

Lampiran 1

Daftar hasil *Power* (X1), *Kelentukan* (X2), dan *Ketepatan Pukulan Smash* (Y)

No.	Nama	<i>Power</i> (X1)	<i>Kelentukan</i> (X2)	<i>Ketepatan Pukulan Smash</i> (Y)
1	Lafael	4,30	15	9
2	Tungki	4,70	12	6
3	Dylan	5,50	8	4
4	Michael	4,00	20	8
5	Maximos	5,20	19,5	8
6	Jonathan	3,95	5	3
7	Willy	4,40	8,5	7
8	Darrel	3,70	7	3
9	Yohanes	6,00	7	8
10	Amadeo	5,20	18	7
11	Gerald	6,50	6	6
12	Jonatan budiman	6,10	14	7
13	Lionel	6,30	5,5	8
14	Nicholas	5,60	11	9
15	Ryan	5,30	4	6
16	Derico	4,20	7	6
17	Marvell	6,30	10	7
18	Joshua	3,95	9	5
19	Rafael	3,62	8,5	3
20	Shabbhi	6,39	11	9
21	Kyle	5,44	10	4
22	Arief	5,37	11	9
23	Wahyu	6,00	13	10
24	Donny	5,92	12	10
25	Fahrul	4,65	10	7
26	Ryan chen	3,45	19	8
27	Julian	2,25	13	6
28	Jason	3,00	15	7
29	Jeremy	2,50	8	4
30	Garry	5,00	17	7
Σ		247,07	264	532,87

Tabel 9. Data Mentah hasil tes *Power* (X1), *Kelentukan* (X2), dan *Ketepatan Pukulan Smash*

No.	X ₁	X ₂	Y	X ₁ ²	X ₂ ²	Y ²
1	4,30	15	9	18,49	225	81
2	4,70	12	6	22,09	144	36
3	5,50	8	4	30,25	64	16
4	4,00	20	8	16,00	400	64
5	5,20	19,5	8	27,04	380,25	64
6	3,95	5	3	15,60	25	9
7	4,40	8,5	7	19,36	72,25	49
8	3,70	7	3	13,69	49	9
9	6,00	7	8	36,00	49	64
10	5,20	18	7	27,04	324	49
11	6,50	6	6	42,25	36	36
12	6,10	14	7	37,21	196	49
13	6,30	5,5	8	39,69	30,25	64
14	5,60	11	9	31,36	121	81
15	5,30	4	6	28,09	16	36
16	4,20	7	6	17,64	49	36
17	6,30	10	7	39,69	100	49
18	3,95	9	5	15,60	81	25
19	3,62	8,5	3	13,10	72,25	9
20	6,39	11	9	40,83	121	81
21	5,44	10	4	29,59	100	16
22	5,37	11	9	28,84	121	81
23	6,00	13	10	36,00	169	100
24	5,92	12	10	35,05	144	100
25	4,65	10	7	21,62	100	49
26	3,45	19	8	11,90	361	64
27	2,25	13	6	5,06	169	36
28	3,00	15	7	9,00	225	49
29	2,50	8	4	6,25	64	16
30	5,00	17	7	25,00	289	49
Jumlah	144,79	334	201	739,35	4297	1467

Lampiran 2

Langkah-langkah perhitungan

Perhitungan distribusi frekuensi dan T skor data mentah hasil *Power*, *Kelentukan*, dan *Ketepatan Pukulan Smash*.

1. *Power* (X_1)

$$\begin{aligned} \text{a. Rentang (R)} &= \text{data terbesar} - \text{data terkecil} \\ &= 6,50 - 2,25 \\ &= 4,25 \end{aligned}$$

$$\begin{aligned} \text{b. Kelas (K)} &= 1 + (3,3 \times \log 30) \\ &= 1 + (3,3 \times 1,47) \\ &= 5,87 \\ &\approx 6 \end{aligned}$$

$$\begin{aligned} \text{c. Panjang kelas Interval} &= R / K \\ &= 4,25 / 6 \\ &= 0,708 \end{aligned}$$

$$\begin{aligned} \text{d. Frekuensi Relatif} &= \frac{\text{Frekuensi Absolut}}{\text{Jumlah Percobaan}} \times 100\% \end{aligned}$$

