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An Empirical Analysis Of The Impact Of Human Resource Management, Logistic Warehouse, And Production Planning On Company Performance In The Manufacturing Industry

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ABSTRACT

This study aims to analyze the Factors Affecting Company Performance Through Human Resource Management, Logistics Warehouse, and Production Planning in the Manufacturing Industry in Indonesia. Data were collected through a survey involving 150 employees from several manufacturing industry companies in Indonesia. The results of the study indicate that the Human Resource Management variable has a negative and significant effect on employee performance, Warehouse Logistics, and Production Planning has a positive and significant effect on company performance. The findings reveal that HRM has a negative and significant effect on employee performance, indicating potential issues in HR policies, practices, or implementation that may hinder workforce productivity. These results highlight the importance of reviewing HRM strategies while strengthening logistics and production systems to achieve sustainable performance in the manufacturing sector.

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INTRODUCTION

The manufacturing industry is a strategic sector in the Indonesian economy, contributing significantly to Gross Domestic Product (GDP) and employment. During 2022 to 2023, this sector showed positive growth despite facing global challenges such as commodity price fluctuations and economic uncertainty. However, in 2024, this sector faced challenges that caused a slowdown in growth [1], [2].

According to data from S&P Global, Indonesia's manufacturing Purchasing Managers' Index (PMI) fell to 50.7 in June 2024 from 52.1 in May 2024. Although this figure is still in the growth zone, this decline is the slowest growth in the past year [3]. This slowdown was caused by things like declining exports for four consecutive months and declining new orders. The following is [figure 1](#) of the growth of the Indonesian Manufacturing Sector in June 2024.



Figure 1. Manufacturing Sector Growth, 2024

Source: SSKI, Analyst Commentaries 2024

Based on [Figure 1](#). It is known that the Indonesian Manufacturing Index (PMI) fell to 50.7 in June 2024, from 52.1 in May 2024. Although it has remained in the expansion zone for 34 consecutive months, this figure is the lowest since May 2023 and is the third consecutive decline.

The decline was mainly due to a significant increase in raw material costs, exacerbated by the weakening of the rupiah exchange rate by 5.9% against the US dollar throughout this year. On the other hand, product prices only increased slightly due to slowing demand. In addition, there is a possibility of weakening industrial demand next year due to low purchasing power and

limited global demand. With limited growth both domestically and abroad, it is estimated that the Indonesian manufacturing index will be in the range of 50-51 until the end of the third quarter. So it can be projected that Indonesia's economic growth in 2024 will decrease to 4.8%, from the previous estimate of 5% [4].

This slowdown emphasizes the need for manufacturing companies to optimize internal factors that can improve performance, such as human resource (HR) management, warehouse logistics management, and production planning. Optimal company performance amid

external dynamics is highly dependent on the effectiveness of integrated management of these factors [5], [6].

The performance of companies in the manufacturing industry is greatly influenced by internal effectiveness, especially in human resource management, logistics, and production planning. Global competition drives companies to improve operational efficiency and human resource quality in order to survive and thrive. Therefore, it is important to understand the extent to which these factors affect company performance [7].

Human resource management (HRM) plays a crucial role in supporting the achievement of a company's strategic goals. In the manufacturing sector, operational success is determined not only by technology or capital, but also by the quality and productivity of the workforce[8].

According to Armstrong (2023) [9], effective HR management practices, such as competency-based recruitment, continuous training, performance management, and fair compensation directly increase employee motivation, loyalty, and productivity. Well-managed employees tend to contribute more to innovation, production efficiency, and product quality.

The increasingly competitive Indonesian manufacturing industry requires companies to place HR management as a strategic foundation to improve overall company performance. Without planned and structured HR management, companies will face challenges such as high turnover rates, low productivity, and

declining employee satisfaction and performance [10].

In the manufacturing industry, warehouse management or logistics warehouse is very important to ensure that production and distribution operations run smoothly in the manufacturing industry. A good warehousing system improves the efficiency of the overall supply chain and improves the efficiency of storing raw materials and finished goods [11].

Effective warehouse management can reduce operational costs, speed up production cycles, and improve on-time delivery to customers. Conversely, ineffective warehouse management can lead to delayed production, excess or shortage of inventory, and increased storage costs, which will ultimately reduce company performance [12].

Amidst the increasingly competitive manufacturing industry, companies must use contemporary warehouse management technology and systems such as WMS to improve their operational accuracy, efficiency, and flexibility. Therefore, it is very important to study how much warehouse logistics management affects business performance, especially in the current era of industry 4.0 [13], [14].

