

MENGOLAH ANALISIS KONJOIN DENGAN SPSS 15

Oleh: Suryana, M.Si

www.statistikaterapan.wordpress.com

Analisis konjoin adalah sebuah teknik guna mengukur preferensi konsumen terhadap atribut (spesifikasi atau fitur) sebuah produk atau jasa. Analisis konjoin berdasarkan pada subjektifitas konsumen terhadap beberapa kombinasi fitur yang ditawarkan. Subjektifitas konsumen ini diukur melalui peringkat (rank) atau skore (skala likert). Hasil analisis konjoin berupa informasi kuantitatif yang dapat memodelkan preferensi konsumen untuk beberapa kombinasi fitur produk.

Analisis konjoin terdiri dari beberapa tahap. Pertama, memilih beberapa kombinasi atribut dan level dari masing-masing atribut. Selanjutnya, kombinasi atribut ini diberi peringkat oleh beberapa responden (konsumen). Terakhir, analisis terhadap penilaian responden dilakukan untuk mengetahui preferensi konsumen.

SPSS 15 menggunakan pendekatan **full-profile** di mana peringkat dari kombinasi produk ditentukan oleh level dari semua faktor tertentu. Masalahnya adalah meskipun telah dengan sangat selektif dipilih kombinasi fitur produk yang paling berpotensi tetapi jumlah kombinasi yang dihasilkan sangat banyak. Jika ada 4 faktor dengan 3 level akan menghasilkan 81 kombinasi produk ($3 \times 3 \times 3 \times 3$). Seorang konsumen akan kesulitan memberi peringkat dari ke-81 kombinasi produk tersebut selain membutuhkan waktu yang relatif lama.

Untuk mengatasi masalah ini, desain yang digunakan bukan **full factor design** melainkan **fractional factorial design**. Dengan desain ini, sebagian dari seluruh kombinasi produk dipilih yang benar-benar berpengaruh terhadap efek utama. Efek interaksi tidak diperhatikan. Desain seperti itu dikenal dengan nama **orthogonal array**. Pembentukan kombinasi atribut yang memenuhi sifat orthogonal ini menjadi tahap awal yang sangat penting.

A. Membentuk Desain Orthogonal

Definisi yang cukup singkat namun jelas mengenai desain orthogonal seperti kutipan berikut:

In an orthogonal array table, balance is achieved because each level of a factor occurs an equal number of times with each level of each of the other factors. Note that all complete factorials in which there are an equal number of repeats for each factor–level combination are orthogonal arrays. Some fractional factorials are orthogonal arrays, some are not. (Mason, 2003).

Tampak bahwa dalam desain orthogonal, jumlah kemunculan dari setiap level suatu atribut selalu sama. Mason (2003) mencontohkan desain orthogonal dan bukan orthogonal seperti pada Tabel 7.8. Pada Tabel 7.8 kiri tampak bahwa setiap level dari masing-masing atribut muncul satu kali. Sebaliknya pada Tabel kanan, kombinasi 1 2 1 muncul 2 kali sementara kombinasi lainnya hanya satu kali.

TABLE 7.8 Example of an Orthogonal and a Nonorthogonal Array

| Orthogonal Array | | | Nonorthogonal Array | | |
|-------------------|----------|----------|---------------------|----------|----------|
| Factors: <i>A</i> | <i>B</i> | <i>C</i> | Factors: <i>A</i> | <i>B</i> | <i>C</i> |
| 1 | 1 | 1 | 1 | 1 | 2 |
| 1 | 2 | 2 | 1 | 2 | 1 |
| 2 | 1 | 2 | 2 | 1 | 2 |
| 2 | 2 | 1 | 1 | 2 | 1 |

Untuk membangkitkan orthogonal plan dalam SPSS 15 digunakan sintaks berikut

```
ORTHOPLAN [FACTORS=varlist ['labels'] (values ['labels'])...]
[{/REPLACE      }]
  {/OUTFILE='savfile'|'dataset'}

[/MINIMUM=value]

[/HOLDOUT=value]  [ /MIXHOLD={YES}]
                  {NO }
```

Contoh penggunaanya seperti berikut

```
*Generate Orthogonal Design .
SET SEED 2000000.
ORTHOPLAN
  /FACTORS=Merek 'Merek HP' ( 1 'Nokia' 2 'Samsung' 3 'Siemen')
    Harga 'Harga HP' ( 1 '< 1juta' 2 '1 - 3 juta' 3 '> 3 juta')
    Garansi 'Garansi HP' ( 1 'Pabrik' 2 'Distributor')
  /OUTFILE='D:\DATA\HP_Plan.SAV' .
```

Bentuk Data Plan dari Contoh yang penulis gunakan adalah

| | Merek | Harga | Garansi | STATUS | CARD | var | var | var | var | var | var | var |
|----|-------|---------|-------------|---------|------|-----|-----|-----|-----|-----|-----|-----|
| 1 | N | 425000 | Distributor | Design | 1 | | | | | | | |
| 2 | Si | 2050000 | Pabrik | Design | 2 | | | | | | | |
| 3 | N | 1300000 | Pabrik | Design | 3 | | | | | | | |
| 4 | S | 4500000 | Distributor | Design | 4 | | | | | | | |
| 5 | Si | 425000 | Pabrik | Design | 5 | | | | | | | |
| 6 | N | 425000 | Distributor | Design | 6 | | | | | | | |
| 7 | N | 2050000 | Distributor | Design | 7 | | | | | | | |
| 8 | S | 2050000 | Pabrik | Design | 8 | | | | | | | |
| 9 | Si | 1300000 | Distributor | Design | 9 | | | | | | | |
| 10 | N | 1300000 | Pabrik | Design | 10 | | | | | | | |
| 11 | Si | 4500000 | Distributor | Design | 11 | | | | | | | |
| 12 | N | 4500000 | Pabrik | Design | 12 | | | | | | | |
| 13 | S | 1300000 | Distributor | Design | 13 | | | | | | | |
| 14 | S | 425000 | Pabrik | Design | 14 | | | | | | | |
| 15 | N | 4500000 | Pabrik | Design | 15 | | | | | | | |
| 16 | N | 2050000 | Distributor | Design | 16 | | | | | | | |
| 17 | S | 2050000 | Distributor | Holdout | 17 | | | | | | | |
| 18 | Si | 425000 | Distributor | Holdout | 18 | | | | | | | |
| 19 | Si | 2050000 | Distributor | Holdout | 19 | | | | | | | |
| 20 | S | 425000 | Distributor | Holdout | 20 | | | | | | | |
| 21 | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |

