



THE EFFECT OF TRAINING AND CAREER DEVELOPMENT ON WORK PRODUCTIVITY

Shabrina Alifa Ridwan^{1*}, Fatimah Siti Permatasari², Seli Septiani³

^{1,2,3}Faculty of Economics and Business, Universitas Siliwangi, Tasikmalaya, Indonesia

^{*}223402044@student.unsil.ac.id

Abstract. Nurse productivity is critical to maintaining the quality of hospital services, especially in today's global context. This study analyzes how training and career development affect the work productivity of nurses at Rama Hadi Hospital, Purwakarta Regency. This study uses a quantitative approach with multiple linear regression analysis. The author selected 62 nurses from a total of 163 nurses using simple random sampling. Data was collected through questionnaires using the Likert scale. The results showed that training had a positive and significant influence on work productivity ($t=4.448$; $p=0.000$), contributing 49.8%. Career development also had a positive and significant effect on work productivity ($t=4.026$; $p=0.000$), contributing 46.1%. When the two factors were considered together, they had a significant effect on work productivity ($F=11.691$; $p=0.000$), with a determination coefficient of 28.4% but the factor that had the strongest effect on nurses' work productivity was training, with a contribution of 49.8%. These findings suggest that hospital management should combine training with a clear career development plan to increase nurse productivity. Therefore, nursing managers should prioritize the integration of technical training programs with structured career paths to ensure maximum application of new skills. Additionally, it is recommended to establish an effective system for monitoring, evaluating, and rewarding nurses.

Keywords: Training, Career Development; Work Productivity; Nurses; Hospitals.

1. Introduction

In the era of globalization and increasing demand for quality health services, nurse productivity is an important factor in maintaining the quality and efficiency of hospital services. This year, nurse productivity is a key issue for hospitals due to the increasingly fierce competition and the urgent need for operational efficiency while maintaining high standards of accreditation and patient satisfaction. Previous research has shown that training and development have a significant impact on improving the skills, confidence, and quality of nursing practice, ultimately improving patient care performance. Research in Bandung shows that training and competency have a significant impact on the quality of inpatient services, with a training coefficient value of 0.756 and the combined contribution of training and competency to service quality reaching 0.805 (Ade Sudrajat & Dyah Bayu Framesthi, 2024). While international studies, such as the findings of Hendy et.al (2024), show a dramatic increase in competence of 81.3% after a training intervention, our findings at Rama Hadi General Hospital show that although training has a positive and significant contribution of 49.8% there is an implementation gap where training alone does not guarantee maximum implementation in the field. This highlights that in our local context, other supporting factors such as nurse motivation, supervisory guidance, and post-training evaluation systems are crucial.

However, the phenomenon in hospitals shows that training alone does not guarantee that the knowledge or skills acquired will be immediately applied in the field. In the preliminary research at Rama Hadi General Hospital in Purwakarta Regency, although

the management has carried out training and career development programs for nurses, there is a gap where some nurses seem unenthusiastic and even ignore the training activities held. This is evident from the lack of application of new knowledge and skills gained from training in daily patient care activities. There are even cases of nurses who are absent from training activities for no apparent reason, forcing management to impose administrative sanctions in the form of warning letters and guidance. This gap has an impact on work productivity, especially in terms of accuracy, speed, and quality of patient care, resulting in medical procedures or treatments often being delayed or failing to meet standards due to the lack of implementation of training materials, as well as the quality of service that varies between shifts and between nurses.

Research that specifically examines how nurses respond negatively to training programs, such as lack of enthusiasm and absenteeism, as well as the impact of subsequent administrative sanctions, which in this case moderate the relationship between training, career development, and work productivity, is limited. Therefore, this study is important to fill this gap by thoroughly analyzing the influence of training and career development on the work productivity of nurses, taking into account the phenomenon that occurs at Rama Hadi General Hospital in Purwakarta. Based on the background described above, the problems identified in this study are as follows: First, does training affect the work productivity of nurses at Rama Hadi General Hospital in Purwakarta? Second, does career development affect the work productivity of nurses at Rama Hadi General Hospital in Purwakarta.? Third, do training and career development together affect the work productivity of nurses at Rama Hadi General Hospital in Purwakarta? In accordance with the problems identified, the purpose of this study is to determine the effect of training on the work productivity of nurses at Rama Hadi General Hospital in Purwakarta, to determine the effect of career development on the work productivity of nurses at Rama Hadi Purwakarta Hospital, and to determine the combined effect of training and career development on the work productivity of nurses at Rama Hadi General Hospital in Purwakarta.

