



# The Effect of Training, Career Development, and Job Rotation on Employee Productivity at PT. PYT

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**Abstract.** This study explores the effect of training, career development, and job rotation on employee productivity at PT PYT. Using descriptive and quantitative analysis methods, data was collected through questionnaires. The results of this study show that at PT PYT, training and career development have a positive impact on productivity, while job rotation also contributes to skill improvement. However, in PT PYT, only job rotation shows a significant effect on productivity, with training and career development showing no significant impact. Statistical analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) confirmed the validity and reliability of the measurement model, with R-square showing that 16.8% of the variation in productivity could be explained by the three variables. The findings highlight the importance of evaluating and optimizing training and career development, as well as the effectiveness of job rotation in improving employee productivity.

**Keywords:** Training; Career Development; Job Rotation; Productivity.

## 1 Introduction

In the current era of globalization, the business world faces several challenges, including increasingly intense labor market competition. This condition is driven by rapid environmental changes and technological advancement. To maintain competitiveness in the market, companies must be adaptive and responsive to change. In facing increasingly intense business competition, both private companies and state-owned enterprises (SOEs) are required to adopt flexible and adaptive strategies to survive in the evolving business environment. Halisa [5] stated that companies cannot develop and grow without reliable and competent human resources, as human resources are essential assets that support organizational operations. High-quality human resources have been proven to provide competitive advantages for companies. Human resources are widely regarded as one of the most valuable organizational assets because they directly contribute to innovation, value creation, and competitive advantage [2]. Armstrong [1] defined human resources as a strategic and coherent approach to managing an organization's most important assets, namely the people working within the organization who contribute collectively and individually toward achieving organizational goals.

Training is defined as a process through which individuals acquire the skills necessary to perform tasks required to achieve organizational objectives [8]. Therefore, training is not only intended for new employees, but also for long-term employees to improve productivity, address performance gaps, and develop advanced knowledge and technological capabilities. Mangkunegara [7] explained that career development is a human resource activity aimed at helping employees plan their future careers within the company. This activity is expected to create mutual benefits for both employees and organizations by supporting optimal employee development. In addition to training and career development, job rotation is another factor closely related to employee productivity. Gitlin [4] reported the results of a SurveyMonkey survey involving 666 employees, showing that approximately 86% of respondents considered workplace training highly important, while 74% stated their willingness to participate in learning activities outside working hours to improve job performance.

Harbani et al. [6] explained that job rotation refers to the systematic movement of employees from one task to another, while job enrichment involves providing employees with greater responsibilities and opportunities for skill development.

Table 1. Types of training programs at PT PYT 2024.

| No.          | Types of Training Programs    | TOTAL      |
|--------------|-------------------------------|------------|
| 1.           | <i>Domestic Training</i>      | 157        |
| 2.           | <i>International Training</i> | 7          |
| <b>TOTAL</b> |                               | <b>164</b> |

Source: Training Report at PT. PYT 2024

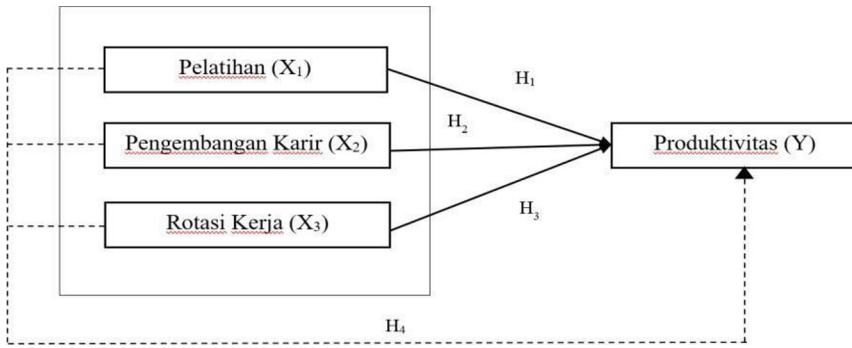
According to the data presented in Table 1, the training programs implemented consist of Domestic Training and International Training, with a total of 164 participants. Considering that the company employs 73 employees, it can be inferred that each employee had the opportunity to participate in more than two training programs. This finding indicates that the training programs provided sufficient opportunities for employees to improve their work competencies.