B. DATA

Setelah membentuk orthogonal plan, langkah selanjutnya adalah membuat file data yang berisi hasil penilaian responden terhadap profil produk. Jika ada 18 kombinasi profil yang ditawarkan, maka responden harus memberikan penilaian dari produk yang paling diinginkan pada peringkat pertama hingga produk yang paling tidak diinginkan pada peringkat 18. Identitas responden harus tercatat sebagai variabel identitas. Tampilan data preferensi konsumen seperti berikut.

Gambar menunjukkan 5 konsumen. Konsumen 1 paling menginginkan profil ke-20 yaitu HP dengan merek Samsung dengan Harga Rp. 425.000,- dan garansi distributor. Sebaliknya, profil HP ke-19 (tidak tampak pada Gambar) dengan merek Siemen, Harga Rp. 2.050.000,- dan garansi distributor adalah yang paling tidak diinginkan. Demikian seterusnya.

HP_Prefs.sav [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help

15: PREF8 Visible: 21 of 21 Variables

| | ID | PREF1 | PREF2 | PREF3 | PREF4 | PREF5 | PREF6 | PREF7 | PREF8 | PREF9 | PREF10 | PREF11 | PREF12 | F |
|----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|---|
| 1 | 1.00 | 20.00 | 11.00 | 7.00 | 6.00 | 16.00 | 3.00 | 8.00 | 10.00 | 2.00 | 5.00 | 4.00 | 14.00 | |
| 2 | 2.00 | 16.00 | 11.00 | 14.00 | 15.00 | 17.00 | 7.00 | 10.00 | 13.00 | 12.00 | 2.00 | 6.00 | 4.00 | |
| 3 | 3.00 | 7.00 | 20.00 | 6.00 | 11.00 | 15.00 | 9.00 | 3.00 | 13.00 | 14.00 | 12.00 | 19.00 | 17.00 | |
| 4 | 4.00 | 18.00 | 7.00 | 20.00 | 4.00 | 15.00 | 1.00 | 5.00 | 13.00 | 10.00 | 8.00 | 3.00 | 9.00 | |
| 5 | 5.00 | 13.00 | 17.00 | 12.00 | 18.00 | 19.00 | 3.00 | 4.00 | 2.00 | 20.00 | 5.00 | 7.00 | 9.00 | |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | |

Data View Variable View

SPSS Processor is ready

start main Microsoft® HTML ... Analisis konjoin adala... 4 SPSS 9:17 PM

C. ANALISIS KONJOINT

1. Pengolahan Analisis Konjoin

Secara umum, sintaks SPSS 15 untuk mengolah analisis konjoin sebagai berikut:

```

CONJOINT [PLAN={*
           {'savfile' | 'dataset' }]]

[/DATA={*
        {'savfile' | 'dataset' }]]

/{SEQUENCE}=varlist
  {RANK      }
  {SCORE    }

[/SUBJECT=variable]

[/FACTORS=varlist['labels'] ([{DISCRETE[ {MORE} ]}]
                              {LESS      } ]
                              {LINEAR[ {MORE} ] }
                              {LESS      } ]

```

```

                                { IDEAL          }
                                { ANTIIDEAL       }
[values[ 'labels' ]]]]
varlist...

[/PRINT={ALL**          } [SUMMARYONLY]]
        {ANALYSIS      }
        {SIMULATION    }
        {NONE          }

[/UTILITY=file]

[/PLOT={ [SUMMARY] [SUBJECT] [ALL] }]
       { [NONE**]          }

```

Dari sintaks umum di atas, dapat diketahui bahwa untuk mengolah analisis konjoin diperlukan dua buah file, yaitu file PLAN yang berisi kombinasi atribut dan level yang memenuhi sifat ORTHOGONAL PLAN dan file data. Untuk mendefinisikan file plan, sintaks

```
CONJOINT PLAN = '{isikan alamat file plan}'
```

Contoh:

```
CONJOINT PLAN = 'D:/DATA/HP_Plan.sav'
```

Dalam hal ini, penulis menyimpan file plan dengan nama HP_Plan.sav yang diletakkan di folder D:/DATA.

