
Determinants of Labor Productivity in Palm Oil Harvesting, Central Kalimantan

Wandha Atmaka Aji^{1*}, Heri Setyawan¹, Indra Kurniawan¹, Idum Satia Santi²

¹ Akademi Komunitas Perkebunan Yogyakarta , Yogyakarta, Indonesia

² Institut Pertanian Stiper Yogyakarta , Yogyakarta, Indonesia

*Corresponding author: wandha.aa@akpy.ac.id

Article History: Received: 08 June 23, Final Revision: 15 July 23 Accepted: 15 July 23, Online Publication: 25 July 23

ABSTRACT

Work effectiveness is greatly influenced by organizational development, placement, and use of work. Productivity at work has a big impact on results. This study aims to identify the impact of determinants of labor productivity as an oil palm harvester in oil palm plantations in order to increase knowledge, skills and experience in work. Data on the labor productivity of oil palm harvest was carried out by Purpose sampling of 76 people taken from 6 stagnation in 3 afdeling related to wages and premiums obtained every month. Data analysis using descriptive methods and multiple linear regression. Multiple regression analysis partially shows that education level, number of dependents, and age have no real effect on labor productivity, but length of work does. Simultaneous regression tests show that education level, number of dependents, age, and length of working hours have a significant effect on the labor productivity of oil palm harvests..

Keywords: Effectiveness, length of work, labor productivity, palm oil workers

INTRODUCTION

Palm oil is one of the few plantation commodities in Indonesia that has the highest productivity. Palm oil is also a plantation commodity that has a major impact on the plantation industry in Indonesia. In addition, palm oil is a plantation commodity that has an important role in the Indonesian economy, because currently Indonesia is a country with the largest oil palm land area in the world, which is 16.62 million hectares, [1]. Oil palm centers are spread in various regions in Indonesia, especially the islands of Kalimantan, Sumatra, Sulawesi and Papua. One of the areas with the largest oil palm plantations in Indonesia is Central Kalimantan Province. Central Kalimantan is one of the areas with the largest area

of oil palm plantations in Indonesia. Directly proportional to the area of oil palm plantations in Indonesia, oil palm productivity in Kalimantan is also quite high. According to data in 2017 palm oil productivity in Central Kalimantan reached 5.21 million tons, [2].

High palm oil productivity can be influenced by a variety of factors, ranging from seed quality, fertilization, pesticide use, environmental conditions, labor skills, Pest and Disease Control and government policies, [3], [4]. In this case, the role of labor is very important in increasing palm oil productivity, especially in the harvest process, [5]. Harvesting is one of the core activities in the palm oil industry. Measurement of

labor productivity in oil palm harvesting work in Central Kalimantan can help identify problems that occur in the harvesting process. So as to provide the right solution to increase labor productivity and work efficiency. In this case, research on the determinants of labor productivity in oil palm harvesting in Central Kalimantan needs to be carried out to improve the quality and quantity of oil palm fruit production.

Labor in oil palm harvesting work has different characteristics, the labor commonly found in oil palm plantations tends to exceed worker productivity targets. But not all oil palm harvest workers have the same character. There are some oil palm harvest workers who only reach the target standards set due to the need for coaching, arrangements for oil palm harvest workers, [6]. This causes the company's harvest productivity to be only up to standard. The maximum is not to exceed the standards set by the company. But besides the labor factor, the harvester is not the only factor affecting productivity. Palm oil production also faces various challenges, such as declining fruit productivity, environmental impacts, and social problems. Therefore, it is necessary to manage oil palm plantations

sustainably, taking into account agronomic, topographic, economic, social, and environmental aspects, [7], [8], [9]. Efforts to increase palm oil productivity, both through improving technology and improving the quality of labor, can help improve production efficiency, increase farmers' incomes, reduce poverty and prosper the community, [10].

This study aims to increase palm oil production, increase the efficiency and productivity of oil palm production through the identification of determinants that affect the productivity of oil palm plantations. This research can provide useful information for farmers and managers of oil palm plantations in improving the quality and quantity of oil palm production. Specifically that can be achieved through this study is to identify the determinants of oil palm plantation productivity, such as seed quality, fertilization, pesticide use, environmental conditions, and labor skills. By increasing the productivity and efficiency of palm oil production, it is expected to increase farmers' income and the contribution of the plantation sector to the national economy.