Based on observations and interviews conducted at PT. PYT, it was found that there were four types of career development programs implemented in 2024, involving a total of 277 employee participations. Career development opportunities are provided only for permanent employees (PKWTT), while non-PKWTT employees do not receive such benefits. However, in terms of equity, there is still an issue regarding the uneven distribution of career development programs among PKWTT employees. In addition, job rotation at PT. PYT is conducted every two to three years for all employees.

According to Mathis et al. [8], productivity is defined as a measure of the quantity and quality of work performed while considering the cost of resources utilized. Meanwhile, Noor [3] defined productivity as the overall work output of an individual within a certain period of working time, carried out effectively and accompanied by a proactive mindset toward continuous improvement.

## 2 Research Methodology

This study aimed to find solutions to the problems that had been formulated. The type of research used was descriptive analysis and quantitative methods, where data was collected through questionnaires, surveys, and systematic measurements with the purpose of obtaining data to determine the influence between variables, particularly the influence of training, career development, and job rotation (as independent variables) on employee productivity (as a dependent variable). This research was conducted at a company operating in the oil and gas sector. The population in this study was human capital employees at PT. PYT. This research had a population of 73 employees with a sample of 42 human capital respondents obtained through the Slovin formula.



**Fig. 1.** Framework of thinking.

The questionnaire in this study obtained 44 respondents, which were then analyzed using the data analysis technique employed in this study, specifically SMART PLS. This technique is generally divided into two sub-models: the measurement model (outer model) and the structural model (inner model).

## 3 Findings

### 3.1 Descriptive Analysis of Respondent Profiles

The descriptive analysis of respondent profiles aims to provide an overview of respondent characteristics based on the questionnaire data collected. The following is a descriptive analysis aimed to provide an overview of respondent characteristics at PT. PYT.

**Table 2.** Frequency and percentage of gender categories.

| Gender       | Frequency | Percentage  |
|--------------|-----------|-------------|
| Male         | 23        | 52%         |
| Female       | 21        | 48%         |
| <b>Total</b> | <b>44</b> | <b>100%</b> |

From the table above, it can be seen that this study used 44 respondents consisting of male and female respondents. The number of male respondents dominated with 23 people or 52%, while female respondents ranked second with 21 people or 48%.

**Table 3.** Frequency and percentage of work experience categories.

| Work Experience | Frequency | Percentage  |
|-----------------|-----------|-------------|
| 1-2 Years       | 2         | 5%          |
| 3-5 Years       | 2         | 5%          |
| 5-10 Years      | 15        | 34%         |
| >10 Years       | 25        | 57%         |
| <b>Total</b>    | <b>44</b> | <b>100%</b> |

Based on work experience, this study was dominated by workers with more than 10 years of experience (57%), followed by those with 5-10 years of experience (34%).

**Table 4.** Frequency and percentage of age categories.

| Age          | Frequency | Percentage  |
|--------------|-----------|-------------|
| 24-30 Years  | 4         | 9%          |
| 31-40 Years  | 32        | 73%         |
| 41-50 Years  | 5         | 11%         |
| 51-55 Years  | 3         | 7%          |
| <b>Total</b> | <b>44</b> | <b>100%</b> |

The respondents in this study were a diverse group in terms of age, with the majority falling into the 31–40 age range, contributing to 73% of the total responses

### 3.2 Descriptive Analysis of Variables

The descriptive analysis of variables aims to provide a statistical overview of the frequency distribution of respondents' answers for each research variable, consisting of Training, Career Development, Job Rotation, and Productivity.

**Table 5.** Questionnaire results on training variables (X1)

| No | Statement                                                                                                                                                                                                                     | STS |   | TS |     | N |      | S  |      | SS |      |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|----|-----|---|------|----|------|----|------|
|    |                                                                                                                                                                                                                               | f   | % | f  | %   | f | %    | f  | %    | f  | %    |
| 1  | The instructors or trainers in the training (which was participated this year) have demonstrated a thorough comprehension of the material to be taught, and are able to convey the training material clearly and effectively. | 0   | 0 | 0  | 0   | 5 | 11,4 | 29 | 65,9 | 10 | 22,7 |
| 2  | Participants who take part in the training are selected through an objective selection process by the company.                                                                                                                | 0   | 0 | 4  | 9,1 | 3 | 6,8  | 23 | 52,3 | 14 | 31,8 |

