

### Lampiran 3

#### Uji Validitas Variabel Y

Pengujian validitas dilakukan menggunakan rumus Korelasi Pearson

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

$$r_{xy} = \frac{20(7636) - (89)(1706)}{\sqrt{((20(401) - (89)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{152720 - 151834}{\sqrt{(99)(11404)}} = \frac{886}{1062,54} = 0,834$$

$$r_{xy} = \frac{20(7364) - (86)(1706)}{\sqrt{((20(376) - (86)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147280 - 146716}{\sqrt{(124)(11404)}} = \frac{564}{1189,16} = 0,474$$

$$r_{xy} = \frac{20(7366) - (86)(1706)}{\sqrt{((20(374) - (86)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147320 - 146716}{\sqrt{(84)(11404)}} = \frac{604}{978,74} = 0,617$$

$$r_{xy} = \frac{20(7108) - (83)(1706)}{\sqrt{((20(349) - (83)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{142160 - 141598}{\sqrt{(91)(11404)}} = \frac{562}{1018,71} = 0,552$$

$$r_{xy} = \frac{20(7357) - (86)(1706)}{\sqrt{((20(376) - (86)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147140 - 146716}{\sqrt{(124)(11404)}} = \frac{424}{1189,16} = 0,357$$

$$r_{xy} = \frac{20(7206) - (84)(1706)}{\sqrt{((20(360) - (84)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{144120 - 143304}{\sqrt{(144)(11404)}} = \frac{816}{1281,47} = 0,637$$

$$r_{xy} = \frac{20(7274) - (85)(1706)}{\sqrt{((20(365) - (85)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{145480 - 145010}{\sqrt{(75)(11404)}} = \frac{470}{924,82} = 0,508$$

$$r_{xy} = \frac{20(6940) - (81)(1706)}{\sqrt{((20(335) - (81)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{138800 - 138186}{\sqrt{(139)(11404)}} = \frac{614}{1259,03} = 0,488$$

$$r_{xy} = \frac{20(7467) - (87)(1706)}{\sqrt{((20(385) - (87)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{149340 - 148422}{\sqrt{(131)(11404)}} = \frac{918}{1222,26} = 0,751$$

$$r_{xy} = \frac{20(7448) - (87)(1706)}{\sqrt{((20(383) - (87)^2)(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{148960 - 148422}{\sqrt{(91)(11404)}} = \frac{538}{1018,71} = 0,528$$

$$r_{xy} = \frac{20(7705) - (90)(1706)}{\sqrt{((20(414) - (90)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{154100 - 153540}{\sqrt{(180)(11404)}} = \frac{560}{1432,73} = 0,391$$

$$r_{xy} = \frac{20(7277) - (85)(1706)}{\sqrt{((20(365) - (85)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{145540 - 145010}{\sqrt{(75)(11404)}} = \frac{530}{924,82} = 0,573$$

$$r_{xy} = \frac{20(7179) - (84)(1706)}{\sqrt{((20(356) - (84)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{143580 - 143304}{\sqrt{(62)(11404)}} = \frac{276}{854,32} = 0,323$$

$$r_{xy} = \frac{20(7359) - (86)(1706)}{\sqrt{((20(374) - (86)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147180 - 146716}{\sqrt{(84)(11404)}} = \frac{464}{978,74} = 0,474$$

$$r_{xy} = \frac{20(7364) - (86)(1706)}{\sqrt{((20(374) - (86)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147280 - 146716}{\sqrt{(84)(11404)}} = \frac{564}{978,74} = 0,576$$

$$r_{xy} = \frac{20(7360) - (86)(1706)}{\sqrt{((20(378) - (86)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147200 - 146716}{\sqrt{(164)(11404)}} = \frac{638}{1367,57} = 0,354$$

$$r_{xy} = \frac{20(7014) - (82)(1706)}{\sqrt{((20(340) - (82)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{140280 - 139892}{\sqrt{(76)(11404)}} = \frac{388}{930,97} = 0,417$$

$$r_{xy} = \frac{20(7362) - (86)(1706)}{\sqrt{((20(376) - (86)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{147240 - 146716}{\sqrt{(124)(11404)}} = \frac{524}{1189,16} = 0,441$$

$$r_{xy} = \frac{20(7024) - (82)(1706)}{\sqrt{((20(342) - (82)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{140480 - 139892}{\sqrt{(116)(11404)}} = \frac{588}{1150,16} = 0,511$$

$$r_{xy} = \frac{20(7282) - (85)(1706)}{\sqrt{((20(367) - (85)^2(20(146092) - (1706)^2))}}$$

$$r_{xy} = \frac{145700 - 145010}{\sqrt{(115)(11404)}} = \frac{690}{1145,19} = 0,55$$

