

The Influence of Work Procedures and Physical Work Environment on Employee Work Productivity at X Convection in Cimahi City

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ABSTRACT

The study analyzes the influence of work procedures and the physical work environment on employee work productivity at X Convection in Cimahi City. Q quantitative method used with a descriptive and associative approach with 37 respondents as sample, comprising 36 production department employees and 1 company owner. Questionnaires distributed to gather data and analyzed using multiple linear regression with the use of SPSS 27. The research results show that partially, the work procedure variable has a positive effect on work productivity, and the physical work environment variable also has a positive effect on work productivity. Simultaneously, the work procedure and physical work environment variables have an effect on work productivity. These two factors found to account for a significant amount of the variation in worker productivity. These results emphasize how crucial it is to establish explicit work processes and physical workspace to increase worker productivity.

INTRODUCTION

The textile and garment industry, including the convection (small-scale garment manufacturing) sector, still absorbs a large amount of labor-intensive workforce, making improvements in human resource management a strategic necessity for maintaining competitiveness. This is shown by data from Indonesia's Ministry of Industry, sourced from the Central Statistics Agency (BPS), where the Leather, Leather Goods, and Footwear Industry sub-sector and the Textile and Garment Industry sub-sector recorded year-on-year growth of 5.90 percent and 2.64 percent, respectively, in the first quarter of 2024 (Kemenperin, 2024).

X Convection is a medium-scale garment manufacturing business produces ready-made clothing in the form of factory employee uniforms. It was established in September 2017 by an individual with expertise in the garment manufacturing field. This business began as a home-based garment operation, and this management pattern is still maintained today. In carrying out its operations, the company focuses on workforce management to support smooth production processes so every stage of work can proceed according to established standards. X Convection, located in Cimahi City, focuses on the production of ready-made clothing, particularly the provision of uniforms for factory employees, as an effort to meet the need for quality uniforms also reflect the company's identity and professionalism.

Employee work productivity is fundamental indicator of a company's operational success, given the achievement of production targets and the sustainability of the business depends output quality and quantity. Productivity is a mental attitude and work ethic continually strives to improve develop life through increased efficiency, effectiveness, and quality to create sustainable added value (Kemnaker, 2023). Productivity is also understood as the relationship between the resources consumed and the final product, where productivity is not only focused on increasing output, but also on how a production process can produce better quality using fewer resources, shorter production time, and more efficient costs (Idehlu et al., 2024). To determine the level of employee work productivity at X Convection, the researcher collected production data for the period from January to November 2025, comparing production targets with actual monthly output.

Table 1. X Convection Production Data

Month	Production Target (Pcs)	Actual Production (Pcs)	Productivity (%)
January	4038	3484	86,28
February	2946	1973	66,97
March	3407	1903	55,86
April	4324	2246	51,94
May	3086	2492	80,75
June	4199	3683	87,71
July	3834	3834	100
August	1870	1870	100

Month	Production Target (Pcs)	Actual Production (Pcs)	Productivity (%)
September	2990	2296	76,79
October	4079	3286	80,56
November	3643	2702	74,17

Source: X Convection. Reprocessed 2025

This data shows production targets were only optimally achieved in July and August, with productivity levels reaching 100 percent in both months, indicating the company was able to produce output according to target with more efficient use of resources, shorter production time, and better-controlled production costs. Meanwhile, in other months, actual production did not fully meet the target, with the lowest productivity level occurring in April at 51.94 percent, indicating inefficiency in resource utilization, a production process requiring more time, and less-than-optimal costs. Overall, the company's productivity shows fluctuating conditions, where after reaching an optimal level in the middle of the year, productivity tends to decline toward the end of the observation period, reflecting the company's productivity has not yet stabilized and still requires ongoing evaluation and improvement.

