

THE INFLUENCE OF INDIVIDUAL CHARACTERISTICS, WORKLOAD, AND WORK ENVIRONMENT ON THE PERFORMANCE OF EMPLOYEES IN PT XYZ'S SUPPLY CHAIN MANAGEMENT AND TECHNICAL PLANNING DIVISION

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ABSTRACT

This research aims to determine the extent to which the influence of individual characteristics, workload, and work environment affect employee performance. By conducting this research, it is expected to assist the company in identifying the appropriate strategies to enhance employee performance. The research results indicate a significant influence of the variables of individual characteristics, workload, work environment, and employee performance in PT XYZ company, with *T-Statistic* values > 1.96 and *P-Values* < 0.05.

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1. INTRODUCTION

Human resources play a crucial and active role in every organizational and business activity, as they serve as planners, performers, and determinants in achieving organizational and business objectives. That objective cannot be achieved without the involvement of human resources (employees). Despite the advanced technology owned by a company, it will not provide any benefits to the company if there is no active role from the employees. Every company faces certain levels of difficulty and complexity in managing its employees, as employees have different statuses, desires, feelings, thoughts, and backgrounds, which distinguish one employee from another.

The important role of a leader is how to effectively manage employees with diverse individual characteristics through human resource management, so that they can make a valuable contribution to the company's business operations and align with the company's vision, mission, strategies, and values. This is because individuals as workers are valuable assets to the company.

The more a leader deeply understands the characteristics of each employee, the easier it becomes for the leader to place them in positions that align with their individual traits. One of the factors that influences performance is the individual's own characteristics. The most essential element in the working world is the development of individual characteristics, as the formation of characteristics encompasses thoughts that encompass all the programs formed from one's life experiences. Employees serve as the pioneers of everything. This program then shapes a belief system that ultimately influences one's thought patterns, which can impact their behavior (Emin, 2007). According to Waal et al. (mahayati, 2017), individual characteristics include abilities, biographical characteristics, learning, attitudes, personality, perceptions, and values. Based on the above opinions, individual characteristics in this study are viewed in terms of abilities, biographical characteristics, learning, attitudes, personality, perceptions, and values. Therefore, for performance, the quality of partnerships and the values of the company are directly influenced by individual characteristics. Furthermore, as a leader, it is crucial to be aware of and monitor the workload that employees have to bear. Excessive workload can hinder the performance of the employees themselves and have a spiraling impact on the performance of other individuals and other work divisions. Excessive workload not only affects physical conditions but also impacts the mental health of workers. According to Webster (Nabawi and Maneggio, 2019), workload is defined as a) the amount of work or time expected from/given to a worker, and b) the total amount of work that needs to be completed by a department or group of workers within a specific period of time. Meanwhile, Lysaght et al. (2012) divided workload definitions into three major categories: a) the quantity of tasks and things that need to be done, b) the time and specific aspects of time that workers need to consider, and c) the subjective psychological experience that a worker goes through.

The increasing fatigue of workers in completing tasks that are beyond their physical and mental capabilities can lead to a decrease in work capacity and physical resilience, consequently lowering performance. According to Hasibuan (2012), employee performance refers to the quality and quantity of work achieved by an employee in carrying out their duties in accordance with the responsibilities assigned to them. Meanwhile, Stoner (as cited in Muizu et al., 2016) argues that performance is the achievement demonstrated by employees. It is the outcome attained in carrying out tasks assigned based on one's abilities, experience, dedication, and the available time.

The physical and mental capabilities of workers are crucial factors that can trigger an increase in work errors, ultimately raising the chances of workplace accidents. It is not only the workload that needs to be considered but also the role of the company's work environment, as it significantly impacts the company's operations. The work environment encompasses the social, psychological, and physical aspects within the company that influence employees in carrying out their tasks. Human life is inseparable from various environmental conditions, and there is a close relationship between humans and the environment. In this regard, humans will always adapt to their surrounding environment. Similarly, during work activities, workers will interact with various conditions present in the work environment. According to Danang Sunyoto (2012), the work environment encompasses everything that surrounds workers and can influence them in carrying out their assigned tasks, such as cleanliness, music, lighting, etc.