Tabel 10. Data *Power*

No.	Kelas Interval	Titik Tengah	Frekuensi	
			Absolut	Relatif
1	2,25 – 2,95	2,60	2	6,7%
2	2,96 – 3,66	3,31	3	10,0%
3	3,67 – 4,37	4,02	6	20,0%
4	4,38 – 5,08	4,73	4	13,3%
5	5,09 – 5,79	5,44	7	23,3%
6	5,80 – 6,50	6,15	8	26,7%
Jumlah			30	100

$$\begin{aligned} \text{e. Rata-rata } (\bar{X}) &= \frac{\sum X_1}{n} \\ &= \frac{144,79}{30} \\ &= 4,83 \end{aligned}$$

$$\begin{aligned} \text{f. Simpangan baku} &= \sqrt{\frac{n \sum X_1^2 - (\sum X_1)^2}{n(n-1)}} \end{aligned}$$

$$= \sqrt{\frac{30(739,35) - (144,79)^2}{30(30-1)}}$$

$$= \sqrt{\frac{22180,38 - 20964,14}{870}}$$

$$= \sqrt{1,40} = 1,18$$

g. Varians = 1,40

h. Tskor (untuk n=1)

$$= 50 \pm 10 \left(\frac{X_n - \bar{X}}{\text{STD}} \right)$$

$$= 50 \pm 10 \left(\frac{4,30 - 4,83}{1,18} \right)$$

$$= 45,55$$

2. Kelentukan (X_2)

a. Rentang (R) = data terbesar – data terkecil

$$= 20 - 4$$

$$= 16$$

b. Kelas (K) = $1 + (3,3 \times \log 30)$

$$= 1 + (3,3 \times 1,47)$$

$$= 5,87$$

$$\approx 6$$

c. Panjang kelas Interval

$$= R / K$$

$$= 16 / 6$$

$$= 2,67$$

d. Frekuensi Relatif

$$= \frac{\text{Frekuensi Absolut}}{\text{Jumlah Percobaan}} \times 100\%$$

Tabel 11. Data Kelentukan

No.	Kelas Interval	Titik Tengah	Frekuensi	
			Absolut	Relatif
1	4 – 6	5	4	13,3%
2	7 – 9	8	8	26,7%
3	10 – 12	11	8	26,7%
4	13 – 15	14	5	16,7%
5	16 – 18	17	2	6,7%
6	19 – 21	20	3	10,0%
Jumlah			30	100

e. Rata-rata (\bar{X}) = $\frac{\Sigma X_2}{n}$
 $= \frac{334}{30}$
 $= 11,13$

f. Simpangan baku

$$= \sqrt{\frac{n \Sigma X_2^2 - (\Sigma X_2)^2}{n(n-1)}}$$

$$= \sqrt{\frac{30(4297) - (334)^2}{30(30-1)}}$$

$$= \sqrt{\frac{128910 - 111556}{870}}$$

$$= \sqrt{19,95} = 4,47$$

g. Varians = 19,95

h. Tskor (untuk n=1)

$$= 50 \pm 10 \left(\frac{X_n - \bar{X}}{\text{STD}} \right)$$

$$= 50 \pm 10 \left(\frac{15 - 11,13}{4,47} \right)$$

$$= 58,66$$

3. Ketepatan Pukulan *Smash* (Y)

a. Rentang (R) = data terbesar – data terkecil
 $= 10 - 7$
 $= 3$

b. Kelas (K) = $1 + (3,3 \times \log 30)$
 $= 1 + (3,3 \times 1,47)$
 $= 5,87$
 ≈ 6

c. Panjang kelas Interval
 $= R / K$
 $= 3 / 6$
 $= 1,4$

d. Frekuensi Relatif

$$= \frac{\text{Frekuensi Absolut}}{\text{Jumlah Percobaan}} \times 100\%$$

Tabel 12. Data Ketepatan Pukulan *Smash*

No.	Kelas Interval	Titik Tengah	Frekuensi	
			Absolut	Relatif
1	3 – 4	3,5	6	20,0%
2	5 – 6	5,5	6	20,0%
3	7 – 8	7,5	12	40,0%
4	9 – 10	9,5	6	20,0%
Jumlah			30	100