This productivity can be influenced by several aspects, including Standard Operating Procedures (SOPs), where sprocdures outlined in the SOP explain the sequence of activities, methods, stages, and who is responsible for each work activity, making task implementation more directed and consistent (Setiawati & Arianto, 2024). With a clear and detailed SOP in place, work activities can proceed systematically, helping the company achieve the goals related to vision and mission in a timely and accountable manner (Subandi et al., 2024). However, even though the company already has an SOP, previous research has found its implementation is often inconsistent, creating a gap between the SOP as written and what is actually carried out in real work processes (Hernalis et al., 2023).

At X Convection, all operational activities follow work procedures designed to ensure every activity proceeds in a directed and consistent manner, starting from the order-receiving stage, the application of additional processes such as screen printing and embroidery, through to quality control (QC). Although these work procedures are not legally binding, these guidelines remain necessary to maintain order and consistency in the production process. Based on interview results with the owner of X Convection, it is known several errors frequently occur when work procedures are not carried out according to established provisions. At the order-receiving stage, size specification errors occur 1–3 times per production process due to variations in customer body posture not represented by general standards, for example, customers who are tall but small-bodied, or conversely, short but large-bodied. At the additional application stage, errors in the placement of screen printing or embroidery – positioned crookedly or too high/low – occur up to 5–7 times per production process. Meanwhile, at the quality control stage, carelessness or missed inspection of stitching and product details occurs 3–4 times per production process. This condition shows the established work procedures function not only

as guidelines but also as a control mechanism to prevent technical errors could affect the quality of the production output.

In addition to work procedures, employee productivity is also greatly affected by physical work environment. An inadequate physical work environment—such as a work room is too hot, poor lighting, poor ventilation, excessive noise, and improperly arranged equipment layout—can hinder employee comfort at work and ultimately reduce productivity (Tulnisah & Jaenab, 2023). Other research also states physical work environment directly connected with employee productivity levels, where a comfortable work environment with good lighting, adequate air circulation, and controlled noise can improve concentration, comfort, and speed in completing work (Chukwuma, 2022). The physical condition of the workspace, including temperature regulation, lighting, and layout significantly connected with improved employee work results (Manulang et al., 2025).

Attention issue to the physical work environment can reduce employee morale and comfort at work. Based on a preliminary survey through interviews and observation, it was found the layout of machines and workstations is not yet optimal, supporting facilities are still limited, and some equipment is already worn out. The pattern-making and cutting room is not well organized, with untidy storage of fabric and patterns, and leftover materials piling up and scattered on the worktables. The sewing room appears cramped, with machines placed close together, hanging electrical cables, and plastic items and fabric visibly piled up in the work area. Meanwhile, in the finishing and QC area, there are piles of clothing with no table or divider separating fabric has already been checked from fabric has not yet been checked, making the room disorganized and hindering the inspection process. This condition physical work environment at X Convection does not yet meet the requirements for comfortable and effective work, so improvements to the layout and physical facilities are greatly needed for the work process to run more optimally.

Work productivity will increase if employees are able to work with focus, punctuality, and carry out tasks with a clear workflow (Gulo et al., 2024). This is in line with the findings of Setiawati & Arianto (2024), which explain work procedures in SOPs helps organize work stages in a sequential manner, making the work process more directed and efficient. This is further reinforced by Putri & Bachtiar (2024), who found a tidy, organized, and comfortable physical work environment also greatly influences employee productivity, because good workspace conditions help improve concentration and accuracy in completing work. Thus, clarity of work procedures applied consistently, along with supportive physical work environment conditions have crucial role in optimally improving employee work productivity.

Based on the problems discussed previously and the awareness employee work productivity affected by work procedures and the physical work environment, the researcher is interested in conducting research and focusing this study on "The Influence of Work Procedures and Physical Work Environment on Employee Work Productivity at X Convection in Cimahi City."

