faster. But if too much stress will result in lower performance. Moderate levels of stress actually have a negative effect on individual performance and weaken energy resources. Drawing from previous statements, the relationships between workload, work stress, and employee performance can be established. Hence, the research framework for this study was developed accordingly:

![Figure 2: Research Framework](image)

Sujarweni (2022;62) defines a hypothesis as a tentative answer to research objectives derived from the framework that has been employed. It is a provisional response to the research problem formulation. With respect to the research background and framework that have been presented earlier, this study posits the following hypotheses:
H1: Workload has significant negative effect on Employee Performance.
H2: Workload has significant positive effect on Work Stress.
H3: Work Stress has significant negative effect on Employee Performance.
H4: Workload has significant negative effect on Employee Performance through Work Stress.

Research and Methodology

The method used in this study is quantitative study. According to Sujarweni (2022;39) this means that data is obtained through statistical procedures with quantification or measurement by focusing on the root of the problem and analyzing the problem with an objective theory. This study using non probability sampling technique. Sujarweni (2022;71) explains that saturated sampling is a method employed when the complete population is sampled. In this particular study, the sample consisted of 110 purchasing employees.

The measurement of all variables in this study was conducted using a five-point Likert scale. The scale ranges from "1" indicating "very low" to "5" indicating "very high". The workload (X) scale consists of eight items that were adopted from Koesmojo et al. as reported in Maulida and Wahyuningtyas (2019;95). The scale measures the dimensions of working conditions, working time, and targets to be achieved. An example item is "I start another task when the work assigned to me is not completed."

The work stress (Y) scale comprises 17 items that were adopted from Kreitner and Kinicki as reported in Moslem and Sary (2020;156). The scale measures individual stressors, group stressors, organizational stressors, and extraorganizational stressors. An example item is "I feel that the time provided to complete the work is too short."

The employee performance (Z) scale consists of 20 items that were adopted from Permadi as reported in Widyaputri and Sary (2022;1251). The scale measures the dimensions of work quality, work quantity, punctuality, work effectiveness, independence, and the desire to develop.

The questionnaire was distributed to 110 respondents in the form of a Google form, and they were asked to rate how much they felt about each statement. In total, 45 questionnaires were administered, and all of them introduced the research objectives.

The internal consistency of the research instrument was measured by calculating Cronbach’s alpha.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>X (Work Load)</td>
<td>0.951</td>
</tr>
<tr>
<td>Y (Work Stress)</td>
<td>0.958</td>
</tr>
<tr>
<td>Z (Employee Performance)</td>
<td>0.967</td>
</tr>
</tbody>
</table>

According to Table 1, the Cronbach's alpha values for the work load, job stress, and employee performance variables are 0.951, 0.958, and 0.967, respectively. These results suggest that the research instrument used in this study is dependable and effective.

Findings and Discussions

Descriptive Analysis

The characteristics of the respondents in this study are based on gender, age, last education, and length of work. From the results obtained, it can be concluded that the dominant gender of the respondents is female.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
</table>

Table 2: Characteristics of Respondents
According to Table 3, the highest mean score for variable X was 4.027, which was for indicator X8 "I am given a lot of work with limited time." The highest mean score for variable Y was 4.236, which was for indicator Y4 "I feel there is a difference between my expectations and the demands that must be met in the company." The lowest mean score for variable Z was 2.091, which was for indicator Z9 "I am willing to sacrifice my personal time to solve unfinished work problems".

Outer Model

Convergent validity is a process to examine the accuracy of each indicator used to measure a variable. It indicates which measures are positively related to other measures of the same construct that are measured by different indicators. To assess the convergent validity, we look at the results of the outer loading factor value on endogenous and exogenous variables. The recommended loading factor value is >0.7, although it can be tolerated up to 0.5 based on the criteria (Musyaffi et al., 2021;3).

