



## The Application of Regression Model on Human Resource Data to Improve Workforce Productivity at STIE Wikara

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### ABSTRACT

*The application of regression models in human resource data analysis has become a vital approach in increasing labor productivity in various educational institutions, including at the Wikara College of Economics (STIE). The aim of this research is to test whether human resource management influences workforce productivity at STIE Wikara. This research is quantitative research. This research was conducted at STIE Wikara Purwakarta. The population of this research is all 54 employees of STIE Wikara Purwakarta who are also the samples in this research. The results obtained indicate that human resource management influences work productivity. However, further research is still needed by adding other variables to strengthen this study, as well as by focusing on different objects and subjects compared to this research.*

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### ABSTRACT

Penerapan model regresi dalam analisis data sumber daya manusia menjadi pendekatan yang vital dalam meningkatkan produktivitas tenaga kerja di berbagai institusi pendidikan, termasuk di Sekolah Tinggi Ilmu Ekonomi Wikara (STIE). Tujuan penelitian ini adalah untuk menguji apakah manajemen sumber daya manusia berpengaruh terhadap produktivitas tenaga kerja di STIE Wikara. Penelitian ini merupakan penelitian kuantitatif. Penelitian ini dilakukan di STIE Wikara Purwakarta. Populasi penelitian ini adalah seluruh pegawai STIE Wikara Purwakarta yang berjumlah 54 orang yang juga menjadi sampel dalam penelitian ini. Hasil yang diperoleh menunjukkan bahwa manajemen sumber daya manusia berpengaruh terhadap produktivitas kerja. Namun demikian, masih diperlukan penelitian lebih lanjut dengan menambahkan variabel lain untuk memperkuat penelitian ini, serta dengan memfokuskan objek dan subjek yang berbeda dibandingkan dengan penelitian ini.

### INTRODUCTION

The application of regression models in human resource data analysis has become a vital approach in increasing labor productivity in various educational institutions, including at the Wikara College of Economics (STIE) (Septian, 2023). STIE Wikara, as a higher education institution that aims to create a quality workforce, has adopted this approach as part of its strategy to

understand and improve the performance and productivity of the workforce within its campus environment. The application of regression models allows the collection and analysis of structured data on various variables that influence productivity, such as demographic factors, education and work experience (Oleh & Amarsyah, t.t.).

In the context of STIE Wikara, applying

regression models to human resources data provides an in-depth view of what factors influence workforce productivity in the academic environment. This analysis helps identify behavioral patterns and trends related to the performance of students, lecturers and administrative staff. In this way, institutions can take appropriate actions to improve the quality of education and effective management of human resources (Asriningtyas & Kusumayadi, t.t.).

Through the application of regression models, STIE Wikara can optimize the use of human resources by understanding the relationship between various variables and labor productivity. Steps taken based on this analysis may include developing appropriate training programs, adjusting recruitment policies, or improving performance management processes (Putra & Sobandi, 2019). Thus, the application of the regression model is not only an analytical tool, but also a strategic foundation for STIE Wikara in achieving educational goals and improving the quality of human resources produced (Hafid dkk., 2018).

One of the research problems that is the focus in applying the regression model to human resource data at STIE Wikara is the identification of factors that have a significant influence on labor productivity. Given the various variables that influence workforce performance in the academic environment, such as personal characteristics, educational background, and work environment factors, this research aims to identify the factors that play the most role in determining productivity levels (Usman, t.t.). Thus, this research will help in developing more targeted and effective strategies to improve workforce performance at STIE Wikara.

Apart from that, another research problem is understanding the dynamics of the relationship between existing variables, especially in the context of a higher education environment. The relationship between variables such as motivation, learning quality, and job satisfaction can be very complex and influence each other (Piura & Purnamasari, 2024). Therefore, this research will also focus on analyzing the interactions between these variables to gain a deeper understanding of how these factors are interconnected and how they influence workforce productivity at STIE Wikara. With a better

understanding of these dynamics, institutions can take more appropriate steps in improving the effectiveness of human resource management and achieving desired educational goals (Annisa & Riadi, t.t.). The aim of this research is to test whether human resource management influences workforce productivity at STIE Wikara.