LITERATURE REVIEW

Work Procedures

Work procedures are an important aspect of organizational activities because they serve as guidelines for completing tasks systematically and in a directed manner. According to Subandi et al. (2024), SOPs is a reference for employees containing standard procedures to ensure company activities related to objectives and to minimize errors. In line with this, Sailendra (2015:12) explains an SOP is a guide in ensuring organization's operational activities run smoothly, where work procedures are designed so activities focus more on the core process, are faster, more accurate, and able to minimize waste. Ekotama (2011:19) adds an SOP is a system of procedures designed to facilitate, organize, and streamline work through a series of processes arranged sequentially from start to finish. Meanwhile, according to Budiharjo (2014:07), a work procedure is a specific work process stage is routine, fixed, and unchanging, which is then standardized in the form of a written document as an SOP. The indicators of an SOP according to Rakhmawati et al. (2019:37-38) include ease and clarity, efficiency, effectiveness, alignment, measurability, dynamic nature, orientation toward the parties being served, legal compliance, and legal certainty. Based on experts' opinions, work procedures are written guidelines containing systematic work steps to ensure operational activities run effectively, orderly, and in accordance with company objectives. Consistently applied work procedures can direct employees to work with more focus, punctuality, and adherence to standards, thereby impacting increased work productivity (Gulo et al., 2024; Setiawati & Arianto, 2024).

H1: Work procedures have a positive effect on the work productivity of X Convection employees.

Physical Work Environment

One of the elements impact comfort and productivity at work is the physical workspace. Farida & Hartono (2016:10), work environment is surrounding employees affect ability to complete designated tasks. Sedarmayanti (2018:26), the physical work environment encompasses all surrounding physical circumstances may have an impact on workers, either directly or indirectly. Accordingly, Siregar & Romi (2024) clarify all physical elements around workers affect their degree of job satisfaction are included in the physical work environment. A good physical work environment is reflected in how it is managed consistently in daily activities (Gunawan & Abdurahman, 2026), while a physical work environment is less supportive can cause disruptions to work activities impact a decline in employee performance (Umar Makrup Romadani & Prabowo, 2024). The factors determine physical work environment conditions, according to Sedarmayanti (2018:27), include lighting, temperature, humidity, air circulation, noise, mechanical vibration, odors, color scheme, decoration, music, and security in the workplace. In addition, a physical work environment is not kept clean can make workers more susceptible to illness, more easily uncomfortable, and can reduce concentration and performance (Tarigan et al., 2022). A cozy, orderly, and encouraging physical workspace significantly boosts worker productivity (Putri & Bachtiar, 2024; Manulang et al., 2025; Chukwuma, 2022).

H2: The physical work environment has a positive effect on the work productivity of X Convection employees.

Work Productivity

Work productivity is crucial aspect on organization reflects employees' ability to produce work results effectively and efficiently in accordance with set objectives. According to Adiwijaya (2023), work productivity is amount and quality of labor produced comparison in time to successfully and efficiently complete tasks, in line with Larisang et al. (2023) who define it as the ratio between the result of quality and quantity achieved within a certain period through the effective and efficient use of resources, while Sutrisno (2016:109) defines it as the effectiveness of a company and its employees in using labor and equipment to achieve objectives within a certain period. The indicators of work productivity according to Simamora (2004:612) include quantity of work, quality of work, and timeliness, while efforts to improve it, according to Agustini (2019), include continuous improvement, enhancement of the quality of work results, human resource empowerment, creation of a comfortable physical work environment, and implementation of work performance appraisals.

H3: At X Convection, work productivity is influenced by work procedures and the physical work environment.

