## Lampiran 6

## Uji Validitas Variabel X3

Pengujian validitas dilakukan menggunakan rumus Korelasi Pearson

$$r_{xy} = \frac{N.\sum XY - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left[N.\sum X^2 - \left(\sum X\right)^2\right]\left[N.\sum Y^2 - \left(\sum Y\right)^2\right]}}$$

$$r_{xy} = \frac{20(7182) - (85)(1682)}{\sqrt{\left((20(365) - (85)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{143640 - 142970}{\sqrt{(75)(11316)}} = \frac{670}{921{,}25} = 0{,}727$$

$$r_{xy} = \frac{20(6999) - (83)(1682)}{\sqrt{\left((20(347) - (83)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{139980 - 139606}{\sqrt{(51)(11316)}} = \frac{374}{759{,}68} = 0{,}492$$

$$r_{xy} = \frac{20(7182) - (85)(1682)}{\sqrt{\left((20(367) - (85)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{143640 - 142970}{\sqrt{(115)(11316)}} = \frac{670}{1140{,}76} = 0{,}587$$

$$r_{xy} = \frac{20(7090) - (84)(1682)}{\sqrt{\left((20(358) - (84)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{141800 - 141288}{\sqrt{(104)(11316)}} = \frac{512}{1084{,}83} = 0{,}472$$

$$r_{xy} = \frac{20(7094) - (84)(1682)}{\sqrt{\left((20(358) - (84)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{141880 - 141288}{\sqrt{(104)(11316)}} = \frac{592}{1084{,}83} = 0{,}546$$

$$r_{xy} = \frac{20(7009) - (83)(1682)}{\sqrt{\left((20(351) - (83)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{140180 - 139606}{\sqrt{(131)(11316)}} = \frac{574}{1217{,}54} = 0{,}471$$

$$r_{xy} = \frac{20(7016) - (83)(1682)}{\sqrt{\left((20(349) - (83)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{140320 - 139606}{\sqrt{(91)(11316)}} = \frac{714}{1014{,}77} = 0{,}704$$

$$r_{xy} = \frac{20(7266) - (86)(1682)}{\sqrt{\left((20(374) - (86)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{145320 - 144652}{\sqrt{(84)(11316)}} = \frac{668}{974{,}96} = 0{,}685$$

$$r_{xy} = \frac{20(6918) - (82)(1682)}{\sqrt{\left((20(340) - (82)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{138360 - 137924}{\sqrt{(76)(11316)}} = \frac{436}{927{,}37} = 0{,}47$$

$$r_{xy} = \frac{20(7331) - (87)(1682)}{\sqrt{\left((20(383) - (87)^2(20(142022) - (1682)^2\right)}}$$

$$r_{xy} = \frac{146620 - 146334}{\sqrt{(91)(11316)}} = \frac{286}{1014{,}77} = 0{,}282$$

$$r_{xy} = \frac{20(7256)-(86)(1682)}{\sqrt{((20(376)-(86)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{145120-144652}{\sqrt{(124)(11316)}} = \frac{468}{1184,56} = 0,395$$

$$r_{xy} = \frac{20(7359)-(87)(1682)}{\sqrt{((20(385)-(87)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{147180-146334}{\sqrt{(131)(11316)}} = \frac{846}{1217,54} = 0,695$$

$$r_{xy} = \frac{20(7082)-(84)(1682)}{\sqrt{((20(358)-(84)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{141640-141288}{\sqrt{(104)(11316)}} = \frac{352}{1084,83} = 0,324$$

$$r_{xy} = \frac{20(7181)-(85)(1682)}{\sqrt{((20(365)-(85)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{143620-142970}{\sqrt{(75)(11316)}} = \frac{650}{921,25} = 0,706$$

$$r_{xy} = \frac{20(6934)-(82)(1682)}{\sqrt{((20(342)-(82)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{138680-137924}{\sqrt{(116)(11316)}} = \frac{756}{1145,71} = 0,66$$

$$r_{xy} = \frac{20(6919)-(82)(1682)}{\sqrt{((20(340)-(82)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{138380-137924}{\sqrt{(76)(11316)}} = \frac{456}{927,37} = 0,492$$

$$r_{xy} = \frac{20(7013)-(83)(1682)}{\sqrt{((20(351)-(83)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{140260-139606}{\sqrt{(131)(11316)}} = \frac{654}{1217,54} = 0,537$$

$$r_{xy} = \frac{20(7004)-(83)(1682)}{\sqrt{((20(349)-(83)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{140080-139606}{\sqrt{(91)(11316)}} = \frac{474}{1014,77} = 0,467$$

$$r_{xy} = \frac{20(7251)-(86)(1682)}{\sqrt{((20(374)-(86)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{145020-144652}{\sqrt{(84)(11316)}} = \frac{368}{974,96} = 0,377$$

$$r_{xy} = \frac{20(6936)-(82)(1682)}{\sqrt{((20(342)-(82)^2(20(142022)-(1682)^2)}}$$

$$r_{xy} = \frac{138720-137924}{\sqrt{(116)(11316)}} = \frac{796}{1145,71} = 0,695$$

