



# Does Human Capital Have an Effect on Workers' Income?

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**Abstract.** Quality capabilities and skills as human capital possessed by workers are indispensable in improving performance, human development is needed to be able to improve quality which ultimately affects the increase in the income of these workers. This study was conducted to determine whether human capital can affect the level of income of workers. From the results of the study, it was found that participation in training had a significant effect on increasing workers' income, employment status still had a significant effect on the income received, education level also affected workers' income levels, and work experience also positively affected income levels, but age had a negative effect on income levels. From the results of this study, it can be recommended to improve the quality of human capital in order to increase the income of workers, in this case the provision of various kinds of professional training, providing educational services to a higher level. With the skills improvement training provided, it is hoped that workers will have the competencies needed in the work environment.

**Keywords:** Human Capital · Income · Workers

## 1 Introduction

Human capital theory states that the learning process, values and skills that are useful in humans can increase their learning abilities and effectiveness. All this enables their future income by increasing their lifetime income. The learning process, as an investment model, is different from consumption, which provides immediate satisfaction or profit, but does not generate future income. Human capital includes all processes that can generate higher levels of knowledge and produce entrepreneurs who are competitive and better able to manage their businesses. Therefore, human development must be carried out in such a way that human quality can be improved for the sake of economic development, especially by improving the quality of industrial human resources. The main indicators of the analysis of the level of human resources in the region are education and health. In the opinion of [1] education and health indicators are important because they can explain not only an increase in economic activity, but also an increase in the quality of development.

In its development, the concept of human capital can be described as innate or innate and accumulated abilities or competencies that accumulate over time. Productive

working age in the form of capital or other inputs to achieve economic resilience. Another more precise definition states that the concept of human capital is essentially education or intellectual competence and work experience. The term human capital is broadly defined as the accumulation of education, including working age knowledge and skills, which is accumulated through formal education, training, and experience [2]. As stated by [3] human capital is a very important factor in determining the productivity of an economy. It is believed that two economies with the same amount of labor, physical capital, natural resources, and technology will produce different results if the quality of human resources is different.

The return on investment in human capital through education is based on two inter-related channels: an increase in labor income and an increase in business productivity [4]. There are 2 streams of literature on human capital. The first is an assessment of human capital investment in terms of internal rates of return and the second is in terms of lifetime earnings. There is a trade-off between generating additional human capital and leasing the existing stock of human capital to the labor market. As maintained by [5] countries with good human resources accompanied by accelerated technological progress are expected to have a higher economic growth rate than countries with limited human resources and lagging technological progress. Therefore, it is very important for the country to continue to strive for the growth of human resources and the development of technological progress.

Income is a type of indicator used to understand or improve people's welfare. Work experience affects workers' income, the length of time working in the same or similar job leads to more knowledge and skills to do their job. The decline in productivity among older workers was more pronounced in jobs that required learning and speed, while in jobs where experience and verbal skills were important. Work experience increases productivity for several years, but there comes a time when further experience is no longer relevant. The decline in productivity among older workers was more pronounced in jobs that required learning and speed, while in jobs where experience and verbal skills were important. The relationship between education and productivity can be reflected in income. Higher education leads to higher productivity and also allows higher income, which indicates earned income.

Education is closely related to labor market analysis. Theoretically it can be concluded that the distribution of wages is related to the educational characteristics of workers. So that higher education also brings a lot of income. Higher education has an indirect influence on individual job search decisions. Therefore, high-paying jobs are usually filled by skilled workers. You need to learn to increase your income. People with higher education tend to work in the formal sector, while those with lower education tend to work in the informal sector. A person with high or low education can enter the informal sector because the informal sector does not require certain educational requirements [6].

According to Becker, spending on education and health is an investment, and like investing in buildings and land, it will generate future returns. Spending on education, training and health improves people's health and knowledge and increases future productivity and income. This study is designed to see how the influence of human capital will affect the level of income of the workers, the variables to be tested are limited to training participation, age, employment status, education and work experience.

## 2 Method

A quantitative approach is used in this study to determine how the effect of participation in training of workers, age, employment status, education and work experience on workers' income. Data was obtained through questionnaires distributed online and more than 550 respondents were obtained, but in this study only data from 450 respondents was used because the authors limit respondents who already have at least 3 months of work experience. The characteristics of the respondents' workplaces consist of private employees and civil servants with an age range of 18 to 38 years. The analysis used is multiple linear analysis which is an analytical tool used to determine the effect of the independent variable on the dependent variable and the general model of multiple linear regression is:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon \quad (1)$$

The models used in this study are:

$$I = \beta_0 + \beta_1T + \beta_2A + \beta_3J + \beta_4E + \beta_5WE \quad (2)$$

where:

I	: <i>Income</i>
$\beta_0$	: <i>Constant</i>
$\beta_1 - \beta_5$	: <i>Coefficient</i>
T	: <i>Training Participation</i>
A	: <i>Ages</i>
J	: <i>Job Status</i>
E	: <i>Education</i>
WE	: <i>Working Experiences</i>

Workers' income is the nominal amount of salary or wages received by workers on a monthly basis, training participation is whether the training attended by workers is related to the description and tasks that workers currently undertake. Then the employment status is whether the job currently held is a permanent job or not, while education is divided into a high school diploma and below high school diploma. And for work experience is divided into experience under 1 year and above 1 year.