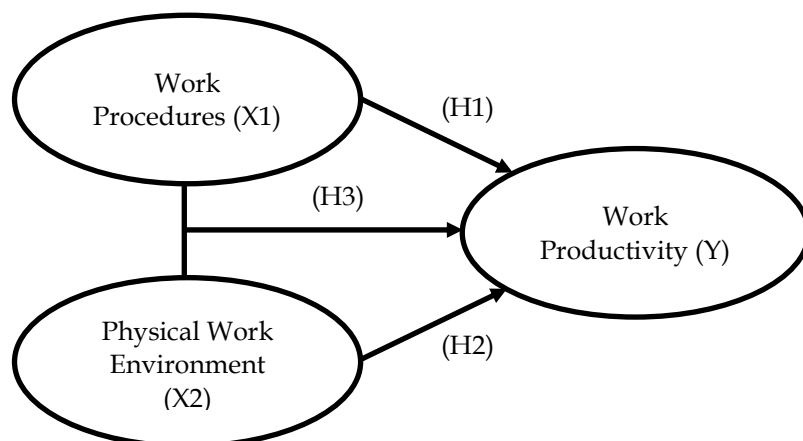


Figure 1. Research Paradigm

METHODOLOGY

This study describes and explains the impact of work procedures and the physical work environment on employee work productivity using a descriptive and associative quantitative methodology. Production department employees at X Convection were given questionnaires related to the research variables to collect research data, while work productivity data were obtained from the owner, who also serves as the company's leader. The research population consisted of 36 production department employees directly involved in work procedures and the physical work environment, as well as 1 owner/leader who has the authority to assess employees' overall work productivity, so the entire population of 37 people was used as respondents in the study. The data was analyzed using SPSS version 27. The hypotheses partially (t-test) and simultaneously (F-test) tested using multiple linear regression, the validity and

consistency of questionnaire instrument with validity and reliability tests, the regression model feasibility checked using classical assumption tests (normality, multicollinearity, and heteroscedasticity) and respondents' attitudes on each research variable described using descriptive quantitative analysis.

RESEARCH RESULTS

Work Procedures

Table 2. Total Mean Respondent Responses to Statements Regarding the Work Procedures Variable

Sub-Variable	Total Average	Criteria
Ease And Clarity	4,08	Easy To Understand
Efficiency	4,11	Optimal
Effectiveness	4,07	Effective
Alignment	4,06	Appropriate
Measurability	3,94	Appropriate
Dynamic	3,98	Appropriate
Oriented Toward The Parties Served	4,11	Appropriate
Total	28,35	
Average Total Score	4,05	
Criterion	Appropriate	

Source: SPSS 27 Processing Results, Reprocessed 2026

The efficiency and orientation-toward-the-parties-served sub-variables have the highest mean (4.11), while lowest mean (3.94), both falling under the "appropriate" criteria. The total mean score of all work procedure sub-variables at X Convection is 4.05 (appropriate criteria), which indicates work procedures have been running well and serve as a guideline for employees to do work.

Physical Work Environment

Table 3. Total Mean Respondent Responses to Statements Regarding the Physical Work Environment Variable

Sub-Variable	Total Average	Criteria
Workplace Lighting	4,08	Bright
Temperature, Humidity, And Circulation (Air Comfort)	4,00	Comfortable
Workplace Noise	4,08	Not Noise
Workplace Odors	4,06	Fragrant
Workplace Decoration	4,06	Appropriate
Cleanliness	4,11	Clean
Total	24.39	
Average Total Score	4,07	
Criterion	Good	

Source: SPSS 27 Processing Results, Reprocessed 2026

Based on Table 3, the cleanliness sub-variable has the highest mean (4.11, clean criteria), while the temperature, humidity, and air circulation sub-variable has the lowest mean (4.00, comfortable criteria). The total mean score of all physical work environment sub-variables at X Convection is 4.06 (good criteria), which indicates the company's physical work environment has supported employee comfort at work.

Employee Work Productivity

Table 4. Total Mean Respondent Responses to Statements Regarding the Employee Work Productivity Variable

Sub-Variable	Total Average	Criteria
Work Quality	4,05	High
Work Quality	3,99	Good
Timeliness	4,13	Timely
Total	12,17	
Average Total Score	4,06	
Criterion	High	

Source: SPSS 27 Processing Results, Reprocessed 2026

Based on Table 4, the timeliness sub-variable has the highest mean (4.13, precise criteria) and the lowest mean (3.99, good criteria). The total mean score of all work productivity sub-variables at X Convection is 4.06 (high criteria), which indicates employee work productivity at the company is at a high level.

Instrument Test Results

Validity

All 22 questionnaire items were found to be valid because each calculated r-value beyond r-table value of 0.329, so the instrument suitable for the study.

Reliability

All variables were considered reliable, as Cronbach's Alpha values were >0.60, indicating consistent measurement.