| No                         | Statement                                                                                                                                                                                                 | STS |   | TS   |      | N    |      | S     |        | SS    |      |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|------|------|------|------|-------|--------|-------|------|
|                            |                                                                                                                                                                                                           | f   | % | f    | %    | f    | %    | f     | %      | f     | %    |
| 3                          | As a participant, I have been able to Comprehend and proficiently master the various training materials provided in an effective and expeditious manner.                                                  | 0   | 0 | 0    | 0    | 5    | 11,4 | 31    | 70,5   | 8     | 18,2 |
| 4                          | The material presented in the training is designed to align with the needs of the workers, with the objective of enhancing their performance in the workplace.                                            | 0   | 0 | 0    | 0    | 4    | 9,1  | 25    | 56,8   | 15    | 34,1 |
| 5                          | The training methods employed were highly effective, accessible, and pertinent to the subjects addressed.                                                                                                 | 0   | 0 | 1    | 2,3  | 4    | 9,1  | 28    | 63,6   | 11    | 25   |
| 6                          | The training program was aligned with the company's strategic objectives, with a focus on enhancing employee motivation to optimize their performance, the efficiency, and expediency of task completion. | 0   | 0 | 2    | 4,5  | 3    | 6,8  | 20    | 45,5   | 19    | 43,2 |
| 7                          | In sum, the training program in which I participated was highly pertinent to my professional obligations.                                                                                                 | 0   | 0 | 0    | 0    | 4    | 9,1  | 26    | 59,1   | 14    | 31,8 |
| <b>Total</b>               |                                                                                                                                                                                                           | 0   | 0 | 7    | 15,9 | 28   | 63,6 | 182   | 413,69 | 1206  | 8    |
| <b>Percentage of Total</b> |                                                                                                                                                                                                           | 0%  |   | 2,3% |      | 9,1% |      | 59,1% |        | 29,5% |      |

As demonstrated in the above table, the objective of the descriptive analysis is to comprehend the distribution of data on the training variable (X1). A total of 44 respondents were analyzed, and it was determined that response scale 4 (Agree) was the most prevalent, representing 59.1% of the respondents' responses. In second place, response scale 5 (Strongly Agree) accounted for 29.5% of the responses. For response scale 3 (Neutral), the percentage reaches 9.1%, followed by response scale 2 (Disagree) at 2.3%. Meanwhile, response scale 1 (Strongly Disagree) has the lowest percentage, at 0%. This indicates that none of the 44 respondents selected response scale 1.

**Table 6.** Questionnaire results on career development variables (X2)

| No | Statement                                                                                       | STS |     | TS |     | N |      | S  |      | SS  |     |
|----|-------------------------------------------------------------------------------------------------|-----|-----|----|-----|---|------|----|------|-----|-----|
|    |                                                                                                 | f   | %   | f  | %   | f | %    | f  | %    | f   | %   |
| 1  | Career development will expand my job opportunities and career paths.                           | 0   | 0   | 0  | 0   | 2 | 4,5  | 25 | 56,8 | 173 | 8,6 |
| 2  | Career development can improve my work skills.                                                  | 0   | 0   | 0  | 0   | 5 | 11,4 | 27 | 61,4 | 122 | 7,3 |
| 3  | My company provides counseling and career planning services for employees.                      | 0   | 0   | 4  | 9,1 | 7 | 15,9 | 20 | 45,5 | 132 | 9,5 |
| 4  | My company provides a systematic program that regularly evaluates employee skills and interests | 1   | 2,3 | 4  | 9,1 | 5 | 11,4 | 24 | 54,5 | 102 | 7,7 |

| No                         | Statement                                                                                                                   | STS  |     | TS   |      | N   |      | S     |       | SS    |      |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|------|-----|------|------|-----|------|-------|-------|-------|------|
|                            |                                                                                                                             | f    | %   | f    | %    | f   | %    | f     | %     | f     | %    |
| 5                          | My company provides opportunities for employees to learn new skills that prepare for future jobs.                           | 0    | 0   | 2    | 4,5  | 7   | 15,9 | 26    | 59,1  | 9     | 20,5 |
| 6                          | My company provides employees with information about job vacancies or divisions within the organization that are available. | 1    | 2,3 | 4    | 9,1  | 9   | 20,5 | 20    | 45,5  | 10    | 22,7 |
| 7                          | Career development is not just a regular task, rather it has a significant impact on me.                                    | 0    | 0   | 0    | 0    | 2   | 4,5  | 25    | 56,8  | 17    | 38,6 |
| <b>Total</b>               |                                                                                                                             | 2    | 4,5 | 14   | 31,8 | 37  | 84,1 | 167   | 379,5 | 88    | 200  |
| <b>Percentage of Total</b> |                                                                                                                             | 0,6% |     | 4,5% |      | 12% |      | 54,2% |       | 28,6% |      |