MATERIALS AND METHODS

The study will be conducted for one month from April 5 to May 4, 2023. The place of research is carried out in the Garden of PT Menthobi Makmur Lestari, Kujan Village, Bulik District, Lamandau Regency, Central Kalimantan. The method carried out is to make direct observations in the field on the labor productivity of oil palm harvests, then secondary data is obtained from daily report recapitulation, monthly reports, annual reports and farm archives such as garden maps, harvesting area, fresh fruit bunch (FFB) production information for the last 4 years and labor organization structure.

Observation of the labor productivity of oil palm harvest was carried out by *Purpose sampling* of 76 people taken from 6 stagnation in 3 afdeling related to wages and premiums obtained every month. Data collection of wages and premiums was carried out three times, namely in February,

March and April. The productivity of oil palm harvesters can be seen from the wages and premiums obtained every month. Observation of the effectiveness of harvester arrangements based on independent variables such as age categorized into 19-29 years, 30-41 years, 42-55 years, and more than 55 years, education level namely not school, elementary school, junior high school, or equivalent, and high school or equivalent. The next variable is the number of family dependents, the length of work which is categorized as 1-24 months, 25-48 months, 49-72 months and 73-96 months, and supporting variables, namely regional origin (indigenous tribes) and previous types of work as well as dependent variables in the form of wages and premiums obtained for achieving the harvest base.

Multiple linear regression analysis data with equations :

$$Y=b_0+b_1X_1+b_2X_2+b_3X_3+b_4X_4.$$

Y= labor productivity is measured based on wages and premiums earned per month (Rp);

b_0 = constant value;

$b_1, b_2, ..b_4$ = regression coefficient or change in Y value for each change in X value ,

X_1 = Education Level;

X_2 = the number of dependents (persons);

X_3 = age (years);

X_4 = length of service (months); regional tribes (indigenous tribes) and previous types of work.

RESULTS AND DISCUSSION

Analysis Results Show Education can affect the performance of an employee, [11]. Based on Law Number 2 of 1989 concerning the national education system, education is defined as a

conscious effort in preparing students through guidance, teaching and training activities for their roles in the future.

Table 1. Composition of harvest workers based on education level in Menthobi Farm

Education Level	Number (people)	Percentage (%)	Average wages + premiums (Rp)
No School	3	3,94736842	3.726.365
Primary school	31	40,7894737	4.112.222
Junior High School	35	46,0526316	4.087.410
High School	7	9,21052632	3.739.187
Total	76	100	15.665.184

Source: Field Observation Data (March 2023)

The potential of employees to carry out work is closely related to education, because it influences the mindset, attitudes and behavior, [12]. High knowledge, skills and confidence are thought to increase employee performance so as to realize good work productivity. The relationship between education level and the achievement of oil palm harvest workers can be seen in Table 1. Based on Table 1, it can be seen that respondents of oil palm harvest workers in Menthobi Plantations are generally educated from elementary school, junior high school and high school. The number of Harvest Workers with junior high school education is the highest number of workers compared to others. But the average rupiah produced is more harvester workers who have elementary school education / equivalent. This is because workers who have elementary / equivalent education do not give too much attention in their work activities so that the

implementation of harvesting runs optimally. While workers with high school education / equivalent have the second lowest average income after uneducated workers It is stated that the higher a person's education, the more calculations in his work, so that it can devote the productivity of these workers.

The highest income is obtained by harvesters with elementary / equivalent education which is Rp 4,112,222 and there is a decrease in income with increasing education level. Workers with junior high school education get wages and premiums of Rp 4,087,410 while those with high school education Rp 3,739,187. The lowest income is obtained by workers who do not go to school. Education level has a negative relationship with harvest labor performance. The increasing level of education of manual workers has an indirect influence on the income obtained, [13].

This is different from the statement that the

higher the level of education, the higher the work performance. Skill, physical strength, and accuracy are highly prioritized in oil palm harvesting activities. Harvesters must harvest in the right way and know the level of fruit maturity in order to get maximum results. Harvesting in the right way can affect the quantity of output produced while harvesting with the right time can affect the quality of output. In addition to the level of education, the number of dependents in the

family is also a factor that affects the productivity of harvest workers, [14].

The number of dependents is assumed to affect the productivity of harvest labor. The more the number of families covered, the higher the work performance of the harvester. So that the income will be higher. The income earned by harvesters based on the number of dependents can be seen in Table 2.