Classical Assumption Test Results

Normality

The Asymp. Sig. (2-tailed) value of 0.200 indicates the residual data are normally distributed, satisfying the normality assumption.

Multicollinearity

The multicollinearity test shows the tolerance values for both variables, namely work procedures and physical work environment, are above 0.10, at 0.992 each. In addition, the VIF for both variables also show the same figure, 1.008, which is far below the maximum threshold of 10.00. Therefore, this regression model can be declared free from symptoms of multicollinearity between the Work Procedures (X1) and Physical Work Environment (X2) variables. So, the two independent variables do not have a high correlation with one another and

can be used together in the regression model without causing bias in the estimation results of the regression coefficients.

Heteroscedasticity

The Work Procedures variable (X1) has 0.258 significance value and the Physical Work Environment variable (X2) has a significance value of 0.7 > 0.05 related to heteroscedasticity test using the Glejser test. Since the independent variables have no discernible impact on the absolute residual value (ABS_RES) and the regression model has a homogenous (constant) residual variance, it may be argued there are no signs of heteroscedasticity in this model. As a result, the model satisfies one of the traditional multiple linear regression analysis assumptions and can be deemed viable.

Data Analysis Results

Multiple Linear Regression Analysis

Table 5. Multiple Linear Regression Analysis Results

<i>Coefficients^a</i>						
<i>Model</i>		<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
1	(Constant)	-1,817	1.912		-.950	.349
	Work Procedures (X1)	.217	.046	.502	4.665	<.001
	Physical Work Environment (X2)	.321	.061	.565	5.246	<.001
a. Dependent Variable: Work Productivity (Y)						

Source: SPSS 27 Processing Results, Reprocessed 2026

The formulation regression:

$$Y = -1.817 + 0.217 X1 + 0.321 X2$$

Based on Table 8, the regression equation results are as follows:

1. The regression coefficient on the work procedure variable shows a positive relationship, meaning that every increase in the work procedure variable will increase employee work productivity.
2. The regression coefficient on the physical work variable shows a positive relationship, meaning that every increase in the physical work variable will increase employee work productivity

Coefficient of Determination (R²) Analysis

Table 6. Coefficient of Determination (R²) Analysis

<i>Model Summary^b</i>				
<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	.788 ^a	.620	.597	1.16944
a. Predictors: (Constant), Physical Work Environment (X2), Work Procedures (X1)				
b. Dependent Variable: Work Productivity (Y)				

Source: SPSS 27 Processing Results, Reprocessed 2026

The R Square is 0.620, or 62.0%, which shows work procedures and physical work environment variables account for 62% of the variation in employee work productivity at X Convection, with additional factors outside the scope of this study accounting for the other 38%.

Partial Test (t-test)

Table 7. Partial Test (t-test)

Variable	t_{calculated}	t_{table}	Sig.	Prob.	Description
Work Procedures (X1)	4.665	1,694	0.001	0,05	Influential
Physical Work Environment (X2)	5.246	1,694	0.001	0,05	Influential

Source: SPSS 27 Processing Results, Reprocessed 2026

The physical work environment ($t = 5.246$) and work processes ($t = 4.665$) both exceeded the critical t-table value of 1.69389, with significance values of 0.001 (< 0.05). Therefore, H_a is accepted and H_0 is rejected the physical work environment and work processes have a positive and significant effect on the productivity of X Convection employees in Cimahi City.

Simultan Test (F-test)

Table 8. Simultan Test (F-test)

Variable	F_{calculated}	F_{table}	Sig.	Prob.	Description
Work Procedures and Physical Work Environment on Employee Work Productivity	26,974	3,28	0,00	0,05	Influential

Source: SPSS 27 Processing Results, Reprocessed 2026

The F-test results show calculated F-value (26.974) $>$ F-table value (3.28), with a significance value of 0.000 (< 0.05). Therefore, H_0 rejected and H_a accepted, where work processes and the physical work environment simultaneously have a significant effect on the productivity of X Convection employees in Cimahi City.