In the organizational structure, task assignments are determined from the topmost level to the lowest level. Each different task assignment is associated with a distinct work environment within the organization or company. Based on the data of the total number of employees and the presence of multiple divisions in this company, the author attempts to limit the scope of the study by only sampling two divisions at the Head Office. Based on this explanation, the research focus is directed towards human resources (HR), including individual characteristics, workload, and work environment, which are linked to employee performance.

2. METHOD

The nature of this research is quantitative associative research, which examines the relationship between two or more variables. The relationship used in this study is a causal relationship, which is a cause-and-effect relationship. This study aims to examine the causal relationship between variables, consisting of independent variables (variables that influence) and dependent variables (variables that are influenced). Specifically, the study aims to investigate the impact of individual characteristics, workload, and work environment on employee performance. The data will be collected through a questionnaire administered to a sample of employees in PT XYZ. The research will be conducted in June 2020. In data collection, the author obtained data from primary and secondary sources. Primary data was collected directly from the original source without any intermediaries, while secondary data was obtained from company records with a population of 150 individuals. As a result, a sample of 81 respondents was obtained. According to Sugiyono (2019), a sample is a subset of the total population with its own characteristics and size.

Analysis Method

This research utilizes data analysis method using SmartPLS software version 3.3.2, which is executed on a computer platform. In this study, data analysis is conducted using the Partial Least Squares (PLS) approach. According to Ghozali (2015), PLS is an alternative approach that shifts from the covariance-based Structural Equation Modeling (SEM) to a variance-based approach. Jogiyanto and Abdillah (2009) state that PLS is a variance-based Structural Equation Modeling (SEM) analysis that allows for simultaneous testing of measurement models and structural models. The measurement model is used to test validity and reliability, while the structural model is used to test causality (hypothesis testing using the prediction model).

3. RESULT AND DISCUSSION

A. Respondent Profile

In this study, the author distributed questionnaires to 81 respondents using an online questionnaire created with *Google Forms* to obtain weight values that will be derived from qualitative data and subsequently quantified. The following are the respondent data obtained by the author.

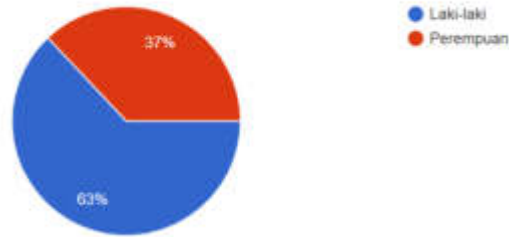


Figure 1. Gender Distribution

Based on the data obtained through the questionnaire, the gender distribution of the respondents is as follows: 37% or 3 respondents are female, and 62% or 51 respondents are male.

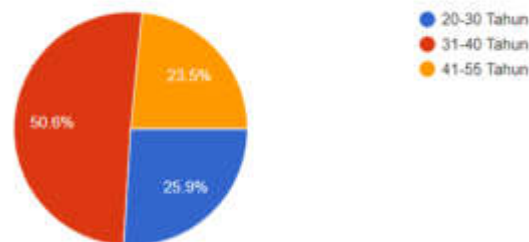


Figure 2. Age of Respondents

Based on the data obtained through the questionnaire, the age distribution of the respondents is as follows: 25.9% or 19 respondents are aged 20-30, 50.6% or 41 respondents are aged 31-40, and 23.5% or 19 respondents are aged 41-55.