e. Rata-rata (\bar{Y}) = $\frac{\Sigma Y}{n}$
 $= \frac{201}{30}$
 $= 6,70$

f. Simpangan baku

$$= \sqrt{\frac{n \Sigma Y^2 - (\Sigma Y)^2}{n(n-1)}}$$

$$= \sqrt{\frac{30 (1467) - (201)^2}{30 (30-1)}}$$

$$= \sqrt{\frac{44010 - 40401}{870}}$$

$$= \sqrt{4,15} = 2,04$$

g. Varians = 4,15

h. Tskor (untuk n=1)

$$= 50 \pm 10 \left(\frac{X_n - \bar{X}}{STD} \right)$$

$$= 50 \pm 10 \left(\frac{9 - 6,70}{2,04} \right)$$

$$= 61,29$$

Tabel 13. Data Mentah yang diubah dalam T Skor

No.	Power		Kelentukan		Ketepatan Pukulan <i>Smash</i>	
	Data	T Skor			Data	T Skor
1	4,30	45,55	15	58,66	9	61,29
2	4,70	48,93	12	51,94	6	46,56
3	5,50	55,70	8	42,98	4	36,74
4	4,00	43,01	20	69,85	8	56,38
5	5,20	53,16	19,5	68,73	8	56,38
6	3,95	42,59	5	36,27	3	31,83
7	4,40	46,39	8,5	44,10	7	51,47
8	3,70	40,47	7	40,75	3	31,83
9	6,00	59,93	7	40,75	8	56,38
10	5,20	53,16	18	65,37	7	51,47
11	6,50	64,16	6	38,51	6	46,56
12	6,10	60,77	14	56,42	7	51,47
13	6,30	62,46	5,5	37,39	8	56,38
14	5,60	56,54	11	49,70	9	61,29
15	5,30	54,01	4	34,03	6	46,56
16	4,20	44,70	7	40,75	6	46,56
17	6,30	62,46	10	47,46	7	51,47
18	3,95	42,59	9	45,22	5	41,65
19	3,62	39,80	8,5	44,10	3	31,83
20	6,39	63,22	11	49,70	9	61,29
21	5,44	55,19	10	47,46	4	36,74
22	5,37	54,60	11	49,70	9	61,29
23	6,00	59,93	13	54,18	10	66,20
24	5,92	59,25	12	51,94	10	66,20
25	4,65	48,51	10	47,46	7	51,47
26	3,45	38,36	19	67,61	8	56,38
27	2,25	28,21	13	54,18	6	46,56
28	3,00	34,55	15	58,66	7	51,47
29	2,50	30,32	8	42,98	4	36,74
30	5,00	51,47	17	63,14	7	51,47