As presented in the above table, the descriptive analysis seeks to comprehend the distribution of data on the career development variable (X2). The analysis indicates that response scale 4 (Agree) predominates, accounting for 54.2% of the responses, followed by response scale 5 (Strongly Agree) in second place with a percentage of 28.6%. For response scale 3 (Neutral), the percentage reaches 12%, followed by response scale 2 (Disagree) at 4.5%, while response scale 1 (Strongly Disagree) has the lowest percentage at 0.6%.

**Table 7.** Questionnaire results on job rotation variables (X3)

| No                         | Statement                                                                                              | STS  |     | TS   |      | N     |       | S     |       | SS    |       |
|----------------------------|--------------------------------------------------------------------------------------------------------|------|-----|------|------|-------|-------|-------|-------|-------|-------|
|                            |                                                                                                        | f    | %   | f    | %    | f     | %     | f     | %     | f     | %     |
| 1                          | Job rotation improves skills and expertise.                                                            | 0    | 0   | 0    | 0    | 4     | 9,1   | 28    | 63,6  | 12    | 27,3  |
| 2                          | Job rotation improves productivity and quality within the company.                                     | 0    | 0   | 1    | 2,3  | 10    | 22,7  | 21    | 47,7  | 12    | 27,3  |
| 3                          | Job rotation reduces mental stress caused by worker burnout.                                           | 0    | 0   | 1    | 2,3  | 13    | 29,5  | 19    | 43,2  | 11    | 25    |
| 4                          | Job rotation increases my satisfaction and happiness at work.                                          | 0    | 0   | 1    | 2,3  | 8     | 18,2  | 24    | 54,5  | 11    | 25    |
| 5                          | Job rotation programs contribute to reducing employee turnover rates in companies.                     | 0    | 0   | 3    | 6,8  | 11    | 25    | 22    | 50    | 8     | 18,2  |
| 6                          | Decisions regarding job rotation are influenced by the guidance or decisions of immediate supervisors. | 0    | 0   | 0    | 0    | 7     | 15,9  | 23    | 52,3  | 14    | 31,8  |
| 7                          | Job rotation is developed based on direct input from employees.                                        | 4    | 9,1 | 8    | 18,2 | 9     | 20,5  | 10    | 22,7  | 13    | 29,5  |
| <b>Total</b>               |                                                                                                        | 4    | 9,1 | 14   | 31,8 | 62    | 140,9 | 147   | 334,1 | 181   | 184,1 |
| <b>Percentage of Total</b> |                                                                                                        | 1,3% |     | 4,5% |      | 20,1% |       | 47,7% |       | 26,3% |       |

According to the table above, descriptive analysis of the job rotation variable (X3) shows that response scale 4 (Agree) dominates the responses with a percentage of 20.1%, followed by response scale 5 (Strongly Agree) in second place with a percentage of 26.3%. For response scale 3 (Neutral), the percentage reaches 20.1%, followed by response scale 2 (Disagree) at 4.5%, while response scale 1 (Strongly Disagree) has the lowest percentage at 1.3%.