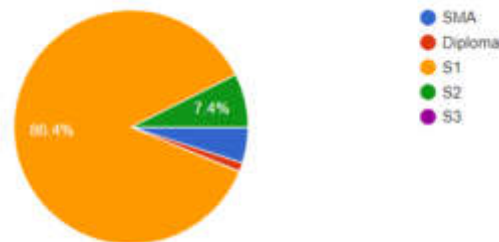


Figure 3. Educational Level Status

Based on the data obtained through the questionnaire, the educational level distribution of the respondents is as follows: 4 respondents (4.9%) have completed high school, 1 respondent (1.4%) has a Diploma degree, 70 respondents (86.4%) have a Bachelor's degree (S1), and 6 respondents (7.4%) have a Master's degree (S2).

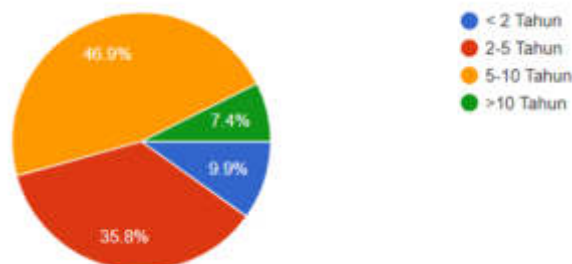


Figure 4. Length of Employment

Based on the data obtained from the questionnaire, it is found that there are 8 employees or 9.9% who have worked for less than 2 years, 29 employees or 35.8% who have worked for 2-5 years, 38 employees or 46.9% who have worked for 5-10 years, and 6 employees or 7.4% who have worked for more than 10 years.

A. Measurement Model or Outer Model

1) Convergent Validity

The convergent validity of the outer model can be assessed through the results of the research model's outer loadings with reflective indicators, which indicate a high correlation between the indicator values and their respective constructs. Indicators are considered valid if they have values > 0.7. However, for preliminary research in scale development, factor loadings of 0.5 to 0.6 are still considered acceptable, according to Ghozali (2015). The outer loadings results can be obtained after performing bootstrapping in the PLS procedure for the research model. The following are the values of the outer loading from the first testing of each indicator in the study variables:

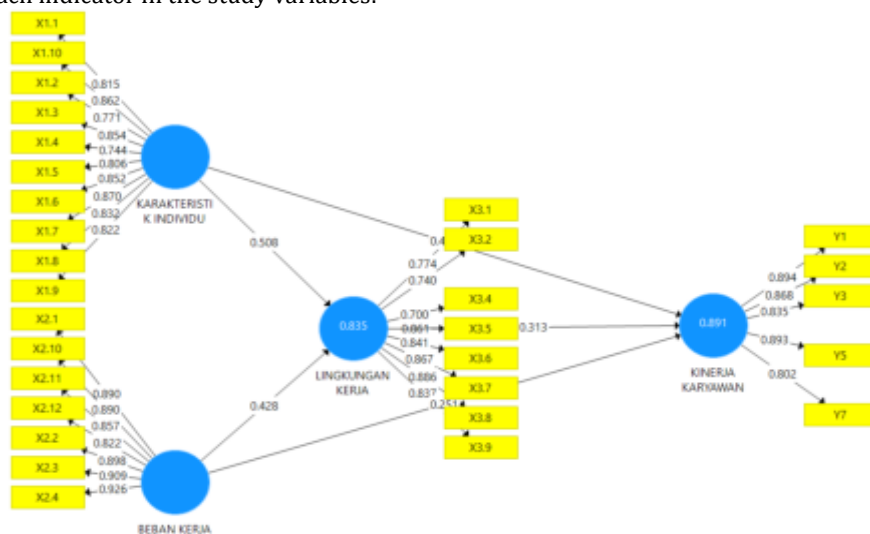


Figure 5 illustrates the output model diagram of the PLS Algorithm path.