Dari hasil perhitungan seluruh item ditampilkan pada tabel berikut

| No Item | r hitung | r tabel | Ket         |
|---------|----------|---------|-------------|
| 1       | 0,834    | 0,444   | Valid       |
| 2       | 0,474    | 0,444   | Valid       |
| 3       | 0,617    | 0,444   | Valid       |
| 4       | 0,552    | 0,444   | Valid       |
| 5       | 0,357    | 0,444   | Tidak Valid |
| 6       | 0,637    | 0,444   | Valid       |
| 7       | 0,508    | 0,444   | Valid       |
| 8       | 0,488    | 0,444   | Valid       |
| 9       | 0,751    | 0,444   | Valid       |
| 10      | 0,528    | 0,444   | Valid       |
| 11      | 0,391    | 0,444   | Tidak Valid |
| 12      | 0,573    | 0,444   | Valid       |
| 13      | 0,323    | 0,444   | Tidak Valid |
| 14      | 0,474    | 0,444   | Valid       |
| 15      | 0,576    | 0,444   | Valid       |
| 16      | 0,354    | 0,444   | Tidak Valid |
| 17      | 0,417    | 0,444   | Tidak Valid |
| 18      | 0,441    | 0,444   | Tidak Valid |
| 19      | 0,511    | 0,444   | Valid       |
| 20      | 0,55     | 0,444   | Valid       |

Dari hasil perhitungan seperti tercantum pada tabel diatas maka terdapat 5item pernyataan pada variabel Y yang dinyatakan tidak valid dan harus dikeluarkan dari instrument.

## Uji Reliabilitas Variabel Y

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

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

$$\sigma_1^2 = \frac{401 - \frac{(89)^2}{20}}{19} = 0,261$$

$$\sigma_1^2 = \frac{376 - \frac{(86)^2}{20}}{19} = 0,326$$

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

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

$$\sigma_1^2 = \frac{376 - \frac{(86)^2}{20}}{19} = 0,326$$

$$\sigma_1^2 = \frac{360 - \frac{(84)^2}{20}}{19} = 0,379$$

$$\sigma_1^2 = \frac{365 - \frac{(85)^2}{20}}{19} = 0,197$$

$$\sigma_1^2 = \frac{335 - \frac{(81)^2}{20}}{19} = 0,366$$

$$\sigma_1^2 = \frac{385 - \frac{(87)^2}{20}}{19} = 0,345$$

$$\sigma_1^2 = \frac{383 - \frac{(87)^2}{20}}{19} = 0,239$$

$$\sigma_1^2 = \frac{414 - \frac{(90)^2}{20}}{19} = 0,474$$

$$\sigma_1^2 = \frac{365 - \frac{(85)^2}{20}}{19} = 0,197$$

$$\sigma_1^2 = \frac{356 - \frac{(84)^2}{20}}{19} = 0,168$$

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

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

$$\sigma_1^2 = \frac{378 - \frac{(86)^2}{20}}{19} = 0,432$$

$$\sigma_1^2 = \frac{340 - \frac{(82)^2}{20}}{19} = 0,2$$

$$\sigma_1^2 = \frac{376 - \frac{(86)^2}{20}}{19} = 0,326$$

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

$$\sigma_1^2 = \frac{367 - \frac{(85)^2}{20}}{19} = 0,302$$

Dari hasil perhitungan varians seluruh item ditampilkan pada tabel berikut

| No item      | $\sigma_1^2$ |
|--------------|--------------|
| 1            | 0,261        |
| 2            | 0,326        |
| 3            | 0,221        |
| 4            | 0,239        |
| 5            | 0,326        |
| 6            | 0,379        |
| 7            | 0,197        |
| 8            | 0,366        |
| 9            | 0,345        |
| 10           | 0,239        |
| 11           | 0,474        |
| 12           | 0,197        |
| 13           | 0,168        |
| 14           | 0,221        |
| 15           | 0,221        |
| 16           | 0,432        |
| 17           | 0,2          |
| 18           | 0,326        |
| 19           | 0,305        |
| 20           | 0,302        |
| $\sum s_i^2$ | 5,745        |

Menghitung varians total item sebagai berikut

$$\sigma_1^2 = \frac{146092 - \frac{(1706)^2}{20}}{19} = 30,011$$

Menghitung nilai Alpha Cronbach dengan rumus

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

$$r_{11} = \left( \frac{20}{19} \right) \left( 1 - \frac{5,745}{30,011} \right)$$

$$r_{11} = (1,053)(0,809)$$

$$r_{11} = 0,851 \text{ (reliabilitasnya tinggi)}$$