## 3 Result and Discussion

### 3.1 Respondent Achievement

From the results of data processing carried out by the author, it was found that all the variables used in this study met the expected criteria, explained by the respondent's level of achievement for variables Y (82.1%), X1 (83.0%), X2 (81.9%), X3 (85.5%), X4 (84.8%) and X5 (80.6%). Furthermore, the characteristics of the respondents in this study can be seen in Table 1. Respondents in this study were 450 people consisting of 266 men and 184 women, of which 43.11% were 15–25 years old. In terms of work status,

**Table 1.** Characteristics of Respondents

Demographics	Freq.	Percentage
<i>Gender</i>		
Man	266	59.12%
Woman	184	40.88%
<i>Ages</i>		
15–25 y.o	194	43.11%
26–35 y.o	177	39.33%
36–45 y.o	79	17.56%
<i>Job Status</i>		
Permanent	301	66.88%
Non Permanent	149	33.12%
<i>Working Experience</i>		
<1 year	233	51.77%
>1 year	217	48.23%
<i>Income</i>		
<3 Million Rupiah	168	37.33%
>3 Million Rupiah	282	62.67%
<i>Education</i>		
<Diploma	91	20.23%
>Diploma	359	79.77%

Source: Data Processed 2022

301 of them have a permanent job and the remaining 33.12% have a non -permanent job. In terms of work experience, which has more than 1 year experience is 48.23%, and 37.33% of them have income below 3 million rupiah. Furthermore, those who have education above high school are 79.77% and the remaining 20.23% only completed until high school.

### 3.2 Regression Analysis

In Table 2 shows the results of the research regression, which will then explain the effect of independent variables on the dependent variable, in this case the influence of training participation, age, employment status, education and work experience owned by workers on income received by workers.

From the results of the regression it can be read that the independent variable can explain the dependent variable, the coefficient of determination of 0.7833003 means that the training variable, age, employment status, education and work practice can explain its effect on the level of worker's income of 78.33%, the remaining 21.67% is explained by the variable not against In this research model. Or in other sense explains

**Table 2.** Model Estimation Results

Var	Coeff.	Std. Error	t-Statistic	Sig.
C	0.402521	0.082633	4.871179	0.0000
X1	0.227543	0.049141	4.630372	0.0000
X2	-0.182565	0.053597	-3.406278	0.0007
X3	0.116815	0.054647	2.137616	0.0333
X4	0.164533	0.048274	3.408324	0.0007
X5	0.162272	0.049634	3.269379	0.0012

R<sup>2</sup>: 0.783303

Prob (F-Statistic): 0.000000

Source: Data Processed 2022

that 68.33% of the level of worker's income is influenced by his participation in training, age, employment status, education and work experience. Furthermore, the simultaneous test shows a value of 0.00000 which means that all independent variables in this study affect the dependent variable in this case the level of worker's income with a degree of freedom of 5%.

Based on the results of the regression estimation, the equation model can be written as follows:

$$Y = 0.402 + 0.227X1 - 0.182X2 + 0.116X3 + 0.164X4 + 0.162X5 \quad (3)$$

### Training

The results of data processing for training participation variables are found to have a positive relationship and have a significant effect on the level of workers' income. It can be explained that every training that is followed and has a connection with work responsibilities will provide an addition to the level of worker's income. The results in research by [7] showed that the ability to directly affect the income of listeners increased by 87%. From the results of the study, it can be seen that the skills of the trainees that have been completed greatly affect the income of the participants, because the field of work of the trainees is a profession that requires good technical knowledge to be taught. As stated by [8] the ability of employees to perform tasks, especially in understanding what needs to be done and how to do it, varies greatly. The level of education does not guarantee that an employee will be able to do a good job. Therefore, it is necessary to improve the skills of employees quickly and directed. Coaching is one way to improve employee skills, both leadership training and technical training. With the right training, of course, it will open insight and improve employee skills so that they can improve their performance.

