

Environmental Impact and Job Satisfaction on Employee Performance with Intervening Variables Work Motivation (Case Study: Refinery-Biodiesel Plant Division of PT. X)

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ABSTRACT

Keywords: Millennial Generation, Work Satisfaction, Employee's Performance, Work Environment, Work Motivation.

This research is intended to find out and analyse the impact of work environment and work satisfaction on employee performance, which is mediated by work motivation. The research was done quantitatively by using the survey method with data analysis technique using SEM PLS. The questionnaire was a data collection instrument and was spread online through Google Forms. It had a sample quota of 83 respondents from millennial-generation employees from a refinery-biodiesel plant in PT. X. The independent variable in this research is work environment (X1) and Job satisfaction (X2); the dependent variable is employee performance (Y) and, with mediating variable, namely work motivation (Z). The result from this research is that work environment (X1) and work satisfaction (X2) do not affect employee performance (Y) because the t-statistic values of 1,237 and 0,068 are successively lesser than 1,96 values with a significance of 0,05. With the mediation available in the form of work motivation (Y), it can be obtained data in which work environment (X1) and work satisfaction (X2) positively affect and signification to employee performance (Y) with t-statistic values by 2,157 and 3,872 successively with the significance lesser than 0,05. Besides that, work motivation (Y) also positively affects and is significant toward employee performance with a t-statistic value of 4,490 and a significance of 0,05. Further research is expected to research other variables that are able to support employees' increasing performance, such as organisational commitment, work-life balance, and organisational culture.



Introduction

In recent years, it can be seen that the world has experienced an increase in globalisation, one of which is the economy of many countries that are interrelated in promoting foreign trade through the use of technological advances and connectivity without obstacles (Carnevale & Hatak, 2020). With significant developments and improvements both nationally and internationally, companies are increasingly

encouraging to recruit and retain talented workers (Collins, 2021). Therefore, the development of the industry today requires many companies to make changes in various aspects, and one of the essential aspects is human resources (HR). HR is considered a foundation of the company, so it needs to be considered as well as possible.

Many companies depend on employees to achieve profits and competitive advantages to be able to compete with competitors. The existence of employees who have competence in the company will give a good indication of the efficiency of human resource management, and that manage human resources. There are several scopes of duties and human resource management, which include human resource (HR) preparation, recruitment strategies, employee training, compensation development management, efficiency, worker relations, providing health services and employee satisfaction with services. Through these tasks, it is hoped that they will be able to improve organisational efficiency, employee engagement and better work quality (Khan & Abdullah, 2019).

One of the strategic steps taken by many companies today is to focus on developing human resources, which will have many differences in characteristics in the future. The percentage of the millennial generation in each company has increased, and this means workers with long working periods will be replaced with millennials who are considered more productive. According to De Meuse (2010), the projection of workers for each generation group in 2030 is predicted by the boomers generation 8%, generation Xers 24%, millennials generation 44% and Generation Z as much as 24%. The development of the number of each generation group every year turns into a challenge for companies in determining the right strategy in HR management.

PT. X is a manufacturing company established in 2008 with a core business focus on palm oil processing. PT. X has several divisions, including the Refinery and Biodiesel Plant as a whole, which is a group of millennial workers. This division is in great demand by millennial generation employees because of the work environment and job satisfaction, which motivates them to work. This is seen through the low employee turnover rate and good plant division performance. Data from a Deloitte survey (2023) explains that as many as 62% of millennials say work is the core of millennial group identity. The millennial generation group will consider a job more than a balance between work and a better life.

Employee performance is the result of an employee's efforts to complete the duties and obligations given based on ability, experience, honesty, and availability. Work environment and work motivation are some of the factors that affect employee performance. A good, effective and conducive work environment will encourage employee performance improvement because employees feel comfortable, happy and enthusiastic at work. The work environment is defined as everything around employees that can have an impact on the way employees carry out tasks given by the organisation and company (Alya et al., 2022).

In increasing employee motivation, one factor that can be used is job satisfaction. Job satisfaction is the emotional orientation possessed by employees towards the work

being done. Job satisfaction is also defined as a set of psychological, physiological and interconnected environments that encourage employees to recognise that employees are satisfied and happy with their work. The existence of dissatisfaction at work is influenced by factors related to employee rights, unsafe working conditions, co-workers, and superiors who are not cooperative and are not given opportunities in decision-making, which impacts employees who will feel separated from the organisation (Raziq & Maulabakhsh, 2015).

