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Analysis of the Influence of Human Resource Development, Motivation, and Work Environment on Employee Performance and Employee Productivity (Case Study at PT. Mandiri Karya Kirana)

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A B S T R A C T

The success of a company is determined by the quality of its human resources, motivation, and work environment. One way to maintain quality and quantity is by enhancing and sustaining employee performance and productivity, thereby achieving the company's goals to the fullest. When employee performance and productivity are good, the objectives of a company, such as PT Mandiri Karya Kirana, in increasing profits, will be carried out effectively. Hence, this research seeks to understand the influence from human resource development, motivation, and work environment on employee performance and employee productivity at PT Mandiri Karya Kirana. The research methodology employed is the Structural Equation Modeling (SEM) method, with a sample size of 100 respondents. The results of research indicate that human resource development has a positive and significant impact on employee performance, motivation has a positive but non-significant impact on employee performance, the work environment could not be proven due to its exclusion from the research model, and employee performance has a positive and significant impact on employee productivity, obtaining a simultaneous equation $Y2 = 0.528\ X_1 + (0.085)\ X_2 + Z_4$.

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1. INTRODUCTION

Currently, there are four business issues related to human resources, namely management of work competencies, management of workforce diversity, management to improve competitiveness and management of globalization an organization services that affect employee performance and productivity. Because of its function to mobilize other resources, human resources require continuous stimulus such as evaluation, education, training and provision of continue to or company is required to change its business paradigm to achieve the desired goals. Human resource development is the process of preparing individual to take on higher responsibilities, typically related to enhancing their intellectual abilities to perform their work more effectively and efficiently.. In achieving organizational goals, employees require motivation to work

more diligently. With high work motivation, employees will put in more effort into performing their tasks. Apart from work motivation, the work environment where employees operate is equally crucial in enhancing performance. Therefore, a company must provide an adequate work environment. One way to maintain quality is to improve and maintain employee performance and productivity, then the company's goals will be achieved optimally. However, in addition to human resources, motivation and work environment, some of these things affect the quality of employee performance and productivity. When the performance and productivity of employees are good, the company's goals in a company, namely PT Mandiri Karya Kirana, in increasing profits are going well.

PT Mandiri Karya Kirana is a company established in 2007 which is engaged in general contracting, general trading and outsourching. PT Mandiri Karya Kirana has human resources to carry out all activities from input to output of production and services. In this case, human resources are used as one of the important indicators to achieve effective and efficient company goals. However, motivation and work environment are vital company assets, therefore their role and function cannot be replaced. Judging from the human resource development system carried out at PT Mandiri Karya Kirana, it is problematic or carried out not in accordance with the SOP (Standard Operating Procedure) because there is no increase in intellectual abilities, it is delays in promotion in the performance of a division and interspersed with a lack of coordination (miscommunication) of employees in the company so that there are development materials so that employees can procedural errors in providing labor provider perform their tasks effectively. The motivation and work environment applied at PT Mandiri Karya Kirana is considered less than optimal because of late compensation (salary) or inconsistent receipt dates, interspersed with working conditions caused by a non-conducive work environment, then a less harmonious atmosphere due to lack of coordination and evaluation, and there may also be an influence on compensation. In this case, employee coordination and the support of evaluation information is needed by employees, because it is very important in carrying out work. Without coordination and evaluation an employee will not work optimally in completing his work and also easily despair if he fails, thus affecting performance which also has an impact on employee productivity.

2. LITERATURE REVIEW

Human resource development is the process of preparing individual to take on greater responsibilities within an organization, typically involving the enhancement of skills or abilities to become more proficient and professional, there by enabling them to perform their tasks more effectively. Sutrisno, as cited in (Wibowo, 2021), argues that human resource development can be achieved through education and training, ultimately enhancing employee performance. Human resources play an important role in a company or organization, as movers, thinkers, and planners to achieve the goals of the company or organization. Human resources are the key that determines the development of the company (Priagung, 2023). Motivation encompasses a set of attitudes and values that influence individuals to achieve specific goals in line with their individual objectives. The strength of employee motivation in their job or performance is directly reflected in the extent of effort they put in to achieve better performance, ultimately aligning with the company's goals. There are five hierarchical levels of needs: first, physiological needs, second, safety needs, third, social affiliation needs, fourth, esteem needs, and fifth, self-actualization needs (Hustia, 2020). According to some of the points of view mentioned above, job loyalty can be defined as an employee's commitment to carry out work to the maximum based on comfortable conditions and job satisfaction, to produce maximum results for the company and others (M Syarif, 2024).