### Age

The age variable in the results of data processing is found to have a negative relationship with the level of worker's income, this explains that the age of a person is getting

unproductive and decreases the performance that causes a decrease in income. And this age variable has a significant effect on the level of workers' income. Increasing a person's age affects the amount of income that can be obtained. As a person matures, his skills in several areas generally increase, his physical strength also increases, and therefore his income increases. But if old age reduces the productivity of labor too much, the older a person is, the lower the productivity of labor. This shows that age plays an important role in informal work, which is highly dependent on physical ability and is strongly influenced by the age variable. In a way that is based on [9] the relationship between the level of education, age and work experience on the family income of women workers allows us to draw some conclusions about the factors related to the income of women workers in the purse trade, namely the level of education and work experience. Education level and work experience were significantly correlated, while age was not significantly correlated. On the report of [10] a person's income can be influenced by age, education, working capital and time. Age affects income. If we look at the living conditions of the workers, the difference in the living conditions of the young and the old shows that with age, the ability to work to provide for family life decreases.

### **Job Status**

The job status variable has a positive relationship with the level of workers' income, in this meaning that employment status can increase income, this variable also has a significant effect on worker income. This can be explained that the employment and permanent work, companies and places of work are willing to provide income to increase their workers. On the report of [11] employment status has a positive and significant effect on the income of workers in the city of Padang with a significance level of 5%. This shows that workers who work in the formal sector have the opportunity to earn greater income than workers who work in the informal sector. And also research by [12] Education, working hours and the number of household members have a positive and significant effect on the income of single mothers in Denpasar. Employment status has a positive and significant effect on the income of single mothers in Denpasar.

### **Education**

Education as an independent variable through partial tests shows a positive and significant relationship on the level of income earned by the worker. This shows that the higher a person's education the higher the income he receives. Education can increase knowledge and skills, which in turn increase productivity and economic growth. It can be said that human capital is one of the factors that can contribute to increasing labor productivity and the resulting output for economic development. Conversely, when the quality of the workforce is poor, the affected workforce becomes inefficient and ineffective in producing products. Many economists say that the development of human resources (education) at all levels is an important part in encouraging the development process, both at the national and regional levels. It is a fact that human capital (education) can support the growth of the skills of the workforce, which in turn increases the productivity of the workforce. Therefore, developments in the field of education can contribute to innovative processes and improvements in production technology, which in turn can contribute to increasing the efficiency of enterprises. As claimed by [13] the effect of education level on individual income level. Employees with lower levels of education

earn less than employees with higher education. This can be seen when workers with a minimum education level of high school have a higher risk or opportunity to earn less than IDR 400,000 compared to workers with a minimum education level of high school. The same is true for workers with higher education.

### **Working Experience**

Furthermore, work experience through partial tests also shows a positive and significant relationship on the level of community income. This explains, workers who have work experience will be easily placed in a position that demands skills and experiences that in the end will affect the increase in income they receive. As believed by [14] off-hours time is the time employees use for useful activities other than homework time. Women working in poor families seek to increase their wealth by increasing the division of labor. Longer working hours affect productivity and are expected to increase income to create wealth.

## **4 Conclusion**

From this study, information was obtained that there was the influence of human capital that was owned such as the skills of the skills obtained in the training followed, the age of workers, the current job status, the education that had been taken by the worker and the work experience owned by the level of income. Workers who have good human capital are expected to have good opportunities in the world of their work, workers who can work by applying the skills they have coupled with the training that are followed, this further increases their competency power and ultimately raises the level of income. And on the other hand, the increasing age makes productivity decreases that have an impact on the permanent or decrease in the level of income they have achieved. Furthermore, having a permanent job is the desire of all workers, with the fixed work status making workers give all their power for the development of workplaces, advancing and provide benefits for the company, which of course companies can provide incentives in the form of rising income for them. Speaking of education that has been taken, the level of education also has a very significant influence on the income that will be obtained when working. This shows that education is an important point not only as a condition for applying for a job but also for the responsibilities that will be undertaken during work. The higher a person's education will increase his income. Work experience owned by workers has its own advantages for them, the work experience owned by more than 1 year will bring progress to increased income. Some companies recruit workers with work experience in the hope that they can be given more responsibility for their work and of course with incentives in this case more income.

The recommendation that can be given is that the government can provide debriefing to prospective workers in the form of training that can increase and support the abilities of prospective workers, this is in line with previous research which states that one of the human capital that must be possessed by every worker is soft skills obtained from several trainings. The next thing that can help workers to get an appropriate income is the education that has been taken, from this study it was found that the education of workers who have a college diploma has a higher income than those who have a high

school diploma. Regarding work experience, workers who have recommendations from previous companies and who have worked for a long time so have valuable experience as one of the profitable aspects to be able to increase their income. Suggestions that can be given for further research related to human capital and workers' income levels are to use other independent variables that are not included in this study.