Production planning is the process of planning the production workflow to ensure that products can be produced efficiently, according to market demand, and in a timely manner. Errors in production planning can lead to overproduction, product shortages, waste of resources, and late delivery in the manufacturing industry [15].

Riniwati et. al (2020) [16] stated that companies that can create flexible production schedules and respond to changes in market demand have a greater competitive advantage because good production planning helps companies optimize production capacity, reduce production costs, minimize unnecessary inventory, and increase customer satisfaction.

Proper production planning becomes increasingly important as industrial growth slows down as in 2024. Manufacturing companies can maintain their performance and profitability by achieving high operational efficiency through careful production planning [17].

Based on the background above, the author is interested in conducting research entitled "Analysis of Factors Affecting Company Performance Through Human Resource Management, Logistic Warehouse, and Production Planning in the Manufacturing Industry"

Based on the problem formulation above, the objectives of this study are analyzing the influence of human resource management on company performance in the manufacturing industry, analyzing the influence of logistics warehouse on company performance in the manufacturing industry, analyzing the influence of production planning on company performance in the manufacturing industry.

RESEARCH METHODS

This research uses a quantitative approach with a descriptive and explanatory approach.. This study was conducted to analyze the factors that influence company performance through human resource

management, logistics warehouse, and production planning in the manufacturing industry.

The method of data collection in this study uses a survey research method, the data analysis technique in this study uses statistical analysis using the Smart PLS (Partial Least Square) 3.0 program. The population and sample in this study are manufacturing industry employees in Indonesia. The technique used in this study is purposive sampling.

Population and Sample

The population in this study were employees of manufacturing companies in Indonesia in the food and beverage sector. According to Handoko and Hani (2016) [18], a sample is a part of the population taken through certain methods that have characteristics that are considered to be able to represent the population. The sample in this study was 150 employees.

Data source

The types and sources of data used in this study are Primary data. Primary data is research data obtained from direct research results in the field, such as respondents' answers that describe the analysis of Factors Affecting Company Performance Through Human Resource Management, Logistic Warehouse, and Production Planning in the Manufacturing Industry for this purpose the researcher uses a questionnaire.

Data collection technique

The data collection method used in this study is a questionnaire, namely a data collection method by distributing questionnaires (question lists) addressed to respondents.

Data Analysis Techniques

The data analysis technique of this research uses PLS software version 3.0 (Partial Least Square) which is a variant-based structural equation analysis (Structural Equation Model) that can simultaneously test measurement models and test structural models. From the research results collected, the following analysis methods can be used in following below.

a. Measurement Model (Outer Model)

Measurement model (outer model) is conducted to test the validity and reliability of the research instrument. The validity test in this study uses convergent validity and discriminant validity. Convergent validity is seen from the measurement model with indicator reflection which is assessed based on the correlation of the model between component score/item score with construct score calculated by PLS. If the correlation is more than 0.70 with the construct to be measured, then the individual reflection measure is said to be high. For early stage research,

measurement with an outer loading value of 0.5-0.6 has been considered sufficient. aAssessing discriminant validity using other methods, the values are compared.square root of average variance extracted(AVE) The recommended value is that the AVE value must be greater than 0.5. The AVE formula is:

$$AVE = \lambda_i^2 \lambda_i^2 + \text{ivar} (\epsilon_i)$$

Mark composite reliability the recommended value should be above 0.6 [19].

b. Structural Model (Inner Model)

The structural model is used to predict the causal relationship between latent variables. The structural model is evaluated by looking at the percentage of variance explained by the R2 value for the dependent variable using the Stone-Geisser Q-Square Test measure. If the results produce an R2 value greater than 0.2, it can be interpreted that the latent predictor has a large influence on the structural level [20]. The following is a figure 2 of the research structural model.

