The Influence of Job Stress and Psychosocial Factors on Employee Performance through Leadership Quality

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Jurnal Teknologi use only:
Received 12 July 2023; Revised 28 September 2023; Accepted 3 October 2023

ABSTRACT

The development of Indonesia's industry is currently changing from commodity-based to manufacture-based. The manufacturing industry cannot be separated from the role of the packaging industry. So it is necessary to have Human Resources with good performance to be able to help achieve the goals and vision and mission of the company. Employee performance comes from two factors, namely individual factors and organizational environmental factors. The purpose of this study was to determine the effect of work stress and psychosocial factors consisting of job demands and work organization on employee performance in packaging companies through leadership quality. The method used is PLS-SEM with a sample of 75 people. The results showed that work stress had a significant effect on employee performance (p-value = 0.000), job demands and work organization had no significant effect on employee performance (p-value = 0.501 on job demands and p-value = 0.658 on work organization), leadership quality has no significant effect on employee performance (p-value = 0.685), work stress has no significant effect on employee performance through leadership quality (p-value = 0.740), and job demands and work organization have no significant effect on employee performance through quality leadership (p-value=0.877 on job demands and p-value=0.725 on work organization). While the r-square value which shows the influence of work stress variables, job demands, work organization, and leadership quality on employee performance is 63.7%.

Keywords: employee performance, job demands, leadership quality, work organization, work stress

Introduction

Indonesia's industrial development is currently changing from commodity-based to manufacture based [1]. The manufacturing industry cannot be separated from the role of the packaging industry. In 2021, the industrial sector recorded a Gross Domestic Product (GDP) of 2,946.9 Trillion, which is an increase from 2020. The increase in the number of product packaging needs can cause the packaging industry to experience an increase in production with increasingly fierce industrial competition. So, to anticipate failure, good Human Resources (HR) are needed [14], which also refers to the skills of its employees. Employees' talents, skills, ideas, energy, productivity, and organizational performance are collectively considered the HR of a company.

The packaging company in Sidoarjo is one of the manufacturing industries for making plastic
sacks with propylene plastic ore as the main raw material. There are several divisions in this company, one of which is the Jumbo Bag Division. From June to December 2022, there have been jumbo bag orders reaching 50,778 pcs. The large amount of production must of course be accompanied by good performance so that the products produced do not fail. Performance is the qualitative and quantitative work performed by an employee in carrying out his duties in accordance with the responsibilities given [21]. Employee performance is one of the determinants of the success of an agency in achieving its goals [4]. The characteristics of an employee who has good performance are as follows [5]: 1) High responsibility, 2) Dare to take risks, 3) Realistic goals, 4) Have a good work plan and strive to realize the goals, 5) Always take advantage of feedback throughout their work, and 6) Look for opportunities to realize the plans made.

Decreased performance can occur because an employee experiences work stress. A survey conducted by the Health and Safety Executive in 2022 showed that workers who experienced stress, depression, or job anxiety in 2021/2022 were 914,000 workers. Work stress is an emotional condition that arises due to a mismatch between the workload and the worker's ability to deal with and cope with work stress. The level of job stress can be influenced by factors such as job condition stressors, role stressors, interpersonal factor stressors, career development stressors, organizational structure stressors, and job display stressors. While the symptoms of stress are cognitive symptoms, emotional symptoms, physical symptoms, and behavioral symptoms [20].

Not only comes from within the worker, organizational environmental factors also affect the high and low performance of employees. Environmental or psychosocial factors that will be studied in this packaging company are in the form of job demands and work organization. Job demands can be caused by the number of jumbo bag orders with a certain time limit according to the buyer's request. Job demands are demands that must be done by an employee during working hours. Excessive work demands can reduce employee performance and affect productivity. Meanwhile, work organization is a structured group that has a division of labor and responsibility to carry out a certain function [11]. If it is not appropriate, it will affect work stress which has an impact on employee performance, so a good work organization atmosphere is needed to create a conducive work atmosphere.

Leadership is a way for a leader to direct, encourage, and regulate all elements in the organization to achieve the desired goals, resulting in maximum employee performance. [15]. A leader is someone who can lead an organization in achieving goals with an attitude as a role model, driver, guide, and mentor.