Training is defined as a systematic and planned effort by an organization to help employees acquire knowledge, skills, and work attitudes that are relevant to their duties. The goal is to align individual abilities with organizational needs to increase work productivity. The underlying theory of training is the Human Capital Theory, which states that the investment of knowledge and skills (training) is a major asset that can increase the economic value of individuals and increase organizational productivity. The effectiveness of training is measured by looking at several indicators such as Frequency, Material Relevance, Instructor Quality, Methods, Facilities, and Evaluation of Results. Meanwhile, Career Development is an ongoing process in which individuals make and manage career decisions and prepare themselves to rise to a higher level of responsibility. The main goal is to create a clear career path to ensure the long-term career success of employees.

A relevant theory is the Theory of Career Development (Super, 1980), which emphasizes that careers develop through planned stages and that organizations should support this transition. Career development indicators include Career Level Clarity, Fairness in Promotion, Competency Development, Development Opportunities, and Organizational Support. Work productivity is a concept that measures the efficiency and effectiveness of the use of resources to produce the best and maximum output. Productivity is measured through the indicators of Work Quantity, Work Quality, Speed,

Effectiveness, Efficiency, and Independence, and is influenced by internal factors (ability, motivation, attitude) and external factors (work environment, management system, technology, and compensation). The relationships between variables show positive and significant correlations; Effective training improves technical skills and insights, which directly increases productivity. Career development also plays an important role because clear career opportunities increase motivation, organizational commitment, reduce work turnover, and ultimately increase work productivity. Some previous studies have reinforced the significant positive influence of Training and Career Development on employee performance or productivity.

2. Method

This study uses a quantitative approach with survey methods and questionnaires based on the Likert scale as a data collection tool. The population studied was nurses at Rama Hadi Hospital. Researchers selected 62 nurses from a total of 163 nurses using a simple random sampling method. The simple random sampling method is appropriate because the nurse population at Rama Hadi General Hospital is considered homogeneous in terms of their functional role as nurses, so that every nurse has an equal chance of being selected, producing a representative sample and reducing bias. The data collected were then analyzed using Multiple Linear Regression Analysis, Coefficient of Determination Test (R^2), as well as partial (T-test) and simultaneous (F-test) hypothesis tests, after meeting the requirements of the Classical Assumption Test. The results of the study in general show that, both partially and simultaneously, Training and Career Development have a positive and significant effect on the Work Productivity of nurses at Rama Hadi Hospital. Based on the results of the reliability test, all variables showed good internal consistency, with Cronbach's Alpha score for the Training (X_1) variable of 0.925, Career Development (X_2) of 0.938, and Work Productivity (Y) of 0.902.

3. Results And Discussion

Normality Test

Based on the results of the Kolmogorov-Smirnov normality test that has been carried out on unstandardized residuals, an Asymp value is obtained. Sig. (2-tailed) of 0.060. The significance value is greater than the significance value of 0.05 where ($0.060 > 0.05$) so it can be concluded that the data used in this study are normally distributed and H_0 is accepted.

Multicollinearity Test

The results of the multicollinearity test showed that the Tolerance value for both independent variables was 0.601, which means that the value was greater than 0.10 as the minimum acceptable limit. Meanwhile, the Variance Inflation Factor (VIF) value for variables X_1 and X_2 is 1.663 respectively, which is still below 10 as the maximum permissible limit.

Heteroscedasticity Test

Based on the results of the heteroscedasticity test using the Glejser test, the Training variable (X_1) has a significance value of 0.366 (> 0.05), which indicates that the X_1 variable does not have heteroscedasticity. Meanwhile, the Career Development variable

(X2) has a significance value of 0.079 (> 0.05), so it can be concluded that the X2 variable also does not have heteroscedasticity.

Multiple Linear Regression Analysis

Multiple linear regression analysis produces the equation of $Y = 14.980 + 0.229X_1 + 0.206X_2$, with a constant value of 14.980 indicating the value of the Y variable when training and career development were zero, suggesting that there are other factors outside the model that affect the dependent variable. The training variable (X1) had a regression coefficient of 0.229 with a t-value of 2.421 and a significance level of 0.019, showing a positive and significant effect on Y. Each increase of one unit in training increased Y by 0.229 units, with a 34.4% contribution to the change in Y based on a Beta value of 0.344. The career development variable (X2) had a regression coefficient of 0.206 with a t-value of 1.718 and a significance level of 0.091. It showed a positive but insignificant effect at a 95% confidence level. Each unit of improvement in career development increases Y by 0.206 units, with a 24.4% contribution to the change in Y based on a Beta value of 0.244, which is lower than the training contribution.

