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The Influence of Employee Productivity and Work Environment on Employee Performance with Supervision as a Mediating Variable at the Tweety Bread Factory in Takeran District, Magetan Regency

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Abstract

Employee performance is an important factor in supporting the success of MSMEs, but its improvement is influenced by various factors, including employee productivity, work environment, and supervision. This study aims to analyze the effect of employee productivity and work environment on employee performance with supervision as a mediating variable at Tweety Bread Factory in Takeran District, Magetan Regency. The study used a quantitative approach with a survey method. The population was 106 employees, while the sample was 81 respondents determined using a saturated sampling technique according to the research criteria. Data were collected through a Likert-scale questionnaire and analyzed using Structural Equation Modeling based on Partial Least Square (SEM-PLS) with SmartPLS 4.0. The results showed that employee productivity had a positive and significant effect on supervision and employee performance, the work environment had a positive and significant effect on supervision but did not significantly affect employee performance, and supervision had a positive and significant effect on employee performance. Supervision also mediated the effect of employee productivity on employee performance, but did not mediate the effect of the work environment on employee performance. This study concluded that increased productivity supported by an effective supervision system was a major factor in improving employee performance at Tweety Bread Factory.

Keywords: Employee Performance, Employee Productivity, Supervision, Work Environment, Workplace Performance

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are a crucial pillar in supporting the Indonesian economy due to their strategic role in the national industrial structure, job creation, and improving public welfare. The success of MSMEs is largely determined by the quality of human resources, the primary drivers of organizational activity. Effective human resource management optimizes employee potential through management focused on improving organizational performance, thereby optimally achieving business goals (Rosmaidah, 2023). In the context of MSMEs in the culinary sector, the Tweety Bread Factory in Takeran District, Magetan Regency, is a medium-sized enterprise that has grown from a home industry since 2009 to a producer of various types of bread, pastries, and Magetan specialty snacks, employing 106 people. This development demonstrates the company's significant contribution to supporting the regional economy and employment.

Despite experiencing rapid business growth, Tweety Bread Factory still faces various challenges in human resource management. Employee performance is not yet optimal amidst increasing production targets and high market demand. This condition is evident in inconsistent work results, high work demands, and limited production facilities that cause the physical work environment to not fully support smooth operational processes. On the other hand, the non-physical work environment is considered good because the relationship between superiors and employees and between employees is harmonious and supported by a family culture. In this situation, supervision is a crucial factor to ensure that all work activities run according to operational standards, thereby encouraging continuous improvements in employee productivity and performance.

Work productivity is an important indicator that reflects employee effectiveness and efficiency in completing work according to organizational targets (Dadang et al., 2024). High productivity will facilitate the achievement of organizational goals, while low productivity has the potential to hinder target achievement and result in less than optimal performance (Paresae et al., 2024). At Tweety Bakery, productivity is measured through punctuality, work accuracy, and compliance with hygiene and food safety standards. However, increased productivity is not always followed by increased performance if it is not supported by an effective monitoring system. This is in line with research by Tamaka et al. (2022) which stated that supervision has a significant effect on employee productivity, while Kristanto et al. (2023) found different results, indicating inconsistencies with previous research findings.

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In addition to productivity, the work environment is also a factor that influences job performance. An inadequate physical work environment, such as limited facilities, can reduce work comfort and concentration, while a harmonious non-physical work environment can support communication and collaboration between employees (Chairani & Khair, 2022; Novrizal, 2024; Panjaitan, 2017). Furthermore, supervision functions as a process of observation, assessment, and direction to ensure all work activities comply with established operational standards (Harianto & Saputra, 2020). Empowerment-oriented supervision can also improve performance by providing responsibility and support in decision-making (Manalu et al., 2024). However, previous research has shown discrepancies in findings regarding the relationship between the work environment and supervision due to differences in organizational characteristics and research sectors (Jumali & Sugiarto, 2025; Soelistyono & Robain, 2023).