The work environment is a crucial component in which employees carry out their work activities. By focusing on creating working conditions that can motivate employees, it can influence their work enthusiasm. The concept of a work environment encompasses everything around employees that can impact their execution of assigned tasks. According to

Saydam, as cited in (Rahmawanti et al., 2018), the work environment is defined as "the entirety of facilities and infrastructure surrounding employees who are performing tasks that can influence the tasks themselves."
The workforce is an integral and crucial part of any company or organization. Considering the significance of the workforce factor, companies must recruit competent employees, who possess both effective working abilities and organizational skills. The performance of a company depends on the outcomes of the employees' efforts. However, supervisors play a role in the planning, implementation, and control of a company. Consequently, they hold a pivotal position in their efforts to motivate and manage their employees.Performance refers to the quality and quantity of work achieved by an employee in carrying out their tasks as per their assigned responsibilities. The achievement of a company's goals is not solely reliant on modern equipment, comprehensive facilities, and the like, but it is heavily dependent on the people executing those tasks. In general terms, productivity is defined as the relationship between actual outcomes in the form of goods or services and the actual inputs used. Productivity also signifies the comparison between the achieved results and the total resources (inputs) used, involving productive mental attitudes such as attitude, enthusiasm, motivation, discipline, creativity, innovation, dynamism, and professionalism. Robbins and DeCenzo explain that productivity is the total output of goods and services produced divided by the input required to generate that output. Productivity is a combination of both human and operational variables. Hence, effective organizations will maximize productivity by successfully integrating individuals into the overall operational system. (Wijaya et al., 2021).

In this study, the problems taken by researchers have gaps from other studies, because this study uses three independent variables, namely human resources, motivation and work environment which will later be linked to two dependent variables, namely employee performance and employee productivity. In addition, there are differences with journals from (Maludin, 2017) (Brenda, 2022) and (Agus, 2021), each of which says that the three independent variables above do not significantly affect employee performance.
In this case, the Structural Equation Modeling (SEM) model with Amos 24 software are used as the data analysis method. According to Waluyo and Rachman (2020), SEM is a compilation of statistical methods that enables incremental testing of a number of relatively “complicated” connections. SEM is also frequently referred to as a method that combines multiple regression analysis and factor analysis and is used to create research models with strong theoretical foundations. SEM analysis consists of two sub models, namely measurement model and structural model (Novita P, 2024).

3. RESEARCH METHOD

This research was conducted at PT Mandiri Karya Kirana. Several types of data and sources were utilized, including primary data and secondary data. Primary data was obtained from the questionnaire results. Meanwhile, secondary data was derived from a literature review of books, journals, official websites on the internet, and previous relevant research to assist in this study. Structural Equation Modeling (SEM) using Amos 24 software and SWOT analysis are the research methodologies used. The sampling method combined a purposive sampling approach with non-probability sampling. Primary data collection is determined using the number of samples obtained through the calculation of 20 indicators of research variables with 5 times the number of estimated parameters, so that what is needed is 20 x 5, namely 100 respondents. The number of samples has met the needs of the Maximum Likelihood Estimation (MLE) method which ranges from 100-200. The focus of this research is employees at PT Mandiri Karya Kirana.

The research framework is visualized in Figure 1 where the determination of research variables in exogenous variables consists of human resource development (X_1), motivation (X_2), and work environment (X_3). While the endogenous variable endogenous variable consists of Employee Performance (Y_1) and Employee Productivity (Y_2). Some indicators that used can be seen in Table 1.

Table 1. Research variabels

Variables	Dimensions	Indicators
Human Resource Development (X_1)	Exogenus Variables	Education (Dini, 2022) Training (Dini, 2022) Work Experience (Dini, 2022) Work Skills (Dini, 2022) Career Path (Dini, 2022)
Motivation (X_2)	Exogenus Variables	Compensation (Ndaru et al., 2022) Rewards (Syahrul, 2021) Factors Encouragement (Social) (Sitanggang, 2021)
Work Environment (X_3)	Exogenus Variables	Horizontal Relationship between Employees (Andi et al., 2022) Level Coworker Relationship (Andi et al., 2022) Subordinate Relationship between Superiors (Pani et al., 2022)
Employee Performance (Y_1)	Endogenus Variables	Quality Aspects (Dini, 2022) Work Quantity (Dolly, 2021) Timeliness (Dolly, 2021) Independence (Dolly, 2021) Effectiveness (Dolly, 2021)
Employee Productivity (Y_2)	Endogenus Variables	Work Achievement (Rizky, 2020) Ability Level (Baity dkk, 2020) Self-Development (Dolly, 2021) Quality Level (Dolly, 2021)

Souce: Primary data (2023)

