Management Dynamics: International Journal of Management and Digital Sciences

E-ISSN: 3048-4162
P-ISSN: 3048-4154

Analysis of the Influence of Work Environment, Human Resource Management, and Information Systems on PT.XYZ Performance with Operational Efficiency and Employee Productivity as Mediating Variables

Ekwan Setyo Utomo [1]*, Slamet Riyadi [2], Fausta Ari Barata [3]

[1] Universitas 17 Agustus 1945 Surabaya; *Email: 1262400018@surel.untag-sby.ac.id*
[2] Universitas 17 Agustus 1945 Surabaya; *Email: slametriyadi10@untag-sby.ac.id*
[3] Universitas 17 Agustus 1945 Surabaya; *Email: fausta@untag-sby.ac.id*

Corespondensi Author: Ekwan Setyo Utomo

Abstract: In the era of globalization and rapid technological advances, the scope of operational management is increasingly expanding. In facing global competition, companies must be able to face challenges in their operational management. The purpose of this study is to determine the factors that influence organizational performance through operational efficiency and employee productivity. The population used is all employees at PT. XYZ with a total of 107 employees. The sampling technique used in this study is a saturated sample where all members are filled in as samples in the study as many as 107 employees. This study uses the SEM (structure Equation Modeling) method with the AMOS tool. The results of the study indicate that the Work Environment has a significant effect on operational efficiency. Employee productivity, and organizational performance. Human resource management has a significant effect on operational efficiency, employee productivity, and organizational performance. Information systems have a significant effect on operational efficiency, employee productivity, and organizational performance. Operational efficiency has a significant effect on organizational performance. And employee productivity has a significant effect on organizational performance.

Keywords: *Employee Productivity, Operational Efficiency, Organizational Performance.*

Received: 24 May, 2025
Revised: 15 June, 2025
Accepted: 29 June, 2025
Published: 04 July, 2025

1. INTRODUCTION

Operational management is one of the fundamental components in the success of an organization or company. Traditionally, operational management is related to the management of production processes, quality control, capacity planning, and supply chain management. However, in the era of globalization and rapid technological advances, the scope of operational management is expanding.

Traditionally, operational management is related to the management of production processes, quality control, capacity planning, and supply chain management. However, in the era of globalization and rapid technological advances, the scope of operational management is expanding. Now, operational management covers various fields, such as project management, product innovation, human resources, and environmental sustainability. Therefore, companies are required to continue to adapt to external and internal changes that occur in order to maintain competitiveness in an increasingly competitive market.

On the other hand, in facing global competition, companies must also be able to face challenges in supply chain management. Efficiency in operational management and company performance involving various factors is the key to maintaining operational continuity and sustainability.

Based on research by Eric Hermawan (2022), Research by Purwadhi, P., Yani Restiani Widjaja, Hans Ariel Satyana, & Josephine Fausta Nazuli. (2025), Research by Putri, P. A. Y., & Endiana, I. D. M. (2020), Research by Arifianto Setia Direndra (2017), and Research by Ardiani

Ika Sulistyawati, Rejeki Ari Indrayani (212). The results of previous studies revealed that in operational management to improve employee performance, the influential factors are the work environment, human resources, information systems, operational efficiency, and employee productivity.

This study aims to explore the factors that influence operational efficiency, productivity, and performance, as well as how companies can identify and overcome existing obstacles to achieve optimal levels of productivity. The main focus of this study is to examine how the environment, technology, and human resource management can contribute to improving company efficiency, productivity, and performance. In addition, this study will also discuss strategies that can be implemented by companies to improve the three dependent variables. Technically, this research was conducted with the following objectives:

1) Analyze the influence of the work environment on the operational efficiency of PT.XYZ
2) Analyze the influence of the work environment on the productivity of PT.XYZ employees
3) Analyze the influence of the work environment has a significant effect on the performance of PT.XYZ
4) Analyze the influence of human resource management on the operational efficiency of PT.XYZ
5) Analyze the influence of human resource management on the productivity of PT.XYZ employees
6) Analyze the influence of human resource management on the performance of PT.XYZ
7) Analyze the influence of information systems on the operational efficiency of PT.XYZ
8) Analyze the influence of information systems on the productivity of PT.XYZ employees
9) Analyze the influence of information systems on the performance of PT.XYZ
10) Analyze the influence of operational efficiency on the performance of PT.XYZ
11) Analyze the influence of employee productivity on the performance of PT.XYZ