Coefficient of Determination (R^2)

The results of multiple linear regression analysis showed that the research model had an R value of 0.533, which showed a fairly strong relationship between independent variables (X2 and X1) and dependent variables (Y). The R Square value obtained is 0.284, while the Adjusted R Square value is 0.260. This shows that the ability of independent variables to explain the variation of dependent variables is 28.4% or, after adjustment, 26.0%. Thus, a determination coefficient (R^2) of 0.284 or 28.4% indicates that variables X2 and X1 together are able to explain 28.4% of the variation of variable Y, while the remaining 71.6% are explained by other factors not included in this study model. The Adjusted R-Square value of 0.260 or 26.0% provides a more conservative estimate and has taken into account the number of independent variables in the model. An Estimate Standard Error of 1.652 indicates the model's predictive accuracy rate, where the smaller the value, the better the model is at estimating the dependent variable.

Significance Test of Regression Coefficients (T-test)

The Effect of Training (X1) on Work Productivity (Y): The results of the partial test showed that the training variable (X1) had a regression coefficient value of 0.332 with a t-value of 4.448 and a significance level of 0.000 ($p < 0.05$). The standard beta coefficient value of 0.498 indicates that training contributes 49.8% to work productivity. Since the significance value is less than 0.05, it can be concluded that training has a positive and significant effect on employee work productivity. This shows that the better the training program provided to employees, the higher their work productivity.

The Effect of Career Development (X2) on Work Productivity (Y): The career development variable (X2) showed a regression coefficient value of 0.390 with a t-value of 4.026 and a significance level of 0.000 ($p < 0.05$). A standard beta coefficient value of 0.461 indicates that career development contributes 46.1% to work productivity. With a significance value of less than 0.05, it can be concluded that career development has a positive and significant effect on employee work productivity. These findings show that when organizations provide clear and structured career development opportunities, employees' work productivity will increase significantly. The results of the T-test for the training and career development variable can be seen in the table below:

Table 1. t-Test Results for Training Variable (X_1) Career Development Variable (X_2)

Model	<i>B</i>	Std. Error	Beta	<i>t</i>	Sig.
(Constant)	16.616	1.760		9.441	0.000
X_1 (Training)	0.332	0.075	0.498	4.448	0.000
(Constant)	16.753	1.909		8.777	0.000
X_2 (Career Dev.)	0.390	0.097	0.461	4.026	0.000

Source: Primary Data Processed (2025).

The variable that has the highest standard beta coefficient is Training (X_1) of 0.498, indicating that training is the most important or most powerful factor affecting nurses' work productivity partially.

Simultaneous Hypothesis Test (F-Test)

Based on the ANOVA table presented, the calculated F value is 11.691 with a significance level of 0.000 ($p < 0.05$). These results show that, together, the variables of training (X_1) and career development (X_2) have a significant influence on work productivity (Y). A significance value below 0.05 indicates that the regression model used in this study is valid and fit to predict employee work productivity. Therefore, the hypothesis that training and career development together affect work productivity is acceptable. The following are the results of the F test as shown in the table below:

Table 2. F-Test Results (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
1. Regression	63.778	2	31.889	11.691	0.000 ^b
Residual	160.932	59	2.728		
Total	224.710	61			

Source: Primary Data Processed (2025).

Simultaneously, Training and Career Development has a significant influence on Work Productivity, as evidenced by an F-count value of 11.691 and a significance of 0.000. A determination coefficient (R^2) of 28.4% indicated that 28.4% of the variation in nurse Work Productivity was explained by these two variables, while the remaining 71.6% was explained by factors other than the study model.

Discussion

Based on the analysis of the partial t-test, the training (X_1) was proven to have a positive and significant impact on the performance of nurses at Rama Hadi Hospital, thus accepting the first hypothesis. Statistical data showed a regression coefficient of 0.332 with a t-value of 4.448 and a significance of 0.000 ($p < 0.05$), and a standard beta of 0.498, which showed a contribution of 49.8% of the training. These findings are in line with the Human Resource Theory put forward by DeSimone & Werner (2020:150) which considers training as a major form of investment that increases economic value and individual productivity, as well as supporting the results of previous research. This positive impact can be explained by the fact that training is able to develop technical skills, increase confidence, update evidence-based knowledge, and encourage the application of more efficient working methods among nurses. However, the study also found gaps between the implementation of the training and its implementation in the field, highlighting the importance of other supporting elements such as nurse motivation,

supervisory guidance, and a post-training evaluation system to ensure maximum training effectiveness.