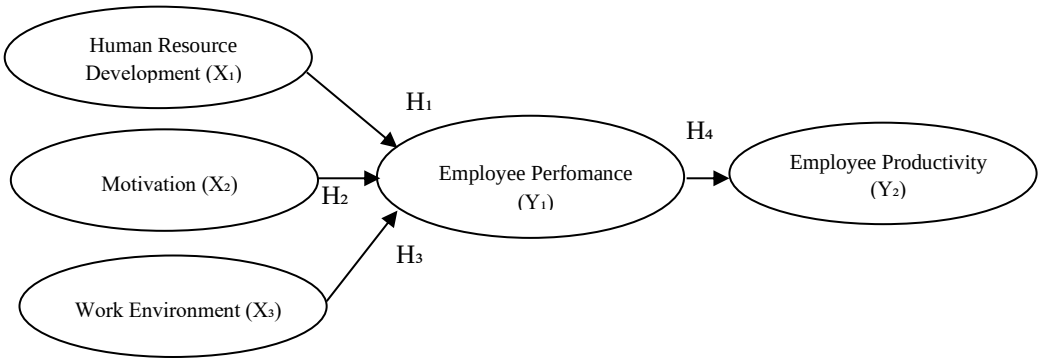

Figure 1. Research conceptual framework
Source: Primary data (2023)

4. RESULT AND DISCUSSION

4.1 Respondent Stratification

The sample frame in this study is stratified based on certain criteria such as gender, age, latest education, position, division and domicile. The determination of these criteria is based on the conditions of the research needs so that with a clear sample stratification, the output of this research is expected to be implemented by PT Mandiri Karya Kirana. The following is a further explanation of the stratification of respondents mentioned above.

a. Gender of Respondents

Table 3 below shows that the respondents are employees of PT Mandiri Karya Kirana, classified by their gender.

Table 3. Recapitulation of respondents' gender

No.	Gender	Frequncy (People)	Precentage (%)
1	Male	82	82
2	Female	18	18
Total		100	100

Source: Primary data processed

b. Age of Respondents

Table 4 below shows that the respondents are employees of PT Mandiri Karya Kirana, classified by their age.

Table 4. Recapitulation of respondents' age

No.	Age	Frequncy (People)	Precentage (%)
1	25 - 35	66	66
2	36 - 45	16	16
3	46 - 55	14	14
4	>56	4	4
Total		**100**	**100**

Source: Primary data processed

c. Latest Education of Respondents

Table 5 below shows that the respondents are employees of PT Mandiri Karya Kirana, classified by their latest education.

Table 5. Recapitulation of respondents' latest education

No.	Latest Education	Frequncy (People)	Precentage (%)
1	High School Equivalent	67	67
2	S1 (Scholar)	24	24
3	Diploma	8	8
4	S2 (Master)	1	1
Total		100	100

Source: Primary data processed

d. Position of Respondents

Table 6 below shows that the respondents are employees of PT Mandiri Karya Kirana, classified by their position.

Table 6. Recapitulation of respondents' position

No.	Position	Frequncy (People)	Precentage (%)
1	Director	3	3
2	Manager	2	2
3	Employee	95	95
Total			100

Source: Primary data processed

e. Division of Respondents

Table 7 below shows that the respondents are employees of PT Mandiri Karya Kirana, classified by their division.

Table 7. Recapitulation of respondents' division

No.	Division	Frequncy (People)	Precentage (%)
1	Human Resource	30	30
2	Secretary	1	1
3	Accounting	5	5
4	Equipment	4	4
5	Supplier	5	5
6	Supervisor	40	40
7	Sustainability	9	9
8	General	2	2
9	Leader	1	1
10	Administration	1	1
11	Operational	2	2
Total		100	100

Source: Primary data processed

f. Domicile of Respondents

Table 8 below shows that the respondents are employees of PT Mandiri Karya Kirana, classified by their domicile.

Table 8. Recapitulation of respondents' domicile

No.	Domicile	Frequncy (People)	Precentage (%)
1	Surabaya	4	4
2	Sidoarjo	60	60
3	Solo	2	2
4	Tanah Laut	2	2
5	Lampung	4	4
6	Jember	2	2
7	Lamongan	1	1
8	Situbondo	2	2
9	Grobogan	2	2
10	Yogyakarta	1	1
11	Suko	1	1
12	Purwokerto	1	1
13	Gresik	2	2
14	Cilacap	1	1
15	Minahasa Utara	1	1
16	Pekalongan	1	1
17	Trenggalek	1	1
18	Jakarta	1	1
19	Tangerang	1	1
20	Blitar	1	1
21	Surabaya	4	4
22	Kediri	1	1
23	Jombang	1	1
24	Banjarmasin	2	2
25	Madura	1	1
26	Cirebon	1	1
27	Banyuwangi	1	1
28	Denpasar	1	1
Total		100	100

Source: Primary data processed

4.2 Questionnaire Data processing

Descriptive analysis is carried out so that further analysis can be carried out. In this analysis, the researcher presents the research findings in a descriptive manner, describing how each respondent responded to the questionnaire's statements for each variable.

4.2.1 Data Sufficiency Test

According to Waluyo and Rachman (2020), the SEM sample size assumption for the Maximum Likelihood Estimation (MLE) technique must be met with a minimum of 100 samples, and the sample used in this study was 100 samples. This means that the SEM assumption using the MLE technique with a total size of 100 samples is sufficient for the data needed in the study.