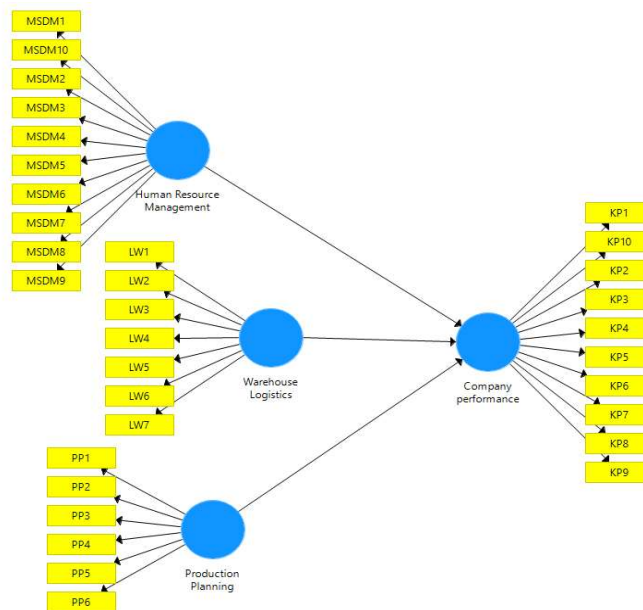


Figure 2. Research Model

c. Hypothesis Testing

Hypothesis testing (β , γ , and λ) was conducted using the bootstrap resampling method developed by Geisser & Stone (Ghozali, 2015). According to Jogiyanto and Abdillah (2015:55), the measure of the significance of hypothesis support can be used by comparing the t table and t statistic values through the following decision-making criteria:

- 1) If t statistic > t table and p values < sig 0.05 means Ha is accepted, Ho is rejected.
- 2) If t statistic \leq t table and p values \geq sig 0.05 means Ha is rejected, Ho is accepted.

Measurement model testing (outer model) is used to determine the specifications of the relationship between latent variables and their manifest variables.

Convergent Validity

The output shows that the loading factor provides a value above the recommended value of 0.7. However, in the scale development stage of research, a loading of 0.60 is still acceptable. So that the indicators used in this study have met convergent validity (Convergen Validity). The structural model in this study is shown in the following [figure 3](#).