**Table 8.** Questionnaire Results on Productivity Variables (Y)

| NoStatement                                                                                              | STS |    | TS |    | N    |      | S   |       | SS    |       |
|----------------------------------------------------------------------------------------------------------|-----|----|----|----|------|------|-----|-------|-------|-------|
|                                                                                                          | f   | %  | f  | %  | f    | %    | f   | %     | f     | %     |
| 1 I have the ability to perform the work assigned by the company well.                                   | 0   | 0  | 0  | 0  | 1    | 2,3  | 25  | 56,8  | 18    | 40,9  |
| 2 The tasks and responsibilities assigned by the company are in line with my competencies and abilities. | 0   | 0  | 0  | 0  | 2    | 4,5  | 24  | 54,5  | 18    | 40,9  |
| 3 I am committed to continuously improving the quality and productivity of my work.                      | 0   | 0  | 0  | 0  | 0    | 0    | 20  | 45,5  | 24    | 54,5  |
| 4 I strive to complete my work before the deadline set by my supervisor.                                 | 0   | 0  | 0  | 0  | 1    | 2,3  | 20  | 45,5  | 23    | 52,3  |
| 5 The work I have completed is in line with the targets set by the company.                              | 0   | 0  | 0  | 0  | 2    | 4,5  | 22  | 50,0  | 20    | 45,5  |
| 6 I effectively utilize available work time, facilities, and equipment.                                  | 0   | 0  | 0  | 0  | 2    | 4,5  | 21  | 47,7  | 21    | 47,7  |
| 7 I always strive tfix any mistakes I have made in performing my duties.                                 | 0   | 0  | 0  | 0  | 2    | 4,5  | 19  | 43,2  | 23    | 52,3  |
| <b>Total</b>                                                                                             | 0   | 0  | 0  | 0  | 10   | 22,7 | 151 | 343,2 | 147   | 334,1 |
| <b>Persentase Total</b>                                                                                  | 0%  | 0% | 0% | 0% | 3,2% | 49%  | 49% | 47,7% | 47,7% | 47,7% |

As indicated by the data presented in the table above, a descriptive analysis of the productivity variable (Y) reveals that response scale 4 (Agree) is the predominant response, accounting for 49% of the total. This is followed by response scale 5 (Strongly Agree) in second place, with a percentage of 47.7%. For response scale 3 (Neutral), the percentage was recorded at 3.2%. Conversely, response scales 1 and 2 occupy the lowest positions, with a percentage of 0%. This finding suggests that no respondents selected response scales 1 and 2.

### 3.3 Data Analysis

In this study, the researcher used the Partial Least Squares Structural Equation Modeling (PLS-SEM) method using SMART PLS 4 to analyze the data.

1. Measurement Model Testing (Outer Model)

The outer model testing aims to determine the relationship between each indicator and the latent variables. This testing is conducted using SEM-SmartPLS by performing Convergent Validity, Discriminant Validity, and Composite Reliability tests as follows:

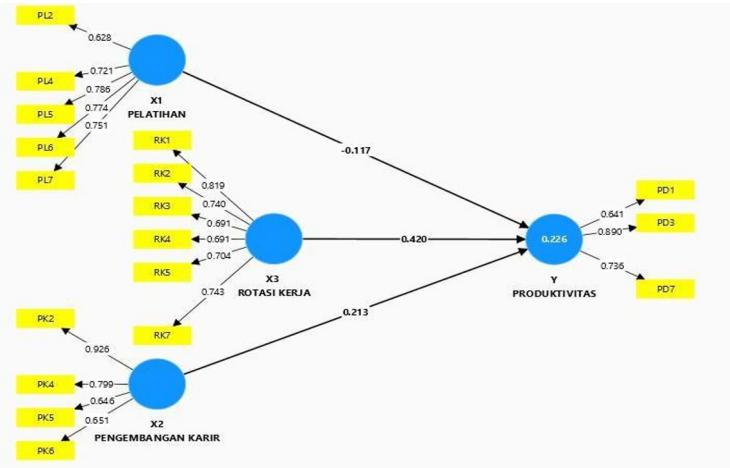


Fig. 2. Measurement model results.

A. Convergent validity

Table 9. Modified loading factor results.

| Code                                 | Loading Factor | Results |
|--------------------------------------|----------------|---------|
| Training (X <sub>1</sub> )           |                |         |
| PL2                                  | 0.628          | VALID   |
| PL4                                  | 0.721          | VALID   |
| PL5                                  | 0.786          | VALID   |
| PL6                                  | 0.774          | VALID   |
| PL7                                  | 0.751          | VALID   |
| Code                                 | Loading Factor | Results |
| Career Development (X <sub>2</sub> ) |                |         |
| PK2                                  | 0.926          | VALID   |
| PK4                                  | 0.799          | VALID   |
| PK5                                  | 0.646          | VALID   |
| PK6                                  | 0.651          | VALID   |
| Code                                 | Loading Factor | Results |
| Job Rotation (X <sub>3</sub> )       |                |         |
| RK1                                  | 0.819          | VALID   |
| RK2                                  | 0.740          | VALID   |
| RK3                                  | 0.691          | VALID   |
| RK4                                  | 0.691          | VALID   |
| RK5                                  | 0.704          | VALID   |
| RK7                                  | 0.743          | VALID   |

| Code | Loading Factor | Results |
|------|----------------|---------|
| RK1  | 0.819          | VALID   |
| RK2  | 0.740          | VALID   |
| RK3  | 0.691          | VALID   |
| RK4  | 0.691          | VALID   |
| RK5  | 0.704          | VALID   |
| RK7  | 0.743          | VALID   |

According to the table, the convergent validity value, data processing using SmartPLS with a loading factor value of  $> 0.5$  is considered valid.