Tabel 14. Data Persiapan untuk Persiapan Regresi dan Korelasi

No.	X ₁	X ₂	Y	X ₁ ²	X ₂ ²	Y ²	X ₁ Y	X ₂ Y	X ₁ X ₂
1	45,55	58,66	61,29	2074,66	3440,71	3756,78	2791,78	3595,28	2671,76
2	48,93	51,94	46,56	2394,29	2697,81	2168,12	2278,40	2418,51	2541,53
3	55,70	42,98	36,74	3102,23	1847,66	1350,08	2046,53	1579,39	2394,13
4	43,01	69,85	56,38	1849,96	4879,40	3179,02	2425,09	3938,49	3004,45
5	53,16	68,73	56,38	2826,02	4724,25	3179,02	2997,33	3875,37	3653,88
6	42,59	36,27	31,83	1813,76	1315,32	1013,38	1355,74	1154,52	1544,56
7	46,39	44,10	51,47	2152,42	1945,15	2649,46	2388,05	2270,16	2046,17
8	40,47	40,75	31,83	1638,13	1660,18	1013,38	1288,43	1297,07	1649,12
9	59,93	40,75	56,38	3591,19	1660,18	3179,02	3378,82	2297,34	2441,73
10	53,16	65,37	51,47	2826,02	4273,85	2649,46	2736,32	3365,03	3475,34
11	64,16	38,51	46,56	4115,91	1482,74	2168,12	2987,27	1792,97	2470,39
12	60,77	56,42	51,47	3693,27	3183,05	2649,46	3128,13	2904,03	3428,68
13	62,46	37,39	56,38	3901,73	1397,77	3179,02	3521,88	2107,97	2335,32
14	56,54	49,70	61,29	3197,16	2470,24	3756,78	3465,69	3046,33	2810,29
15	54,01	34,03	46,56	2916,66	1157,92	2168,12	2514,69	1584,46	1837,73
16	44,70	40,75	46,56	1998,33	1660,18	2168,12	2081,50	1897,23	1821,43
17	62,46	47,46	51,47	3901,73	2252,68	2649,46	3215,20	2443,03	2964,68
18	42,59	45,22	41,65	1813,76	2045,16	1735,00	1773,94	1883,70	1925,99
19	39,80	44,10	31,83	1583,82	1945,15	1013,38	1266,89	1403,99	1755,21
20	63,22	49,70	61,29	3997,40	2470,24	3756,78	3875,22	3046,33	3142,37
21	55,19	47,46	36,74	3045,96	2252,68	1350,08	2027,88	1743,93	2619,46
22	54,60	49,70	61,29	2980,96	2470,24	3756,78	3346,46	3046,33	2713,61
23	59,93	54,18	66,20	3591,19	2935,42	4382,76	3967,28	3586,82	3246,79
24	59,25	51,94	66,20	3510,55	2697,81	4382,76	3922,49	3438,59	3077,47
25	48,51	47,46	51,47	2353,09	2252,68	2649,46	2496,88	2443,03	2302,34
26	38,36	67,61	56,38	1471,44	4571,61	3179,02	2162,81	3812,25	2593,62
27	28,21	54,18	46,56	795,82	2935,42	2168,12	1313,55	2522,77	1528,41
28	34,55	58,66	51,47	1193,94	3440,71	2649,46	1778,57	3019,28	2026,82
29	30,32	42,98	36,74	919,58	1847,66	1350,08	1114,23	1579,39	1303,48
30	51,47	63,14	51,47	2649,04	3986,11	2649,46	2649,25	3249,78	3249,52
Jumlah	1500	1500	1500	77900	77900	77900	76296,309	76343,375	74576,278

$$\begin{array}{lll}
 \Sigma X_1 & = 1500 & \Sigma X_1^2 = 77900 & \Sigma X_1 Y = 76296,309 \\
 \Sigma X_2 & = 1500 & \Sigma X_2^2 = 77900 & \Sigma X_2 Y = 76343,375 \\
 \Sigma Y & = 1500 & \Sigma Y^2 = 77900 & \Sigma X_1 X_2 = 74576,278
 \end{array}$$

Menghitung rata-rata dan simpangan baku T-skor

1. *Power* (X_1)

Diketahui :

$$\Sigma X_1 = 1500$$

$$\Sigma X_1^2 = 77900$$

a. Rata-rata (\bar{X}) = $\frac{\Sigma X_1}{n}$
= $\frac{1500}{30}$
= 50,00

b. Simpangan baku

$$\begin{aligned} &= \sqrt{\frac{n \Sigma X_1^2 - (\Sigma X_1)^2}{n(n-1)}} \\ &= \sqrt{\frac{30(31100) - (600)^2}{30(30-1)}} \\ &= \sqrt{\frac{373200 - 360000}{132}} \\ &= \sqrt{100,00} = 10,00 \end{aligned}$$



2. Kelentukan (X_2)

Diketahui :

$$\Sigma X_1 = 1500$$

$$\Sigma X_1^2 = 77900$$

$$\begin{aligned} \text{a. Rata-rata } (\bar{X}) &= \frac{\Sigma X_2}{n} \\ &= \frac{1500}{30} \\ &= 50,00 \end{aligned}$$

b. Simpangan baku

$$\begin{aligned} &= \sqrt{\frac{n \Sigma X_2^2 - (\Sigma X_2)^2}{n(n-1)}} \\ &= \sqrt{\frac{30(31100) - (600)^2}{30(30-1)}} \\ &= \sqrt{\frac{373200 - 360000}{132}} \\ &= \sqrt{100,00} = 10,00 \end{aligned}$$