4.2.2 Selecting the SEM Matrix and Estimation

In the SEM method, when the data collected is sufficient for the minimum limit of the MLE technique, the next step is to select the matrix and estimate. The software usually used in the SEM method is Amos 24. Matrix selection and estimation using Amos 24 software in this study are shown in Figure 2 below.

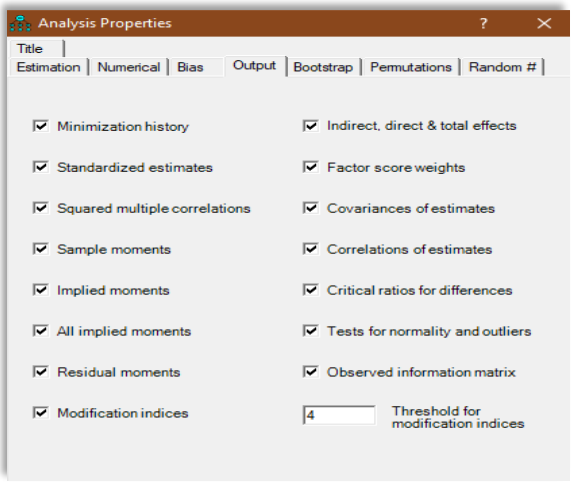

Figure 2. Matrix selection and estimation
Source: Primary data

4.3 Measurement Model

4.3.1 Goodnes of Fit

At the measurement model stage, a evaluation of several goodness of fit criteria and cut-off value that show the latent variables are still not correctly reflected by the model under analysis is done to determine the model's adequacy. These criteria are listed in Table 9.

Table 9. Goodness of fit and cut-off value on measurement model

Criteria	Model Test Results	Critical Value	Description
X^2 *Chi-Square*	318.955	Small, X_2 dengan df = 160 dengan α = 0.05	Good
Probability	0	≥ 0.05	Not good
CMIN/DF	1.993	≤ 2.00	Good
RMSEA	0.1	≤ 0.08	Good
GFI	0.768	≥ 0.90	Marginal
AGFI	0.696	≥ 0.90	Not good
TLI	0.716	≥ 0.95	Marginal
CFI	0.761	≥ 0.95	Marginal

Source: Primary data processed

The model test results are displayed in Table 6 above in comparison to their critical levels, there are three good criteria (X^2 Chi-Square, CMIN/DF, and RMSEA), three criteria that are marginal or close to good (GFI, TLI, and CFI), and two criteria that are not good (probability and AGFI). The measurement model is evident in Figure 3.

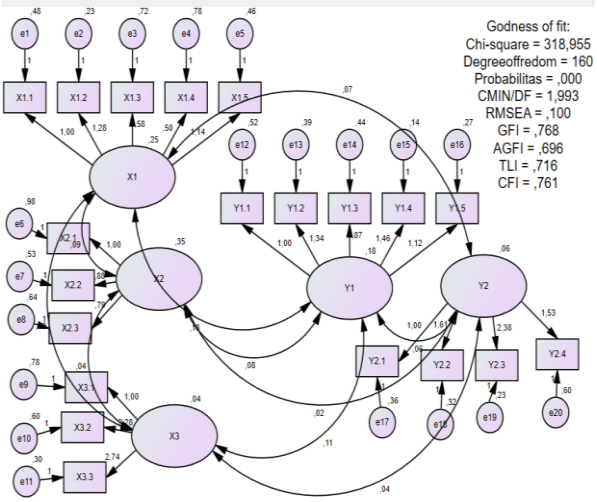

Figure 3. Measurement model
Source: Primary data processed

4.3.2 Validity Test

Validity is a measure that demonstrates that the variable being measured is really the variable to be studied. The validity test is evaluated by determining whether every estimated indicator accurately assesses the characteristics of the idea it is testing utilizing the measuring model created for the research. If each indicator has C.R. > 2.S.E., this indicates that the indicator is valid (Waluyo and Rachman, 2020). Table 7 below shows the results which can be concluded that all indicators have a C.R. value > 2.S.E. so that all indicators are declared valid

4.3.3 Significance Test

In the regression weight analysis stage, a variable may be used in conjunction with other elements to confirm a latent variable. A t-test on the regression weight, which is shown in Table 10, can be used to examine the ability of these dimensions to create latent variables. The t-count in regression analysis is the same as the Critical Ratio or C.R. Therefore, C.R. must be compared with the t-table. A variable is said to significantly form a dimension of a latent variable characterized by a C.R. greater than the t-table (t-count > t-table). The t-table at the 0.05 level with df = 20 (the total number of indicators) obtained a t-value of 1.725 so that when viewed in Table 7, all indicators are significant.