The results of the partial testing showed that career development had a positive and significant impact on the work productivity of nurses, as shown by a regression coefficient of 0.390, a t-value of 4.026, a significance level of 0.000, and a contribution of 46.1%. This strengthens the second hypothesis and is in line with *the Career Development* theory developed by Super (1980) which emphasizes that careers develop through planned stages, and organizations need to provide facilities to support that transition. The results of this study are consistent with the findings of a global study conducted by Abdelaziz Hendy et al. (2024) in an international context, which found that hands-on training for nurses significantly improved their practical skills and knowledge, with the competency level increasing from 83.8% incompetent to 81.3% competent after the intervention. However, our study showed a higher contribution of training (49.8%) compared to other studies in Indonesia such as Sudrajat & Framesthi (2024) which found a coefficient of 0.756 for training in Bandung hospitals. These differences may be due to differences in measurement methodology, organizational context, and respondent characteristics. Research conducted by Kristianto et al. (2023) found that career development has a positive and significant effect on employee work productivity. At Rama Hadi Hospital, this contributes to increasing commitment, motivation, reducing work turnover, and increasing job satisfaction among nurses. It seems to include all the essential elements. The results of the partial test (T-test) showed that the career progression variable (X_2) had a regression coefficient of 0.390, a t-value of 4.026, and a significance level of 0.000 ($p < 0.05$), with a standard beta coefficient of 0.461, indicating a contribution of 46.1% to the work productivity of nurses.

Thus, the second hypothesis which states that career development has a significant influence on the productivity of nurses at Rama Hadi Hospital, Purwakarta Regency, is acceptable. These findings are in line with Super's Career Development Theory (1980), as well as the definition of career development according to Noe (2020:145) and Aris (2022:78), which highlight the importance of career planning and job skill improvement. This positive impact can be explained through mechanisms such as clarity about career paths that increase intrinsic motivation, fair promotion systems that create a perception of fairness within the organization, development opportunities that are in line with expectations theory, and organizational support that strengthens psychological bonds, such as perceived organizational support. These findings are in line with research by Kristianto et al. (2023), Kosali (2023), and Safitri & Sudrartono (2024), which showed the positive influence of career development on employee productivity, performance, and loyalty. In the context of Rama Hadi Hospital, this influence is evident through increased organizational commitment, work motivation, decreased turnover rates, and job satisfaction, which in turn motivates nurses to improve the quality of their services.

Simultaneously, training (X_1) and career development (X_2) were found to have a significant impact on the work productivity of nurses at Rama Hadi Hospital. This is shown by the results of the F test (11.691) which shows a significance level of 0.000, which indicates that the regression model used is valid. The determination coefficient (R^2) recorded at 0.284 (28.4%) shows the contribution of both variables in explaining changes in productivity, while the remaining 71.6% is influenced by other elements such as motivation, workplace conditions, and compensation which underscores the importance

of a holistic approach. The regression equation obtained, $Y = 14.980 + 0.229X_1 + 0.206X_2$, showed a synergistic effect because the combination of these two variables was more efficient: training helped improve skills, while career development provided direction and encouragement. However, there is a gap in implementation caused by a lack of enthusiasm among nurses, so the effectiveness of the program is highly dependent on supporting factors such as supervision, monitoring, and incentive and sanction systems. In terms of relative contribution, training (49.8%) was slightly more influential due to its direct effect on technical skills, but these two interventions complement each other and need to be integrated to achieve maximum results.

4. Conclusion

Based on the results of research and analysis on the impact of training (X_1) and career development (X_2) on the work productivity of nurses (Y) at Rama Hadi Hospital, Purwakarta Regency, it can be concluded that individually, training (X_1) has a positive and significant impact on the work productivity of nurses. As is the case with career development (X_2), which also shows a positive and significant impact on nurse productivity. When viewed collectively, training and career development have been shown to have a significant influence on nurse productivity, but these two independent variables can only explain 28.4% of nurse productivity variation (R-Square), which suggests that most of the variation in work efficiency, namely 71.6%, is influenced by factors outside the model, such as internal factors (work motivation, attitude, health) and external factors (work environment conditions, management systems, technology, and compensation).

It is recommended that Rama Hadi General Hospital, which is located in Purwakarta Regency, continue its training and career development program by connecting it more closely, equipped with a more comprehensive support system (such as supervision, assessment, post-training control, as well as an incentive and sanction system), as well as making significant improvements to other internal and external elements that contribute 71.6% to nurse efficiency. On the other hand, recommendations for future researchers are to examine other factors, such as work motivation, work environment, or compensation, and apply mediation or moderation variables to get a broader picture of their impact.

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