Selanjutnya, file kita juga harus mendefinisikan file data dengan sintaks

```
/DATA = '{isikan alamat file data}'
```

CONTOH:

```
/DATA = "D:/DATA/HP_Prefs.sav"
```

SPSS 15 menyediakan 3 pilihan dalam mencatat respon dari konsumen. Pertama, setiap nomor profil dicatat dalam file data dimulai dari profil yang paling diinginkan hingga profil yang paling tidak diinginkan. Sintaks yang digunakan adalah

```
/SEQUENCE = varlist
```

Kedua, file data berisi peringkat dari profil dimulai dari profil pertama hingga profil terakhir. Sintaks yang digunakan adalah

```
/RANK= varlist
```

Ketiga, file data berisi skor (skala likert) untuk masing-masing profil. Sintaks yang digunakan adalah

/SCORE=varlist

Di sini, penulis menggunakan dua pencatatan yaitu sequence dan score secara terpisah. Untuk itu, sintaks selengkapnya penulis sajikan sebagai berikut:

```
CONJOINT PLAN='D:\EXERCISE\HP_Plan.sav'  
/DATA='D:\EXERCISE\SCORE.sav'  
/SCORE=PROF1 TO PROF20  
/SUBJECT=ID  
/FACTORS=merek (discrete more) harga (linear more) garansi (discrete more)  
/PRINT=ALL  
/PLOT=ALL.
```

Jika sintaks diatas dieksekusi dengan mengklik RUN – ALL,

Akan dihasilkan output sebagaimana pada hal 7-19 dari output terlampir:

Hingga tahapan ini proses pengolahan analisis konjoin telah selesai dilakukan. Semoga Tulisan ini bermanfaat.

Referensi:

Robert L. Mason, Richard F. Gunst, and James L. Hess. (2003). Statistical Design and Analysis of Experiments: With Applications to Engineering and Science. Second Edition. A JOHN WILEY & SONS PUBLICATION.

SPSS 15 HELP OPTION.

```

GET
  FILE='D:\EXERCISE\HP_Prefs.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
GET
  FILE='D:\EXERCISE\ORTHO.SAV'.
DATASET NAME DataSet2 WINDOW=FRONT.
GET
  FILE='D:\EXERCISE\HP_Plan.sav'.
DATASET NAME DataSet3 WINDOW=FRONT.
DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet2.
DATASET ACTIVATE DataSet3.
CONJOINT PLAN='D:\EXERCISE\HP_Plan.sav'
/DATA='D:\EXERCISE\HP_Prefs.sav'
/SEQUENCE=PREF1 TO PREF20
/SUBJECT=ID
/FACTORS=Merek (Discrete More) Harga (Linear More) Garansi (Discrete More)
/PRINT=all.
    
```

Conjoint Analysis

[DataSet3] D:\EXERCISE\HP_Plan.sav

Warnings

All factors are orthogonal.

Model Description

| | N of Levels | Relation to Ranks or Scores |
|---------|-------------|-----------------------------|
| Merek | 3 | Discrete (more) |
| Harga | 4 | Linear (more) |
| Garansi | 2 | Discrete (more) |

Subject 1: 1.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | .667 | 1.757 |
| | S | -1.833 | 2.061 |
| | Si | 1.167 | 2.061 |
| Garansi | Distributor | .625 | 1.318 |
| | Pabrik | -.625 | 1.318 |
| Harga | 425000 | .550 | 1.179 |
| | 1300000 | 1.100 | 2.358 |
| | 2050000 | 1.650 | 3.536 |
| | 4500000 | 2.200 | 4.715 |
| (Constant) | | 6.958 | 3.258 |

Importance Values^b

| | |
|----------------------|--------|
| Merek ^a | 50.847 |
| Garansi ^a | 21.186 |
| Harga | 27.966 |

- a. Reversed
- b. 2 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | .550 | 1.179 |

Correlations^a

| | Value | Sig. |
|----------------------------|--------|------|
| Pearson's R | .318 | .115 |
| Kendall's tau | .288 | .062 |
| Kendall's tau for Holdouts | -1.000 | .021 |

- a. Correlations between observed and estimated preferences

Subject 2: 2.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | .833 | 1.713 |
| | S | -.292 | 2.009 |
| | Si | -.542 | 2.009 |
| Garansi | Distributor | .250 | 1.285 |
| | Pabrik | -.250 | 1.285 |
| Harga | 425000 | 1.450 | 1.149 |
| | 1300000 | 2.900 | 2.299 |
| | 2050000 | 4.350 | 3.448 |
| | 4500000 | 5.800 | 4.597 |
| (Constant) | | 4.667 | 3.176 |

Importance Values^b

| | |
|----------------------|--------|
| Merek ^a | 22.088 |
| Garansi ^a | 8.032 |
| Harga | 69.880 |

- a. Reversed
- b. 2 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | 1.450 | 1.149 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .381 | .073 |
| Kendall's tau | .271 | .074 |
| Kendall's tau for Holdouts | .667 | .087 |

a. Correlations between observed and estimated preferences

Subject 3: 3.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | .833 | 1.671 |
| | S | -1.542 | 1.959 |
| | Si | .708 | 1.959 |
| Garansi | Distributor | 1.625 | 1.253 |
| | Pabrik | -1.625 | 1.253 |
| Harga | 425000 | .500 | 1.121 |
| | 1300000 | 1.000 | 2.242 |
| | 2050000 | 1.500 | 3.362 |
| | 4500000 | 2.000 | 4.483 |
| (Constant) | | 7.042 | 3.098 |

Importance Values^b

| | |
|----------------------|--------|
| Merek ^a | 33.333 |
| Garansi ^a | 45.614 |
| Harga | 21.053 |

a. Reversed

b. 2 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | .500 | 1.121 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .433 | .047 |
| Kendall's tau | .339 | .035 |
| Kendall's tau for Holdouts | -.333 | .248 |

a. Correlations between observed and estimated preferences

Subject 4: 4.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | .167 | 1.751 |
| | S | 1.792 | 2.053 |
| | Si | -1.958 | 2.053 |
| Garansi | Distributor | .625 | 1.313 |
| | Pabrik | -.625 | 1.313 |
| Harga | 425000 | -.300 | 1.175 |
| | 1300000 | -.600 | 2.349 |
| | 2050000 | -.900 | 3.524 |
| | 4500000 | -1.200 | 4.699 |
| (Constant) | | 9.208 | 3.247 |