This research is essential to prepare companies to face challenges in managing human resources that have different characteristics of worker groups from different generations, especially the millennial generation. From the results of this study, it is expected that companies can see the influence of the work environment and employee job satisfaction as factors that will motivate employees to work optimally. Therefore, research will be conducted on environmental impact and job satisfaction with work motivation as an intervening variable on the performance of millennial generation employees at PT. X (Refinery-Biodiesel Plant Division).

(Wijanarko & Tjahjaningsih, 2022) define organisational behaviour as a science that studies the impact that affects individuals, groups, and organisational structures on existing behaviour in organisations, with the aim of applying science to improve effective organisational performance. Basically, the overall behaviour of individuals has essential consistency, which means that behaviour does not appear haphazardly and randomly but somewhat predictable, which is further modified according to the differences and uniqueness that each individual has. In organisational behaviour theory, it can be seen that three main components influence organisational behaviour, namely inputs, processes and outputs. In the input section, the initial setting of conditions and levels of the processes will occur. This component is specified before the employment relationship occurs. In the process section are actions and decisions carried out by each level, such as individuals, groups, and organisations involved in it as a result of input, which culminate in specific results. In the output section is the final result that is predicted, which is influenced by several other variables, for example, employee performance. Humans are considered individual and social creatures; this is interpreted as humans will try to display certain behaviours for what happens that affect the interaction of individuals with one another. Social behaviour is described as the result of events or events as responses that colour the behaviour of each individual, and the development of behaviour patterns obtained is also different.

The existence of human resources (HR) in a company is essential because HR is the foundation of an organisation to achieve effective and efficient organisational goals and performance. Performance improvement is considered a desired success parameter by all organisations. Define employee performance as the achievement of meaningful tasks and the efforts made by employees in carrying out their duties. The existence of organisational resources and abundant valuable assets owned by the organisation will have no meaning until employee performance is allocated correctly and appropriately to achieve organisational goals and objectives by meeting targets on time (Bushiri, 2014).

Research Methods

This research was conducted using quantitative research methods, where data dissemination was done using questionnaire survey methods. The population in this study is employees in the Refinery-Biodiesel division of PT—x and sampling techniques using non-probability sampling. The entire population sample will be used as respondents (saturated sample) because all employees are included in the millennial generation. The millennial generation is a generation born between 1982 and 2004 (Pyoria et al., 2017). In this study, work environment (X1) and job satisfaction (X2) are independent variables, work motivation (Z) is the intervening variable, and employee performance (Y) is the dependent variable. The number of respondents in this study was 83 people with data analysis methods using structural equation modelling (SEM), namely SmartPLS.

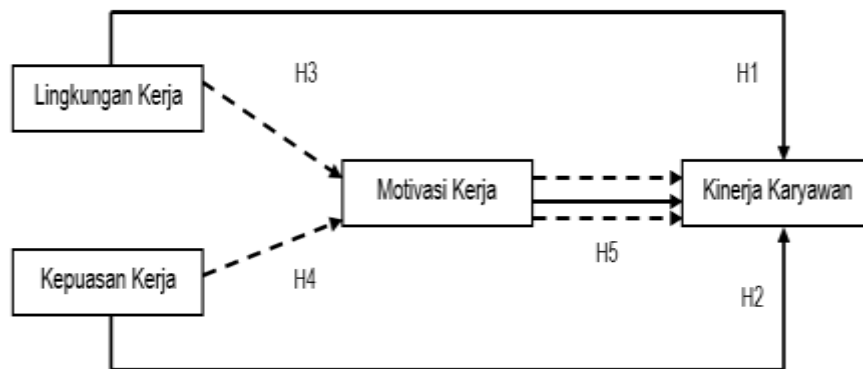


Figure 1
Research Thinking Framework

The formulation of the hypothesis in this study is as follows:

H1: The work environment directly affects employee performance

H2: Job satisfaction directly affects employee performance

H3: Work environment through the mediation of work motivation affects employee performance

H4: Job satisfaction through mediating work motivation affects employee performance

H5: Work motivation affects employee performance

Results and Discussion

In this study, the samples used were all employees in the Refinery-Biodiesel Plant division at PT. X because all employees are included in the millennial generation born between 1982 and 2004. The number of respondents in this study was 83 people, with the characteristics of respondents given as follows:

Table 1
Characteristics Respondent

Information	Category	Number of Respondents
Gender	Law Law	83
	Woman	-
Age	19-22 Years	21
	23-26 Years	38
	27-30 Years	6
	31-34 Years	4
	35-38 Years	9
	39-42 Years	5
	< 2 Years	25
Length of Work	3-4 Years	19
	4-5 Years	15
	6-7 Years	3
	8-9 Years	4
	>10 Years	17
	SMA/SMK	68
Recent Education	S1	15
	PKWT	21
Employee Status	PKWTT (Defenitif)	62
	Helper	44
Position Level	Operator	20
	Assistant Supervisor	13
	Supervisor	5
	Assistant Manager	1

Based on Table 1 above, it can be seen that all respondents are male, with a dominant age range of 23 to 26 years, and there are as many as 38 respondents. The majority of respondents in this study have a length of work under 2 years, with the most graduating from high school / vocational school. The status of employees in this division is dominated by trap employees (PKWTT), who have the most position levels as helper operators.

Table 2
Validity Test

Research Variables	Indicator	Outer Loading	AVE (Average Variance Extracted)	Information
Work Environment (X1)	LK1	0,791	0,622	Valid
	LK2	0,764		Valid
	LK3	0,826		Valid
	LK4	0,816		Valid
	LK5	0,717		Valid
	LK6	0,849		Valid

	LK7	0,862		Valid
	LK8	0,790		Valid
	LK9	0,765		Valid
	LK10	0,687		Valid
Job Satisfaction (X2)	KK1	0,814	0,692	Valid
	KK2	0,865		Valid
	KK3	0,788		Valid
	KK4	0,833		Valid
	KK5	0,819		Valid
	KK6	0,868		Valid
Work Motivation (With)	MT1	0,712	0,737	Valid
	MT2	0,837		Valid
	MT3	0,878		Valid
	MT4	0,902		Valid
	MT5	0,842		Valid
	MT6	0,870		Valid
Employee Performance (AND)	KA1	0,869	0,710	Valid
	KA2	0,708		Valid
	KA3	0,815		Valid
	KA4	0,876		Valid
	KA5	0,884		Valid
	KA6	0,914		Valid
	KA7	0,845		Valid
	KA8	0,935		Valid

In Table 2, the value of the outer loading of each instrument and the value of AVE (Average Variance Extracted) on each variable can be seen, which shows the validity of the instrument used in the study. The validity test is carried out to measure whether the research instrument to be used is valid and knows what should be measured (Hartono & Abdillah, 2014). In determining the validity of the research instrument, it is expected that the value of each correlation (outer loading) is more than 0.7 to the measured construction. However, in the early stages of developing a measurement scale, loading values of 0.5 to 0.6 were considered sufficient and valid. In addition, in the instrument validity test, it is expected that AVE must be greater than 0.50 (Ghefira, 2022). Then, it can be said that the research instruments used as a whole are valid.

Table 3
Reliability Test

Research Variables	Cronbach's Alpha	Composite Reliability	Information
Work Environment (X1)	0,932	0,942	Reliable
Job Satisfaction (X2)	0,910	0,931	Reliable
Motives of Kerja (Z)	0,948	0,957	Reliable
Employee Performance (Y)	0,917	0,936	Reliable

Reliability test is a test used to see if the instrument used is reliable or trustworthy; the reliability of the instrument can be seen through the value of Cronbach's Alpha and

Composite Reliability (CR) of each variable (Huang, Wang, Wu, & Wang, 2013). Cronbach's Alpha value is acceptable if it has a minimum value of 0.6 or is recommended to be > 0.7 (Van Griethuijsen et al., 2015). Cronbach's Alpha values are considered excellent (0.93-0.94), strong (0.91-0.93), reliable (0.84-0.90), and relatively high (0.70-0.77). In addition to using Cronbach's alpha, instrument reliability tests can be performed by looking at the value of composite reliability. Composite reliability aims to test the internal consistency and reliability of each construct (Haji-Othman & Yusuff, 2022). The value of composite reliability ranges from 0 to 1, where the instrument can be said to be reliable if it has a value between 0.60 and 0.70. In Table 3, it is found that all research instruments are reliable (reliable); this is because the value of Cronbach's alpha and composite reliability is in accordance with the standard value, which is above 0.70. Therefore, the research instruments used as a whole can be said to be valid and reliable.