This study aims to analyze the effect of job stress and psychosocial factors in the form of job demands and work organization on employee performance on workers in the Jumbo Bag Division of packaging companies. The method used in this research is Partial Least Square-Structural Equation Modeling (PLS-SEM) to test the predictive relationship between latent variables by analyzing the relationship between latent variables [7]. In this study, the evaluation was carried out on the reflective model using SmartPLS software.

Methods
The method used in this research is a quantitative approach method with the Partial Least Square-Structural Equation Modeling (PLS-SEM) approach. This method resembles path analysis and multiple linear regression, but is more complete because it analyzes each question of the latent variable [8]. Model evaluation in PLS-SEM consists of two stages, namely outer model evaluation (measurement model) and inner model evaluation (structural model).

The outer model evaluation is divided into two stages, the first is convergent validity which is used to measure the amount of correlation between constructs and latent variables. Convergent validity itself consists of individual item reliability which is seen based on the loading factor value, composite reliability from the Cronbach's Alpha value with a value of ≥0.7, and Average Variance Extracted (AVE) with a minimum value of 0.5
to show a good convergent validity value. The second step is discriminant validity which can be evaluated through cross loading and AVE whose value must be higher than the correlation between other latent variables. This inner model evaluation resembles the validity and reliability tests which are carried out to determine whether or not the questions for each item are valid [3].

Then proceed with the inner model evaluation which consists of three stages. The first stage is a t-test conducted on all variables with a t-value of CR ≥ 1.96 or P ≤ 0.05. The second stage is to evaluate the R2 value which has three classifications, namely R2 value of 0.67 (substantial/strong), R2 value of 0.33 (moderate/strong), and R2 value of 0.19 (weak). The third stage is to calculate the Goodness of Fit (GoF) value which consists of three criteria, namely 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF).

The object of this research is employees in the Jumbo Bag Division who have a population of 91 people. While determining the number of samples is using the Slovin formula with a percentage error of 5% because the number must be representative. Based on this formula, 75 respondents were obtained from Jumbo Bag Division employees. The sample was randomly selected by simple random sampling from employees in the division without considering the level of the existing population [6].

The data to be processed using the PLS-SEM method in this study were obtained through the results of a questionnaire which will be distributed to 75 respondents to be filled in according to conditions. The questionnaire used to measure job stress is the Perceived Stress Scale (PSS). While on psychosocial factors which include job and organizational demands, the questionnaire used is the Copenhagen Psychosocial Questionnaire II (COPSOQ II). Employee performance variables use the Individual Work Performance Questionnaire (IWPQ), and leadership quality uses a questionnaire developed by Larasati (2018) [10].

The hypotheses in this study are:
H0.1: Work stress has no significant effect on leadership quality
H0.2: Job demands do not have a significant effect on leadership quality
H0.3: Work organization has no significant effect on leadership quality
H0.4: Job stress has no significant effect on employee performance
H0.5: Job demands do not have a significant effect on employee performance
H0.6: Work organization has no significant effect on employee performance
H0.7: Leadership quality has no significant effect on employee performance
H0.8: Job stress does not have a significant effect on employee performance through leadership quality
H0.9: Job demands do not have a significant effect on employee performance through leadership quality
H0.10: Work organization has no significant effect on employee performance through leadership quality

**Results and Discussion**

The questionnaire was distributed to 75 respondents containing 51 statement items with a Likert scale of 1-4. Negative statements are converted into a positive statement value range. The following is a pie chart of the results of the distribution of questionnaires by workers in the Jumbo Bag Division based on the category of answers:

**Figure 1:** Pie Chart of Questionnaire Result Categories

Then, data analysis is carried out using the Partial Least Square method which consists of two stages as follows:
Outer Model Evaluation:
Outer model evaluation consists of convergent validity testing consisting of individual item reliability, composite reliability, and Average Variance Extracted (AVE) and discriminant validity testing. The outer model evaluation can be seen in the following figure:

Figure 2. Loading Factor Value of Outer Model Evaluation

Figure 1. shows that the loading factor value of all indicators on the variables of job stress, job demands, work organization, employee performance, and leadership quality has met the acceptance limit because the value obtained is ≥ 0.5. Thus, it can be said to be valid and reliable. The composite reliability and Average Variance Extracted (AVE) values can be seen in the following table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Stress</td>
<td>0.938</td>
<td>0.942</td>
<td>0.947</td>
<td>0.643</td>
</tr>
<tr>
<td>Job Demands</td>
<td>0.908</td>
<td>0.929</td>
<td>0.929</td>
<td>0.687</td>
</tr>
<tr>
<td>Work Organization</td>
<td>0.928</td>
<td>0.951</td>
<td>0.939</td>
<td>0.661</td>
</tr>
<tr>
<td>Employee Performance</td>
<td>0.972</td>
<td>0.974</td>
<td>0.974</td>
<td>0.678</td>
</tr>
<tr>
<td>Leadership Quality</td>
<td>0.910</td>
<td>0.913</td>
<td>0.926</td>
<td>0.582</td>
</tr>
</tbody>
</table>