Importance Values^b

| | |
|----------------------|--------|
| Merek ^a | 63.559 |
| Garansi ^a | 21.186 |
| Harga ^a | 15.254 |

a. Reversed

b. 3 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | -.300 | 1.175 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .327 | .108 |
| Kendall's tau | .237 | .103 |
| Kendall's tau for Holdouts | .333 | .248 |

a. Correlations between observed and estimated preferences

Subject 5: 5.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.500 | 1.843 |
| | S | .625 | 2.161 |
| | Si | -.125 | 2.161 |
| Garansi | Distributor | .000 | 1.382 |
| | Pabrik | .000 | 1.382 |
| Harga | 425000 | -.150 | 1.236 |
| | 1300000 | -.300 | 2.472 |
| | 2050000 | -.450 | 3.708 |
| | 4500000 | -.600 | 4.945 |
| (Constant) | | 9.000 | 3.417 |

Importance Values^b

| | |
|--------------------|--------|
| Merek ^a | 71.429 |
| Garansi | .000 |
| Harga ^a | 28.571 |

a. Reversed

b. 2 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | -.150 | 1.236 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .106 | .348 |
| Kendall's tau | .119 | .263 |
| Kendall's tau for Holdouts | .000 | .500 |

a. Correlations between observed and estimated preferences

Overall Statistics

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | .400 | .731 |
| | S | -.250 | .857 |
| | Si | -.150 | .857 |
| Garansi | Distributor | .625 | .548 |
| | Pabrik | -.625 | .548 |
| Harga | 425000 | .410 | .490 |
| | 1300000 | .820 | .981 |
| | 2050000 | 1.230 | 1.471 |
| | 4500000 | 1.640 | 1.962 |
| (Constant) | | 7.375 | 1.356 |

Importance Values

| | |
|---------|--------|
| Merek | 48.251 |
| Garansi | 19.204 |
| Harga | 32.545 |

Averaged Importance Score

Coefficients

| | |
|-------|----------|
| | B |
| | Estimate |
| Harga | .410 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .416 | .055 |
| Kendall's tau | .335 | .039 |
| Kendall's tau for Holdouts | -.548 | .139 |

a. Correlations between observed and estimated preferences

Number of Reversals

| Factor | Merek | Garansi | Harga | |
|---------|-------|--------------|-------|---|
| | | | | 5 |
| | | | | 4 |
| | | | | 2 |
| Subject | 1 | Subject 1.00 | | 2 |
| | 2 | Subject 2.00 | | 2 |
| | 3 | Subject 3.00 | | 2 |
| | 4 | Subject 4.00 | | 3 |
| | 5 | Subject 5.00 | | 2 |

Reversal Summary

| N of Reversals | N of Subjects |
|----------------|---------------|
| 2 | 4 |
| 3 | 1 |

This table displays the number of subjects that have the given number of reversals.

```

NEW FILE.
DATASET NAME DataSet4 WINDOW=FRONT.
DATASET ACTIVATE DataSet1.
SAVE OUTFILE='D:\EXERCISE\SCORE.sav'
/COMPRESSED.
SAVE OUTFILE='D:\EXERCISE\SCORE.sav'
/COMPRESSED.
DATASET ACTIVATE DataSet3.
CONJOINT PLAN='D:\EXERCISE\HP_Plan.sav'
/DATA='D:\EXERCISE\SCORE.sav'
/SCORE=PROF1 TO PROF20
/SUBJECT=ID
/FACTORS=merek (discrete more) harga (linear more) garansi (discrete more)
/PRINT=ALL
/PLOT=ALL.
    
```

Conjoint Analysis

[DataSet3] D:\EXERCISE\HP_Plan.sav

Warnings

All factors are orthogonal.

Model Description

| | N of Levels | Relation to Ranks or Scores |
|---------|-------------|-----------------------------|
| Merek | 3 | Discrete (more) |
| Harga | 4 | Linear (more) |
| Garansi | 2 | Discrete (more) |

Subject 1: 1.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.083 | .478 |
| | S | -.833 | .560 |
| | Si | .917 | .560 |
| Garansi | Distributor | -.563 | .358 |
| | Pabrik | .563 | .358 |
| Harga | 425000 | -.675 | .320 |
| | 1300000 | -1.350 | .641 |
| | 2050000 | -2.025 | .961 |
| | 4500000 | -2.700 | 1.281 |
| (Constant) | | 4.771 | .885 |

Importance Values^b

| | |
|--------------------|--------|
| Merek ^a | 35.714 |
| Garansi | 22.959 |
| Harga ^a | 41.327 |

a. Reversed

b. 2 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | -.675 | .320 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .689 | .002 |
| Kendall's tau | .578 | .002 |
| Kendall's tau for Holdouts | .000 | .500 |

a. Correlations between observed and estimated preferences

Subject 2: 2.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.250 | .583 |
| | S | .125 | .684 |
| | Si | .125 | .684 |
| Garansi | Distributor | .188 | .438 |
| | Pabrik | -.188 | .438 |
| Harga | 425000 | .075 | .391 |
| | 1300000 | .150 | .783 |
| | 2050000 | .225 | 1.174 |
| | 4500000 | .300 | 1.566 |
| (Constant) | | 2.938 | 1.082 |