<table>
<thead>
<tr>
<th>Variable</th>
<th>AVE</th>
<th>Composite Reliability</th>
<th>rho A</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>0.746</td>
<td>0.959</td>
<td>0.952</td>
<td>0.951</td>
</tr>
<tr>
<td>Work Stress</td>
<td>0.597</td>
<td>0.962</td>
<td>0.959</td>
<td>0.958</td>
</tr>
<tr>
<td>Employee Performance</td>
<td>0.614</td>
<td>0.970</td>
<td>0.968</td>
<td>0.967</td>
</tr>
</tbody>
</table>
AVE was utilized to determine the quality of each indicator related to the research variables. The expected criterion is a value greater than 0.5. Based on the calculation results, it is evident that the AVE result in this study is greater than 0.5, signifying that all variables have a high convergent validity value.

To ensure the reliability of the indicators, this study employed composite reliability and Cronbach's alpha as measures of internal consistency reliability. Composite reliability is a tool that assesses whether a construct is dependent. It was expected to have a value of 0.7 or higher. In this study, the composite reliability value exceeded 0.9, indicating a high level of reliability (Musyaffi et al., 2021:118). Thus, the variables in this study met the criteria for composite reliability.

Another method to assess reliability is to use Cronbach's alpha, which measures the internal consistency of a variable. A value of at least 0.7 is expected (Musyaffi et al., 2021;118). The results obtained in this study showed that all variables had values greater than 0.9, indicating high reliability. Therefore, it can be concluded that the variables used in this study are reliable.

The concept of discriminant validity requires that each reflective construct should have a stronger correlation with its own indicators in comparison to other constructs in the path model (Hair et al., 2017). To assess this, the Fornell-Larcker criterion was employed by examining the correlation between latent variables and constructs in AVE. The criterion states that the square root value of the AVE should be greater for the variable's own construct than for other construct variables (Musyaffi et al., 2021:126).

**Table 5: Fornell Larcker**

<table>
<thead>
<tr>
<th></th>
<th>Workload</th>
<th>Work Stress</th>
<th>Employee Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workload</strong></td>
<td>0.864</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Work Stress</strong></td>
<td>0.817</td>
<td>0.773</td>
<td></td>
</tr>
<tr>
<td><strong>Employee Performance</strong></td>
<td>-0.809</td>
<td>-0.768</td>
<td>0.784</td>
</tr>
</tbody>
</table>

From these calculations it can be concluded that all variables have a value that is greater than the value below. Thus, the variables in this study have met Fornell Larcker's criteria.
Inner Model

In this study, R2 was used to examine how X affected the Y and Z variables. The R2 value indicates the variance from exogenous to endogenous variables (Musyaffi et al., 2021;135). The standard for the R2 value is that a value of 0.67 indicates a strong, 0.33 indicates a moderate, and 0.19 indicates a weak correlation (Musyaffi et al., 2021;138).

Table 6: Coefficient of Determination

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Stress</td>
<td>0.668</td>
<td>0.665</td>
</tr>
<tr>
<td>Employee Performance</td>
<td>0.689</td>
<td>0.684</td>
</tr>
</tbody>
</table>

The outcome of the analysis using Smart-PLS 3 indicated that the R2 value from X to Y was 0.668, whereas the value from X to Z was 0.689. Therefore, it can be concluded that the effect of workload on work stress (X to Y) is moderate (66.8%), while the impact of workload on employee performance (X to Z) is strong (68.9%); other factors also play a role.

The testing of predictive relevance is carried out to assess the predictive capability of the model using a blindfolding approach. In this procedure, Q2 is used to measure the model's predictive power by evaluating whether it can predict data that was not used in the estimation of the model's parameters. The value of Q2 is categorized based on the criteria, with a small value 0.02, a medium value 0.15, and a large value 0.35. (Musyaffi et al., 2021;13)

Table 7: Predictive Relevance - Q2

<table>
<thead>
<tr>
<th></th>
<th>SSO</th>
<th>SSE</th>
<th>Q2(=1-SSE/SSO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>880.000</td>
<td>880.000</td>
<td></td>
</tr>
<tr>
<td>Work Stress</td>
<td>1870.000</td>
<td>1145.346</td>
<td>0.388</td>
</tr>
<tr>
<td>Employee Performance</td>
<td>2200.000</td>
<td>1297.822</td>
<td>0.410</td>
</tr>
</tbody>
</table>

The computation revealed that the Q2 value for Work Stress was 0.388 and the Q2 value for Employee Performance was 0.410. These results indicate that the study's predictive power is high because both Q2 scores fall into a large category.