Dari hasil perhitungan seluruh item ditampilkan pada tabel berikut

| No Item | r hitung | r tabel | Ket |
|---|---|---|---|
| 1 | 0,727 | 0,444 | Valid |
| 2 | 0,492 | 0,444 | Valid |
| 3 | 0,587 | 0,444 | Valid |
| 4 | 0,472 | 0,444 | Valid |
| 5 | 0,546 | 0,444 | Valid |
| 6 | 0,471 | 0,444 | Valid |
| 7 | 0,704 | 0,444 | Valid |
| 8 | 0,685 | 0,444 | Valid |
| 9 | 0,470 | 0,444 | Valid |
| 10 | 0,282 | 0,444 | Tidak Valid |
| 11 | 0,395 | 0,444 | Tidak Valid |
| 12 | 0,695 | 0,444 | Valid |
| 13 | 0,324 | 0,444 | Tidak Valid |
| 14 | 0,706 | 0,444 | Valid |
| 15 | 0,660 | 0,444 | Valid |
| 16 | 0,492 | 0,444 | Valid |
| 17 | 0,537 | 0,444 | Valid |
| 18 | 0,467 | 0,444 | Valid |
| 19 | 0,377 | 0,444 | Tidak Valid |
| 20 | 0,695 | 0,444 | Valid |

Dari hasil perhitungan seperti tercantum pada tabel diatas maka terdapat 10 item pernyataan pada variabel X3 yang dinyatakan tidak valid dan harus dikeluarkan dari instrument.

**Uji Reliabilitas Variabel X3**

Uji reliabilitas instrument dengan alpha cronbach, terlebih dahulu menghitung varians masing masing butir dengan rumus berikut,

$$\sigma_1^2 = \frac{\sum X^2 - \frac{(\sum X)^2}{n}}{n-1}$$

$\sigma_1^2 = \frac{365-\frac{(85)^2}{20}}{19}$ = 0,197 $\sigma_1^2 = \frac{347-\frac{(83)^2}{20}}{19}$ = 0,134 $\sigma_1^2 = \frac{367-\frac{(85)^2}{20}}{19}$ = 0,303

$\sigma_1^2 = \frac{358-\frac{(84)^2}{20}}{19}$ = 0,274 $\sigma_1^2 = \frac{358-\frac{(84)^2}{20}}{19}$ = 0,274 $\sigma_1^2 = \frac{351-\frac{(83)^2}{20}}{19}$ = 0,345

$\sigma_1^2 = \frac{349-\frac{(83)^2}{20}}{19}$ = 0,239 $\sigma_1^2 = \frac{374-\frac{(86)^2}{20}}{19}$ = 0,221 $\sigma_1^2 = \frac{340-\frac{(82)^2}{20}}{19}$ = 0,2

$\sigma_1^2 = \frac{383-\frac{(87)^2}{20}}{19}$ = 0,239 $\sigma_1^2 = \frac{376-\frac{(86)^2}{20}}{19}$ = 0,326 $\sigma_1^2 = \frac{385-\frac{(87)^2}{20}}{19}$ = 0,345

$\sigma_1^2 = \frac{358-\frac{(84)^2}{20}}{19}$ = 0,274 $\sigma_1^2 = \frac{365-\frac{(85)^2}{20}}{19}$ = 0,197 $\sigma_1^2 = \frac{342-\frac{(82)^2}{20}}{19}$ = 0,305

$\sigma_1^2 = \frac{340-\frac{(82)^2}{20}}{19}$ = 0,2 $\sigma_1^2 = \frac{351-\frac{(83)^2}{20}}{19}$ = 0,345 $\sigma_1^2 = \frac{349-\frac{(83)^2}{20}}{19}$ = 239

$\sigma_1^2 = \frac{374-\frac{(86)^2}{20}}{19}$ = 0,221 $\sigma_1^2 = \frac{342-\frac{(82)^2}{20}}{19}$ = 0,305

Dari hasil perhitungan varians seluruh item ditampilkan pada tabel berikut

| No item | $\sigma_1^2$ |
|---|---|
| 1 | 0,197 |
| 2 | 0,134 |
| 3 | 0,303 |
| 4 | 0,274 |
| 5 | 0,274 |
| 6 | 0,345 |
| 7 | 0,239 |
| 8 | 0,221 |
| 9 | 0,2 |
| 10 | 0,239 |
| 11 | 0,326 |
| 12 | 0,345 |
| 13 | 0,274 |
| 14 | 0,197 |
| 15 | 0,305 |
| 16 | 0,2 |
| 17 | 0,345 |
| 18 | 0,239 |
| 19 | 0,221 |
| 20 | 0,305 |
| $\sum s_i^2$ | 5,183 |

Menghitung varians total item sebagai berikut

$$\sigma_1^2 = \frac{142022 - \frac{(1682)^2}{20}}{19} = 29{,}779$$

Menghitung nilai Alpha Cronbach dengan rumus

$$r_{11} = \left(\frac{k}{k-1}\right)\left(1 - \frac{\sum s_i^2}{s_i^2}\right)$$

$$r_{11} = \left(\frac{20}{19}\right)\left(1 - \frac{5{,}183}{29{,}779}\right)$$

$$r_{11} = (1{,}053)(0{,}765)$$

$r_{11}$= 0,869 (reliabilitasnya tinggi)