This study contributes to the development of science related to the influence of the work environment, HR, and information systems on company performance with operational efficiency and employee productivity as intervening variables. In addition, the results can encourage interest in further research and the development of theoretical models that have not been fully tested empirically. The results of this study are expected to be utilized by companies to improve performance from an operational management perspective. This study also enriches scientific literature and deepens understanding of the influence of work environment, HR, and information systems on company performance through operational efficiency and employee productivity. In addition, these findings are expected to encourage companies to optimize these factors in order to maximize performance.

2. LITERATURE REVIEW

Operational Management

According to Pontas M. Pardede (2003) operations and production management in general can be interpreted as the direction and control of various activities that process various types of resources to create certain goods or services. In a broad sense, operations and production management includes all forms and types of decision making starting from determining the type of goods or services produced, the resources needed, how to process them, and the operations and production techniques that will be used, until the goods or services are in the hands of users or consumers.

According to Jay Heizer and Barry Render (2005) there are four reasons why it is necessary to study operations management, namely, 1) Operations management is studied to find out how people organize themselves to get a productive company. 2) Studying operations management to find out how goods and services are produced. 3) We study operations

management to understand what operations managers do. 4) Studying operations management because this part is the part that spends the most money in an organization, most of the company's expenses lie in operations management but operations management provides opportunities to increase profits and services to the community.

Work Environment

The work environment is an atmosphere where employees carry out their daily activities. A conducive work environment provides a sense of security and allows employees to work optimally. If employees enjoy the work environment where they work, then the employee will feel at home in their workplace, carrying out their activities so that working time is used effectively. Conversely, an inadequate work environment can reduce employee performance.

According to (Nitisemito in Nuraini 2013:97) the work environment is everything that is around the employee and can affect the performance of the tasks assigned to him, for example with air conditioning (AC), adequate lighting and so on. To create a good work environment for employees, of course every business must focus on work environment indicators that can improve employee performance. According to Sedarmayanti, (2019:22) work environment indicators are as follows:

1) Lighting
2) Air temperature
3) Noise
4) Use of color
5) Space needed
6) Ability to work
7) Employee relationships with other employees

Human Resource Management

Human resource management is part of management. Therefore, general management theories form the basis for discussing the regulation of human roles in realizing optimal goals. This regulation is a matter of planning, organizing, directing, controlling, procuring, developing, compensating/incentives, integrating, maintaining, disciplining and terminating workers. To help realize organizational goals, good human resources are needed. In order to get good human resources, good management skills are needed, the ability to find individuals who can help realize organizational goals and the ability to regulate relationships and roles of workers to be effective and efficient. Indicators of human resource management according to Afandi (2018) are as follows:

1) Work tasks, namely details of activities that must be carried out by employees
2) Work quality, namely standardized work results and in accordance with what is desired
3) Quantity, namely the number of results from employee work production
4) Timeliness, namely the results of employee work production
5) Cost effectiveness, namely using the right and efficient costs.

Information System

The system is a collection of components that form a unity and information is the result of processing data from one or several sources, which are then processed, so as to provide value, meaning, and benefits. An information system is a regular combination of people, hardware, software, communication networks and data resources that collect, transform and disseminate information in an organization (Anggareni, 2017). According to Azhar Susanto (2017) that the indicators in measuring the effectiveness of information systems are:

1) Performance.
2) Information or data.
3) Economic.
4) Control.
5) Efficiency.

6) Service.