Inconsistencies in research findings are also evident in the relationship between supervision and employee performance. Jumali and Sugiarto (2025) demonstrated that supervision positively impacts discipline and the achievement of work targets, while Suhariyanto and Putro (2018) stated that supervision may not necessarily improve performance without the support of other factors, such as motivation, a work environment, and an adequate management system. Research by Purba et al. (2025) demonstrated that work productivity positively impacts employee performance, while Sika and Sugiarto (2024) demonstrated that supervision also positively impacts performance. However, no research has specifically examined the role of supervision as a mediating variable in the relationship between employee productivity and the work environment on employee performance in the context of MSMEs in the culinary sector, thus creating a research gap that requires further study.

Based on empirical phenomena and inconsistencies in previous research results, this study aims to analyze the influence of employee productivity and work environment on supervision, the influence of supervision on employee performance, and examine the role of supervision as a mediating variable in the relationship between employee productivity and work environment on employee performance at Tweety Bread Factory in Takeran District, Magetan Regency. This study is important because it is expected to be able to provide empirical evidence regarding the mechanism of the relationship between variables in the context of culinary sector MSMEs, as well as enrich the study of human resource management. The novelty of the study lies in testing supervision as a mediating variable that links employee productivity and work environment with employee

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performance at Tweety Bread Factory, which until now has been relatively rarely studied in depth in the MSME environment.

RESEARCH METHODS

This study uses a quantitative approach with the aim of analyzing the influence of employee productivity and work environment on employee performance through supervision as a mediating variable at the Tweety Bread Factory in Takeran District, Magetan Regency. The scope of the study focuses on the causal relationship between variables consisting of employee productivity and work environment as exogenous variables, supervision as a mediating variable, and employee performance as an endogenous variable. The data used include primary data obtained directly from respondents through questionnaires and secondary data obtained from various available sources, such as scientific journals, articles, and other relevant information sources.

The population in this study was all 106 employees of the Tweety Bread Factory in Takeran District, Magetan Regency, consisting of production personnel, administrative staff, operational assistants, and sales staff. According to Arikunto (2017), a population is all individuals or elements that are the subject of research. This study used a saturated sampling technique, namely, all members of the population were used as research respondents. This technique was chosen because the population size was relatively small, so all members of the population could be sampled to obtain a more representative picture of the condition of the research object (Sugiyono, 2019).

The research instrument was a questionnaire using a five-level Likert scale, ranging from a score of 1 for strongly disagree to a score of 5 for strongly agree (Sugiyono, 2019). Employee productivity variables were measured using indicators of ability, striving to improve work results, work enthusiasm, and quality as proposed by Sutrisno (2014). Work environment variables were measured through indicators of lighting, air circulation, relationships between coworkers, and relationships between employees and superiors according to Fachrezi and Khair (2020). Supervision variables were measured using indicators of standard setting, work measurement, comparing work results, and corrective or corrective actions according to Siagian (2015). Meanwhile, employee performance variables were measured using indicators of the amount of work, work quality, timeliness, and ability to work together according to Bangun (2012).

Data analysis was conducted using Structural Equation Modeling based on Partial Least Square with the help of SmartPLS software version 4.0. The analysis stage begins with the evaluation of the outer model through validity and reliability tests. Validity tests

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include convergent validity and discriminant validity. Convergent validity is assessed based on outer loading values above 0.70, communality values above 0.50, and Average Variance Extracted values greater than 0.50, while discriminant validity is evaluated through the root value of Average Variance Extracted which is greater than the correlation between constructs (Abdillah & Hartono, 2015). Furthermore, construct reliability is evaluated using Cronbach's Alpha and Composite Reliability values, each of which must exceed 0.70 (Ghozali & Latan, 2015).

The next stage is the evaluation of the inner model, which includes testing for multicollinearity, coefficient of determination, predictive relevance, and path coefficients. Multicollinearity is evaluated using the Variance Inflation Factor, with a value of less than 5 as an acceptable limit (Anggraeni et al., 2018). The model's ability to explain endogenous variables is measured using the R Square value, with a strong category of 0.75, moderate at 0.50, and weak at 0.25 (Abdillah & Hartono, 2015). Furthermore, the model's predictive ability is evaluated using the Q^2 Predictive Relevance value through a blindfolding procedure, where the model is declared to have good predictive ability if the Q^2 value is greater than zero (Ghozali & Latan, 2015). Direct and indirect relationships between variables are analyzed through path coefficient estimation using the bootstrapping procedure in SmartPLS to determine the direction and magnitude of influence between latent constructs (Ghozali & Latan, 2015).