Importance Values^b

| | |
|----------------------|--------|
| Merek | 38.462 |
| Garansi ^a | 38.462 |
| Harga | 23.077 |

a. Reversed

b. 1 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | .075 | .391 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .188 | .243 |
| Kendall's tau | .156 | .225 |
| Kendall's tau for Holdouts | .224 | .342 |

a. Correlations between observed and estimated preferences

Subject 3: 3.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.917 | .549 |
| | S | .083 | .644 |
| | Si | .833 | .644 |
| Garansi | Distributor | -.188 | .412 |
| | Pabrik | .188 | .412 |
| Harga | 425000 | -.125 | .369 |
| | 1300000 | -.250 | .737 |
| | 2050000 | -.375 | 1.106 |
| | 4500000 | -.500 | 1.474 |
| (Constant) | | 3.229 | 1.018 |

Importance Values^b

| | |
|--------------------|--------|
| Merek | 70.000 |
| Garansi | 15.000 |
| Harga ^a | 15.000 |

a. Reversed

b. 1 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | -.125 | .369 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .492 | .026 |
| Kendall's tau | .443 | .015 |
| Kendall's tau for Holdouts | .183 | .359 |

a. Correlations between observed and estimated preferences

Subject 4: 4.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.167 | .430 |
| | S | .333 | .504 |
| | Si | -.167 | .504 |
| Garansi | Distributor | .875 | .322 |
| | Pabrik | -.875 | .322 |
| Harga | 425000 | -.850 | .288 |
| | 1300000 | -1.700 | .577 |
| | 2050000 | -2.550 | .865 |
| | 4500000 | -3.400 | 1.154 |
| (Constant) | | 5.292 | .797 |

Importance Values^b

| | |
|----------------------|--------|
| Merek ^a | 10.417 |
| Garansi ^a | 36.458 |
| Harga ^a | 53.125 |

- a. Reversed
- b. 3 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | -.850 | .288 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .775 | .000 |
| Kendall's tau | .626 | .001 |
| Kendall's tau for Holdouts | .183 | .359 |

- a. Correlations between observed and estimated preferences

Subject 5: 5.00

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.417 | .490 |
| | S | -.542 | .575 |
| | Si | .958 | .575 |
| Garansi | Distributor | .688 | .368 |
| | Pabrik | -.688 | .368 |
| Harga | 425000 | -.025 | .329 |
| | 1300000 | -.050 | .658 |
| | 2050000 | -.075 | .987 |
| | 4500000 | -.100 | 1.316 |
| (Constant) | | 3.854 | .909 |

Importance Values^b

| | |
|----------------------|--------|
| Merek ^a | 50.847 |
| Garansi ^a | 46.610 |
| Harga ^a | 2.542 |

- a. Reversed
- b. 3 reversals

Coefficients

| | B Coefficient | |
|-------|---------------|------------|
| | Estimate | Std. Error |
| Harga | -.025 | .329 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .604 | .007 |
| Kendall's tau | .456 | .014 |
| Kendall's tau for Holdouts | -.183 | .359 |

a. Correlations between observed and estimated preferences

Overall Statistics

Utilities

| | | Utility Estimate | Std. Error |
|------------|-------------|------------------|------------|
| Merek | N | -.367 | .161 |
| | S | -.167 | .188 |
| | Si | .533 | .188 |
| Garansi | Distributor | .200 | .120 |
| | Pabrik | -.200 | .120 |
| Harga | 425000 | -.320 | .108 |
| | 1300000 | -.640 | .215 |
| | 2050000 | -.960 | .323 |
| | 4500000 | -1.280 | .431 |
| (Constant) | | 4.017 | .298 |

Importance Values

| | |
|---------|--------|
| Merek | 41.088 |
| Garansi | 31.898 |
| Harga | 27.014 |

Averaged Importance Score

Coefficients

| | B |
|-------|----------|
| | Estimate |
| Harga | -.320 |

Correlations^a

| | Value | Sig. |
|----------------------------|-------|------|
| Pearson's R | .810 | .000 |
| Kendall's tau | .588 | .001 |
| Kendall's tau for Holdouts | .183 | .359 |

a. Correlations between observed and estimated preferences

Number of Reversals

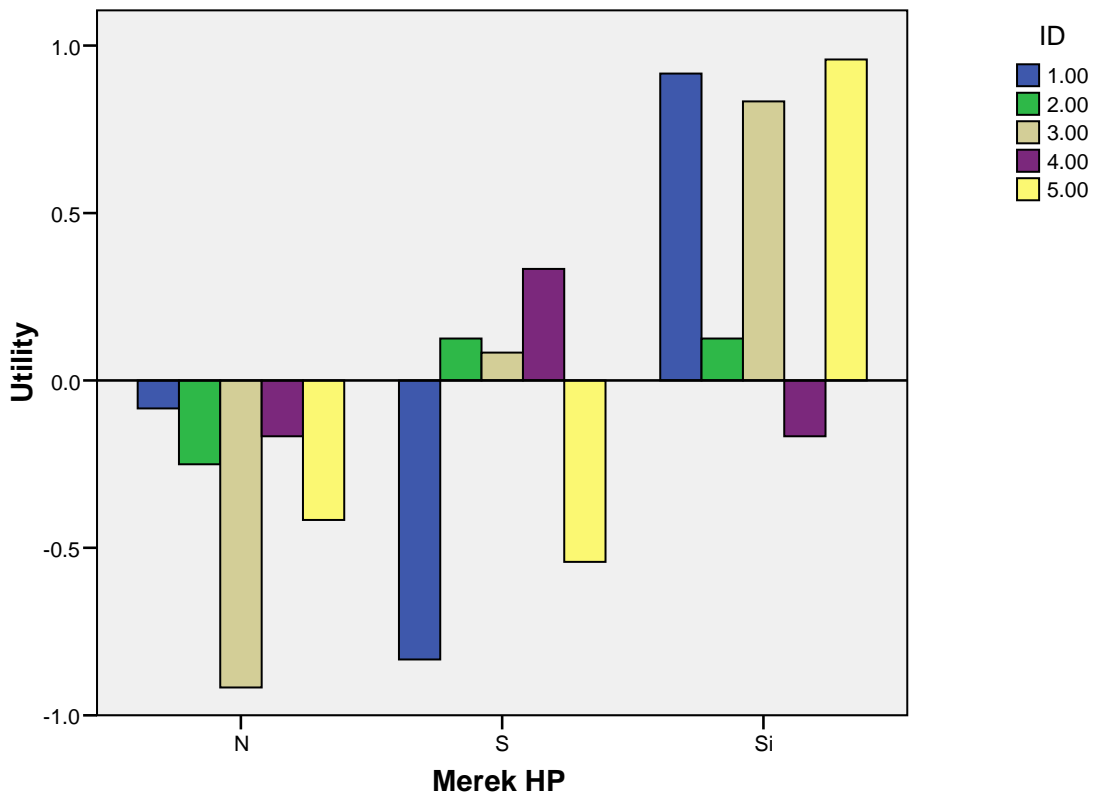
| | | | |
|---------|---------|--------------|---|
| Factor | Harga | | 4 |
| | Garansi | | 3 |
| | Merek | | 3 |
| Subject | 1 | Subject 1.00 | 2 |
| | 2 | Subject 2.00 | 1 |
| | 3 | Subject 3.00 | 1 |
| | 4 | Subject 4.00 | 3 |
| | 5 | Subject 5.00 | 3 |