The results of observing the outer loading values in the second test can be seen in the depicted figure, presented in the form of a table. The following are the details of the convergent validity test, which involves checking the values of the outer loading:

Table 1. Results of Outer Loading Values for Variable X1 (Individual Characteristics)

Indicator	Individual Characteristics	Workload	Work Environment	Employee Performance
X1.1	0.815			
X1.2	0.771			
X1.3	0.854			
X1.4	0.744			
X1.5	0.806			
X1.6	0.852			
X1.7	0.870			
X1.8	0.832			
X1.9	0.822			
X1.10	0.862			
X2.1		0.890		
X2.2		0.898		
X2.3		0.909		
X2.4		0.926		
X2.10		0.890		
X2.11		0.857		

X2.12	0.822	
X3.1		0.774
X3.2		0.740
X3.4		0.700
X3.5		0.861
X3.6		0.841
X3.7		0.867
X3.8		0.886
X3.9		0.837
Y1		0.894
Y2		0.868
Y3		0.835
Y5		0.893
Y7		0.802

From the above data, it is known that each indicator has an outer loading result of >0.7 , indicating validity. Therefore, these indicators can be considered suitable and can be further used for subsequent analysis processes.

Table 2. Results of Average Variance Extracted (AVE) Values

Variabel	AVE	Status
Individual (X1)	0.783	Valid
Workload (X2)	0.679	Valid
Work Environment (X3)	0.738	Valid
Employee Performance (Y)	0.665	Valid

From the data, it is known that the AVE values for each variable are >0.5 . Therefore, it can be concluded and stated that each utilized variable is deemed suitable and valid.

2) Convergent Validity

Discriminant validity testing is conducted to determine whether a researched variable has sufficient and appropriate discriminant ability. The *Cross Loading* test is used to measure the correlation value between indicators and variables. An indicator is considered valid and appropriate if its correlation value with its own variable is higher compared to the correlation with other variables. The following are the *cross loading* values for each indicator:

Table 3. Results of Cross Loading Test Values

Indicator	Variable			
	Individual Characteristics	Workload	Work Environment	Employee Performance
	X1	X2	X3	Y
X1.1	0,815	0,750	0,715	0,745
X1.2	0,771	0,686	0,602	0,681
X1.3	0,854	0,799	0,754	0,772
X1.4	0,744	0,649	0,665	0,681
X1.5	0,806	0,727	0,666	0,699
X1.6	0,852	0,771	0,775	0,802
X1.7	0,870	0,797	0,784	0,773
X1.8	0,832	0,726	0,790	0,760
X1.9	0,822	0,730	0,775	0,759
X1.10	0,862	0,836	0,821	0,893
X2.1	0,813	0,890	0,795	0,781
X2.2	0,847	0,898	0,802	0,847
X2.3	0,807	0,909	0,801	0,788
X2.4	0,800	0,926	0,782	0,803
X2.10	0,827	0,890	0,781	0,822
X2.11	0,783	0,857	0,809	0,814

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X2.12	0,753	0,822	0,734	0,745
X3.1	0,740	0,746	0,774	0,760
X3.2	0,608	0,618	0,740	0,579
X3.4	0,523	0,563	0,700	0,539
X3.5	0,713	0,724	0,861	0,732
X3.6	0,828	0,769	0,841	0,838
X3.7	0,831	0,785	0,867	0,774
X3.8	0,790	0,761	0,886	0,788
X3.9	0,747	0,788	0,837	0,828
Y1	0,754	0,787	0,790	0,894
Y2	0,708	0,746	0,795	0,868
Y3	0,768	0,735	0,703	0,835
Y5	0,862	0,836	0,821	0,893
Y7	0,852	0,771	0,775	0,802

Based on the table above, the *cross loading* values indicate good discriminant validity, as evidenced by the correlation values between indicators and other indicators. Cross loading values are considered valid if they are >0.7 , and from all the indicators above, it can be observed that the *cross loading* values meet the validity test criteria.

3) Composite Reability

The *outer model*, in addition to being measured by assessing *convergent validity* and *discriminant validity*, can also be evaluated by examining the reliability of the measured variables using the *composite reliability* values. If the *composite reliability* value is >0.7 , then the variable is considered reliable. The *output results* from *SmartPLS* for the *composite reliability* values are presented in the table below:

Table 4. Results of Composite Reliability Values

Variable	Composite Reliability	Status
Individual Characteristics (X1)	0.962	Reliable
Workload (X2)	0.955	Reliable
Work Environment (X3)	0.934	Reliable
Employee Performance (Y)	0.941	Reliable

From the above data, it is known that the *composite reliability* values for each variable are >0.7 . Therefore, based on this test, it can be concluded and stated that the *composite reliability* for each variable is fulfilled and can be considered reliable.