Table 4
Uji Model Fit

Model	Value	Information
SUMMER	0,077	Accepted
NFI	0,613	Accepted

In the study, a model fit test was also carried out, which aimed to find out whether the model used was already in conformity with the data. The model can be accepted if it meets the SRMR standard < 0.1 or can be said to be perfect if the SRMR < 0.08. In addition, model compatibility can also be seen through the NFI value, where it is expected that the value will range from 0 to 1 (Narimawati & Sarwono, 2022). Table 4 displays the SRMR and NFI values where, in this study, the model used is fit or acceptable.

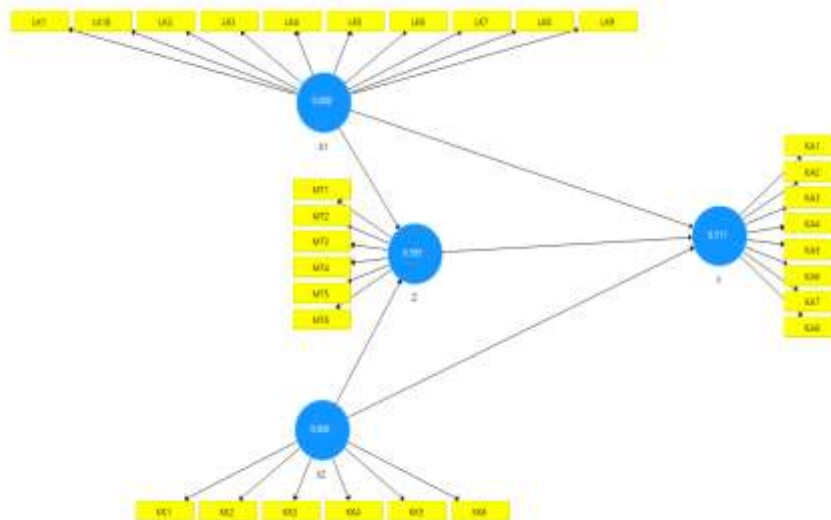


Figure 2 Structural Model Path Diagram

Table 5
Construct Crossvalidated Redundancy

Variable	Value Q2	Information
Motives of Kerja (Z)	0,595	Strong

Employee Performance (Y)	0,511	Strong
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Table 5 Displays the value of Q2, which is of predictive relevance, with the aim of determining whether the structural model and the effect of the Q2 measure represent the predictive relevance between exogenous constructs and specific endogenous constructs. The generally accepted Q2 criteria are divided into several criteria, namely 0.02 (weak), 0.15 (moderate) and 0.35 (strong) (Fauziek & Yanuar, 2021). Figure 2 shows a path diagram of a structural model where employee performance (Y) and work motivation (Z) are endogenous constructs, and work environment (X1) and job satisfaction (X2) are exogenous constructs. Therefore, work environment (X1) and job satisfaction (X2) have strong predictive relevance to work motivation (Z) with Q2 values of $0.595 > 0.35$. Then, the work environment (X1) and job satisfaction (X2) have strong predictive relevance to employee performance (Y) because the Q2 value is $0.511 > 0.35$.

Table 6
Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t Statistic	P-values	Information
H1: X1 → Y	0,150	0,166	0,121	1,237	0,108	Insignificant
H2: X2 → Y	-0,013	-0,033	0,192	0,068	0,473	Insignificant
H5: Z → Y	0,749	0,757	0,167	4,490	0,000	Significant Positive Effect

Table 7
Specific Indirect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t Statistic	P-values	Information
H3: X1 → Z → Y	0,101	0,093	0,047	2,157	0,016	Significant Positive Effect
H4: X2 → Z → Y	0,618	0,633	0,160	3,872	0,000	Significant Positive Effect

H1: The work environment directly affects employee performance

In Table 6 above, the t-statistic value is 1.273, and the P-value is 0.108. This study used a significance level of 0.05 with a t-value of 1.96. If $t\text{-statistics} > t$, then the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is accepted and vice versa. Furthermore, if the $P\text{-values} < 0.05$, then the relationship between variables can be said to be significant; as for this study, H1 was rejected in $t\text{-statistic} < t$ so that Ho could be accepted; that is, the work environment did not affect employee performance. Terry (2006) defines the work environment as a force that drives organisational performance

directly or indirectly. The work environment includes facilities and workplaces, work aids, sanitation, tranquillity, and relationships between everyone in the work environment. Research conducted by (Sabilalo, Kalsum, Nur, & Makkulau, 2020) obtained the same results as this study, where the work environment does not directly affect employee performance. The work environment does not directly affect performance due to physical environmental conditions, such as the characteristics of the ambient air temperature that is quite hot, and non-physical environments, such as relationships between employees in cooperation that are still not good.