Reversal Summary

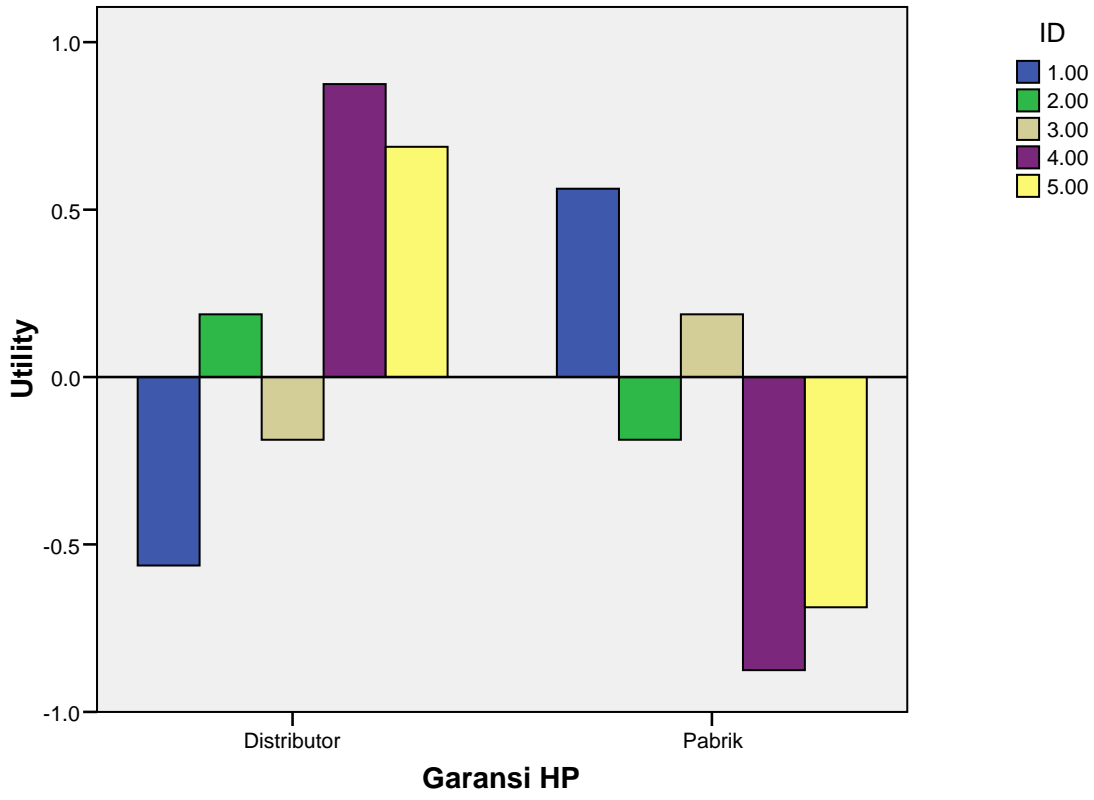
| N of Reversals | N of Subjects |
|----------------|---------------|
| 1 | 2 |
| 2 | 1 |
| 3 | 2 |

This table displays the number of subjects that have the given number of reversals.