B. *Discriminant Validity*

**Table 10.** Discriminant validity score.

|            | Training (X1) | Career Development (X2) | Job Rotation (X3) | Productivity (Y) |
|------------|---------------|-------------------------|-------------------|------------------|
| <b>PD1</b> | 0.052         | 0.193                   | 0.062             | 0.641            |
| <b>PD3</b> | 0.257         | 0.316                   | 0.487             | 0.890            |
| <b>PD7</b> | 0.175         | 0.178                   | 0.273             | 0.736            |
| <b>PK2</b> | 0.565         | 0.926                   | 0.273             | 0.383            |
| <b>PK4</b> | 0.520         | 0.799                   | 0.491             | 0.131            |
| <b>PK5</b> | 0.582         | 0.646                   | 0.516             | 0.109            |
| <b>PK6</b> | 0.442         | 0.651                   | 0.380             | 0.045            |
| <b>PL2</b> | 0.628         | 0.629                   | 0.410             | 0.056            |
| <b>PL4</b> | 0.721         | 0.444                   | 0.305             | 0.193            |
| <b>PL5</b> | 0.786         | 0.574                   | 0.300             | 0.215            |
| <b>PL6</b> | 0.774         | 0.642                   | 0.543             | 0.175            |
| <b>PL7</b> | 0.751         | 0.293                   | 0.503             | 0.205            |
| <b>RK1</b> | 0.388         | 0.429                   | 0.819             | 0.543            |
| <b>RK2</b> | 0.574         | 0.386                   | 0.740             | 0.204            |
| <b>RK3</b> | 0.207         | 0.047                   | 0.691             | 0.331            |
| <b>RK4</b> | 0.460         | 0.290                   | 0.691             | 0.147            |
| <b>RK5</b> | 0.495         | 0.351                   | 0.704             | 0.161            |

As indicated in Table 10, Discriminant Validity Values, the findings of this study indicate the presence of a strong Discriminant Validity model, as evidenced by the observation that each cross loading value on the construct variable exceeds all other cross loadings. This finding indicates a strong correlation between the latent variables and the construct variables.

### C. Composite reliability

**Table 11.** Score on Cronbach's alpha, composite reliability, dan average variance extracted.

| Variables                      | Cronbach's Alpha | Composite Reliability | Average Variance Extracted |
|--------------------------------|------------------|-----------------------|----------------------------|
| <b>Training (X1)</b>           | 0.796            | 0.853                 | 0.539                      |
| <b>Career Development (X2)</b> | 0.824            | 0.846                 | 0.584                      |
| <b>Job Rotation (X3)</b>       | 0.847            | 0.874                 | 0.537                      |
| <b>Productivity (Y)</b>        | 0.703            | 0.804                 | 0.582                      |

As indicated by the findings presented in Table 11, which includes Cronbach's alpha, composite reliability, and average variance extracted scores, it can be concluded that the variables of training, career development, job rotation, and productivity have Cronbach's alpha and composite reliability scores  $> 0.7$ . Furthermore, the questionnaire demonstrates a satisfactory degree of consistency among respondents, as evidenced by the fact that all constructs possess an average variance extracted  $> 0.5$ .

### 2. Structural Model Testing (Inner Model)

In this study, the researcher employed R-squared ( $R^2$ ) and multicollinearity tests as the sole analytical tools. The following structural models are presented below:

#### A. Multicollinearity Test

**Table 12.** Uji multicollinearities results.

| Inner VIF Values                                              | VIF   | Results                      |
|---------------------------------------------------------------|-------|------------------------------|
| <b>X1 Training <math>\geq</math> Y Productivity</b>           | 2.065 | <i>Non Multicollinearity</i> |
| <b>X2 Career Development <math>\geq</math> Y Productivity</b> | 1.789 | <i>Non Multicollinearity</i> |
| <b>X3 Job Rotation <math>\geq</math> Y Productivity</b>       | 1.442 | <i>Non Multicollinearity</i> |

According to Table 12, the multicollinearity test (VIF) result for the training variable is 2.065. The score for the career development variable is 1.789, and the score for the job rotation variable is 1.442. Consequently, the values of the aforementioned variables are both below the threshold of 5.00 and even 3.00. This finding suggests that multicollinearity issues are not a significant concern in the research model.