RESULTS AND DISCUSSION

Respondent Characteristics

The research data was obtained through a survey method by distributing questionnaires to employees of the Tweety Bread Factory in Magetan Regency as respondents. This method was chosen because it is able to produce systematic data to measure research variables quantitatively. Respondents were determined based on predetermined sample criteria to represent the conditions of the research object. Respondent characteristics include gender, age, length of service, and job position. In general, the majority of respondents have worked for more than one year so they have experience, understanding of the work environment, and the ability to adapt to the work system and company supervision mechanisms. These conditions support the research in analyzing the influence of employee productivity and work environment on employee performance with supervision as a mediating variable at the Tweety Bread Factory in Magetan Regency.

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Research Data Description

The research data was collected through a survey method by distributing questionnaires to employees of the Tweety Bread Factory in Magetan Regency who met the sample criteria. This method was chosen because it is able to produce structured data to measure research variables quantitatively. Respondent characteristics include gender, age, length of service, and job position. In general, the majority of respondents have worked for more than one year, thus possessing experience, understanding of the work, and have adapted to the company's work system, production targets, and supervisory mechanisms. These conditions support the research in analyzing the influence of productivity and work environment on employee performance, with supervision as a mediating variable.

Research Respondent Profile

Data collection in this study was conducted directly by distributing questionnaires to employees at Tweety's Bread Factory. Respondents who participated were employees who had met the research criteria, so that the information obtained was appropriate and supported the research objectives. The compilation of respondent characteristics aims to provide a clearer picture of employee conditions, especially related to employee productivity and the environment, as well as the implemented supervisory system. Thus, the data is expected to be able to support a more in-depth analysis regarding the influence of productivity and the work environment on employee performance with supervision as a mediating variable.

Respondent Data Based on Criteria

Respondent Data from the Work Division Section

Table 1. Respondent Data by Work Division

No	Division of Work	Frequency	Percentage (%)
1.	Discipline and Honesty	1	1.23
2.	Warehouse	1	1.23
3.	Canteen	5	6.17
4.	Packing	11	13.58
5.	Production	51	62.96
6.	Sales	12	14.81
	Total	**81**	**100.00**

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Based on the work division grouping, it can be seen that respondents in this study came from various work sections. The most dominant work division was the production division with 51 respondents or 63.0% of the total respondents. This was followed by the sales division with 12 respondents (14.8%), and the packing division with 11 respondents (6.2%), as well as the discipline and honesty division and the warehouse with 1 respondent each (1.2%). These results indicate that the majority of respondents in this study were dominated by the production division, which has a major role in the company's operational processes compared to other divisions.

Respondent Data Based on Length of Service

Table 2. Respondent Data Based on Length of Service

No	Length of work	Frequency	Percentage (%)
1.	1–2 years	22	27.16
2.	3–5 years	28	34.57
3.	6–10 years	22	27.16
4.	> 10 years	9	11.11
	Total	**81**	**100.00**

Based on the grouping of length of service, it can be seen that respondents have varying experience in running their businesses. Businesses with a duration of 3-5 years were the most dominant, with 28 respondents (34.6%). Furthermore, groups with a work period of 1-2 years and 6-10 years each had 22 respondents (27.2%). Meanwhile, respondents with a work period of more than 10 years were recorded at 9 respondents (11.1%). This indicates that most respondents are in a fairly mature and relatively stable work period, thus having sufficient experience in carrying out their job duties and responsibilities.