DISCUSSION

The findings indicate work processes positively and significantly effect on employee productivity. This finding is consistent with the condition of work procedures, which respondents generally rated as being in the "appropriate" category, with the efficiency and service-orientation sub-variables receiving the highest ratings, while the measurability sub-variable received the lowest rating. This indicates although the work procedures implemented are already fairly efficient and oriented toward the needs of those being served, the measurability of procedures remains an area requires more attention in order to further optimize employee work productivity. This finding reinforces the view clear and structured work procedures serve as guidelines for employees in carrying out

their work efficiently and effectively (Budiharjo, 2014), and consistent with Arief & Nisak (2022) and Hernalis et al. (2023), confirms well-implemented work procedures or standard operating procedures drive increased employee work productivity.

The findings indicate the physical work environment has a positive and significant effect on employee productivity, with a greater influence than work processes. Respondents rated the physical work environment as "good," with cleanliness receiving the highest score and air comfort the lowest. These findings are consistent with Kusumadewi (2022) and Putri and Bachtiar (2024), confirming a clean and comfortable workplace enhances employee productivity. Therefore, improving air comfort may further support productivity.

Simultaneously, work procedures and the physical work environment have a significant effect on employee work productivity, contributing 62% as indicated by R^2 , which falls into the high/strong influence category. This result reinforces the conclusion employee work productivity results from the interaction between clear work procedures and the physical condition of the workplace, rather than being influenced by either factor alone. In line with this, the overall average score for employee work productivity falls into the "high" category, with the timeliness sub-variable rated highest and the work quality sub-variable rated lowest. The relatively low score on work quality suggests, although employees complete tasks on time, there is still room to improve work quality. Therefore, the company should continue improving work processes and the physical work environment to enhance productivity. This finding is consistent with Amany et al. (2021) and Gulo et al. (2024).

CONCLUSION

The findings of this study provide conclusions regarding work processes and the physical work environment on the productivity of employees at X Convection in Cimahi City:

1. Employee work procedures fall into the "appropriate" criteria. The sub-variables with the highest ratings are efficiency and orientation toward the parties being served, while the sub-variable with the lowest rating is measurability.
2. The physical work environment of employees falls into the "good" criteria. The sub-variable with the highest rating is cleanliness, while the sub-variables with the lowest ratings are temperature, humidity, and air circulation.
3. Employee work productivity falls into the "high" criteria. The sub-variable with the highest rating is timeliness, while the sub-variable with the lowest rating is quality of work.
4. Work processes and the physical work environment significantly influence employee productivity individually and collectively:
 - a. Work processes have a positive effect on employee productivity.
 - b. The physical work environment has a positive effect on employee productivity.

- c. Work processes and the physical work environment explain 62% of the variation in employee productivity simultaneously, indicating a strong level of influence.

RECOMMENDATIONS

1. Based on the table 2, respondents' feedback on the work procedures of X Convection employees in Cimahi City falls into the appropriate category. The lowest sub-variable is measurability, so the company is advised to create clear and easy-to-understand work-stage guidelines, explain the work process sequence to employees before work begins, and conduct periodic checks so each stage can be carried out consistently in accordance with the established procedures.
2. Based on the table 3, respondents' feedback on the physical work environment of X Convection employees in Cimahi City falls into the good category. The lowest sub-variable is temperature, humidity, and air circulation (air comfort), so the company is advised to optimize ventilation in the production area, maintain tidiness and orderliness in the work area so airflow is not obstructed, and install exhaust fans in the production area to improve air circulation and maintain employee comfort during the production process.
3. Based on the table 4, respondents' feedback on the work productivity of X Convection employees in Cimahi City falls into the high category. The lowest sub-variable is work quality, so the company is advised to inspect work results at each production stage, provide examples of work results meet the standard as a reference for employees, and provide direct corrections whenever discrepancies are found so the quality of work results is maintained and production errors are minimized.

ADVANCED RESEARCH

This study provides a reference for future research on work processes, the physical work environment, and employee productivity. It also contributes to the development of human resource management by highlighting the importance of effective work processes and a supportive physical work environment in improving productivity, while offering practical insights for organizational policy development.

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