Operational Effectiveness

Operational effectiveness is a concept that measures an organization's ability to achieve optimal results by utilizing available resources efficiently. This includes not only the efficiency in running business processes, but also the organization's ability to meet customer needs and expectations and achieve predetermined goals. As in Niu et al., (2020) operational effectiveness involves efforts to achieve optimal results by optimizing the use of existing resources and reducing waste. Here is a further explanation of some of the main aspects of operational indicators:

1) Productivity
2) Cycle Time
3) Operational Costs
4) Output Quality
5) Capacity Utilization

Employee Productivity

According to Tohardi in Sutrisno (2017:100), work productivity is a mental attitude. A mental attitude that always seeks improvement on what already exists. A belief that someone can do a better job today than yesterday and tomorrow better than today. According to Edy Sutrisno (2017), productivity indicators include:

1) Ability
2) Increasing the results achieved
3) Work enthusiasm
4) Self-development
5) Quality
6) Efficiency

Company Performance

According to Mulyadi (2007) Performance is the periodic determination of the operational effectiveness of an organization, organizational units and its employees based on previously set targets, standards and criteria. Company performance refers to how well an organization achieves market-oriented goals and financial goals (Yamin, Gunasekruan, and Mavondo, 1999). The definition of company performance was also put forward by Bastian (2001) as a description of the level of achievement of the implementation of an organization's tasks in an effort to realize the goals, objectives, mission and vision of the organization.

John Miner (Sudarmanto, 2009:11-12) who stated that there are four dimensions that can be used as benchmarks or indicators in assessing Employee Performance, namely:

1) Quality, namely: level of error, damage, accuracy.
2) Quantity, namely: amount of work produced.
3) Use of time at work, namely: level of absence, lateness, effective working time/lost working hours.
4) Cooperation with others at work.

3. RESEARCH METHODOLOGY

The research approach is quantitative using primary data in the form of questionnaires and SEM (Structure Equation Modeling) calculation methods to draw hypotheses. This type of research is causal explanatory. This study explains the causal relationship between exogenous variables (work environment, HR, information systems), endogenous variables (company performance) and connecting variables (operational efficiency and employee productivity). This type of research uses quantitative explanatory which aims to explain the

influence of independent variables on dependent variables and intervening variables. The following are the stages of research:

1) Formulating the Problem: Identify and define the research problem clearly and specifically.
2) Literature Study: Conduct a review of relevant literature and theories to provide a scientific basis for research.
3) Formulating Hypotheses: Formulate initial assumptions or statements about the relationship between variables to be tested.
4) Determining Research Methods: Choose a research method that is appropriate to the objectives and type of research, such as surveys, experiments, or observations.
5) Developing Research Instruments: Creating valid and reliable measuring instruments to collect data, such as questionnaires or scales.
6) Collecting Data: Collecting data according to the methods and instruments that have been determined.
7) Analyzing Data: Analyzing the data that has been collected using appropriate statistical techniques.
8) Drawing Conclusions: Drawing conclusions based on the results of data analysis and interpreting research findings.

The population in this study were all employees of PT. XYZ, totaling 107 employees. The sampling technique used in this study was a saturated sample where all members of the population were used as samples (respondents) in the study, totaling 107 employees.

Based on the results of data collection in the field obtained through respondents' answers to the questionnaire submitted, a picture can be obtained regarding the objective conditions of the research variables. From the results of the respondents' answers, the average score value of each indicator of the research variable can be determined as a basis for identifying how the tendency of the variation in respondents' responses or assessments of the items in the questionnaire that has been submitted

Based on the background of the problem, problem formulation, and literature review that have been presented in the previous chapters, the conceptual framework of this study can be described. With the Conceptual Framework as follows:

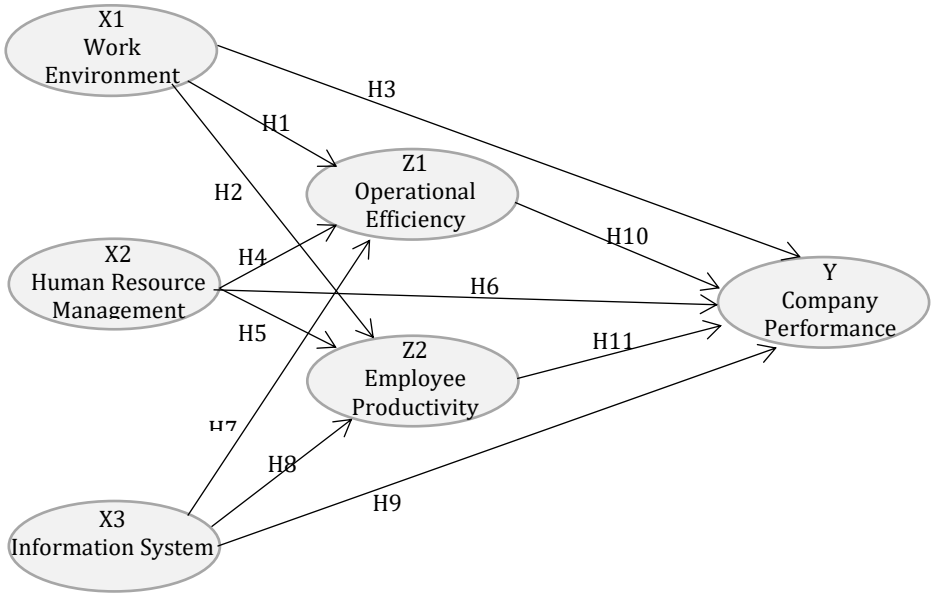

Figure 1. Conceptual Framework

4. RESULTS AND DISCUSSION

Description of Research Object

The questionnaires distributed to respondents were 107 questionnaires, and the questionnaires returned and met the sample criteria were 107 questionnaires (100%) with the following description of the research objects:

Table 1. Respondents by Age

No	Age	Total	Percentage (%)
1	< 30 Years	41	38
2	30 – 40 Years	35	33
3	40 – 49 Years	22	21
4	> 50 Years	9	8
	Total	107	100

Table 2. Respondents by Gender

No	Gender	Total	Percentage (%)
1	Male	45	42
2	Female	62	58
	Total	107	100

Table 3. Respondents by Last Education

No	Last Education	Total	Percentage (%)
1	High School Equivalent	75	70
2	Diploma 1 - 3	8	7,5
3	Bachelor's Degree	20	18,7
4	Master's Degree	4	3,8
	Total	107	100

Respondents' Answers

The measurement scale of the variables used is a Likert scale with five scale intervals. The results of respondents' answers using the Likert scale are averaged. This assessment classification is made to facilitate the assessment, especially by creating a frequency distribution list for the same class.

Table 4. Work Environment Variable Answers

No	Indicator	Average	Description
1	Lighting (X1.1)	3.617	High
2	Quality of labor (X1.2)	3.944	High
3	Noise (X1.3)	3.589	High
4	Use of color (X1.4)	3.477	High
5	Space needed (X1.5)	3.383	Average
6	Ability to work (X1.6)	3.477	High
7	Employee relationships with other employees (X1.7)	3.346	Average
	Average	3.55	High

Table 5. Human Resource Management Variable Answers

No	Indicator	Average	Description
1	Work Task (X2.1)	3.776	High
2	Work Quality (X2.2)	3.757	High
3	Work Quantity (X2.3)	3.598	High
4	Timelines (X2.3)	3.766	High
5	Cost Effectiveness (X2.5)	3.654	High
	Average	3.71	High

Table 6. Information System Variable Answers

No	Indicator	Average	Description
1	Performance (X3.1)	3.776	High
2	Information or Data (X3.2)	3.757	High
3	Economical (X3.3)	3.439	High
4	Control (X3.4)	3.841	High
5	Efficiency (X3.5)	3.766	High
6	Service (X3.6)	3.85	High
	Average	3.74	High

Table 7. Answers to Operational Efficiency Variables

No	Indicator	Average	Description
1	Productivity (Z1.1)	4	High
2	Cycle Time (Z1.2)	3.804	High
3	Operational Cost (Z1.3)	3.598	High
4	Output Quality (Z1.4)	3.318	Average
5	Capacity Utilization (Z1.5)	3.551	High
	Average	3.65	High

Table 8. Employee Productivity Variable Answers

No	Indicator	Average	Description
1	Capability (Z2.1)	3.822	High
2	Increasing the results achieved (Z2.2)	3.822	High
3	Work enthusiasm (Z2.3)	3.841	High
4	Self-development (Z2.4)	3.617	High
5	Quality (Z2.5)	3.776	High
6	Efficiency (Z2.6)	3.869	High
	Average	3.79	High

Table 9. Company Performance Variable Answers

No	Indikator	Rata-Rata	Keterangan
1	Quality (Y.1)	4.103	High
2	Quantity (Y.2)	3.879	High
3	Use of time at work (Y.3)	3.673	High
4	Cooperation with others at work (Y.4)	3.794	High
	Average	3.86	High

Validity Test

Ghozali (2009) stated that the validity test is used to measure the validity of a questionnaire. A questionnaire is said to be valid if the questions in the questionnaire are able to reveal something that will be measured by the questionnaire. The calculation of the validity test in this study uses the CFA method by looking at the loading factor value contained in the table. Confirmatory Factor Analysis functions to identify the validity of indicators which are constructs of research variables. The CFA test is carried out on each variable.