Table 10. Validity test, significance test, and regression weights on measurement model

	S.E.	C.R.	2.S.E.	Estimate Standardized Regression Weights
X1.1 <--- X1	0.277	4.62	0.554	0.582
X1.2 <--- X1	0.209	2.759	0.418	0.798
X1.3 <--- X1	0.213	2.365	0.426	0.32
X1.4 <--- X1	0.268	4.259	0.536	0.273
X1.5 <--- X1				0.645
X2.1 <--- X2	0.375	2,337	0.75	0.511
X2.2 <--- X2	0.321	2.477	0.642	0.578
X2.3 <--- X2				0.505
X3.1 <--- X3	0.888	2.569	1.776	0.233
X3.2 <--- X3	1.033	2.648	2.066	0.53
X3.3 <--- X3				0.729
Y1.1 <--- Y1	0.28	4.783	0.56	0.505
Y1.2 <--- Y1	0.221	3.945	0.442	0.669
Y1.3 <--- Y1	0.278	5.278	0.556	0.484
Y1.4 <--- Y1	0.235	4.772	0.47	0.856
Y1.5 <--- Y1				0.675
Y2.1 <--- Y2	0.57	2.829	1.14	0.372
Y2.2 <--- Y2	0.883	2.693	1.766	0.567
Y2.3 <--- Y2	0.629	2.435	1.258	0.767
Y2.4 <--- Y2	0.277	4.62	0.554	0.433

Source: Primary data processed

4.3.4 Reliability Test

The model that has been tested for suitability is continued by conducting a reliability test to show that in a model, the indicators chosen are suitable to a good extent. Constructs are considered reliable if the construct reliability value on each variable is ≥ 0.70. However, in exploratory research, even values below 0.70 are still acceptable if accompanied by empirical reasons. Nunally and Bernstein (1994) in Waluyo and Rachman (2020) state that reliability between 0.5-0.6 is acceptable. Table 11 below demonstrates that all of the outcomes of the reliability test are reliable when the construct reliability results are ≥ 0.50.

Table 11. Reliability Test on Measurement Model

Variables	Construct Reliability
X1	0.74209
X2	0.64377
X3	0.59615
Y1	0.84884
Y2	0.71086

Source: Primary data processed

4.3.5 Correlation Test

To ascertain whether two variables are associated with one another, a correlation test is used. The correlation matrix's range, which is 0 to 1, is consistent and fixed. According to Table 12 below, the correlation coefficient (r) between the acquired variables has a positive value and is very close to 1, indicating that the relationship between the variables is strengthening. If the value is close to 0, on the other hand, it indicates that the link between the variables is weakening. Therefore, all influences between variables are strong and unidirectional (positive), meaning that an increase in each variable will result in an increase in the other factors.

Table 12. Correlation test on measurement model

	Estimate
X1 <--> X2	0.293
X1 <--> X3	0.901
X1 <--> Y1	0.863
X1 <--> Y2	0.582
X2 <--> X3	0.287
X2 <--> Y1	0.314
X2 <--> Y2	0.169
X3 <--> Y1	1.244
X3 <--> Y2	0.707
Y1 <--> Y2	0.613

Source: Primary data processed

This can be seen in Table 12 above, which shows that the highest level of correlation between exogenous variables (with a value of 0.901) is found in the variable X_1 (Human resource development) and X_3 (Work environment). Sembiring (1995) states that in regression and correlation theory, if X_1 and X_2 are correlated, eliminate one of them. In this study, the researcher chose to remove the variable X_3 (work environment) from the model After X_3 was removed, the new model was tested using the parameters at the critical value.

4.3.6 Goodness of Fit Test after X_3 is Removed

The goodness of fit test results after X_3 was removed is evident in Table 13.

Table 13. Goodness of fit and cut-off value on measurement model after x_3 is removed

Criteria	Model Test Results	Critical Value	Description
X^2 *Chi-Square*	158.769	Small, X_2 with df = 113 with $\alpha = 0.05$	Good
Criteria	Model Test Results	Critical Value	Description
Probability	0.003	≥ 0.05	Not good
CMIN/DF	1.405	≤ 2.00	Good

RMSEA	0.064	≤ 0.08	Good
GFI	0.844	≥ 0.90	Marginal
AGFI	0.788	≥ 0.90	Marginal
TLI	0.859	≥ 0.95	Marginal
CFI	0.883	≥ 0.95	Marginal

Source: Primary data processed

Comparing the model test results with their critical values, Table 13 above shows that there are three good criteria (X^2 Chi-Square, CMIN/DF, and RMSEA) and four are marginal or close to good (GFI, AGFI, TLI, and CFI). As an overview of the measurement model in the new model, namely by eliminating X_3, is shown in Figure 4.