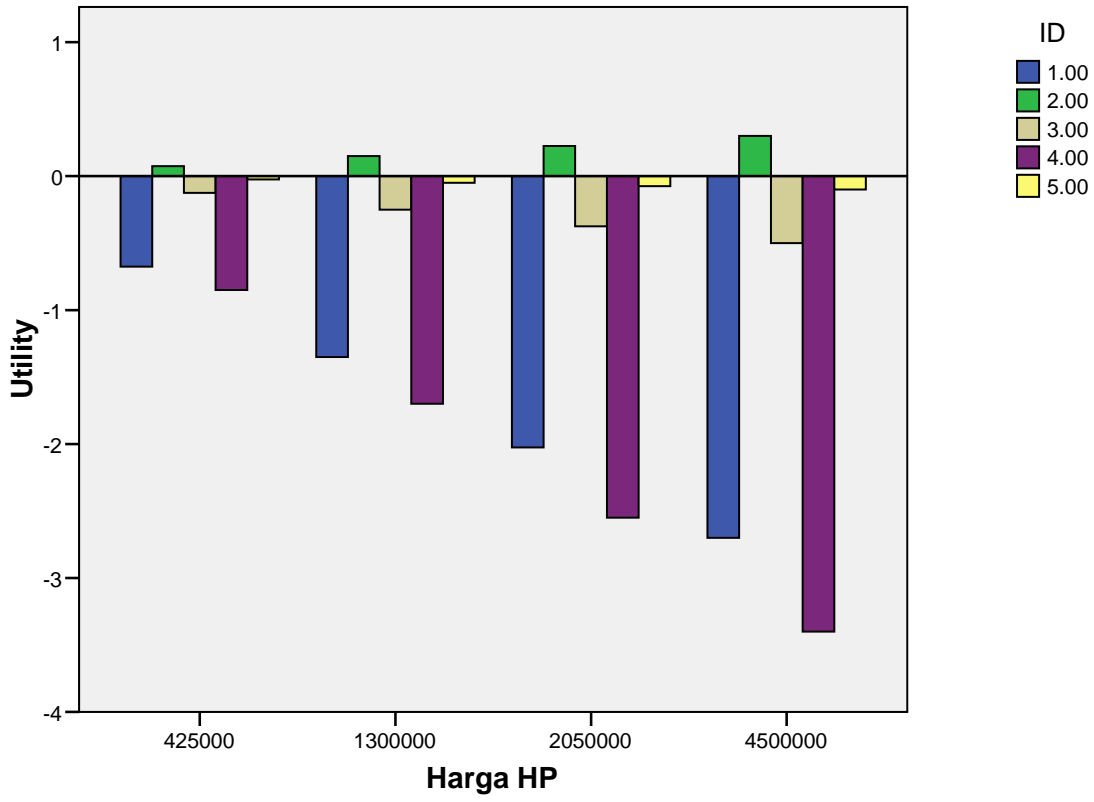
Individual Subject Utilities



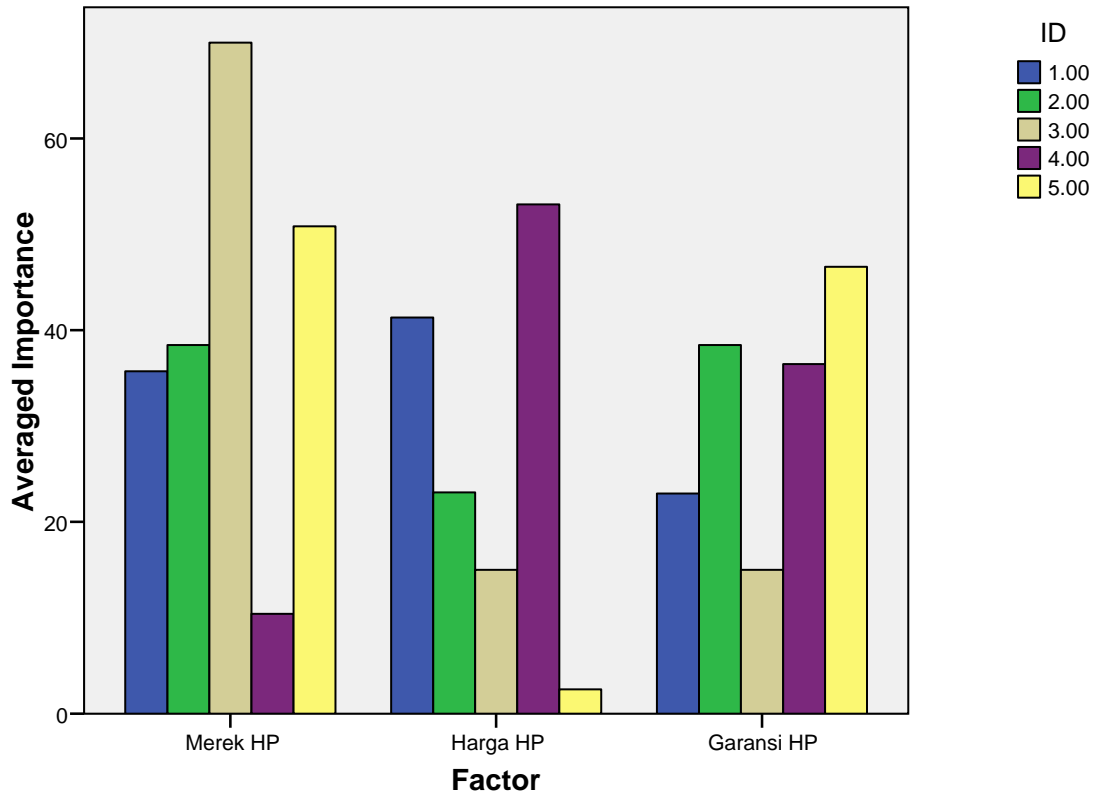
Individual Subject Utilities



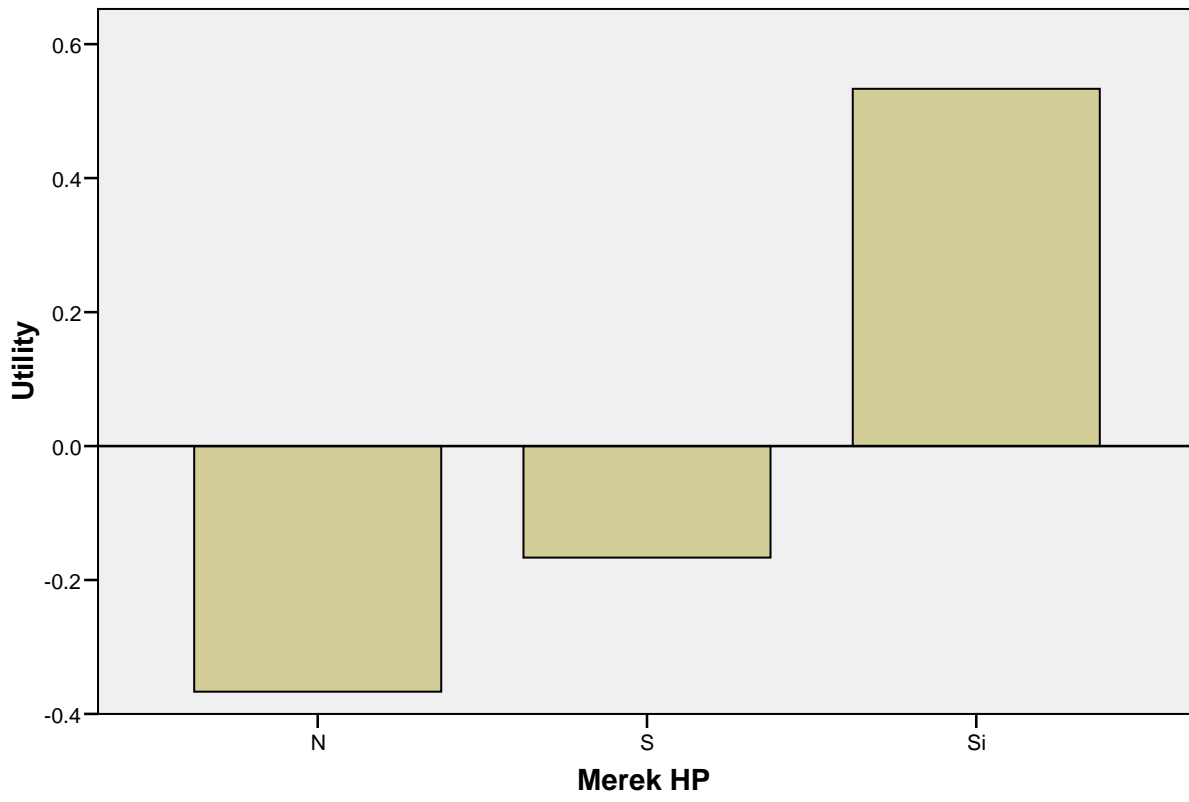