3. Ketepatan Pukulan *Smash* (Y)

Diketahui :

$$\Sigma X_1 = 1500$$

$$\Sigma X_1^2 = 77900$$

$$\begin{aligned} \text{a. Rata-rata } (\bar{X}) &= \frac{\Sigma Y}{n} \\ &= \frac{1500}{30} \\ &= 50,00 \end{aligned}$$

b. Simpangan baku

$$\begin{aligned} &= \sqrt{\frac{n \Sigma Y^2 - (\Sigma Y)^2}{n(n-1)}} \\ &= \sqrt{\frac{30(31100) - (600)^2}{30(30-1)}} \\ &= \sqrt{\frac{373200 - 360000}{132}} \\ &= \sqrt{100,00} = 10,00 \end{aligned}$$



Lampiran 2
Perhitungan persamaan regresi

1. Regresi Y atas X_1

Diketahui

$$\begin{array}{llll} \Sigma X_1 & = 1500 & \Sigma X_1^2 & = 77900 & \Sigma X_1 Y & = 76296,309 \\ \Sigma X_2 & = 1500 & \Sigma X_2^2 & = 77900 & \Sigma X_2 Y & = 76343,375 \\ \Sigma Y & = 1500 & \Sigma Y^2 & = 77900 & \Sigma X_1 X_2 & = 74576,278 \end{array}$$

Diuraikan menjadi

$$\begin{aligned} a &= \frac{(\Sigma Y)(\Sigma X_1^2) - (\Sigma X_1)(\Sigma X_1 Y)}{n \Sigma X_1^2 - (\Sigma X_1)^2} \\ &= \frac{(1500)(77900) - (1500)(76296,309)}{30 \cdot 77900 - (1500)^2} \\ &= \frac{(116850000) - (114444463,796)}{2337000 - 2250000} \\ &= \frac{2405536,204}{87000} \\ &= 27,650 \end{aligned}$$

$$\begin{aligned} b &= \frac{n (\Sigma X_1 Y) - (\Sigma X_1)(\Sigma Y)}{n \Sigma X_1^2 - (\Sigma X_1)^2} \\ &= \frac{(30)(76296,309) - (1500)(1500)}{30 \cdot 77900 - (1500)^2} \\ &= \frac{(2288889,276) - (2250000)}{2337000 - 2250000} \\ &= \frac{38889,276}{87000} \\ &= 0,447 \end{aligned}$$

Jadi persamaan regresi Y terhadap X_1 adalah $\hat{Y} = 27,650 + 0,447X_1$

2. Regresi Y atas X_2

Diuraikan menjadi

$$\begin{aligned}
 a &= \frac{(\sum Y)(\sum X_2^2) - (\sum X_2)(\sum X_2 Y)}{n \sum X_2^2 - (\sum X_2)^2} \\
 &= \frac{(1500)(77900) - (1500)(76343,375)}{30 \cdot 77900 - (1500)^2} \\
 &= \frac{(116850000) - (114515062,310)}{2337000 - 2250000} \\
 &= \frac{2334937,690}{87000} \\
 &= 26,838
 \end{aligned}$$

$$\begin{aligned}
 b &= \frac{n(\sum X_2 Y) - (\sum X_2)(\sum Y)}{n \sum X_2^2 - (\sum X_2)^2} \\
 &= \frac{(30)(76343,375) - (1500)(1500)}{30 \cdot 77900 - (1500)^2} \\
 &= \frac{(2290301,246) - (2250000)}{2337000 - 2250000} \\
 &= \frac{40301,25}{87000} \\
 &= 0,463
 \end{aligned}$$

Jadi persamaan regresi Y terhadap X_2 adalah $\hat{Y} = 26,838 + 0,463X_2$



3. Regresi Y atas X_1 dan X_2

Dimana :

$$\Sigma y^2 = \Sigma Y^2 - \frac{(\Sigma Y)^2}{n} = 77900 - \frac{(1500)^2}{30} = 2900$$

$$\Sigma x_1^2 = \Sigma X_1^2 - \frac{(\Sigma X_1)^2}{n} = 77900 - \frac{(1500)^2}{30} = 2900$$

$$\Sigma x_2^2 = \Sigma X_2^2 - \frac{(\Sigma X_2)^2}{n} = 77900 - \frac{(1500)^2}{30} = 2900$$