The validity of CFA is measured based on the loading factor value. In the Confirmatory Factor Analysis analysis with a minimum loading factor value of 0.50 (Ferdinand, 2006). A loading factor value greater than or equal to 0.50 is valid, and a value less than 0.50 is declared invalid and the research indicator must be removed.

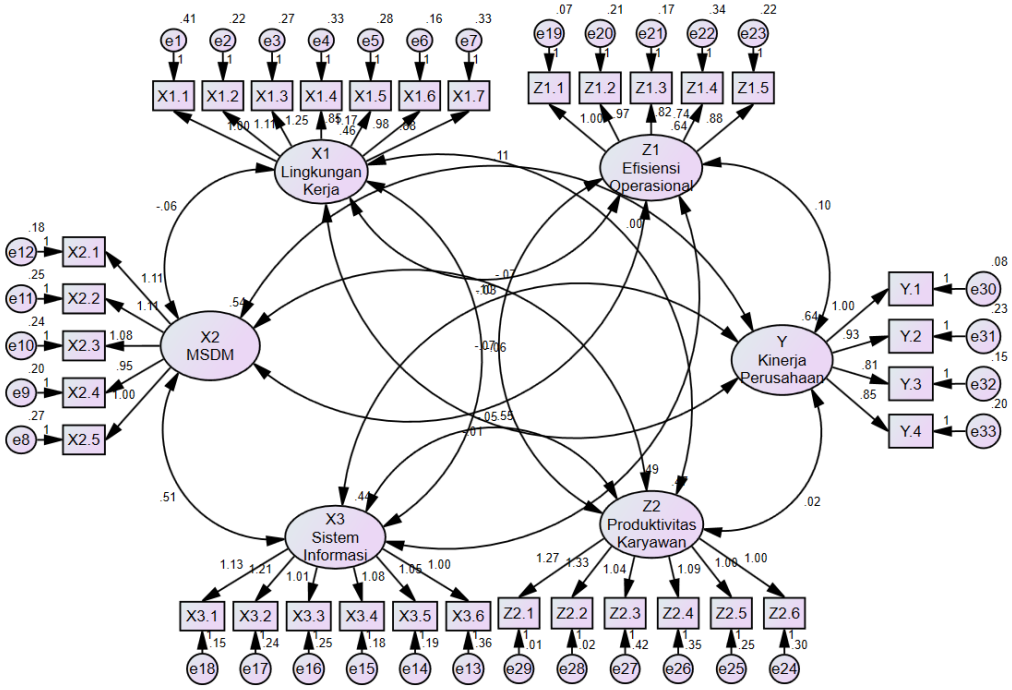

Figure 2. Confirmatory Factor Analysis

Based on the image of the CFA test results above, the loading factor value that is greater than or equal to 0.50 is valid, and the results of the CFA test in this study all indicators have a loading factor value of more than 0.5, so each indicator forming the 6 research variables is declared valid and suitable for use in the structural model.

Reliability Test

According to Ghozali (2009) reliability itself is actually a tool to measure a questionnaire which is an indicator of a variable or construct. A questionnaire is said to be reliable when the respondent's answer to the statement is consistent or stable over time. So the higher the level of reliability of a measuring instrument, the more stable the measuring instrument is. The results of this study are:

Table 10. Cronbach Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.884	.884	33

Based on the results of the reliability test, it is known that the research model based on questionnaire data has a Cronbach Alpha value > 0.6, so this research model is reliable.

Normality Test

The data normality test in this study was conducted using the critical ratio skewness value criteria of -2.58 to +2.58 at a significance level of 0.01 (1%). Data is said to be normally distributed if the critical ratio skewness value (c.r.) is below the absolute price of +2.58 and above -2.58 (Ghozali, 2004). The results of the data normality test in this study taken from the results of the model estimation with AMOS can be seen in table 5.13.