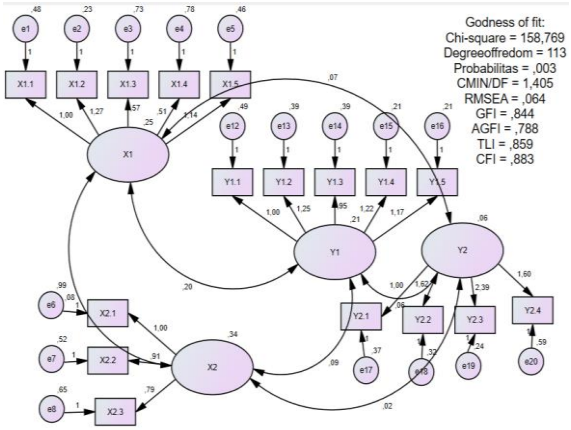

Figure 4. Measurement model after X_3 is removed
Source: Primary data processed

4.3.7 Validity Test After X_3 is Removed

After removing X_3, the validity test was carried out again on the new model. The test results are summarized in Table 14. The table shows that every indicator has a C.R. value > 2.S.E. so that all indicators can validly measure the model

4.3.8 Significance Test after X_3 is Removed

A variable is significantly said to form a dimension of the latent variable which is characterized by a C.R. greater than the t-table (t-count > t-table). The t-table at the 0.05 level with df = 17 (the number of all indicators after excluding the X_3 variable) obtained a t-value of 1.740 so that when viewed in Table 14, all indicators are significant.

Table 14. Validity test, significance test, and regression weights on measurement model after X_3 is removed

	S.E.	C.R.	2.S.E.	Estimate Standardized Regression Weights
X1.1 <--- X1				0.584
X1.2 <--- X1	0.259	4.922	0.518	0.796
X1.3 <--- X1	0.208	2.756	0.416	0.319
X1.4 <--- X1	0.212	2.385	0.424	0.275
X1.5 <--- X1	0.256	4.457	0.512	0.645
X2.1 <--- X2				0.504
X2.2 <--- X2	0.404	2.253	0.808	0.591
X2.3 <--- X2	0.319	2.495	0.638	0.497
	S.E	C.R	2.S.E	Standardized Regression Weights
Y1.1 <--- Y1				0.544
Y1.2 <--- Y1	0.274	4.567	0.548	0.672
Y1.3 <--- Y1	0.225	4.241	0.45	0.569
Y1.4 <--- Y1	0.242	5.057	0.484	0.771
Y1.5 <--- Y1	0.244	4.787	0.488	0.757
Y2.1 <--- Y2				0.368
Y2.2 <--- Y2	0.585	2.772	1.17	0.564
Y2.3 <--- Y2	0.911	2.621	1.822	0.762
Y2.4 <--- Y2	0.654	2.441	1.308	0.447

Source: Primary data processed

4.3.9 Reliabilty Test after X_3 is Removed

After testing the validity and significance, the next step is to test the reliability of the new model. If each variable's construct reliability value is ≥ 0.70, the construct is regarded as reliable. However, in exploratory research, even values below 0.70 are still acceptable if accompanied by empirical reasons. Nunally and Bernstein (1994) in Waluyo and Rachman (2020) state that reliability between 0.5-0.6 is acceptable. Table 15 below shows that in the reliability test on the new model, the results are all reliable where the construct reliability results are ≥ 0.50.

Table 15. Reliability Test on Measurement Model after X_3 is Removed

Variables	Construct Reliability
X1	0.7423
X2	0.629
Y1	0.8668
Y2	0.7115

Source: Primary data processed

4.3.10 Correlation Test after X_3 is Removed

The correlation test was carried out again on the new model (after X_3 was removed). According to Table 16 below, the correlation coefficient (r) between variables has positive and negative values that are close to 1 to -1, showing that the relationship between variables is becoming stronger. If the value is close to 0, on the other hand, it indicates that the link between the variables is weakening. Positive numbers signify a one-way link (X increases, then Y increases), but negative values signify an inverse relationship (X increases, then Y

decreases). The correlation test results below are used for structural model measurement without including X_3.

Table 16. Correlation test on measurement model after X_3 is removed

	Estimate
X1 <--> X2	0.873
X1 <--> Y1	0.584
X1 <--> Y2	0.325
X2 <--> Y1	0.170
X2 <--> Y2	0.583
Y1 <--> Y2	0.293

Source: Primary data processed

It is evident in Table 16 above, the conclusion obtained from the correlation test results after the variable X_3 is removed is that the correlation between exogenous and exogenous variables is not significant so that it complies with the existing rules or there is no indication of multicollinearity. This is in accordance with the statement of Waluyo and Rachman (2020) which states that research that aims to regress two or more exogenous variables on one or more endogenous variables, the requirement that must be met is that the correlation between exogenous variables is not significant.

4.4 Structural Model

4.4.1 Goodnes of Fit Test

Parameters are tested with their critical values set and Table 17 provides a summary of the results. In the structural model, the model used is the model after removing X_3.