Table 1 shows the value of the composite reliability results ≥ 0.8 which can be said to be reliable and very satisfying. While the AVE value has more than 0.5, it can also be said that these variables are reliable. The discriminant validity value shows that each indicator has a higher correlation with its latent variable than other latent variables. So that all indicators in this study are said to be valid and reliable.

Inner Model Evaluation:
Inner model evaluation consists of t-test, r-square value, and Goodness of Fit (GoF) calculation. The results of the inner model test between the indicator and the measured variable produce a t-statistic value ≥ 1.96 and a p-value ≤ 0.05, which means that all indicators have a significant effect on their own latent variables. The following is a picture of the t test results with the critical value of each variable and its indicators along with a table of p-value results that prove the research hypothesis regarding the relationship of latent variables to other latent variables:
Based on Figure 2, it is known that all indicators on the latent variables measured have a value ≥1.96, which means that all indicators have a significant effect on the latent variable. However, the C.R value of latent variables is not all worth more than 1.96, which means that there are several latent variables that do not have a significant effect on other latent variables. The next t-test result is by looking at the p-value of the entire relationship of the research model. The p-value results in the direct effect test can be seen in the following table:

### Table 2. Direct Effect Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Original Sample</th>
<th>T Statistics</th>
<th>P-Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Stress → Leadership Quality</td>
<td>0.195</td>
<td>1.774</td>
<td>0.077</td>
<td>H₀₁ accepted</td>
</tr>
<tr>
<td>Job Demands → Leadership Quality</td>
<td>-0.105</td>
<td>0.429</td>
<td>0.668</td>
<td>H₀₂ accepted</td>
</tr>
<tr>
<td>Work Organization → Leadership Quality</td>
<td>0.612</td>
<td>2.793</td>
<td>0.005</td>
<td>H₀₃ denied</td>
</tr>
<tr>
<td>Work Stress → Employee Performance</td>
<td>0.803</td>
<td>11.521</td>
<td>0.000</td>
<td>H₀₄ denied</td>
</tr>
<tr>
<td>Job Demands → Employee Performance</td>
<td>0.077</td>
<td>0.673</td>
<td>0.501</td>
<td>H₀₅ accepted</td>
</tr>
<tr>
<td>Work Organization → Employee Performance</td>
<td>-0.058</td>
<td>0.443</td>
<td>0.658</td>
<td>H₀₆ accepted</td>
</tr>
<tr>
<td>Leadership Quality → Employee Performance</td>
<td>-0.041</td>
<td>0.405</td>
<td>0.685</td>
<td>H₀₇ accepted</td>
</tr>
</tbody>
</table>

Based on Table 2, it is known that hypotheses H₀₃ and H₀₄ are rejected because they have a p-value ≤ 0.05 and t-value ≥ 1.96. Meanwhile, hypotheses H₀₁, H₀₂, H₀₅, H₀₆, and H₀₇ are accepted because they have a p-value > 0.05 and t-value < 1.96. Next is testing the indirect effect. This aims to determine the effect of work stress, job demands, and work organization variables on employee...
performance through leadership quality. The p-value results can be seen in the following table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Original Sample</th>
<th>T Statistics</th>
<th>P-Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Stress → Leadership Quality → Employee Performance</td>
<td>-0.008</td>
<td>0.333</td>
<td>0.740</td>
<td>H&lt;sub&gt;0.8&lt;/sub&gt; accepted</td>
</tr>
<tr>
<td>Job Demands → Leadership Quality → Employee Performance</td>
<td>0.004</td>
<td>0.155</td>
<td>0.877</td>
<td>H&lt;sub&gt;0.9&lt;/sub&gt; accepted</td>
</tr>
<tr>
<td>Work Organization → Leadership Quality → Employee Performance</td>
<td>-0.025</td>
<td>0.352</td>
<td>0.725</td>
<td>H&lt;sub&gt;0.10&lt;/sub&gt; accepted</td>
</tr>
</tbody>
</table>