4) Cronbach's Alpha

The *reliability test* with composite reliability mentioned above can be further supported by using *Cronbach's alpha* values. A variable can be considered reliable or meet *Cronbach's alpha* if it has a value >0.7 . The following are the *Cronbach's alpha* values for each variable:

Table 5. Results of Cronbach's Alpha Values

Variable	Composite Reliability	Status
Individual Characteristics (X1)	0.954	Reliable
Workload (X2)	0.947	Reliable
Work Environment (X3)	0.911	Reliable
Employee Performance (Y)	0.928	Reliable

Based on the above data, it can be observed that the *Cronbach's alpha* values for each variable are >0.7 . Therefore, based on this test, it can be concluded that all the variables have a high level of reliability.

B. Structural Model Test or Inner Model Test

1) Path Coefecient

Path coefficients, also known as path weights, are used to indicate the direction of the relationship between exogenous variables and endogenous variables. They determine whether there is a positive or negative relationship between the exogenous variables and the endogenous variables. According to Chin,

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an R-squared value of 0.67 or higher for latent endogenous variables in the structural model indicates a good level of influence of the exogenous variables on the endogenous variables. Meanwhile, if the result is between 0.33 and 0.67, it falls into the moderate category, and if the result is between 0.19 and 0.33, it falls into the weak category. The following are the values of the path coefficients for the exogenous variables on the endogenous variables in the research.

Table 6. Results of Path Coefficient Values

Exogenous Variables	Exogenous Variables		Description
	Work Environment	Employee Performance	
Individual Characteristics	0.508	0.413	Positive
Workload	0.428	0.251	Positive
Work Environment		0.313	Positive

From the data, it is known that the path coefficients for the exogenous variables on the endogenous variable, namely individual characteristics, workload, and work environment, have a positive relationship with employee performance. This is indicated by the path coefficient values for each variable being greater than 0.

2) Goodness-of-Fit Test (*Goodness of Fit*)

Based on the data processing conducted, the obtained *R-Square* values are as follows:

Table 7. Results of R-Square Values

Variable	R-Square	Category
Employee Performance (Y)	0,891	Good
Work Environment (X3)	0,835	Good

In the above table, it shows that the R-Square value for the employee performance variable is 0.891, and for the work environment variable is 0.835. This indicates that 89.1% of the variance in employee performance is influenced by individual characteristics, workload, and work environment, while the remaining 10.9% is influenced by other variables not explained in this study. Similarly, 83.5% of the variance in the work environment is influenced by employee performance and workload, while the remaining 16.5% is influenced by other variables not explained in this study.

1. Hypothesis Testing

Based on the processed data, the obtained results can be used to test the hypotheses in this study. Hypothesis testing can be performed by considering the *T-Statistics* and *P-Values*. The hypothesis can be accepted if the *T-Statistics* value is greater than 1.96 and the *P-Values* is less than 0.05. Here are the values of *T-Statistics*, *P-Values*, and the results of the hypothesis testing:

Table 8. Hypothesis Results (T-Statistics and P-Values)

Hypotheses	Effect/Influence	T-Statistics	P-Values	Results
H1	Workload => Employee Performance	2,872	0,004	Approved
H2	Workload => Work Environment	4,786	0,000	Approved
H3	Individual Characteristics => Employee Performance	4,657	0,000	Approved
H4	Individual Characteristics => Work Environment	5,699	0,000	Approved
H5	Work Environment => Employee Performance	4,698	0,000	Approved

From the 5 hypotheses proposed in this research, it is known that each exogenous variable consisting of individual characteristics, workload, and work environment has a significant influence on purchasing, as evidenced by *T-Statistics values* > 1.96 and *P-Values* < 0.05. This indicates that all hypotheses are accepted and have a significant impact.