Respondent Data Based on Age

Table 3. Respondent data based on age

No	Age Group	Frequency	Percentage (%)
1.	≤ 20 years	4	4.94
2.	21–30 years	11	13.58
3.	31–40 years	22	27.16
4.	41–50 years	31	38.27

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5.	> 50 years	13	16.05
	Total	**81**	**100.00**

Based on the age grouping of respondents, it can be seen that the majority of respondents are in the 41-50 years age range, namely 31 people or 38.27% of the total respondents. Furthermore, respondents aged 31-40 years were 22 people (27.16%), followed by those aged >50 years as many as 13 people (16.05%), and those aged 21-30 years as many as 11 people (13.58). Meanwhile, those aged <20 years were the fewest, namely 4 people or 4.94%. This shows that the majority of respondents are in the productive to mature age range, so they tend to have better work experience and maturity levels.

Respondent Data Based on Gender

Table 4. Respondent data based on gender

No	Gender	Frequency	Percentage (%)
1	Woman	57	70.37
2	Man	24	29.63
	Total	**81**	**100.00**

Based on the data, the majority of respondents in this study were female, representing 57 people, or 70.37% of the total. Meanwhile, 24 respondents were male, representing 29.63%. This indicates that female respondents outnumbered male respondents in this study.

Description of Research Variables

Table 5. Category criteria based on interval scale

Interval Scale	Information
8.20 – 10.00	Very high
6.40 – 8.19	Tall
4.60 – 6.39	Currently
2.80 – 4.59	Low
1.00 – 2.79	Very Low

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Based on these criteria, the average value obtained for each research variable can be grouped into certain categories to determine the level of employee productivity, work environment conditions, supervision effectiveness, and employee performance levels. Thus, the results of this descriptive analysis are expected to be able to provide a comprehensive picture of the actual conditions of employees at the Tweety Bread Factory in Takeran District, Magetan Regency according to the variables studied.

The results of the descriptive analysis of respondents' responses include independent variables, namely employee productivity and work environment, dependent variables, namely employee performance, and mediating variables, namely supervision, which are explained as follows:

Frequency Distribution of Employee Productivity Variables

Table 6. Frequency Distribution of Employee Productivity Variables

Item	Very Low		Low		Currently		Tall		Very high		Total		Average
	F	%	F	%	F	%	F	%	F	%	F	%	
X1.1	0	0%	0	0%	5	6%	8	10%	68	84%	81	100%	9.41
X1.2	0	0%	0	0%	5	6%	8	10%	68	84%	81	100%	9.41
X1.3	0	0%	2	2%	4	5%	8	10%	67	83%	81	100%	9.3
X1.4	0	0%	0	0%	4	5%	7	9%	70	86%	81	100%	9.37
MEAN													9.35

Table 6 of the Employee Productivity Variable shows that the tendency of respondents' answers to all indicators is in the high category. The highest average value of 9.41 was obtained in statement items X1.1 and X1.2. These results indicate that Tweety Bread Factory employees have good abilities in carrying out their work according to the tasks and responsibilities given. In addition, employees also have a strong desire to continue to improve work results so they can provide optimal contributions to the company. Meanwhile, the lowest average value of 9.30 is found in statement item X1.3 related to work enthusiasm. Nevertheless, this value remains in the high category. This indicates that in general, Tweety Bread Factory employees in Takeran District, Magetan Regency have good work abilities, strive to improve work results, and demonstrate high work enthusiasm in carrying out their duties. These conditions are important capital in supporting smooth operations and achieving company goals.

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Frequency Distribution of Work Environment Variables

Table 7. Frequency Distribution of Work Environment Variables

Item	Very Low		Low		Currently		Tall		Very high		Total		Average
	F	%	F	%	F	%	F	%	F	%	F	%	
X2.1	0	0%	0	0%	2	3%	14	17%	65	80%	81	100%	9.19
X2.2	0	0%	0	0%	3	4%	14	17%	64	79%	81	100%	9.19
X2.3	0	0%	0	0%	3	4%	12	15%	66	81%	81	100%	9.27
X2.4	0	0%	0	0%	3	4%	18	22%	60	74%	81	100%	9.15
MEAN													9.2

Based on Table 7, the Work Environment variable shows that the tendency of respondents' answers on all indicators is in the high category. The highest average value of 9.27 is found in statement item X2.3 related to relationships between coworkers. These results indicate that Tweety Bread Factory employees assess that working relationships with fellow colleagues are good, harmonious, and supported by positive cooperation in completing daily tasks. These conditions create a comfortable working atmosphere and support the smooth production process. Meanwhile, the lowest average value of 9.15 is found in statement item X2.4 related to the relationship between employees and superiors. However, this value is still in the high category. This indicates that communication and interaction between employees and superiors have been running well, thus creating a conducive working relationship in carrying out work. Thus, it can be concluded that the work environment at the Tweety Bread Factory in Takeran District, Magetan Regency is classified as good, both in terms of relationships between coworkers and relationships between employees and superiors, thus being able to support improved employee performance.