$$\Sigma x_1 y = \Sigma X_1 Y - \frac{(\Sigma X_1)(\Sigma Y)}{n} = 76296,309 - \frac{(1500)(1500)}{30} = 1296,309$$

$$\Sigma x_2 y = \Sigma X_2 Y - \frac{(\Sigma X_2)(\Sigma Y)}{n} = 76343,375 - \frac{(1500)(1500)}{30} = 1343,375$$

$$\Sigma x_1 x_2 = \Sigma X_1 X_2 - \frac{(\Sigma X_1)(\Sigma X_2)}{n} = 74576,278 - \frac{(1500)(1500)}{30} = -423,722$$

$$\begin{aligned} b_1 &= \frac{(\Sigma x_1 y)(\Sigma x_2^2) - (\Sigma x_1 x_2)(\Sigma x_2 y)}{(\Sigma x_1^2)(\Sigma x_2^2) - (\Sigma x_1 x_2)^2} \\ &= \frac{(1296,31)(2900) - (-423,72)(1343,37)}{(2900)(2900) - (-423,72)^2} \\ &= \frac{(3759296,67) - (-569216,94)}{(8410000) - (179539,99)} \\ &= \frac{4328513,614}{8230460,012} \\ &= 0,579 \end{aligned}$$

$$\begin{aligned} b_2 &= \frac{(\Sigma x_2 y)(\Sigma x_1^2) - (\Sigma x_1 x_2)(\Sigma x_1 y)}{(\Sigma x_1^2)(\Sigma x_2^2) - (\Sigma x_1 x_2)^2} \\ &= \frac{(1343,37)(2900) - (-423,72)(1296,31)}{(2900)(2900) - (-423,72)^2} \\ &= \frac{(3895787,13) - (-549274,20)}{(8410000) - (179539,99)} \\ &= \frac{4445061,331}{8230460,012} \\ &= 0,540 \end{aligned}$$

$$\begin{aligned} b_0 &= \bar{Y} - b_1 \bar{X}_1 - b_2 \bar{X}_2 \\ &= (50) - (0,579 \cdot 50) - (0,540 \cdot 50) \\ &= 50 - 26,30 - 27,00 \\ &= -3,299 \end{aligned}$$

Jadi persamaan regresi berganda Y terhadap X_1 dan X_2 adalah

$$\hat{Y} = -3,299 + 0,579X_1 + 0,540X_2$$



Lampiran 3

Mencari koefisien korelasi dan uji keberartian koefisien korelasi

1. Koefisien Korelasi r_{y_1}

$$\begin{aligned}
 r_{y_1} &= \frac{n \sum X_1 Y - (\sum X_1) (\sum Y)}{\sqrt{\{n \sum X_1^2 - (\sum X_1)^2\} \{n \cdot \sum Y^2 - (\sum Y)^2\}}} \\
 &= \frac{(30)(76296,309) - (1500)(1500)}{\sqrt{\{(30)(77900) - (1500)^2\} \{(30) \cdot (77900) - (1500)^2\}}} \\
 &= \frac{(2288889,276) - (2250000)}{\sqrt{(87000)(87000)}} \\
 &= \frac{38889,276}{87000} \\
 &= 0,447
 \end{aligned}$$

2. Uji Keberartian koefisien korelasi

$$\begin{aligned}
 t_{hitung} &= \frac{(r_{y_1})(\sqrt{n-2})}{\sqrt{1-(r_{y_1})^2}} \\
 &= \frac{(0,447)(\sqrt{30-2})}{\sqrt{1-(0,447)^2}} \\
 &= \frac{2,365}{0,895} \\
 &= 2,664
 \end{aligned}$$

$$\begin{aligned}
 \text{Derajat kebebasan (dk)} &= n - 2 \\
 &= 30 - 2 \\
 &= 28
 \end{aligned}$$

$$\begin{aligned}
 t_{tabel} &= dk : 1 - \frac{1}{2} \alpha \\
 &= 28 : 1 - \frac{1}{2} (0,05) \\
 &= 28 : 0,975 \\
 &= 2,048
 \end{aligned}$$

Berarti :

t_{hitung} dengan $\alpha = 0,05$ dan $dk = 28$ diperoleh sebesar 2,664. Karena $t_{hitung} = 2,664 > t_{tabel} (2,048)$, dengan demikian kita tolak H_0 , berarti koefisien korelasi 0,447 adalah signifikan