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## References

1. ANWAR, "Ketimpangan Spasial Pembangunan Ekonomi Dan Modal Manusia Di Pulau Jawa: Pendekatan Exploratory Spatial Data Analysis," *Ajie*, vol. 2, no. 2, pp. 90–109, 2017, doi: <https://doi.org/10.20885/ajie.vol2.iss2.art2>.
2. M. F. Wajdi, L. Mangifera, M. Wahyuddin, and M. Isa, "Peranan Aspek-Aspek Modal Manusia Pengusaha terhadap Kinerja Bisnis UKM," *J. Ekon. Manaj. Sumber Daya*, vol. 20, no. 2, pp. 104–111, 2018, [Online]. Available: <https://journals.ums.ac.id/index.php/dayasaing/article/view/7388>.
3. Farah and E. P. Sari, "Modal Manusia dan Produktivitas," *Jejak*, vol. 7, no. 1, pp. 22–28, 2014, doi: <https://doi.org/10.15294/jejak.v7i1.3840>.
4. E. Adriani, "Pengukuran Modal Manusia (Suatu Studi Literatur)," *J-MAS (Jurnal Manaj. dan Sains)*, vol. 4, no. 1, p. 176, 2019, doi: <https://doi.org/10.33087/jmas.v4i1.86>.
5. Suhendra, "Determinan Modal Manusia Di Indonesia : Menggunakan Estimasi Panel Pendahuluan," *J. Ris. Bisnis dan Manaj. Tirtayasa*, vol. 4, no. 2, pp. 162–177, 2020.
6. L. G. Meydianawathi, "Kajian Aktivitas Ekonomi Buruh Angkut Perempuan Di Pasar Badung," *Fak. Ekon. Univ. Udayana*, vol. 7, no. 1, pp. 1–21, 2011.
7. S. Prayetno and H. Permadi, "PELATIHAN LIFE SKILL DAN MOTIVASI TERHADAP KEMAMPUAN PESERTA PLSP DAN IMPLIKASINYA DALAM PENINGKATAN PENDAPATAN DI KABUPATEN BANDUNG," <http://ejournal.binawakya.or.id/index.php/MBI>, vol. 14, no. 11, pp. 3545–3554, 2020.
8. G. Desanti and Ariusni, "PENGARUH MOTIVASI, PELATIHAN DAN FASILITAS KERJA TERHADAP KINERJA PEGAWAI DINAS PENDAPATAN DAERAH PROVINSI SULAWESI TENGAH Sri Wahyuni," *e-Jurnal Katalogis*, vol. 2, no. 1, pp. 124–134, 2014.
9. N. F. Rochmawati, W. H. Riyanto, and I. Nuraini, "Hubungan Tingkat Pendidikan, Usia, Dan Pengalaman Kerja Terhadap Pendapatan Pekerja Wanita Pada Industri Kerajinan Dompot Ida Collection Di Desa Pulo Kecamatan Tempeh Kabupaten Lumajang," *J. Ilmu Ekon.*, vol. 2, pp. 399–408, 2018.
10. D. Amnesi, "Analisis Faktor-faktor yang Berpengaruh terhadap Pendapatan Wanita pada Keluarga Miskin di Kelurahan Kapal Kecamatan Mengwi Kabupaten Badung," *E-Jurnal Ekon. Dan Bisnis Univ. Udayana*, vol. 2, no. 1, pp. 1–21, 2013, [Online]. Available: <https://ojs.unud.ac.id/index.php/EEB/article/view/4401/3378>.
11. P. Umur, J. Kelamin, J. Kerja, and S. P. Dan, "Pengaruh Umur, Jenis Kelamin, Jam Kerja, Status Pekerjaan Dan Pendidikan Terhadap Pendapatan Tenaga Kerja Di Kota Padang," *J. Kaji. Ekon. dan Pembang.*, vol. 3, no. 4, pp. 17–26, 2021.

12. Y. N. N. Putu Diza Aprillia Maharani Puteri, "PENGARUH PENDIDIKAN, JAM KERJA, JUMLAH TANGGUNGAN PENDAPATAN PEREMPUAN SINGLE PARENT," *E-JURNAL Ekon. Pembang. Univ. UDAYANA*, vol. 11, no. 06, pp. 2449–2480.
13. P. A. U. Dedi Julianto, "ANALISA PENGARUH TINGKAT PENDIDIKAN TERHADAP PENDAPATAN INDIVIDU DI SUMATERA BARAT," *IKRAITH Ekon.*, vol. 2, no. 2, pp. 122–131, 2019.
14. R. Christoper, R. Chodijah, and Y. Yunisvita, "Faktor-faktor yang mempengaruhi pendapatan pekerja wanita sebagai Ibu rumah tangga," *J. Ekon. Pembang.*, vol. 15, no. 1, pp. 35–52, 2019, doi: <https://doi.org/10.29259/jep.v15i1.8820>.

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