Frequency Distribution of Supervisory Variables

Item	Very Low		Low		Currently		Tall		Very high		Total		Average
	F	%	F	%	F	%	F	%	F	%	F	%	
Y1.1	0	0%	0	0%	4	5%	8	10%	69	85%	81	100%	9.36
Y1.2	0	0%	0	0%	8	10%	11	14%	62	76%	81	100%	9.1
Y1.3	0	0%	1	1%	3	4%	13	16%	64	79%	81	100%	9.2

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Y1.4	1	1%	0	0%	6	7%	11	14%	63	78%	81	100%	9.11
MEAN													9.19

Table 8. Frequency Distribution of Supervisory Variables

Based on Table 8, the monitoring variable as a mediating variable shows that all indicators are in the high category. The highest average value is found in the standard setting indicator (Y1.1) at 9.36, indicating that the company has established clear work standards as guidelines for task implementation. Meanwhile, the lowest average value is found in the work measurement indicator (Y1.2) at 9.10, but it is still in the high category, indicating that the performance measurement process has been implemented well. Overall, supervision at the Tweety Bread Factory, Takeran District, Magetan Regency has been effective through the implementation of clear work standards and continuous work measurement, thereby strengthening the influence of employee productivity and the work environment on employee performance.

Employee Performance Frequency Distribution

Table 9 Frequency Distribution of Employee Performance

Item	Very Low		Low		Currently		High		Very high		Total		Average
	F	%	F	%	F	%	F	%	F	%	F	%	
Y2.1	0	0%	0	0%	4	5%	10	12%	67	83%	81	100%	9.33
Y2.2	0	0%	0	0%	6	7%	11	14%	64	79%	81	100%	9.19
Y2.3	0	0%	0	0%	3	4%	16	20%	62	76%	81	100%	9.23
Y2.4	0	0%	0	0%	3	4%	7	8%	71	88%	81	100%	9.44
MEAN													9.3

Based on Table 9, the employee performance variables show that all indicators are in the high category. The highest average value is found in the ability to work together indicator (Y2.4) at 9.44, which indicates good coordination, communication, and cooperation between employees. Meanwhile, the lowest average value is found in the work quality indicator (Y2.2) at 9.19, but it is still in the high category, thus indicating that employees are able to produce work according to company standards. Overall, the performance of employees at the Tweety Bread Factory, Takeran District, Magetan

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Regency is classified as good, which is reflected in the ability to work together and the quality of work that supports the achievement of company goals.

Partial Least Square Model Scheme

In this research, the analysis applied is Partial Least Square (PLS) using the SmartPLS 4 application. The following is a model diagram of the PLS program:

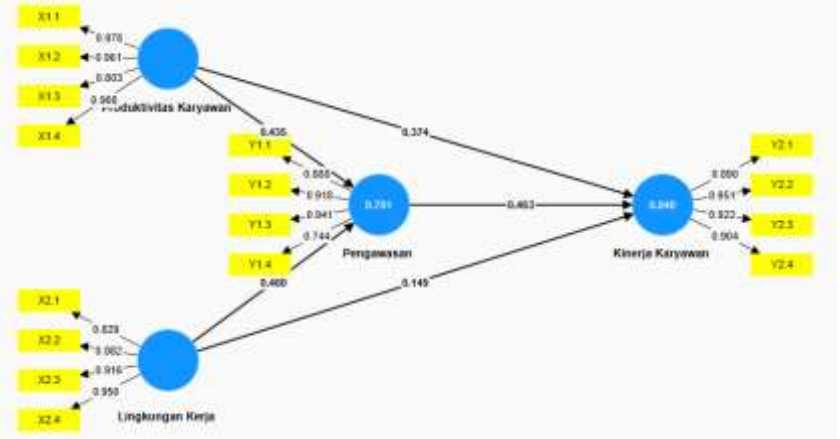


Figure 1. Partial Least Square Model Schematic

Measurement Model (Outer Model)
Validity Test
Convergent Validity Test

Table 10. Convergent Validity Test

	Productivity Employee	Environment Work	Supervision	Performance Employee
X1.1	0.978			
X1.2	0.961			
X1.3	0.803			
X1.4	0.908			
X2.1		0.829		
X2.2		0.882		
X2.3		0.916		
X2.4		0.950		
Y1.1			0.888	
Y1.2			0.918	

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Y1.3			0.941	
Y1.4			0.744	
Y2.1				0.890
Y2.2				0.951
Y2.3				0.922
Y2.4				0.904

Based on the SmartPLS output in the table and figure, it can be concluded that all indicator values are in the range of ≥ 0.50. This indicates that the variables employee productivity, work environment, supervision, and employee performance are valid and meet convergent validity criteria.

Discriminant Validity Test

Table 11. Discriminant Validity Test

	Employee Productivity	Work Environment	Supervision	Employee Performance
Employee Productivity	0.915			
Work Environment	0.753	0.895		
Supervision	0.781	0.787	0.876	
Employee Performance	0.848	0.795	0.873	0.17

Based on Table 11, the results of the discriminant validity test indicate that the square root of the Average Variance Extracted (AVE) value for each construct is greater than its correlation value with other constructs. This is seen in the variables of employee productivity (0.915), work environment (0.895), supervision (0.876), and employee performance (0.917). Thus, all variables have met the discriminant validity criteria based on the Fornell-Larcker method, so that each construct is able to differentiate and represent the measured variable accurately.

Reliability Test

Table 12. Reliability Test

	Cronbach's alpha	Composite reliability (rho_a)
Employee Productivity	0.933	0.938

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Work environment	0.917	0.934
Supervision	0.898	0.929
Employee performance	0.937	0.941

Based on Table 12, it is known that the Composite Reliability value for the variables of employee productivity, work environment, supervision, and employee performance has met the established criteria, namely having a value of more than 0.70. Thus, all variables used in this study can be declared reliable.

Structural Model (Inner Model)
R-Square (R2)

Table 13. R-Square (R2)

	R-square
Supervision	0.701
Employee performance	0.840

Based on Table 13, the estimated R-Square (R2) value for the Supervision variable (Y1) is 0.701. This value indicates a moderate level of prediction accuracy, as the data model can be categorized as high if the R2 value reaches 0.75 or more. This indicates that the Employee Productivity (X1), Work Environment (X2), and Supervision (Y2) variables are able to influence the Employee Performance variable by 70.1%. Meanwhile, the R-Square value for the Employee Performance variable is0.840.This shows that the employee productivity and work environment variables are able to explain the supervision variable by 84.0%. So the research model can be categorized as strong.

Fit Model

Table 14. Fit Model

	Saturated model
SRMR	0.081

Based on table 14, it is known that the SRMR value obtained a result of 0.081. So the SRMR value can be declared to meet the criteria and be accepted.

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Hypothesis Testing

Table 15. Path Coefficients Results

	Original sample (O)	T statistics (|O/STDEV|)	P values
Employee Productivity -> Monitoring	0.435	2,899	0.004
Employee Productivity -> Employee Performance	0.374	2,350	0.019
Work Environment -> Supervision	0.460	3,191	0.001
Work Environment -> Employee Performance	0.149	1,198	0.231
Supervision -> Employee Performance	0.463	3,032	0.002

Based on Table 15, the results of the direct hypothesis test show that the t-statistic value is > 1.96 and the p-value is < 0.05, thus the hypothesis in this study is declared significant. This study used two test models, namely direct and indirect effects, with the following results:

The influence of employee productivity on supervision

The results of the hypothesis testing indicate that employee productivity variables have a positive and significant effect on supervision. This is indicated by the path coefficient value of 0.435, the t-statistic value of 2.899 and the p-value of 0.004. These results indicate that the higher the Employee Productivity, the implementation of Supervision at the Tweety Bread Factory, Takeran District, Magetan Regency will also increase. Thus, the hypothesis stating that Employee Productivity has an effect on Supervision is declared accepted.