Nilai Koefisien determinasi

$$\begin{aligned}
 \text{KD} &= r_{xy}^2 \times 100\% \\
 &= 0,447^2 \times 100\% \\
 &= 20,0\%
 \end{aligned}$$

3. Koefisien Korelasi r_{y_2}

$$\begin{aligned}
 r_{y_2} &= \frac{n \sum X_2 Y - (\sum X_2) (\sum Y)}{\sqrt{\{n \sum X_2^2 - (\sum X_2)^2\} \{n \cdot \sum Y^2 - (\sum Y)^2\}}} \\
 &= \frac{(30)(76343,375) - (1500)(1500)}{\sqrt{\{(30)(77900) - (1500)^2\} \{(30) \cdot (77900) - (1500)^2\}}} \\
 &= \frac{(2290301,246) - (2250000)}{\sqrt{(87000)(87000)}} \\
 &= \frac{40301,246}{87000} \\
 &= 0,463
 \end{aligned}$$

4. Uji Keberartian koefisien korelasi

$$\begin{aligned}
 t_{hitung} &= \frac{(r_{y_1})(\sqrt{n-2})}{\sqrt{1-(r_{y_1})^2}} \\
 &= \frac{(0,463)(\sqrt{30-2})}{\sqrt{1-(0,463)^2}} \\
 &= \frac{2,451}{0,886} \\
 &= 2,766
 \end{aligned}$$

$$\begin{aligned}
 \text{Derajat kebebasan (dk)} &= n - 2 \\
 &= 30 - 2 \\
 &= 28
 \end{aligned}$$

$$\begin{aligned}
 t_{tabel} &= dk : 1 - \frac{1}{2} \alpha \\
 &= 28 : 1 - \frac{1}{2} (0,05) \\
 &= 28 : 0,975 \\
 &= 2,048
 \end{aligned}$$

Berarti :

t_{tabel} dengan $\alpha = 0,05$ dan $dk = 28$ diperoleh sebesar 2,048. Karena $t_{hitung} = 2,766 > t_{tabel}$ (2,048), dengan demikian kita tolak H_0 , berarti koefisien korelasi 0,463 adalah signifikan

Nilai Koefisien determinasi

$$\begin{aligned}
 KD &= r_{xy}^2 \times 100\% \\
 &= 0,463^2 \times 100\% \\
 &= 21,5\%
 \end{aligned}$$

5. Koefisien Korelasi ganda $r_{y1.2}$

$$\begin{aligned}
 JK(\text{Reg}) &= b_1 \cdot \sum x_{1y} + b_2 \cdot \sum x_{2y} \\
 &= (0,526 \times 1296,31) + (0,540 \times 1343,37) \\
 &= 681,747 + 725,522 \\
 &= 1407,270
 \end{aligned}$$

$$\begin{aligned}
 r_{y1.2} &= \sqrt{\frac{JK(\text{Reg})}{\sum y}} \\
 &= \sqrt{\frac{1407,27}{2900}} \\
 &= \sqrt{0,485} \\
 &= 0,697
 \end{aligned}$$

6. Uji Keberhasilan Koefisien Korelasi Berganda

$$\begin{aligned}
 F_{\text{hitung}} &= \frac{(r_{y_{12}})^2 / K}{(1 - (r_{y_{12}})^2) / (n - 2 - 1)} \\
 &= \frac{(0,485)^2 / 2}{(1 - 0,485) / (30 - 3)} \\
 &= \frac{0,243}{0,019} = 12,727
 \end{aligned}$$

Berarti

F_{tabel} dengan prediktor = 2 sebagai pembilang dan $(n - K - 1) = 27$ sebagai penyebut adalah sebesar 3,354, maka $F_{\text{hitung}} = 12,727 > F_{\text{tabel}} (3,354)$ maka Koefisien korelasi berganda sebesar 0,697 adalah signifikan.

Nilai Koefisien determinasi

$$\begin{aligned}
 KD &= r_{xy}^2 \times 100\% \\
 &= 0,697^2 \times 100\% \\
 &= 48,5\%
 \end{aligned}$$





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