Table 17. Goodness of fit and cut-off value on structural model

Criteria	Model Test Results	Critical Value	Description
X^2 *Chi-Square*	162.926	Small, X_2 with df = 113 with α = 0.05	Good
Probability	0.005	≥ 0.05	Good
CMIN/DF	1.405	≤ 2.00	Good
RMSEA	0.064	≤ 0.08	Good
GFI	0.839	≥ 0.90	Marginal
AGFI	0.787	≥ 0.90	Marginal
TLI	0.859	≥ 0.95	Marginal
CFI	0.88	≥ 0.95	Marginal

Source: Primary data processed

Comparing the model test results to their critical values, Table 17 above demonstrates that there are four good criteria (X_2 Chi-Square, probability, CMIN/DF, and RMSEA) and four criteria that are marginal or close to good (GFI, AGFI, TLI, and CFI). Because all indicators are included in good and marginal criteria, therefore the structural model does not need to be modified. For the structural model image can be seen in Figure 5.

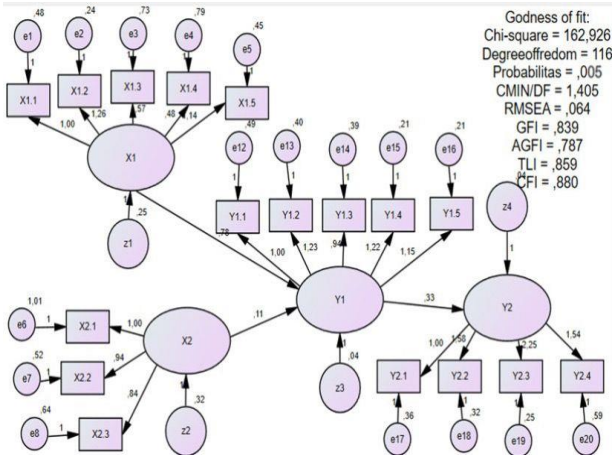

Figure 5. Structural model
Source: Primary data processed

4.4.2 Validity Test

The validity test is assessed using the structural model created for the study by establishing if each estimated indicator appropriately assesses the features of the notion it is testing. If each indicator has C.R. > 2.S.E., this indicates that the indicator is valid (Waluyo and Rachman, 2020). Table 17 below shows the results which can be inferred that each variable and each indicator are deemed to be valid.

4.4.3 Significance Test

According to Waluyo and Rachman (2020), a variable is considered significant when the variable has a C.R. value greater than the t-table (t-count > t-table). The t-table at the 0.05 level with df = 17 (the number of all indicators after excluding the X_3 variable) obtained a t-value of 1.740 so that it is possible to state that the indicator is significantly a dimension of the latent variable formed. Table 18 demonstrates that one variable has a C.R. value smaller than the t-table (t-count < t-table) so that it can be interpreted that there is one variable that is not significant. The insignificant variable is X_2 (Motivation) against Y_1 (employee performance).

Table 18. Validity test, significance test, and regression weights on structural model

	S.E.	C.R.	2.S.E.	Estimate Standardized Regression Weights
Y1 <--- X1	0.193	4.069	0.386	
Y1 <--- X2	0.117	0.967	0.234	
Y2 <--- Y1	0.14	2.381	0.28	
X1.1 <--- X1				
X1.2 <--- X1	0.259	4.888	0.518	0.796
X1.3 <--- X1	0.207	2.758	0.414	0.319
X1.4 <--- X1	0.21	2.282	0.42	0.275
X1.5 <--- X1	0.256	4.46	0.512	0.645
X2.1 <--- X2				0.504
X2.2 <--- X2	0.445	2.114	0.89	0.591
X2.3 <--- X2	0.349	2.418	0.698	0.497
Y1.1 <--- Y1				0.544
Y1.2 <--- Y1	0.267	4.615	0.534	0.672
Y1.3 <--- Y1	0.22	4.266	0.44	0.569
Y1.4 <--- Y1	0.238	5.116	0.476	0.771
Y1.5 <--- Y1	0.236	4.856	0.472	0.757
Y2.1 <--- Y2				0.368
Y2.2 <--- Y2	0.553	2.853	1.106	0.564
Y2.3 <--- Y2	0.823	2.737	1.646	0.762
Y2.4 <--- Y2	0.616	2.496	1.232	0.447

Source: Primary data processed

4.4.4 Reliabilty Test

A reliability test must be performed on the model after it has been fitted and assessed for compatibility to demonstrate that the indicators used in the model have a high degree of suitableness. Constructs are considered reliable if the construct reliability value on each variable is ≥ 0.70. However, in exploratory research, even values below 0.70 are still acceptable if accompanied by empirical reasons. Nunally and Bernstein (1994) in Waluyo and Rachman (2020) state that reliability between 0.5-0.6 is acceptable. Table 19 demonstrates that all of the outcomes of the reliability test are reliable when the construct reliability results are ≥ 0.50.