Table 2. The composition of harvest workers by the number of dependents

Number of dependents (person)	Sum (person)	Percentage (%)	Average wage + premium (Rp)
0	6	8	3.371.799
1	18	24	3.497.701
2	30	39	3.916.815
3	15	20	4.344.030
4	7	9	4.166.318
Total	76	100	19.296.663

Source: Field Observation Data (March 2023)

The number of dependents will affect the family economy. This can affect the economic needs that must be spent to meet daily needs. Harvest workers who have more family dependents will be more responsible for increasing their income. Table 2 shows that harvest workers with 4 dependents showed the highest achievement, namely obtaining the largest wages and premiums, namely Rp. 4,166,318. The number of dependents further shows that the smaller the number of family dependents, the smaller the average wage and premium results obtained. The number of dependents of 3 people shows the average wage and premium of Rp. 4,344,030, Then the number of dependents of 2 people shows the average wage and premium of Rp. 3,916,815, Furthermore, the number of dependents of 1 person shows the average wage

and premium of Rp. 3,497,000 and finally with the number of family dependents 0 which means that harvest workers working for themselves show the value of wages and premiums of Rp. 3,371,799. This fact shows that there is an Optimum number of dependents of the harvest labor to obtain high labor yields. Then, in addition to dependents, working-age families also have a significant impact, [15].

The age of workers has an important influence in carrying out oil palm harvesting work activities. Oil palm harvesting activities are a type of heavy work and require excellent physical condition. Physical condition is closely related to age level. Performance and labor productivity will generally decline with age, [16]. The effect of age on work productivity is shown in Table 3.

Table 3. The composition of harvest workers by age level

Age (people)	Sum (Person)	Percentage (%)	Average wage + premium (Rp)
19-29	41	53,947368	3.376.799
30-41	23	30,263158	3.617.701
42-55	11	14,473684	3.973.815
>55	1	1,3157895	3.347.030

Source: Field Observation Data (March 2023)

The age of oil palm harvest workers has a considerable influence on yield productivity, while the age of workers does not necessarily get higher yields, because there is an optimum age where at that optimum age oil palm harvest workers are able to produce high work productivity, [17]. Table 3 shows the largest percentage of harvest workers aged 19-29 years, but in terms of income the 42-55 year old group earns the highest income of Rp 3,973,815 and decreases with age.

This is because harvest work requires good and strong physical condition so that as a person gets older, his body strength will decrease. Young harvesters generally have strong physiques, but some are not married and have no dependents so they are not too ambitious to improve

performance, [18]. In addition to good physical condition, one of the effects of the productivity of palm kalepa harvesters is experience or long working time. In every job, the longer you work in the field, the more optimal your productivity is. The length of work will affect the level of skills and experience of workers. Increasing the length of work will be followed by an increase in performance so that work productivity will increase. Harvest workers in Menthobi 1 Farm are dominated by workers with a working period of 25-48 months, which is 43 people (56.58%) while there are few workers with long working periods. The effect of length of work on work productivity is shown in Table 4.

Table 4. The composition of harvest workers by length of work

Length of Work (Moon)	Sum (person)	Percentage (%)	Average wage + premium (Rp)
01-24	28	36,842105	3.456.799
25-48	43	56,578947	3.697.701
49-72	4	5,2631579	4.053.815
73-96	1	1,3157895	3.427.030
	76	100	14.475.345

Source: Field Observation Data (March 2023)

Working period (length of work) affects the productivity of the harvester's work, the longer the work, the greater the income obtained by the harvester, it shows that work performance is getting better with increasing working time, [19], [20]. Workers with a long working period have a lot of experience, are more skilled in completing their work, understand their duties better and are more obedient to the regulations applied by the company so as to improve work performance. then In order to get accurate results, an analysis is carried out. The results of regression analysis and t-test are intended to prove the truth that the level of education, number of dependents, age level and length of work can partially determine and affect the labor productivity of oil palm harvest. Based

on multiple linear regression analysis, the following equation is obtained:

$$Y = 0.000 + 0,25 X1 + 0,25 X2 - 0,25 X3 + 0,25 X4$$

The positive constant value is 0.000 which means that the dependent variable, namely the productivity of harvest labor, will be 0.000 if the independent variable remains or does not experience addition and subtraction. The factor that significantly affects the labor productivity of oil palm harvest is the length of work, seen from the P value of 0.001 which is less than the level of one percent (1%). The results of the regression analysis of harvest labor productivity can be seen in Table 5.