Table 11. Normality Test

Variable	min	max	skew	kurtosis	c.r.
Y.4	1	5	-1.249	1.977	2.175
Y.3	2	5	-0.918	0.394	0.833
Y.2	2	5	-0.739	0.001	0.001
Y.1	1	5	-1.191	1.634	1.45
Z2.1	1	5	-0.905	0.562	1.186
Z2.2	1	5	-0.963	0.658	1.39
Z2.3	2	5	-0.421	-0.761	-1.606
Z2.4	1	5	-0.535	-0.24	-0.508

Variable	min	max	skew	kurtosis	c.r.
Z2.5	1	5	-0.735	0.421	0.888
Z2.6	2	5	-0.632	-0.139	-0.294
Z1.5	1	5	-1.136	0.981	2.072
Z1.4	1	5	-0.449	0.378	0.798
Z1.3	2	5	-0.879	0.03	0.063
Z1.2	2	5	-0.678	-0.206	-0.434
Z1.1	1	5	-1.03	1.298	1.74
X3.1	1	5	-1.127	1.593	1.364
X3.2	1	5	-0.456	-0.362	-0.764
X3.3	1	5	-0.638	-0.244	-0.514
X3.4	1	5	-0.993	1.617	1.415
X3.5	1	5	-0.868	0.839	1.773
X3.6	1	5	-0.552	0.004	0.008
X2.1	1	5	-1.269	1.658	1.5
X2.2	1	5	-0.463	-0.41	-0.865
X2.3	1	5	-0.394	-0.411	-0.869
X2.4	1	5	-0.832	0.752	1.587
X2.5	1	5	-0.894	0.801	1.691
X1.7	1	5	-0.427	0.435	0.918
X1.6	1	5	-0.817	0.11	0.232
X1.5	1	5	-0.893	0.482	1.017
X1.4	2	5	-0.447	-0.558	-1.178
X1.3	1	5	-0.588	0.049	0.104
X1.2	1	5	-1.269	1.423	2.005
X1.1	1	5	-0.755	0.636	1.343
Multivariate				2.503	1.911

Based on the results of the data normality calculation shown in table 5.21, the critical ratio skewness value of all indicators is in the range of less than +2.58 and more than -2.58. With these results, the data used in this study is normally distributed.

Outlier Test

To detect multivariate outliers, the Mahalanobis distance value is observed. If there is a Mahalanobis distance value that is greater than the chi-square value, it means that there is a multivariate outlier problem (Ghozali, 2004). Based on these provisions, in this study, the chi-square value with a significance level of 0.073 and a degree of freedom of 481 obtained a value of 848,853. The Mahalanobis distance value in this study can be seen in the following table,

Table 12. Mahalanobis d-squared

Observation number	Mahalanobis d-squared	p1	p2
37	106	0	0
92	106	0	0
9	61.837	0.002	0.001
2	59.565	0.003	0
44	59.192	0.003	0
3	59.041	0.004	0
85	50.879	0.024	0.015
1	50.165	0.028	0.011
56	49.852	0.03	0.005
..	..	..	..

The outlier test results of the research model with AMOS are shown in table 5.14, the results of the Mahalanobis distance calculation with the largest value are 106, and this value is smaller than the chi-square value of 848.853. Therefore, it can be concluded that in the study there are no multivariate outlier problems, the data used is not problematic.

Goodness Of Fit Test

According to Ghozali (2008) evaluation of the Goodness of Fit Index criteria, At this stage, testing is carried out on the suitability of the model through a review of various goodness of fit criteria. The following are some suitability indices and cut off values to test whether a model can be accepted or rejected.

1) The p-value (p-value) or sig is the error value obtained by researchers from the results of statistical calculations. based on probability with a cut off value of p> 0.05 or p> 0.10, if the p value> 0.05 all Model test parameters are good. The probability results of this study are 0.071.

2) X2 Chi Square statistics are a fundamental measure of overall fit. The fundamental measure of overall fit is the likelihood-ratio chi-square (χ2). The model being tested is considered good or satisfactory if the chi Suare value is low, the smaller the χ2 the better the model is, the level of significance (α) and is accepted based on probability (p). This study produced a Chi Square value of 848,853.