## LITERATURE REVIEW

### Human Resource Management

Human resource management (HRM) is a strategic approach to managing workforce in an organization, which includes planning, managing and developing individuals to achieve organizational goals. HRM aims to optimize the contribution of human resources to organizational success by paying attention to employee needs, motivation and development. This involves the processes of recruitment, selection, training, performance evaluation, and payroll, as well as managing the relationship between management and employees (Maldini dkk., t.t.).

The relationship between human resource management and productivity is very close. Effective HRM practices can increase workforce productivity in several ways (Pabalik dkk., 2019). First, with proper recruitment and selection, organizations can ensure that they have employees who are qualified and suited to the tasks at hand, which can improve efficiency and overall performance. Second, through training and development, HRM can improve employees' skills and knowledge, enabling them to work more effectively and innovatively. Additionally, good performance management, including regular performance measurement and feedback, can motivate employees to achieve higher levels of productivity. Thus, HRM becomes an important foundation in increasing workforce productivity and achieving overall organizational goals (NurRahmawati dkk., 2014).

### Productivity

Productivity refers to the ratio of output produced by a system or process to the input used. In the labor context, productivity reflects the efficiency and effectiveness of the efforts made by employees in achieving organizational goals (Diana, t.t.). It can be measured by various methods, including output per hour worked, added value generated, or the number of products

or services produced in a certain time period. Productivity also includes aspects of quality, not only quantity, of the output produced (Rusminingsih, t.t.).

Linking the concept of productivity to STIE Wikara, workforce productivity in educational institutions reflects how effective and efficient the learning, teaching and administration processes are carried out by the faculty and staff (Baiti & Kustiyah, 2020). In the context of higher education, productivity is not only limited to output such as the number of graduates or the quality of research produced, but also includes the quality of the educational experience provided to students. By increasing workforce productivity, STIE Wikara can improve the quality of education provided to students, produce higher quality graduates, and make a greater contribution to human resource development and economic growth in society (Amalya dkk., 2021).

Hypothesis: Human Resource Management influences productivity

## METODOLOGY

This research is quantitative research. According to Sugiyono (2009:14) explains that quantitative research is a research method based on the philosophy of positivism, which is used to research certain populations or samples, which are generally sampled randomly, and data is collected using research instruments, then analyzed quantitatively. or statistically with the aim of testing a predetermined hypothesis. This research was conducted at STIE Wikara Purwakarta. The population of this research is all 54 employees of STIE Wikara Purwakarta who are also the samples in this research.

## DISCUSSION AND DISCUSSION

### RESULTS

#### Validity test

By using analysis of the relationship between ratings on questions and the summation results related to the variables in question, Pearson's product moment approach is verified for its accuracy. Checking whether the score of each item is positively correlated or not with the total score and whether the relationship is greater or not than the relationship between variables is one

way researchers determine whether an instrument is reliable or not. The significance level (df) of research can be calculated using a formula. The r table shows a value of 0.2262 at a significance level of 5% (df = 54-2 = 52). (One Tailed). The tabulated findings of the validity study are as follows:

Table 1. Correlation of Validity Testing

Variabl/Item	r value	R Tabel (Two Tale)	Valid / No
<b>Human Resource Management</b>			
X1	0,554	0,2262	Valid
X2	0,656	0,2262	Valid
X3	0,454	0,2262	Valid
X4	0,451	0,2262	Valid
X5	0,552	0,2262	Valid
<b>Productivity</b>			
Y1	0,733	0,2262	Valid
Y2	0,522	0,2262	Valid
Y3	0,542	0,2262	Valid
Y4	0,567	0,2262	Valid
Y5	0,731	0,2262	Valid

Source: Processed data, 2024

The test results above show that all question indications are accurate, allowing the evaluation to progress to the next stage.

#### Reliability Test

To test the reliability of our hypotheses and our ability to control for our variables of investigation, we ran a consistency analysis. We argue that an underlying variable is consistent if there is a large amount of data that consistently answers the same query over time. In statistics, the reliability of an idea or research variable is quantified by a statistic called Cronbach's alpha (a). We can confidently declare the dependent variable if the Cronbach alpha is greater than 0.60 (Ticoulu, 2021). The results of the SPSS reliability analysis are listed below.