H2: Job satisfaction directly affects employee performance

Job satisfaction is considered an emotional state related to employee attitudes towards their work, work situations and cooperative relationships between leaders and fellow employees who find a meeting point between the value of employee remuneration and the value of remuneration provided by the company that is appropriate and desired by employees. In Table 5 above, t-statistic 0.068 with P-value 0.473 is still carried by the standard Nilai t, which is 1.96 with a significance of more than 0.05, so H2 is rejected. Therefore, in this study, it was found that job satisfaction directly does not affect employees; the results of this study are supported by research conducted by (Fauziek & Yanuar, 2021), where research results were obtained that job satisfaction does not affect employee performance. Poor co-worker relationships and a lack of appreciation for superiors for the work done influenced job dissatisfaction in this study. To increase the effect of job satisfaction on performance, mediating variables such as work motivation are needed.

H3: Work environment through the mediation of work motivation affects employee performance

Table 7 shows the significance of the relationship between the work environment mediated by work motivation and employee performance where the t-statistic value is greater than the t-value (1.96), which is 2.157, and the p-value of 0.016 is smaller than the significance value of 0.05. Therefore, H3 is accepted where the work environment, through the mediation of work motivation, has a positive and significant effect on employee performance. Work motivation is considered a series of processes that encourage and direct-controlled behaviour to achieve goals. The results of this study are supported by research conducted by (Rosna, Niha, & Manafe, 2023), where the work environment has a positive and significant effect on employee performance. The existence of a work environment that meets the standards of feasibility, conducive and comfortable will increase employee motivation in working so that employees will be even better at improving performance.

H4: Job satisfaction through mediating work motivation affects employee performance

Table 7 shows the significance of the relationship between job satisfaction and employee performance through work motivation, obtaining a positive and significant effect relationship. H4 is accepted because the t-statistic value of 3.872 is greater than the t value (1.96) with a significance of $0.000 < 0.05$. The results of the same study obtained

by Syamsir et al. (2018) showed that job satisfaction through the mediation of work motivation has a positive and significant effect on employee performance. The existence of job satisfaction obtained by employees through compensation and promotional activities will motivate employees. Employees will strive to provide the best performance results to get the same feedback. Employees who are motivated at work will not be easily discouraged in every job, and more likely, employees will try to give their best to get greater satisfaction (Lie, 2018).

H5: Work motivation affects employee performance

Table 5 shows the relationship of work motivation to employee performance where the statistical t value of 4.490 is greater than the t value (1.96) with a significance of $0.000 < 0.05$ so that H5 can be accepted that work motivation has a positive and significant effect on performance. The same results are supported by research conducted by Olhe Lie and Hotlan (2018), which found that work motivation has a significant effect on performance. (Wijanarko & Tjahjaningsih, 2022) define motivation as a process that results in consistency, direction and sustained effort of individuals in achieving goals. Consistency is considered as a person's ability to strive to achieve goals continuously; direction indicates the focus on something the individual is doing so that the goal can be achieved; and continuous effort shows how much effort individuals continuously make to realise their goals to have good performance. The existence of high work motivation in employees will move employees in their business to achieve the desired goals and results.

Conclusion

This research was conducted on PT employees. X division of Refinery-Biodiesel Plant. The results of the study obtained are:

1. The work environment does not directly affect employee performance. This is due to the condition of the work environment, which predominantly has hot ambient temperatures that make employees uncomfortable at work. Similarly, job satisfaction does not have a direct influence on employee performance. This is due to employees feeling less satisfied with teamwork and low appreciation for the performance performed.
2. Work environment and job satisfaction through the mediation of work motivation have a positive and significant influence on employee performance. A good, conducive and safe work environment will increase employee motivation. Employee job satisfaction also has an impact on increasing work motivation.
3. Work motivation has a positive and significant influence on employee performance. Employees who have high work motivation will try to maintain performance and do their jobs correctly to get more job satisfaction.

As for suggestions for further research, more samples should be carried out in different divisions. In addition, we can conduct further research related to employee organisational commitment, work-life balance, and organisational culture as factors that support improving employee performance.

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