Hypothesis Testing

Based on T-Statistics, this shows that the research produces positive T-Statistics and T-Table = df (n-k = 110-2=108) of 1.982. It can be concluded that the greater the value of the exogenous variable to the endogenous variable, the stronger the effect will be.

Table 8: Path Coefficient Dan T-Statistics

<table>
<thead>
<tr>
<th></th>
<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>Standard Deviation (STDEV)</th>
<th>T Statistics (O/STDEV)</th>
<th>Path Coefficients</th>
<th>P Values</th>
<th>Result of Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL =&gt; EP</td>
<td>-0.323</td>
<td>-0.328</td>
<td>0.142</td>
<td>2.265</td>
<td>-0.323</td>
<td>0.024</td>
<td>Accepted</td>
</tr>
<tr>
<td>WL =&gt; EP</td>
<td>0.817</td>
<td>0.819</td>
<td>0.058</td>
<td>14.202</td>
<td>0.817</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>WS =&gt; EP</td>
<td>-0.546</td>
<td>-0.541</td>
<td>0.149</td>
<td>3.673</td>
<td>-0.546</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>WL =&gt; WS</td>
<td>-0.264</td>
<td>-0.270</td>
<td>0.123</td>
<td>2.141</td>
<td>-0.264</td>
<td>0.033</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

In this study, a significance level of 5% was used, which meant that the p-value should be less than 0.5. The findings indicate that all hypotheses are accepted, which means that workload has a positive impact on work stress; work stress negatively impacts employee performance; workload has a negative effect on employee performance; and workload negatively affects employee performance through work stress, all of which are statistically significant.

Discussion

Table 8 shows the t-statistic value generated by workload on employee performance is 2.265. These results show t-table 1.982 <2.265 and p-values 0.024. The path coefficient value is negative -0.546. In this case, H01 is rejected and Ha1 is accepted. It can be concluded that workload has a significant negative effect on employee performance. The results of this study are supported by Priyandi et al's previous research (2020;377) on the Medan state civil apparatus, which has a p-value of 0.043 and a t-statistic of -2.057. The workload given by superiors is routine and they always increase the amount of work time which makes employees leave longer than they should. In addition, the workload given must be completed in a timely manner such as reports and other work such as visiting public and private schools. The results of this study are also supported by previous research by Malau et al (2021;919), the results of which
workload has a significant negative effect on employee performance with a p-value of 0.001 and a t-statistic of 3.222 and a path coefficient of -0.239, researchers argue that workload is too high thereby reducing performance employee. Another previous study by Silaban et al (2021:302) has research results of p-values of 0.000 and CR values of 3.331 > 1.96 Ha are accepted, if the workload increases, it will reduce employee performance. The survey results in the field stated that the additional work increased the workload and the work targets that had to be achieved every year were high. In addition, there is previous research by Susiarti et al (2019;37) with nurses as objects at hospitals in Mataram. The result is that workload only has an effect of 0.074 or 7.4% and is not significant. Nurses experience a moderate workload but only reduce nurse performance insignificantly.

Table 8 shows the statistical value where the t-statistic generated by workload on work stress is 14.202. This shows that the t-table is 1,982 < 14,202 and the p-value is 0.000. The path coefficient value is 0.817 positive. In this case, H02 is rejected and Ha2 is accepted. It can be concluded that workload has a positive and significant effect on work stress. The results of this study are supported by previous research by Saputra et al (2022;3397) with the object of employees being married in manufacturing companies where workload has a significant effect on work stress as, is the case with previous research, Juru et al (2022:631) that workload has a positive effect on work stress by 0.451 or 45.1%. One of the previous studies by Kokoroko et al (2019;344) with the object of nurses in hospitals in Ghana, the results showed that workload had a significant positive effect on work stress by 0.37 or 37%. In Ghana despite some increases in the ratio of doctors as well as the ratio of nurses, nurses are still under intense time pressure to provide health services as they are overwhelmed with the large number of patients. According to Kokoroko et al (2019;345) nurses are the first point of call for patients in emergency situations, it is necessary to respond to this emergency and provide information to the patient's family. Handling these tasks in addition to the tasks assigned will add to their workload resulting in high work stress.