Individual Subject Utilities



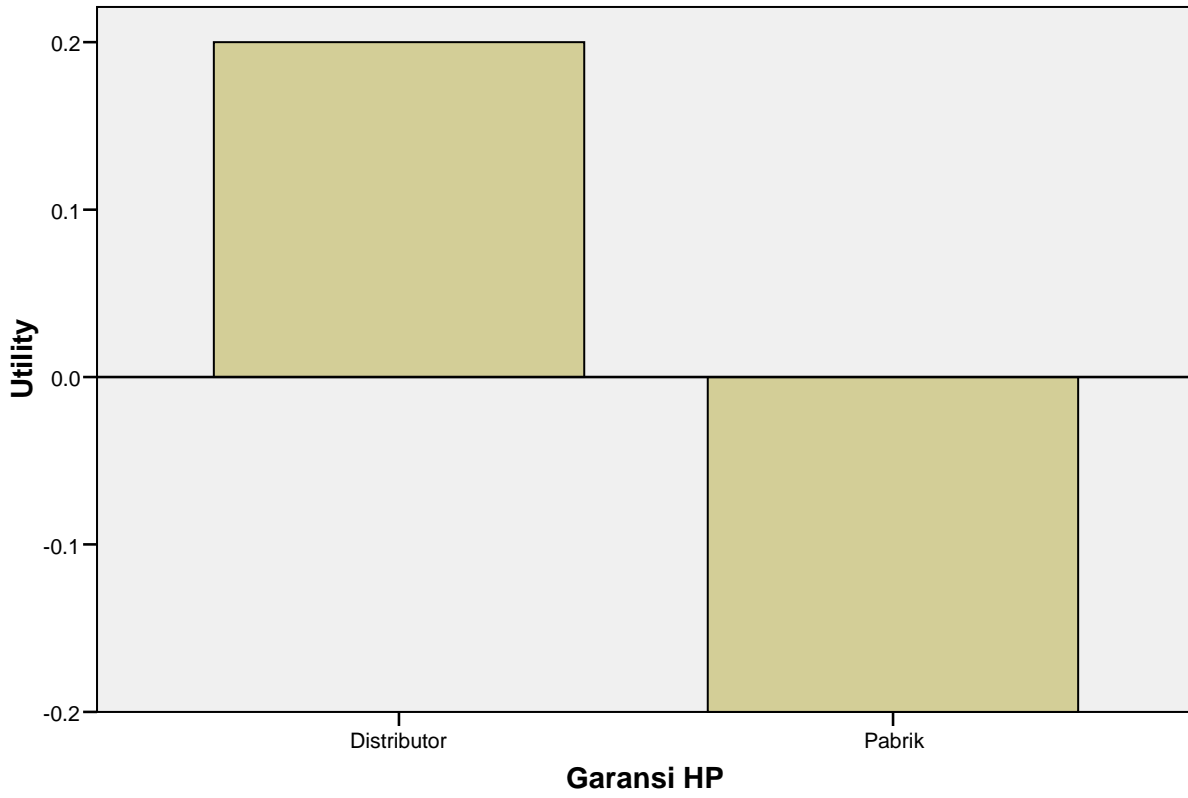
Individual Subject Importance



Summary Utilities



Summary Utilities



Summary Utilities



Importance summary