Table 3. shows that the leadership quality variable cannot mediate the effect of job stress, job demands, and work organization on employee performance, so the hypotheses H<sub>0.8</sub>, H<sub>0.9</sub>, and H<sub>0.10</sub> are accepted. In addition, it is necessary to know the r-square value obtained is:

<table>
<thead>
<tr>
<th>Variable</th>
<th>R-Square</th>
<th>R-Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Performance</td>
<td>0.637</td>
<td>0.616</td>
</tr>
<tr>
<td>Leadership Quality</td>
<td>0.350</td>
<td>0.322</td>
</tr>
</tbody>
</table>

Table 4. shows the r-square value of 0.637, which means that the performance of Jumbo Bag Division employees is influenced by work stress, job demands, work organization, and leadership quality by 63.7%. While the other 36.3% is influenced by other variables not examined in this study. The last stage in evaluating this inner model is the calculation of Goodness of Fit (GoF). The goal is to validate the overall structural model. GoF calculations can be obtained using the following formula:

\[
\text{GoF} = \sqrt{\frac{\text{Com}}{\text{R}^2}}
\]

Where:
- \( \text{Com} \) = average communalities or average AVE value
- \( \text{R}^2 \) = mean value of the model \( R^2 \)

Based on this formula, the GoF calculation result of this study is 0.41 which means in the large category. So, it can be concluded that the model has a large GoF and the greater the GoF value, the more appropriate it is in describing the research sample.

The test results using the PLS-SEM method in this study indicate that job stress has a significant positive effect on employee performance. This is indicated by the p-value obtained of 0.000 and t-value of 11.521.
Jumbo Bag Division employees are in the production room for 7 hours by doing repetitive work such as sewing, making patterns, cleaning the inside of jumbo bags, and packaging but do not experience work stress because the question items lead to positive statements, so the higher the value the better the level of work stress experienced by employees. This research is in line with Utomo (2019) [21] which states that work stress has a positive effect on employee performance. Work stress occurs because of the workload felt by employees, not having enough time to complete the work, the work task load is too heavy, having to work super fast in completing the work, and experiencing conflicts in carrying out the tasks given by superiors.

Furthermore, psychosocial factors consist of job demands and work organization variables. Job demands have no significant effect on employee performance. This is because the p-value obtained is 0.501 and the t-value is 0.673. Job demands in the Jumbo Bag Division come from the large number of jumbo bags that must be produced. In one day, the company must produce approximately 311 pcs of jumbo bags to fulfill the large number of orders by customers. However, this does not affect the performance of employees in the division. This research is in line with Astisyia and Hadi (2021) [2] which states that job demands have no influence on work engagement. This is because workload is considered a challenge by employees who make employees feel engaged in their work.

In addition, work organization also has no significant effect on employee performance as indicated by a p-value of 0.658 and a t-value of 0.443. The organizational structure within the Jumbo Bag Division consists of employees, shift heads, supervisors, and managers. Everything that is directly related to the situation in the production room is monitored directly by the shift head. So, if there are problems or obstacles that occur in the production room related to work, the shift head will overcome this and then convey and submit it to the supervisor. Work organization has no effect on employee performance because organizational strategy, complete organizational structure, management practices, and organizational processes are only known more deeply by top management, not employees in the field. This research is in line with Megantara, Suliyanto, and Purnomo (2019) [13] which states that the organization has no effect on employee performance so that it does not have a real impact on employee performance. This is due to the consistency of existing regulations in the company, as well as employee involvement in making regulations.

The leadership quality variable has no significant effect on employee performance. This is evidenced by the p-value of 0.685 and the t-value of 0.405. All employees appreciate their leaders because they can nurture them well. However, the quality of leadership has no effect on employee performance because the actions and words of leaders do not really affect the level of productivity and performance of their employees. This research is in line with Rachmawan and Aryani (2020) [19] which states that leadership has no effect on employee performance. This can be due to the leadership period and has become the duties and responsibilities assigned to the organization.