Table 5. Regression coefficients as well as t-tests of factors affecting the labor productivity of oil palm harvests

Variable	Coefficient regresi	T-count	P	Result
Constant	0.000	-0.244	0.808	
Education level (X ₁)	0.250	674.379	0.000	SS
Number of dependents (X ₂)	0.250	996.066	0.000	SS
Age (X ₃)	0.250	2.048	0.000	SS
Length of work (X ₄)	0.250	740.363	0.000	SS
R ²	1.000			
R ² (adj)	1.000			

Source: Primary Data Analysis (May 2023) ; * Significant effect on the level 1%, ^bTS= insignificant, ^cSS= very significant

$$Y = 0.000 + 0,25 X_1 + 0,25 X_2 - 0,25 X_3 + 0,25 X_4$$

Other determinants such as education level, age, and number of dependents are not influential but have relatively little value. The value of the working length regression coefficient of 0.25 shows that with an increase of one year of work, it will increase worker productivity by 51.9%. It is necessary to conduct training, education and motivation for harvest workers so as to improve skills and work experience.

Then Value the coefficient of determination (R²) The 1,000 obtained shows that the diversity of variables such as education level, number of dependents, age and length of work determines the labor productivity of oil palm harvest in Mentohi 1 Plantation by 1,000. The performance and

productivity of the 1,000 harvest labor is determined by other variables beyond the determinants included in the model.

Supporting factors for the performance of harvest workers are regional tribes and types of work before becoming oil palm harvesters. The two supporting factors are then associated with independent variables that have a significant effect on harvest labor productivity, namely the length of work. Each individual has different characteristics from one another. Through these traits can be seen the prevailing character and culture. Culture provides identity for the members of the organization and evokes a commitment to greater beliefs and values. Regional tribes have a relative relationship to harvester labor productivity (Table 6).

Table 6. The composition of harvest workers by regional tribe

Regional tribes work	Number (of people)	Percentage (%)	Average length	Average wages+premiums (Rp)
Javanese	1	1.32	24.0	3 546 260
Madura	27	35.53	28.8	2 450 895
Papua	2	2.63	50.4	3 082 759
NTT	41	53.95	28.8	2 641 237
Sumbawa	5	6.57	18.0	1 929 611

Source: Field Observation Data (March 2023)

The harvest workforce is dominated by Timorese as many as 41 people (53.95%) and Bugis as many as 27 people (35.53%) the rest come from Lombok, Toraja and Sundanese tribes.

Sundanese harvesters with 24 months of work get the highest wages and premiums compared to other workers. Workers from the Toraja tribe with a working period of 50.4 months get the second

highest wages and premiums after the Sundanese. The regional tribe is related relative to the performance of oil palm harvest workers, it can be said to be subjective, but if supported by a long working period it can increase the productivity of harvest labor.

Then there are other influences that cause high productivity of oil palm harvest workers, data

on the composition of oil palm harvest work is proven in Table 7. The performance of employees is determined by the weight or absence of the type of work. The previous type of work can affect work productivity. Workers with a working background in oil palm plantations will have better performance compared to other jobs, [21].

Table 7. The composition of Kebun Menthobi 1 harvest work is based on the type of previous work

Types of Jobs	Sum (person)	Presented (%)	Length of work (month)	Average wage + Premium (Rp)
Farmer	27	35,5	12	3.549.686
Construction Workers	2	2,6	46	3.427.715
Factory workers	1	1,3	34	3.626.883
Nurse	4	5,3	19	3.705.156
Prunning	3	3,9	25	3.730.507
Palm harvester	19	25,0	12	3.865.076
Mining	2	2,6	6	3.876.441
Sailor	1	1,3	24	3.364.654
Not working yet	7	9,2	3	3.543.087
Wood logs	5	6,6	32	3.272.180
Self employed	3	3,9	24	3.294.764
Transportation	2	2,6	41	3.846.735

Source: Field Observation Data (March 2023)

Job characteristics will create worker commitment which can further improve performance. Table 7 shows that harvest workers who previously worked as farmers with an average length of work of 12 months and palm oil harvesters for 12 months had the highest percentage of 35.5% The oil palm harvest labor in the Menthobi 1 plantation was dominated by workers who previously worked as farmers and oil palm harvesters. The composition of the type of work least occupied by seafarers is 24 months of work with a percentage of 1.3%, while the highest

income of Rp 3.876441 is obtained by harvesters who previously worked in mines. Workers who previously worked in heavy types of work and supported by long working hours will have high work performance compared to lighter types of work. This is due to the process of adaptation to the environment in heavy working conditions, [22]. Then in order to reveal the factors that affect the labor productivity of oil palm harvesting, a regression coefficient test is carried out, shown in Table 8.