Table8 shows the t-statistic value generated by work stress on employee performance is 3.673, this shows that the t-table is 1,982 < 3,673 and the p-value is 0.000 or significant. The path coefficient value is negative -0.546. In this case, H03 is rejected and Ha3 is accepted. It can be concluded that work stress has a negative and significant effect on employee performance. These results are supported by previous research by Susiarti et al (2019;37) with a path coefficient value of -0.45 or -45% and a p-value of 0.001 where work stress has a negative and significant effect on employee performance. The results of further research according to Masruroh (2020:13) with the results of work stress research have a significant negative effect of 0.302 or 30% on employee performance. Employees feel depressed when their boss gets angry by using bad words if they don't finish work on time. In addition, research from Fahmi (2022;83) shows that work stress has a significant negative effect on teacher performance by 0.238 or 23.8%. Employees working in different organizations have to deal with job stress. These pressures contribute to reduced organizational performance, decreased overall employee performance, reduced quality of work, staff turnover, and absenteeism due to health problems such as anxiety, depression, headaches and back pain.

Table 8 shows the t-statistic value generated by workload on employee performance through work stress is 2.144. This shows t-table 1.982 < 2.141 and p-values 0.033 or significant. The path coefficient value is -0.264 negative. So it can be said that H04 is rejected and Ha4 is accepted. So, the conclusion is that workload has a negative and significant effect on employee performance through work stress. This is supported by previous research by Juru et al (2022:629) where there is a significant effect of workload on performance through work stress of 13.3%. Furthermore, Rifani et al (2022;116) states that workload has an indirect negative effect through work stress of -0.27 or 27%. In addition, Marianto's research (2021:170) shows that workload has a negative effect on performance through work stress of 3.9% and is significant. Marianto (2021:170) says that the workload is too much and there is no adequate workplace.

Conclusions

According to the analysis of data and hypothesis testing conducted in this study, the following conclusions can be drawn: First, workload has a noteworthy adverse impact on employee performance; second, workload has a noticeable positive effect on work stress; third, work stress has a significant detrimental effect on performance; and finally, workload has a notable negative effect on performance through work stress, accounting for 26.4%.

This study had certain limitations. It is limited to analyzing only a few variables, such as workload, work stress, and employee performance, without considering other variables such as job satisfaction, work motivation, and work-family conflict, which have been discussed in the literature. Moreover, this research has only covered one company in the manufacturing sector, while excluding others owing to various constraints. The research methodology employed in this study is cross-sectional, which means that data were collected only once during the study period; hence, causal relationships cannot be established between the key research variables. In the future, researchers can conduct more extensive and detailed studies encompassing a broader range of variables and methodologies in different companies and sectors.

What we know from Table 2, the highest mean result for variable X is 4,027, namely in indicator X8 "I am given a lot of work with limited time". The highest mean result for variable Y is 4,236, which is for indicator Y4 "I feel that there is a difference between my expectations and the demands that must be made in the company". The lowest mean result for variable Z (employee performance) is 2,091, namely on indicator Z9 "I want to give up my personal time to solve problems in work that has not been completed. The results of this study suggest that companies need to reduce the workload and work stress of their employees to attain the desired level of employee performance. To achieve this, companies can reduce the amount of work assigned to their employees by hiring more staff in the departments that require it. Employees can manage their workload and stress by adopting individual strategies, as
suggested by Wahjono (2020:98). These strategies may include effective time management techniques, engaging in physical exercise, relaxation, and expanding social support networks. Wahjono (2020:98-99) also recommended that companies should improve their personnel selection and job placement mechanisms to ensure that individuals with high resilience are placed in suitable roles. Realistic target setting and job redesign can also help employees to clearly understand their goals and work more efficiently. Additionally, companies should increase employee involvement in decision-making processes and enforce corporate welfare programs that focus on improving employees' overall physical and mental well-being. According to Ganyang (2018:201), to improve employee performance in the future, HR managers can conduct research related to employee performance, and companies must make efforts to develop their performance.

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References


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