The influence of employee productivity on employee performance

The Employee Productivity variable is proven to have a positive and significant influence on employee performance with a path coefficient value of 0.374, a t-statistic value of 2.350, and a p-value of 0.019. A positive coefficient value indicates that the higher the Employee Productivity, the higher the resulting performance. Good productivity reflects the employee's ability to complete work effectively and efficiently so that it can support the achievement of work targets that have been set by the company. Therefore,

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the hypothesis stating that employee productivity has a positive and significant influence on employee performance is accepted.

The influence of the work environment on supervision

The Work Environment variable on Employee Performance shows a p-value of 0.001 which is smaller than 0.05, so it can be stated as statistically significant. In addition, the original sample value (O) of 3.191 indicates a positive relationship. This finding indicates that the better the work environment conditions perceived by employees, the more effective the implementation of supervision in the company also tends to be. A supportive, comfortable, and safe work environment can help the smooth running of the supervision process so that operational activities can run according to the provisions that have been implemented. Therefore, it can be concluded that the work environment has a positive and significant effect on supervision, so that Ha is accepted and H0 is rejected.

The influence of the work environment on employee performance

Based on the results of the hypothesis testing, the work environment variable on employee performance obtained an original sample value of0.149 with a t-statistic of 1.198 and a p-value of 0.231. The original sample value indicates a positive relationship between the work environment and employee performance. However, because the t-statistic <1.96 and p-value >0.05, the effect is not statistically significant. Thus, Ha is rejected and H0 is accepted, so it can be concluded that the work environment does not have a significant effect on employee performance at the Tweety Bread Factory in Takeran District, Magetan Regency.

The influence of supervision on employee performance

The Supervision variable on Employee Performance shows a p-value of 0.002 < 0.05, so the resulting effect is declared statistically significant. In addition, the Original Sample (O) value of 0.463 indicates a positive relationship, which means the better the supervision implemented by the company, the better the resulting employee performance. Thus, it can be concluded that the supervision variable has a positive and significant effect on Employee Performance, so Ha is accepted and H0 is rejected.

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Table 16. Results of Specific Indirect Effects

	Original sample (O)	T statistics (|O/STDEV|)	P values
Employee Productivity -> Supervision ->Employee performance	0.202	2.135	0.033
Work Environment -> Supervision -> Employee Performance	0.213	1,858	0.063

In table 16 it can be seen that the results of the indirect hypothesis testing show the following findings:

The Influence of Employee Productivity on Employee Performance Through Supervision

Based on the results of the advanced hypothesis test, the influence of Employee Productivity on performance through supervision obtained a p-value of 0.033 < 0.05. The original sample value (O) of 2.135 indicates a positive relationship. These results indicate that employee productivity has a positive influence on employee performance through supervision as a mediating variable. This means that the higher the level of employee productivity, the more effective the supervision process will be, thereby improving employee performance. Thus, it can be concluded that supervision is able to mediate the influence of employee productivity on employee performance.

The influence of the work environment on employee performance through supervision

The test results show that the influence of the work environment on employee performance through supervision has a p-value of 0.063 < 0.05. The original sample value (O) is 1.858. This indicates that supervision has not been able to significantly mediate the influence of the Work Environment on Employee Performance. Thus, it can be concluded that the Work Environment variable does not have a significant effect on employee performance through supervision as a mediating variable, so Ha is rejected and H0 is accepted.

Based on the results of further analysis, the influence of employee productivity on employee performance through supervision indicates a mediating effect. This is evidenced by the significant inverse effect value, namely a p-value of 0.033 > 0.05.

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Furthermore, the direct effect of employee productivity on performance still shows a coefficient value of 0.526 and does not disappear after the supervision variable acts as a partial mediation variable in the relationship between employee productivity and employee performance.