Table 8. Regression coefficients as well as F tests of variables affecting the labor productivity of oil palm harvests

Source	Free degree	Number of squares	Middle square	F	P
Regression	4	19.44	4.62	2.57	0.019*
Error	71	92.78	1.72		
Total	75	112.22			

Source: Primary Data Analysis (May 2023), * significant at 5% level

Regression coefficient tests are simultaneously used to determine the effect of

education level, number of dependents, age and length of work together on harvester work

productivity. Based on multiple linear regression analysis, the F value is 2.57 while the P value is 0.019, which is $P < 0.05$, so that the overall independent variable has a significant effect on harvester work productivity.

Employees are the determinants of achieving company goals. A reliable workforce will make a great contribution, especially in producing good products and good quality. The way that can be done to form reliable workers is to

CONCLUSION

The knowledge, abilities, experience and field skills of the author generally increase after participating in research activities. Length of work, education level, number of dependents and age are the most significant factors affecting the labor productivity of oil palm harvest compared to other factors with a regression coefficient value of

improve the performance and productivity of labor. It can indirectly provide job satisfaction for workers. Work productivity shows the ability of a worker. A precise, accurate and objective performance system will create a conducive and comfortable working atmosphere so that employees can carry out functions and roles as expected. Harvesting activities are the most important activities of all activities in oil palm cultivation.

0.250 and a P value of 0.000. The longer the working period, the labor productivity of oil palm harvesting will increase. Regression testing simultaneously shows that education level, number of dependents, age and length of work have a significant effect on crop labor productivity.

REFERENCES

- [1] Badan Pusat Statistik, "Statistik Kelapa Sawit Indonesia 2021," BPS Indones., pp. 1–157, 2021, [Online]. Available: <https://www.bps.go.id/publication/2022/11/30/254ee6bd32104c00437a4a61/statistik-kelapa-sawit-indonesia-2021.html>.
- [2] S. Bintariningtyas and A. H. Juwita, "Perkebunan Kelapa Sawit dalam Pengentasan Kemiskinan di Provinsi Kalimantan Tengah," *Forum Ekon.*, vol. 23, no. 2, pp. 199–205, 2021, [Online]. Available: <https://journal.feb.unmul.ac.id/index.php/FORUMEKONOMI/article/view/9389>.
- [3] I. S. Santi, A. Prayoga, H. Setyawan, and W. A. Aji, "Implementation of integrated pest control to reduce rhino beetle (*Oryctes rhinoceros*) attacks in oil palm plantations," *Trop. Plant. J.*, vol. 1, no. 2, pp. 68–74, 2022, doi: 10.56125/tpj.v1i2.10.
- [4] H. Setyawan, I. Kurniawan, K. Setiawan, and H. Listianto, "The Welfare Analysis Of Oil Palm Smallholder Farmers In Pangkalan Banteng Sub-District , Central Kalimantan," *Bul. Penelit. Sos. Ekon.*
- [5] H. Simanjuntak and S. Yahya, "Management Harvesting Oil Palm (*Elaeis guineensis* Jacq.) In Afdeling 5 Kebun Tinjowan at North Sumatera," *Bul Agrohorti*, vol. 6, no. 2, pp. 221–230, 2018.
- [6] S. N. Afifah and I. Lubis, "Faktor Penentu Produktivitas Tenaga Kerja Panen Kelapa Sawit, Kalimantan Timur," *Bul. Agrohorti*, vol. 4, no. 2, pp. 215–223, 2016, doi: 10.29244/agrob.v4i2.15024.
- [7] W. A. Aji, B. Nugroho, and T. Toyyibah, "Taxation of Palm Oil Production Results Using on Regression Model (PT. Menthobi Makmur Sustainable)," *Trop. Plant. J.*, vol. 2, no. 1, pp. 22–27, 2023, doi: 10.56125/tpj.v2i1.15.
- [8] O. Elfatma, W. A. Aji, K. Na'imah, and H. Setyawan, "Penentuan Tingkat Akurasi Metode Waypoint Rata-rata Garmin 64 S Untuk Pembuatan Titik Koordinat Dilapangan," *Pros. Semin. Nas. Instiper*,