RESULTS & DISCUSSION

Outer Model Analysis

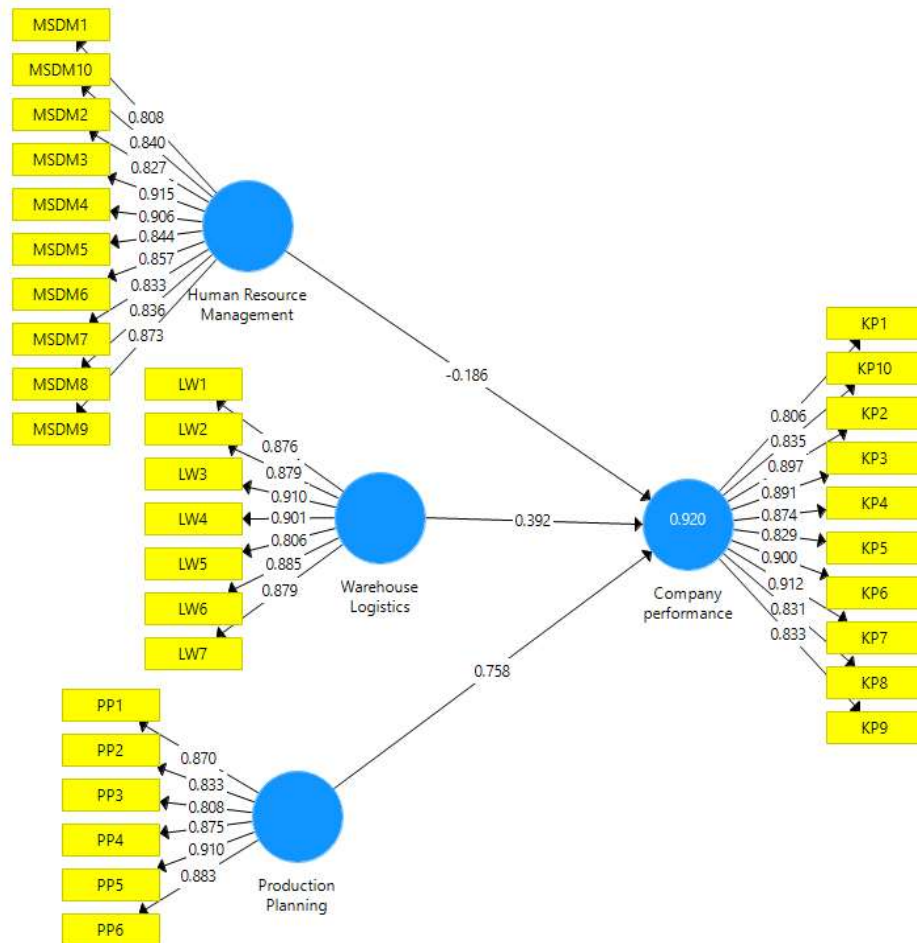


Figure 3. Outer Model, Algorithm Testing

Table 1. Outer Loading

	Human Resource Management_	Warehouse Logistics_	Production Planning	Company performance_
HR1	0.808			
HR2	0.827			
HR3	0.915			
HR4	0.906			
HR5	0.844			
HR6	0.857			
HR7	0.833			
MSDM8	0.836			
MSDM9	0.873			
HR10	0.840			
LW1		0.876		
LW2		0.879		
LW3		0.910		
LW4		0.901		
LW5		0.806		
LW6		0.885		
LW7		0.879		
PP1			0.870	
PP2			0.833	
PP3			0.808	
PP4			0.875	
PP5			0.910	
PP6			0.883	
KP1				0.806
KP2				0.897
KP3				0.891
KP4				0.874
KP5				0.829
KP6				0.900
KP7				0.912
KP8				0.831
KP9				0.833
KP10				0.835

Source: Smart PLS Program Output. 3.0, 2025

Based on the data in [table 1](#), the value can be seen outer loading the lowest in the outer model test results of this study is 0.806 which is in the KP1 indicator. Referring to the previously determined outer loading limit of 0.7.

then the results indicate that the model is stated to meet the assumption of convergent validity because the lowest outer loading value obtained is $0.806 > 0.7$.

Construct Validity and Reliability

Table 2. Construct Validity and Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Human Resource Management_	0.959	0.960	0.964	0.730
Warehouse Logistics_	0.950	0.951	0.959	0.769
Production Planning	0.932	0.935	0.946	0.746
Company performance_	0.961	0.963	0.966	0.742

Source: Smart PLS Program Output. 3.0, 2025

The data in [Table 2](#) above shows that the lowest AVE value of the 4 variables is 0.730 which is owned by the Human Resource Management variable. This result shows that the four research variables have met the assumption of discriminant validity because the lowest AVE value obtained is more than 0.5. These results have also proven that all variables meet the assumption of reliability construct because

the lowest cronbach alpha and composite reliability values are > 0.7.

1. Inner Model Testing

After conducting the outer model test, the next step is to evaluate the final structural equation model (inner model). The inner model test of this study was conducted by looking at the path coefficient and R square values as follows:

Table 3. R Square

	R Square	R Square Adjusted
Company performance_	0.920	0.919

Source: Output of Smart PLS Program. 3.0, data processed by the author 2025

Based on [table 3](#). above, it shows that the value R Square for the variable for the company's performance variable is 0.920, the acquisition explains that the percentage of the company's performance is 92%. This means that

the variables of Human Resource Management, Logistic Warehouse and Production Planning affect the company's performance by 92% and the remaining 8% is influenced by other variables.

Table 4. Inner Model test results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Human Resource Management_ -> Company performance_	-0.186	-0.182	0.093	2,001	0.046

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Warehouse Logistics_ -> Company performance_	0.392	0.388	0.103	3,824	0,000
Production Planning -> Company performance_	0.758	0.759	0.058	12,960	0,000

Source: Output of Smart PLS Program. 3.0, data processed by the author 2025

Based on [table 4](#) above, the results of the evaluation of the structural equation model of the relationship between variables are partially explained by the values path coefficient can be described as follows:

- 1) Path coefficient hypothesis 1, namely the variable of Human Resource Management on company performance is obtained at -0.186. This value shows that the existing HRD can actually reduce company performance.
- 2) The path coefficient value in hypothesis 2, warehouse logistics on company performance is obtained at 0.392. This value shows that the better the warehouse logistics, the better the company's performance.

- 3) The path coefficient value in hypothesis 3, namely Production Planning on company performance, is obtained at 0.758. This value indicates that the better the Production Planning, the better the company's performance.

3. Hypothesis Testing

This study has 4 hypotheses as the research questions that have been formulated and need to be tested for their truth. Hypothesis testing in this study uses the t-test, namely by comparing the t-statistic value obtained from the bootstrapping test with the critical limit of the t-table value of 1.975 at a significance level of 5% (0.05). The results of the hypothesis test of this study are presented as follows in [figure 4](#).