3) CMIN/DF is The Minimum Sample Discrepancy Function is the chi-square value divided by the degree of freedom. A ratio value of 5 or <5 is a reasonable measure. Then the ratio value <2 is developed again, including a fit measure. In this study, the CMIN/DF value was 1.619.

5) GFI (Goodness of Fit Index) is a non-statistical measure whose value ranges from 0 to 1. The higher the value, the better the fit. A GFI value> 0.90 indicates that the model being tested has a good fit. In this study, the GFI value was 0.91.

6) RMSEA (The Root Mean Square Error of Approximation) is a measure that tries to improve the tendency of chi-square statistics to reject models with a large number of samples. An RMSEA value between 0.05 and 0.08 indicates a good index for accepting the suitability of a model. In this study, the RMSEA value was 0.041. 6) AGFI (Adjusted Goodness Of Fit Index) is a development of the Goodness of Fit Index (GFI) which has been adjusted to the ratio of degrees of freedom. Analogous to R2 in multiple regression. The recommended value is AFGI ≥ 0.90. The greater the AFGI value, the better the model's suitability. This study produced an AGFI value of 0.831.

7) CFI (Comparative Fit Index) The magnitude of this index is in the range of 0 to 1, where if the CFI is getting closer to 1, it identifies the highest level of suitability - a very good fit. The recommended value is CFI>=0.95. The advantage of this index is that the magnitude of this index is not affected by sample size, therefore it is very good for measuring the level of acceptance of a model. The following are the cut-off values presented briefly in the following table. The CFI test results in this study were 0.975.

8) TLI (Turker Lewis Index) is an incremental index that compares a model being tested against a baseline model, where the recommended value as a reference for accepting a model is ≥ 0.90 and a value approaching 1 indicates a very good fit. This study produced a TLI value of 0.955. 9) NFI (Normed Fit Index), is a measure of comparison between the proposed model and the null model. The NFI value ranges from 0 to 1 and the recommended value is ≥ 0.90. This study produced a TLI value of 0.975.

Hypothesis Test

The relationship between construct paths in the hypothesis is indicated by the standardized regression weight value. Hypothesis testing can be done by interpreting the output results on the regression weight value in SPSS Amos, namely by looking at the probability value (Santoso, 2007). Hypothesis testing in this study was taken from the results of the path test or path analysis. A path value with p greater than 0.05 means insignificant and a p value smaller than 0.05 means significant.

Table 13. Hypothesis Test

Relationship of Variables			*Estimate*	*C.R.*	*P*	Hipotesis
Work Environment (X1)	→	operational efficiency (Z1)	0.493	3.875	***	Work Environment has a significant effect on Operational Efficiency

Work Environment (X1)	→	Employee Productivity (Z2)	0.382	2.915	0.008	Work Environment has a significant effect on Employee productivity
Work Environment (X1)	→	Company Performance (Y)	0.557	4.454	***	Work Environment has a significant effect on Organizational Performance
HRM (X2)	→	operational efficiency (Z1)	0.282	2.208	0.027	HRM has a significant effect on Operational Efficiency
HRM (X2)	→	Employee Productivity (Z2)	0.629	4.768	***	HRM has a significant effect on Employee productivity
HRM (X2)	→	Company Performance (Y)	0.525	4.099	***	HRM has a significant effect on Organizational Performance
Information System (X3)	→	operational efficiency (Z1)	0.798	5.145	***	Information system has a significant effect on operational efficiency
Information System (X3)	→	Employee Productivity (Z2)	0.469	3.656	***	Information system has a significant effect on Employee productivity
Information System (X3)	→	Company Performance (Y)	0.545	4.355	***	Information system has a significant effect on organizational performance
operational efficiency (Z1)	→	Company Performance (Y)	0.485	3.757	***	Operational efficiency has a significant effect on organizational performance
Employee Productivity (Z2)	→	Company Performance (Y)	0.473	3.69	***	Employee productivity has a significant effect on organizational performance