#### B. R-square ( $R^2$ ) Test

**Table 13.** R-Square ( $R^2$ ) score.

|                         | R-Square | R-Square Adjusted |
|-------------------------|----------|-------------------|
| <b>Productivity (Y)</b> | 0.226    | 0.168             |

As illustrated in Table 13, the R-Square score for productivity (Y) has an Adjusted R-Square score of 0.168, which corresponds to 16.8% of the total variation in the dataset. This indicates that Training (X1), Career Development (X2), and Job Rotation

(X3) have a minimal impact on Productivity (Y), with a combined influence of only 16.8%. The remaining 83.2% of the variance is influenced by factors that fall outside the scope of this study.

### 3. Hypothesis Testing (Bootstrapping)

In this study, the significance level is set at 10%, and the T-statistic  $> 1.684$  indicates a statistically significant effect of the independent variable on the dependent variable. This impact is illustrated in the path coefficients table subsequent to the execution of the bootstrapping process.

**Table 14.** Path coefficients.

|                                                                                                            | <i>Original<br/>sample (O)</i> | <i>Sample<br/>mean (M)</i> | <i>Standard<br/>deviation<br/>(STDEV)</i> | <i>T statistics<br/>( O/STDEV )</i> | <i>P-<br/>values</i> | <i>Results</i> |
|------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------|-------------------------------------------|-------------------------------------|----------------------|----------------|
| <b>X1 Training <math>\geq</math> Y<br/>Productivity<br/>X2</b>                                             | -0.117                         | -0.009                     | 0.212                                     | 0.549                               | 0.292                | Rejected       |
| <b>Career Development<br/><math>\geq</math> Y Productivity<br/>X3 Job Rotation<br/><math>\geq</math> Y</b> | 0.213                          | 0.162                      | 0.287                                     | 0.742                               | 0.229                | Rejected       |
| <b>Productivity</b>                                                                                        | 0.420                          | 0.428                      | 0.231                                     | 1.819                               | 0.034                | Approved       |

As demonstrated in Table 14, A thorough examination of the path coefficient reveals that the training variable possesses a T-value of 0.549, which is less than  $< 1.684$  and can thus be deemed insignificant. Additionally, it exhibits a P-value of 0.292, which is greater than  $> 0.05$ . It can be concluded that the training variable is not significant to employee productivity. The hypothesis positing a relationship between training and employee productivity is rejected.

The career development variable exhibited a T-value of 0.742, which is less than  $< 1.684$  and can be considered insignificant. Additionally, it had a P-value of 0.229, which is greater than  $> 0.05$ . It can be concluded that the career development variable is not significant in terms of employee productivity. The hypothesis positing a relationship between career development and employee productivity is rejected.

The job rotation variable has a T-value of 1.819, which is greater than  $< 1.684$  and can be considered significant, with a P-value of 0.034, which is less than  $< 0.05$ . It can be concluded that the job rotation variable has a significant positive effect on employee productivity. The hypothesis proposing a relationship between job rotation and employee productivity is approved.

## Conclusion

The results of the study on the effects of training, career development, and job rotation on employee productivity at PT. PYT led to the following conclusions:

### 1. The Impact of Training on Employee Productivity

The training program that was implemented has not shown significant improvement in employee productivity. The underlying factors contributing to this issue may include the relevance of training materials, the efficacy of training methods, the limited application of training outcomes in the workplace, and the inappropriate timing of training sessions.

### 2. The Impact of Career Development on Employee Productivity

The impact of career development programs on employee productivity has been found to be inconsequential. This finding suggests that efforts to promote career development may have fallen short of optimal standards or have lacked relevance to employees' needs and the demands of their roles.

### 3. The Impact of Job Rotation on Employee Productivity

Job rotation has been demonstrated to contribute to an increase in productivity. This finding indicates that job rotation is an effective strategy for improving skills, reducing boredom, and increasing employee motivation.

Consequently, it can be concluded that job rotation has a significant impact on productivity, while training and career development do not have a significant impact on productivity. This highlights the necessity for companies to reevaluate their training and career development strategies, while continuing to optimize job rotation programs to enhance overall employee productivity.

**Disclosure of Interests.** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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