

Lampiran 12

Tabel 12. Perhitungan Uji-t Independent

No. Resp.	X	Y	X ²	Y ²
1	15	14	225	196
2	14	15	196	225
3	15	16	225	256
4	16	14	256	196
5	15	15	225	225
6	18	16	324	256
7	16	15	256	225
8	16	17	256	289
9	20	18	400	324
10	17	18	289	324
11	18	17	324	289
12	20	18	400	324
13	19	19	361	361
14	20	19	400	361
15	20	20	400	400
Jumlah	259	251	4537	4251

Diketahui :

$$n_x = 15$$

$$n_y = 15$$

$$\sum X = 259$$

$$\sum Y = 251$$

$$\sum X^2 = 4537$$

$$\sum Y^2 = 4251$$

Dicari :

$$\begin{aligned}\bar{X} &= \frac{\sum X}{n} \\ &= \frac{259}{15} = 17,27\end{aligned}$$

$$\begin{aligned}S_x^2 &= \frac{n \cdot \sum X^2 - (\sum X)^2}{n \cdot (n-1)} \\ &= \frac{15 \cdot 4537 - (259)^2}{15 \cdot (15-1)} \\ &= \frac{68055 - 67081}{210} \\ &= 4,638\end{aligned}$$

$$\begin{aligned}\bar{Y} &= \frac{\Sigma Y}{n} \\ &= \frac{251}{15} = 16,73\end{aligned}$$

$$\begin{aligned}S_{Y^2} &= \frac{n \cdot \Sigma Y^2 - (\Sigma Y)^2}{n \cdot (n-1)} \\ &= \frac{15 \cdot 4251 - (251)^2}{15 \cdot (15-1)} \\ &= \frac{63765 - 63001}{210} \\ &= 3,638\end{aligned}$$

Varians Gabungan

$$\begin{aligned}S^2_{\text{gab}} &= \frac{(n_X - 1) S_X^2 + ((n_Y - 1) S_Y^2)}{n_X + n_Y - 2} \\ &= \frac{(15-1) 4.638 + (15-1) 3.638}{15+15-2} \\ &= \frac{64.96 + 50.96}{28} \\ &= 4.138\end{aligned}$$

$$\begin{aligned}S &= \sqrt{4,138} \\ &= 2.03\end{aligned}$$

$$\begin{aligned}
t_0 &= \frac{\bar{X} - \bar{Y}}{S \sqrt{\frac{1}{n_X} + \frac{1}{n_Y}}} \\
&= \frac{17.27 - 16.73}{2.03 \sqrt{\frac{1}{15} + \frac{1}{15}}} \\
&= \frac{0,54}{2,03 \times 0,365} \\
&= \frac{0,54}{0,74} \\
&= 0,73
\end{aligned}$$

Mencari t_{tabel} :

$$\begin{aligned}
&= (\frac{1}{2} \alpha ; n-2) \\
&= (0,025 ; 13) \\
&= 2,16
\end{aligned}$$

Dari data tersebut diperoleh thitung sebesar 0,73, ttabel dengan taraf signifikan 0,05 dengan df (n-2) = 28 adalah 2,16 adalah 2,16, maka thitung (0,73) < ttabel (2,16) berarti terdapat perbedaan (signifikan) antara hasil akhir metode latihan tarik karet dan metode latihan naik turun tambang.