Hypothesis 1 states that workload has a positive influence on employee performance. The research findings support previous research conducted by Rahmat Hidayat and Anna Cavorina (2017), titled "The

Influence of Individual Characteristics and Work Environment on Employee Performance at PT Cladtek BI Metal Manufacturing," which stated that individual characteristics have an impact on employee performance at PT Cladtek BI Metal Manufacturing.

Hypothesis 2 states that workload has an influence on the work environment. Based on the hypothesis testing results, it can be concluded that workload has a positive influence on employee performance because the path coefficient value is > 0 . Furthermore, it can be observed that the *P-Values* indicating the influence of workload on employee performance is 0.000, and the *T-Statistic* value is 4.786. The influence of workload on the work environment is significant, as evidenced by the *T-Statistic value* > 1.96 and the *P-Values* < 0.05 . Based on the research findings, it is explained that workload plays a role in exerting an influence on the work environment. Whereas in workload, there is a positive relationship towards the work environment. According to Sedarmayanti (2011), the work environment encompasses all the tools, equipment, and materials encountered, as well as the surrounding environment in which someone works, their work methods, and the organization of work, both as an individual and as part of a group.

Hypothesis 3 states that individual characteristics have an influence on employee performance. The research findings have supported a study conducted by Iskandar (2017) titled "The Influence of Individual Characteristics, Workload, and Work Environment on Employee Performance at the Inspectorate Office of Central Sulawesi Province," which stated that employees tend to exhibit a positive attitude towards their work, colleagues, superiors, work environment, and existing work climate. They tend to uphold and adhere to positive values in their work.

Hypothesis 4 states that individual characteristics have an influence on the work environment. Based on the hypothesis testing results, it can be concluded that individual characteristics have a positive influence on the work environment because the path coefficient value is > 0 . Furthermore, it can be observed that the *P-Values* indicating the influence of individual characteristics on the work environment is 0.000, and the *T-Statistic* value is 5.699. Based on the research findings, it is explained that individual characteristics play a role in exerting an influence on the work environment. Sedarmayanti (2013) explains that the work environment can be divided into two categories: the physical work environment and the non-physical work environment.

Hypothesis 5 states that the work environment has an influence on employee performance. The research findings support previous research conducted by Fernando R. Tjiabrata, Bode Lumanaw, and Lucky OH Dotulong (2017), titled "The Influence of Workload and Work Environment on Employee Performance at PT Sabar Ganda Manado," which states that both workload and work environment have an impact on employee performance. Another research conducted by Lyta Lestari and Harmon (2017), titled "The Influence of Work Environment on Employee Performance," also shows a positive influence on the respective variable.

4. CONCLUSION

From the research results regarding the influence of individual characteristics, workload, and work environment on employee performance at PT XYZ in the Supply Chain Management and Technical Planning division, it can be concluded that workload plays a role in exerting an influence on employee performance at PT XYZ. The testing results indicate a positive influence of workload on employee performance, with a *P-Values* value of 0.004 and a *T-Statistic* value of 2.872. The influence of workload on the work environment is significant, as the *T-Statistic* value is > 1.96 and the *P-Values* value is < 0.05 . Based on the research findings, it is explained that workload plays a role in exerting an influence on the work environment. The influence of individual characteristics on workload is significant, as the *T-Statistic value* is > 1.96 and the *P-Values value* is < 0.05 . Whereas in individual characteristics, there is a positive relationship towards employee performance. The influence of individual characteristics on the work environment is significant, as the *T-Statistic value* is > 1.96 and the *P-Values value* is < 0.05 . Based on the research findings, it is explained that individual characteristics play a role in exerting an influence on the work environment. The influence of the work environment on employee performance is significant, as the *T-Statistic* value is > 1.96 and the *P-Values* value is < 0.05 .

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