Before analyzing the effect of job stress on employee performance through leadership quality, first analyze that job stress has no effect on leadership quality because the p-value is 0.077 and the t-value is 1.774. So, even though employees in the Jumbo Bag Division experience work stress or not, it does not have any impact on the way leaders behave and act. Then, in the next step, it can be seen that there is no influence between work stress on employee performance through leadership quality. This is indicated by a p-value of 0.740 and a t-value of 0.333. The VAF calculation obtained is -1.01%, which indicates that there is no mediating effect from the leadership quality variable. Based on observations, leaders have different characteristics and this will affect the quality of leading their employees. However, this has no impact on the level of work stress experienced by employees so that it does not affect their performance. Because employees already understand the characteristics and dispositions of their leaders, so they don't think about it more deeply. This research is in line with Prawira and Suwandana (2019) [17] that was found that work stress has a significant effect on employee performance, but found no evidence that leadership quality
mediates the relationship between work stress and employee performance.

The same was done for psychosocial factors consisting of job demands and work organization variables. It was first analyzed that job demands have no effect on leadership quality because the p-value is 0.668 and the t-value is 0.429. Thus, the amount of job demands felt by employees will not affect the attitudes and actions taken by the shift head in leading them. Furthermore, it can be seen that there is no influence between job demands on employee performance through leadership quality. This is indicated by a p-value of 0.877 and a t-value of 0.155. The VAF calculation obtained is 5.3%, which indicates that there is no mediating effect from the leadership quality variable. This can happen because even though the number of orders increases with a limited deadline, workers do not experience objections and continue to work as usual. This research is in line with Marua and Radikun (2022) [12] which states that leadership style cannot moderate quantitative work demands on the onset of burnout in employees. Burnout is a negative reaction at work, where one of the negative impacts is a decrease in employee performance.

Finally, analyzing that work organization affects leadership quality because the p-value is 0.005 and the t-value is 2.793. This means that the higher the work organization in the company, the quality of leadership will also increase. Furthermore, it can be seen that there is no influence between work organization on employee performance through leadership quality. This is indicated by a p-value of 0.725 and a t-value of 0.352. This is because the organizational structure is clear and known by all employees. This research is in line with Nurhazizal, Basri, and Nasri (2019) [16] which states that organizational commitment, organizational culture, leadership style have no effect on village government performance and good governance does not mediate. However, research conducted in this packaging company obtained a VAF value on the work organization variable of 30.2% which indicates a partial mediation condition. Thus, this is different from the bootstrapping results in testing indirect effects. This difference can occur because the bootstrapping results are carried out with repeated random sampling techniques, so the resulting value will fluctuate (Rachman, Goejantoro, and Hayati, 2018) [18].

Then, the overall R-square value obtained from running results using SmartPLS produces a value of 0.637. This value shows that employee performance in the Jumbo Bag Division is influenced by work stress, job demands, work organization, and leadership quality by 63.7%. The r-square value shows how significant the influence between the variables tested is, which in this study is the variable work stress, job demands, work organization, and leadership quality on employee performance.

Conclusions

The conclusion that can be obtained from this research is that the work stress variable has a significant positive effect on employee performance with a p-value of 0.000. While the psychosocial factor variables in the form of job demands and work organization have no significant effect on employee performance with a p-value of 0.501 and 0.658. The leadership quality variable also has no significant effect on employee performance with a p-value of 0.685. The work stress variable has no effect on employee performance through leadership quality with a p-value of 0.740. Finally, psychosocial factors consisting of job demands and work organization variables have no effect on employee performance through leadership quality with a p-value of 0.877 and 0.725. While the overall R-square value is 63.7%. Suggestions for further research are to analyze other factors that can affect employee performance besides the factors that have been studied in this study.

Acknowledgment

We would like to thank the packaging company for giving permission and support in collecting data in this study. Also to all respondents of the Jumbo Bag Division who are willing to assist the author in filling out the questionnaire honestly and as it is.

Funding

This research received no external funding.
Author Contributions
Conceptualization, Zumrotin Nur Afifah and Dewi Kurniasih; methodology, Dewi Kurniasih; software, Zumrotin Nur Afifah; validation, Zumrotin Nur Afifah, Dewi Kurniasih, and Farizi Rachman; formal analysis, Zumrotin Nur Afifah; investigation, Zumrotin Nur Afifah; data curation, Zumrotin Nur Afifah and Farizi Rachman; writing-preparation of initial draft, Zumrotin Nur Afifah; writing-review and editing, Zumrotin Nur Afifah; visualization, Zumrotin Nur Afifah; supervision, Dewi Kurniasih and Farizi Rachman; project administration, Zumrotin Nur Afifah. All authors have read and approved the published version of the manuscript.

Conflicts of Interest
The authors declare no conflict of interest.

References