Table 19. Reliability test on structural model

Variables	Construct Reliability
X1	0.7405
X2	0.4196
Y1	0.86145
Y2	0.71086

Source: Primary data processed

4.5 Simultaneous Equation

The following is the simultaneous equation for the model developed in this study: (Where the assumption Z1 to Z4 = 0)

- $Y_1 = f(X) + Z_3$
- $Y_1 = f(X_1) + f(X_2) + Z_3$
- $Y_1 = 0.874\ X_1 + (0.141)\ X_2 + Z_3$
- $Y_2 = ff(Y_1) + Z_4$
- $Y_2 = 0.605\ (0.874\ X_1) + 0.605\ ((0.141)\ X_2) + Z_4$
- $Y_2 = 0.528\ X_1 + 0.085\ X_2 + Z_4$

4.6 Hypothesis Test

Hypothesis testing is conducted by comparing the calculated t-value, specifically the Critical Ratio (C.R.) value, with the tabulated t-value of 1.740, while also considering the regression coefficient. The null hypothesis (H_0) is accepted if the C.R. value is smaller than the tabulated t-value (1.740), and rejected if the C.R. value is greater than the tabulated t-value (1.740). The alternative hypothesis (H_1) is accepted if H_0 is rejected, and vice versa. The following are the hypothesis findings from this research.:

Hypothesis 1

H_0 : Human resource development has no significant effect on employee performance

H_1 : Human resource development has a significant effect on employee performance

The results of the hypothesis test are presented in Table 4.18. In the table, it can be observed that the influence of human resource development on employee performance yields a C.R. value of 4.069, exceeding the tabulated t-value of 1.740 (t-calculated > t-tabulated). Therefore, in this hypothesis, H_1 is accepted, indicating that human resource development significantly affects employee performance. The influence of human resource development on employee performance has a regression coefficient of 0.874, implying that they both have a positive and significant impact. The findings of this study support the research by Faradhita (2018), which stated that human resource development significantly influences employee performance.

Hypothesis 2

H_0 : Motivation has no significant effect on employee performance

H_1 : Motivation has a significant effect on employee performance

The hypothesis test results are presented in Table 4.18. In this table, it can be seen that the

effect of motivation on employee performance obtained a C.R. value of 0.967 and a t-table of 1.740 (t-count> t-table). So, in this hypothesis H_0 is accepted, namely motivation has a positive but insignificant effect on employee performance. The effect of motivation on employee performance has a regression coefficient value of 0.141, which means it has an insignificant effect. The results of this study support the research of Agus, Novia and Yudi (2021) which states that motivation has an insignificant effect on employee performance. However, the results of this study contradict research conducted by I Dewa Gede (2022) and Renny (2022), where the study states that motivation has a positive and significant effect on employee performance.

Hypothesis 3

H_0 : The work environment has no significant effect on employee performance

H_1 : The work environment has a significant effect on employee performance

The results of the 3rd hypothesis test cannot be proven because the work environment variable (X_3) was removed from the model. The results of this exclusion can be seen in Figure 3 and Figure 4 to see the model before and after removing the work environment variable (X_3).

Hypothesis 4

H_0 : Employee performance has no significant effect on employee productivity

H_1 : Employee performance has a significant effect on employee productivity

The results of the hypothesis test are presented in Table 4.18. In the table, it can be observed that the influence of employee performance on employee productivity yields a C.R. value of 2.381, exceeding the tabulated t-value of 1.740 (t-calculated > t-tabulated). Therefore, in this hypothesis, H_1 is accepted, indicating that employee performance significantly affects employee productivity. The influence of employee performance on employee productivity has a regression coefficient of 0.605, implying that they both have a positive and significant impact. The findings of this study support the research by Chandra (2018), which stated that employee performance significantly influences employee productivity.

With the results of the research using the SEM method above, it can be seen that human resources have an influence on employee performance, but this is not supported by the study (Maludin, 2017), in which human resources were found to not affect employee performance. The findings regarding the impact of motivation on employee performance also contradict the research by Renny (2022), which states that motivation does affect performance. This represents differences or comparisons among different companies, each of which undoubtedly faces distinct issues.

5. CONCLUSION

Based on the research findings, it can be concluded that human resource development has a positive and significant impact on employee performance, motivation has a positive impact but is not significant for employee performance, the influence of the work environment could not be established as it was excluded from the research model, and employee performance has a positive and significant effect on employee productivity. The simultaneous equation obtained is Y2 = 0.528 X1 + (0.085) X2 + Z4. Suggestions that can be given for the future researchers can use this research as reference material and can develop other variables such as organizational culture, job satisfaction, job stress or others that are deemed relevant to research on employee work performance.

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