DISCUSSION OF RESEARCH RESULTS

The Influence of Employee Productivity (X1) on Supervision (Y1)

The PLS test results show that employee productivity has a positive and significant effect on supervision with a p-value of 0.004 < 0.05 and an original sample (O) of 0.435, so H0 is rejected and H1 is accepted. This finding indicates that the higher employee productivity, the more supervision is needed to ensure work runs according to company standards. The results of the study support Herzberg's Two-Factor theory which explains that productivity as a motivating factor needs to be supported by supervision as a hygiene factor to keep work focused. This finding is also in line with the research of Pentrossky et al. (2023) which states that supervision has a significant effect on employee productivity.

The Influence of Work Environment (X2) on Supervision (Y1)

The test results show that the work environment has a positive and significant effect on supervision with a p-value of 0.001 < 0.05 and an original sample (O) of 0.460, so H0 is rejected and H1 is accepted. A conducive work environment, both physically and non-physically, supports the effectiveness of supervision through communication and harmonious work relationships. This finding is in accordance with Herzberg's Two-Factor theory, which places the work environment and supervision as hygiene factors, and is supported by Budi's (2018) research which states that a good work environment facilitates supervision implementation.

The Effect of Supervision (Y1) on Employee Performance (Y2)

Supervision has a positive and significant effect on employee performance with a p-value of 0.002 < 0.05 and an original sample (O) of 0.463, thus H0 is rejected and H1 is accepted. These results indicate that effective supervision can improve discipline, reduce work errors, and encourage the achievement of company targets. This finding supports Herzberg's Two-Factor theory, which places supervision as a hygiene factor, and is in line with research by Sika and Sugiarto (2024), which proves that supervision has a positive effect on employee performance.

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The Influence of Employee Productivity (X1) on Employee Performance (Y2) through Supervision (Y1)

The test results show that supervision is able to mediate the effect of employee productivity on employee performance with a p-value of 0.033 < 0.05 and an original sample (O) of 0.202, so the effect is positive and significant. This finding indicates that high productivity will be more effective in improving performance when supported by good supervision. The results of the study support Herzberg's Two-Factor theory and are in line with the research of Abdelhamid et al. (2023) which states that supervision is necessary to optimize productivity so that it has an impact on improving performance.

The Influence of Work Environment (X2) on Employee Performance (Y2) through Supervision (Y1)

The test results show that the influence of the work environment on employee performance through supervision has an original sample (O) of 0.213, but is not significant, so H0 is accepted and H1 is rejected. This finding indicates that supervision has not been able to mediate the relationship between the work environment and employee performance. Based on Herzberg's Two-Factor theory, the work environment and supervision are hygiene factors that function more to prevent dissatisfaction than to directly improve performance. The results of this study differ from Jumali and Sugiarto (2025), which showed a significant influence of the work environment on supervision. This difference indicates that at Tweety Bread Factory, the effectiveness of supervision is more influenced by the role of superiors, employee discipline, and the implementation of work standards than by the condition of the work environment.

CONCLUSION

This study proves that employee productivity and supervision have an important role in improving employee performance at the Tweety Bread Factory, Takeran District, Magetan Regency. The results of the analysis show that employee productivity has a positive and significant effect on supervision, the work environment has a positive and significant effect on supervision, and supervision has a positive and significant effect on employee performance. In addition, employee productivity also has a positive and significant effect on employee performance through supervision as a mediating variable, so that supervision is able to partially mediate the relationship. Conversely, the work environment does not have a significant effect on employee performance through

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supervision, so that supervision has not been able to become a mediating mechanism in the relationship.

This study has limitations because it was only conducted on one MSME with 81 respondents, so the results cannot be generalized to other sectors or organizations. Furthermore, the study only examined employee productivity, work environment, and supervision, so there are still other factors that could potentially influence employee performance, such as work motivation, leadership, compensation, job satisfaction, and organizational culture. Future research is recommended to expand the research object to various business sectors, increase the number of respondents, and develop the research model by including other variables as mediators or moderators. Practically, the results of the study provide implications that Tweety Bread Factory needs to maintain employee productivity by improving competency, strengthening a consistent supervisory system, and continuing to create a conducive work environment so that employee performance can improve sustainably.

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