- vol. 1, no. 1, pp. 217–224, 2022, doi: 10.55180/pro.v1i1.257.
- [9] W. A. Aji, S. A. Saloko, I. Kurniawan, and M. A. Nurcahya, “The Effect of Rainfall and Rain Days On Palm Oil Production,” *Trop. Plant. J.*, vol. 1, no. 1, pp. 16–20, 2022, doi: 10.56125/tpj.v1i1.3.
- [10] T. Santika et al., “Changing landscapes, livelihoods and village welfare in the context of oil palm development,” *Land use policy*, vol. 87, no. October 2018, p. 104073, 2019, doi: 10.1016/j.landusepol.2019.104073.
- [11] S. Hartati, A. Beni Saputra, and S. Andriani, “Pengaruh Tingkat Pendidikan Terhadap Kinerja Pegawai dalam Melayani Masyarakat,” *Edukatif J. Ilmu Pendidik.*, vol. 4, no. 1, pp. 298–307, 2021, doi: 10.31004/edukatif.v4i1.1741.
- [12] M. Margaretha and N. Natalia, “Pengaruh Sikap Kerja Terhadap Kinerja Karyawan Pada PT. Duta Marga Silima Di Jakarta,” *J. Manaj. dan Bisnis Univ. Bandar Lampung*, vol. 2, no. 2, pp. 151–163, 2012.
- [13] N. S. Gautama, “Pengaruh Tingkat Pendidikan dan Jenis Pekerjaan Terhadap Produktivitas dan Pendapatan Keluarga Miskin Kecamatan Negara Jembrana,” *E-Jurnal EP Unud*, vol. 9, pp. 2529–2556, 2020.
- [14] N. Hanum, “Pengaruh Pendapatan, Jumlah Tanggungan Keluarga Dan Pendidikan Terhadap Pola Konsumsi Rumah Tangga Nelayan Di Desa Seuneubok Rambong Aceh Timur,” *J. Samudra Ekon.*, vol. VOL 2, no. No 1, pp. 75–84, 2018.
- [15] J. Ervin, Y. Taouk, L. Fleitas Alfonzo, T. Peasgood, and T. King, “Longitudinal association between informal unpaid caregiving and mental health amongst working age adults in high-income OECD countries: A systematic review,” *eClinicalMedicine*, vol. 53, p. 101711, 2022, doi: 10.1016/j.eclinm.2022.101711.
- [16] 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. Vol.2, no. N0.3, pp. 399–408, 2018.
- [17] I. Ukkas, “Faktor-Faktor Yang Mempengaruhi Produktivitas Tenaga Kerja Industri Kecil Kota Palopo,” *Kelola J. Islam. Educ. Manag.*, vol. 2, no. 2, pp. 187–198, 2017, doi: 10.24256/kelola.v2i2.440.
- [18] D. Lingkungan et al., “Herman Surjadi & Yuslan Idris-Administrasi Bisnis Polnam & Program Studi Niaga STIA Said Perintah LPPM STIA Said Perintah,” *Public Policy*, vol. 1, no. 1, 2020.
- [19] V. Hitalessy, H. Roni, and I. Iswandi, “Pengaruh Tingkat Pendidikan, Pelatihan Dan Pengalaman Kerja Terhadap Kinerja Karyawan,” *Image J. Ris. Manaj.*, vol. 7, no. 1, pp. 38–44, 2018, doi: 10.17509/image.v7i1.23137.
- [20] L. R. Sari, S. Sadi, and I. Berlianty, “Pengaruh Lingkungan Kerja Fisik Terhadap Produktivitas Dengan Pendekatan Ergonomi Makro,” *Opsi*, vol. 12, no. 1, p. 48, 2019, doi: 10.31315/opsi.v12i1.2939.
- [21] N. Hidayat, B. Burhanuddin, and T. Nurbiah, “Pengaruh Pengalaman Kerja Terhadap Produktivitas Pegawai Kerja Di Kantor Sekretariat Daerah Kabupaten Gowa,” *Kaji. Ilm. Mhs. ...*, vol. 1, no. 3, pp. 1071–1085, 2020.
- [22] B. Halimatussakdiah, I. N. Suarmanayasa, and Komang Krisna Heryanda, “Pengaruh Pengalaman Kerja Dan Kepuasan Kerja Terhadap Produktivitas Kerja Karyawan Art Shop Di Desa Sukarara Tahun 2019,” *Bisma J. Manaj.*, vol. 5, no. 1, pp. 43–51, 2019, [Online]. Available: <https://ejournal.undiksha.ac.id/index.php/BISMA-JM/article/viewFile/21987/13604>.