Nama: Isep Lutpi Nur

NPM: 2113191079

Tugas: Minggu 4 - MULTI-OBJECTIVE OPTIMIZATION ON THE BASIS OF RASIO (MOORA)

# **TUGAS**

1. Buatlah judul yang bisa diselesaikan secara ahp, promithee, moora
2. Bisa diambil dari penelitian yang sudah pernah dibuat
3. Tapi dengan metode yg berbeda
4. Ujilah dengan ms excel apakah hasilnya sama dengan metode yang diteliti

# **Jawaban:**

**Judul:** Penentuan asisten laboratorium menggunakan metode MOORA

**Data:**

**Bobot Kriteria:**

Nilai Ujian = 0.61

IPK = 0.277

Semester = 0.113

Min = {Nilai Ujian, IPK}

Max = {Semester}

**Table data:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Nama | NU | IPK | Smstr |
| 1 | Rivan kurnia | 70 | 3.20 | 6 |
| 2 | Adistia Ramadhani | 80 | 3.30 | 6 |
| 3 | Akbar Maulana | 85 | 3.50 | 4 |
| 4 | Alam Nurzaman | 75 | 3.10 | 6 |
| 5 | Dara Atria | 85 | 3.70 | 6 |
| 6 | Deri Kurniawan | 80 | 3.30 | 4 |
| 7 | Farhan Aziz | 70 | 3.30 | 4 |
| 8 | Iman Faturahman | 75 | 3.20 | 6 |
| 9 | Irfan Ramdani | 80 | 3.40 | 4 |
| 10 | Isep Lutpi Nur | 90 | 3.70 | 4 |

**Implementasi**:

1. Membuat Matriks Keputusan

|  |  |  |  |
| --- | --- | --- | --- |
| **Xjj =** | 70 | 3.20 | 6 |
|  | 80 | 3.30 | 6 |
|  | 85 | 3.50 | 4 |
|  | 75 | 3.10 | 6 |
|  | 85 | 3.70 | 6 |
|  | 80 | 3.30 | 4 |
|  | 70 | 3.30 | 4 |
|  | 75 | 3.20 | 6 |
|  | 80 | 3.40 | 4 |
|  | 90 | 3.70 | 4 |

1. Normalisasi matriks
2. Normalisasi Nilai Ujian

Dan Seterusnya

1. Normalisasi IPK

Dan seterusnya

1. Normalisasi Semester

Dan seterusnya

1. Hasil Normalisasi:

|  |  |  |  |
| --- | --- | --- | --- |
| **Xjj =** | 0.2793 | 0.2998 | 0.3721 |
|  | 0.3192 | 0.3091 | 0.3721 |
|  | 0.3392 | 0.3279 | 0.2481 |
|  | 0.2993 | 0.2904 | 0.3721 |
|  | 0.3392 | 0.3466 | 0.3721 |
|  | 0.3192 | 0.3091 | 0.2481 |
|  | 0.2793 | 0.3091 | 0.2481 |
|  | 0.2993 | 0.2998 | 0.3721 |
|  | 0.3192 | 0.3185 | 0.2481 |
|  | 0.3591 | 0.3466 | 0.2481 |

1. Perkalian Matriks Ternormalisasi dengan bobot

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Bobot | Nilai |  |  |  |  |  |
|  | Nilai Ujian | 0.61 |  |  |  |  |  |
|  | IPK | 0.28 |  |  |  |  |  |
|  | Semester | 0.11 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| **Xjj =** | 0.2793 x 0.61 | 0.2998 x 0.28 | 0.3721 x 0.11 |  | 0.170392 | 0.083936 | 0.040931 |
|  | 0.3192 x 0.61 | 0.3091 x 0.28 | 0.3721 x 0.11 |  | 0.194733 | 0.08656 | 0.040931 |
|  | 0.3392 x 0.61 | 0.3279 x 0.28 | 0.2481 x 0.11 |  | 0.206904 | 0.091806 | 0.027288 |
|  | 0.2993 x 0.61 | 0.2904 x 0.28 | 0.3721 x 0.11 |  | 0.182562 | 0.081313 | 0.040931 |
|  | 0.3392 x 0.61 | 0.3466 x 0.28 | 0.3721 x 0.11 | => | 0.206904 | 0.097052 | 0.040931 |
|  | 0.3192 x 0.61 | 0.3091 x 0.28 | 0.2481 x 0.11 |  | 0.194733 | 0.08656 | 0.027288 |
|  | 0.2793 x 0.61 | 0.3091 x 0.28 | 0.2481 x 0.11 |  | 0.170392 | 0.08656 | 0.027288 |
|  | 0.2993 x 0.61 | 0.2998 x 0.28 | 0.3721 x 0.11 |  | 0.182562 | 0.083936 | 0.040931 |
|  | 0.3192 x 0.61 | 0.3185 x 0.28 | 0.2481 x 0.11 |  | 0.194733 | 0.089183 | 0.027288 |
|  | 0.3591 x 0.61 | 0.3466 x 0.28 | 0.2481 x 0.11 |  | 0.219075 | 0.097052 | 0.027288 |

1. Kriteria Benefit – Cost (Max – Min)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Nama | NU | IPK | Smstr | Max(NU + IPK) | Min(Smstr) | Max - Min | Rangking |
| 1 | Rivan kurnia | 0.1704 | 0.0839 | 0.0409 | 0.254328048 | 0.040931462 | 0.2133966 | 10 |
| 2 | Adistia Ramadhani | 0.1947 | 0.0866 | 0.0409 | 0.281292713 | 0.040931462 | 0.2403613 | 6 |
| 3 | Akbar Maulana | 0.2069 | 0.0918 | 0.0273 | 0.298709569 | 0.027287642 | 0.2714219 | 2 |
| 4 | Alam Nurzaman | 0.1826 | 0.0813 | 0.0409 | 0.263875857 | 0.040931462 | 0.2229444 | 9 |
| 5 | Dara Atria | 0.2069 | 0.0971 | 0.0409 | 0.3039556 | 0.040931462 | 0.2630241 | 3 |
| 6 | Deri Kurniawan | 0.1947 | 0.0866 | 0.0273 | 0.281292713 | 0.027287642 | 0.2540051 | 5 |
| 7 | Farhan Aziz | 0.1704 | 0.0866 | 0.0273 | 0.256951063 | 0.027287642 | 0.2296634 | 7 |
| 8 | Iman Faturahman | 0.1826 | 0.0839 | 0.0409 | 0.266498873 | 0.040931462 | 0.2255674 | 8 |
| 9 | Irfan Ramdani | 0.1947 | 0.0892 | 0.0273 | 0.283915729 | 0.027287642 | 0.2566281 | 4 |
| 10 | Isep Lutpi Nur | 0.2191 | 0.0971 | 0.0273 | 0.316126425 | 0.027287642 | 0.2888388 | 1 |

1. Kesimpulan

Dengan menerapkan metode Moora pada pemilihan asisten laboratorium maka proses seleksi akan menjadi lebih obyektif, alternatif dengan rangking 1 adalah alternatif dengan nilai tertinggi dari perhitungan metode Moora.

1. Perhitungan

Perhitungan menggunakan Microsoft Excel