5. CONCLUSION AND RECOMMENDATION

Conclusion

1) Work Environment (X1) has a significant effect on operational efficiency (Z1).
2) Work Environment (X1) has a significant effect on employee productivity (Z2).
3) Work Environment (X1) has a significant effect on organizational performance (Y).
4) HR (X2) has a significant effect on operational efficiency (Z1).
5) HR (X2) has a significant effect on employee productivity (Z2).
6) HR (X2) has a significant effect on organizational performance (Y).
7) Information systems (X3) have a significant effect on operational efficiency (Z1).
9) Information systems (X3) have a significant effect on employee productivity (Z2).
10) Information systems (X3) have a significant effect on organizational performance (Y).
11) Operational efficiency (Z1) has a significant effect on organizational performance (Y).
12) Employee productivity (Z2) has a significant effect on organizational performance (Y).

Recommendations

Suggestions for future research are that it is better to compare direct path testing with path testing using intermediary variables such as mediation variables. This serves as a support for concluding a more accurate hypothesis. Further suggestions can be carried out in-depth qualitative research so that a detailed discussion related to the company is found.

REFERENCES

[1] I. S. Ardiani and R. A. Indrayani, *Pengaruh Kepuasan Karyawan, Training, Turnover, dan Produktivitas Karyawan terhadap Keunggulan Bersaing Melalui Kinerja Perusahaan*. PT. Kubota Indonesia, 2012.

[2] A. S. Direndra, *Pengaruh Risiko Kredit dan Efisiensi Operasional terhadap Kinerja Bank Go Public*, 2017.

[3] A. Ferdinand, *Manajemen Penelitian Pemasaran*. Semarang: Badan Penerbit Universitas Diponegoro, 2006.

[4] I. Ghozali, *Aplikasi Analisis Multivariate dengan Program SPSS*. Semarang: Universitas Diponegoro, 2004.

[5] I. Ghozali, *Structural Equation Modeling: Metode Alternatif dengan Partial Least Square (PLS)*. Semarang: Badan Penerbit Universitas Diponegoro, 2008.

[6] I. Ghozali, *Aplikasi Analisis Multivariate dengan Program SPSS*, ed. 4. Semarang: Universitas Diponegoro, 2009.

[7] J. Heizer and B. Render, *Manajemen Operasi*. Jakarta: Salemba Empat, 2005.

[8] Mulyadi, *Sistem Perencanaan dan Pengendalian Manajemen*. Jakarta: Salemba Empat, 2007.

[9] P. M. Pardede, *Manajemen Operasi dan Produksi*. Jakarta: UI Press, 2003.

[10] P. A. Y. Putri and I. D. M. Endiana, *Pengaruh Sistem Informasi Akuntansi dan Sistem Pengendalian Internal terhadap Kinerja Perusahaan*, 2020.

[11] E. Hermawan, "Faktor yang mempengaruhi kinerja PT Sakti Mobile Jakarta: lingkungan kerja, stres kerja, dan beban kerja," *Jurnal Ilmu Multidisiplin*, 2022.

[12] A. Susanto, *Sistem Informasi Akuntansi: Struktur Pengendalian Risiko Pengembangan*. Jakarta: Lingga Jaya, 2017.

[13] D. Anggareni, *Sistem Informasi Manajemen*. Bandung: Alfabeta, 2017.

[14] Afandi, *Manajemen Sumber Daya Manusia (Teori, Konsep dan Indikator)*. Zanafa Publishing, 2018.

[15] Sedarmayanti, *Sumber Daya Manusia: Reformasi Birokrasi dan Manajemen Pegawai Negeri Sipil*, ed. revisi. Bandung: Refika Aditama, 2019.

[16] E. Sutrisno, *Manajemen Sumber Daya Manusia*. Jakarta: Kencana, 2017.

[17] S. Yamin, A. Gunasekruan, and F. T. Mavondo, "Relationship Between Generic Strategy, Competitive Advantage and Firm Performance: An Empirical Analysis," *Technovation*, vol. 19, no. 8, pp. 507–518, 1999.

[18] I. Bastian, *Akuntansi Sektor Publik di Indonesia*, ed. 1. Yogyakarta: BPFE, 2001.

[19] Sudarmanto, *Kinerja dan Pengembangan Kompetensi SDM*. Yogyakarta: Pustaka Pelajar, 2010.