Table 2. Reliability of Questionnaire Testing

Variable	Value Cronbach's Alpha	Information
X1	0,888	Reliable
X2	0,891	Reliable
X3	0,889	Reliable
X4	0,910	Reliable
X5	0,982	Reliable

Y1	0,881	Reliable
Y2	0,882	Reliable
Y3	0,772	Reliable
Y4	0,871	Reliable
Y5	0,832	Reliable

Source: Processed data, 2024

Because their Cronbach's Alpha is over 0.600, modern investigations are reliable, according to the available evidence.

### Normality test

According to Yoshida (2010), analyzing data uses the K-S test, also known as the Kolmogorov-Smirnov test. If the K-S test statistical value is more than 0.05 (>0.05), then the distribution of the residual data in the analysis has been normalized.

Table 3. Normality Test Results

Informatiaon	Unstandardized Residual
N	54
Kolmogorov-Smirnov Z	1,21
Asymp. Sig. (2-tailed)	0,089

Source: Processed data, 2024

Ho is accepted because the two-sided significance value is greater than 0.05 as seen in the previous table (0.089).

### Multicollinearity Test

If the data does not produce a predictor variable with a value greater than 0.5, then the data does not experience multicollinearity. From the VIF value which is smaller than 10 and the tolerance value which is close to 1, it can be concluded that there is no multicollinearity in multiple linear regression (Setyanugraha, 2020). The cointegration test findings are presented in the table which can be found below:

Variable	Collinearity Statistics	
	Tolerance	VIF
Productivity	0,154	3,641

Source: Processed data, 2024

### Heteroscedasticity Test

Heteroscedasticity testing is used to determine the inequality of residual variance between data in the same regression model (Setyanugraha, 2020). The results of using the Glacier method to detect heteroscedasticity events are shown in the table below.

Table 5. Heteroscedasticity Test Results

Variable	Coefficients	
	T.	Sig.
Constanta	0,423	0,562
Productivity	0,651	0,653

Source: Processed data, 2024

As can be seen in the table above, if the significance level is greater than 0.05, heteroscedasticity does not occur.

### Multiple Regression Test

The SPSS calculated regression model for the impact of company profitability and financial leverage on financial performance is given in the same table below. The table can be seen further down the page.

Table 6. Multiple Linear Regression

Variable	Coefficients		
	B.	T.	Significany
Constanta	0,412	0,671	0,761
Productivity	0,351	4,821	0,000

Source: Processed data, 2024

The processed multiple regression results are in Table 6:

$$Y. = 0.412 + 0.351 X1 + e$$

## DISCUSSION

### The Influence of Human Resource Management on Productivity

From the calculations above, it can be explained that human resource management influences productivity. This can be seen from the significant value of 0.000 which is smaller than the alpha value of 0.05.

Discussion regarding the influence of human resource management on workforce productivity at STIE Wikara is a crucial aspect in understanding organizational performance dynamics. In this context, effective human resource management practices become

determinant factors in enhancing workforce productivity. One key aspect of human resource management is recruitment and selection. By conducting careful and selective recruitment, STIE Wikara can ensure that recruited employees have competencies and motivations that align with job demands in the academic environment. This enables employees to contribute maximally towards organizational goals.

Moreover, employee development is also a vital component in human resource management that impacts productivity. STIE Wikara can adopt sustainable training and development programs to enhance employees' skills and knowledge in academic and managerial fields. By enhancing employee competencies, both in teaching, research, and administration, STIE Wikara can improve efficiency and effectiveness in educational processes and campus management overall. Furthermore, good performance management practices, including periodic performance evaluations and constructive feedback, can also motivate employees to achieve higher levels of productivity.

Thus, it can be concluded that effective human resource management has a significant impact on workforce productivity at STIE Wikara. By adopting best practices in human resource management, STIE Wikara can create a supportive work environment that fosters, motivates, and develops employees' potential, thereby enhancing individual and organizational performance overall.

## CONCLUSION

This research aimed to analyze the impact of human resource management on work productivity at STIE Wikara. The results obtained indicate that human resource management influences work productivity. However, further research is still needed by adding other variables to strengthen this study, as well as by focusing on different objects and subjects compared to this research.

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