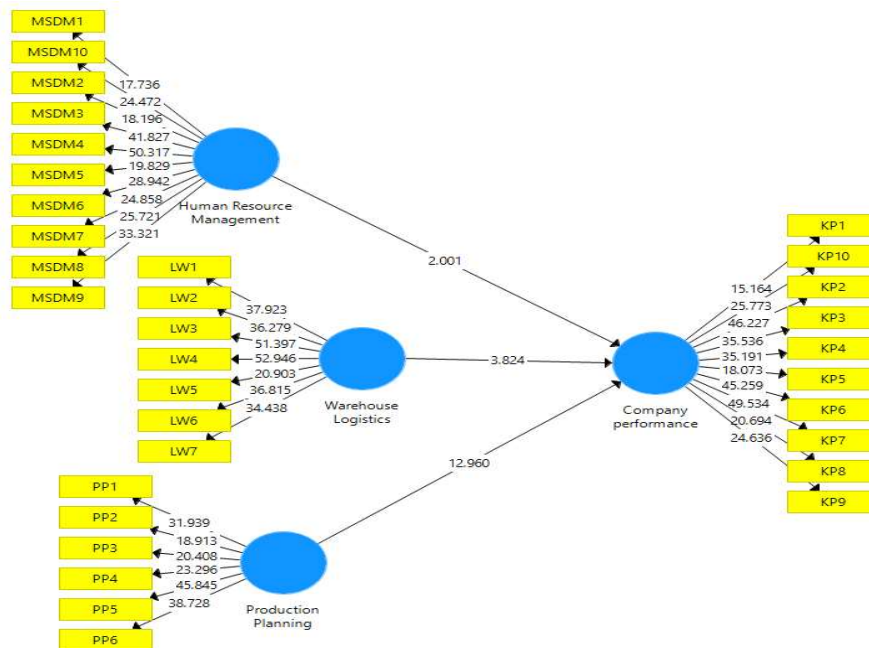


Figure 4. Inner Model, Bootstrapping Testing

Table 5. Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values	Information
Human Resource Management -> Company performance	-0.186	-0.182	0.093	2,001	0.046	Accepted
Warehouse Logistics -> Company performance	0.392	0.388	0.103	3,824	0,000	Accepted
Production Planning -> Company performance	0.758	0.759	0.058	12,960	0,000	Accepted

Source: Output of Smart PLS Program. 3.0, data processed by the author 2025

Based on the PLS output (bootstrapping test) presented in [Table 5](#), it can be explained that:

- 1) Hypothesis 1: From the original sample value of -0.186, the t-statistic value of 2.001 and the P-value of 0.046 were obtained. These results prove that job satisfaction has a direct effect on company performance with a relationship value of -18.6% (-0.186 x 100%). The t-statistic value of 2.001 > t table 1.975 and the P-value of 0.046 < 0.05 prove that hypothesis 1 in this study is accepted.
- 2) Hypothesis 2: From the original sample value of 0.392, the t statistic value is 3.824 > 1.975 and the P-value is 0.000. These results prove that warehouse logistic has a direct positive and significant effect on company performance with a relationship value of 39.2% (0.392 x 100%). The t statistic value of 3.824 > t table 1.975 and the P-value of 0.000 < 0.05 prove that hypothesis 2 in this study is accepted.
- 3) Hypothesis 3: From the original sample value of 0.758, the t statistic value is 12.960 > 1.968 and the P-value is 0.000. These results prove that production planning directly has a significant effect on company performance with a relationship value of 75.8% (0.758 x 100%). The t statistic value of 12.960 > t table 1.975 and the P-value of 0.000 < 0.05 prove that hypothesis 3 in this study is accepted.

CONCLUSION

Based on the results of the research that has been conducted and the data analysis as explained in the previous chapter, the following conclusions can be drawn, Human Resource Management has a significant influence on company performance in the manufacturing industry in Indonesia, warehouse Logistics has a positive and significant impact on company performance in the manufacturing industry in Indonesia. Production Planning has a significant influence on company performance in the manufacturing industry in Indonesia. Further research could focus on identifying

mediating or moderating variables, such as job stress, internal conflict, or leadership, that might clarify this relationship. It is expected that companies will strengthen their logistics management systems, especially in terms of storage efficiency, distribution, and the use of information technology. Further research can explore specific factors in warehouse logistics (such as inventory accuracy, warehouse automation, or supply chain integration)






that have the greatest influence on performance. It is expected that companies are advised to further develop adaptive, data-based, and responsive production planning systems to changes in market demand. Further researchers are advised to explore the integration of production planning with ERP (Enterprise Resource Planning) systems to drive more optimal performance.

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