Langkah Metode WASPAS

1. Membuat sebuah Matrik Keputusan

$$X = \begin{bmatrix} x11 & x12 & \dots & x1n \\ x21 & x22 & \dots & x2n \\ \dots & \dots & \dots & \dots \\ xM1 & xM2 & \dots & xMn \end{bmatrix} \quad \dots\dots (1)$$

2. Melakukan Normalisasi terhadap Matrik

   a. Kriteria Benefit

$$\overline{X}ij = \frac{Xij}{MAX\ i\ Xij} \quad \dots\dots (2)$$

   b. Kriteria Cost

$$\overline{X}ij = \frac{MIN\ i\ Xij}{Xij} \quad \dots\dots (3)$$

3. Menghitung Nilai Qi

$$Qi = 0.5 \sum_{j=1}^{n} Xijw + 0.5 \prod_{j=1}^{n} (xij)^{wj} \quad \dots\dots (4)$$

   Keterangan :
   Qi = Nilai dari Q ke i
   XijW = Perkalian nilai dari Xij dengan nilai bobot (w)
   0.5 = Ketetapan Metode WASPAS
   Nilai Qi Tertinggi merupakan nilai yang terbaik

Perhitungan Manual Dengan Metode WASPAS

Data Kriteria

Kriteria	Keterangan	Jenis	Bobot
C1	Akademik	Benefit	4
C2	Kedisiplinan	Benefit	3
C3	Laporan Semester	Benefit	1
C4	Prestasi	Benefit	2

Data Sub Kriteria Akademik

Sub Kriteria	Bobot	Keterangan
Sangat Baik	100	Magister
Baik	75	Sarjana
Cukup	50	D3

Data Sub Kriteria Kedisiplinan

Sub Kriteria	Bobot	Keterangan
Sangat Baik	100	< 07.00 WIB
Baik	75	07.00 - 07.30 WIB
Cukup	50	07.30 - 08.00 WIB
Kurang	25	> 08.30 WIB

Data Sub Kriteria Laporan Semester

Sub Kriteria	Bobot	Keterangan
Sangat Baik	100	Silabus, RPP, Modul, Soal Ujian
Baik	75	RPP, Modul, Soal Ujian
Cukup	50	Modul, Soal Ujian

Data Sub Kriteria Prestasi

Sub Kriteria	Bobot	Keterangan
Sangat Baik	100	Nasional
Baik	75	Provinsi
Cukup	50	Kabupaten
Kurang	25	Kecamatan

Data Alternatif

Alternatif	C1	C2	C3	C4
Pegawai 1	100	100	100	50
Pegawai 2	75	75	75	25
Pegawai 3	75	50	75	75
Pegawai 4	50	100	75	25
Pegawai 5	50	75	50	75

Langkah Perhitungan Manual Metode WASPAS

1. Matrik Keputusan

Alternatif	C1	C2	C3	C4
Pegawai 1	100	100	100	50
Pegawai 2	75	75	75	25
Pegawai 3	75	50	75	75
Pegawai 4	50	100	75	25
Pegawai 5	50	75	50	75

2. Normalisasi Matrik

Pegawai 1
C1 = 100/100 = 1
C2 = 100/100 = 1
C3 = 100/100 = 1
C4 = 50/75 = 0.67

Pegawai 2
C1 = 75/100 = 0.75
C2 = 75/100 = 0.75
C3 = 75/100 = 0.75
C4 = 25/75 = 0.33

Pegawai 3
C1 = 75/100 = 0.75
C2 = 50/100 = 0.50
C3 = 75/100 = 0.75
C4 = 75/75 = 1

Pegawai 4
C1 = 50/100 = 0.50
C2 = 100/100 = 1
C3 = 75/100 = 0.75
C4 = 25/75 = 0.33

Pegawai 5
C1 = 50/100 = 0.50
C2 = 75/100 = 0.75
C3 = 50/100 = 0.50
C4 = 75/75 = 1

Alternatif	C1	C2	C3	C4
Pegawai 1	1	1	1	0.67
Pegawai 2	0.75	0.75	0.75	0.33
Pegawai 3	0.75	0.5	0.75	1
Pegawai 4	0.5	1	0.75	0.33
Pegawai 5	0.5	0.75	0.5	1

3. Nilai preferensi (Qi)

Pegawai 1
= 0.5 x ((1x4) + (1x3) + (1x1) + (0.67x2))
= 0.5 x (4 + 3 + 1 + 1.34)
= 0.5 x 9.34
= 4.67
= 0.5 x (1^4 x 1^3 x 1^1 x 0.67^2)
= 0.5 x (1 x 1 x 1 x 0.4490)
= 0.5 x 0.4490
= 0.2245
= 4.67 + 0.2245
= 4.8945

Pegawai 2
= 0.5 x ((0.75x4) + (0.75x3) + (0.75x1) + (0.33x2))
= 0.5 x (3 + 2.25 + 0.75 + 0.66)
= 0.5 x 6.66
= 3.33
= 0.5 x (0.75^4 x 0.75^3 x 0.75^1 x 0.33^2)
= 0.5 x (0.3165 x 0.4218 x 0.75 x 0.1089)
= 0.5 x 0.0110
= 0.0055
= 3.33 + 0.0055
= 3.3355

Pegawai 3
= 0.5 x ((0.75x4) + (0.50x3) + (0.75x1) + (1x2))
= 0.5 x (3 + 1.5 + 0.75 + 2)
= 0.5 x 7.25
= 3.6250
= 0.5 x (0.75^4 x 0.50^3 x 0.75^1 x 1^2)
= 0.5 x (0.3165 x 0.125 x 0.75 x 1)
= 0.5 x 0.0296
= 0.0148
= 3.6250 + 0.0148
= 3.6398

Pegawai 4
= 0.5 x ((0.50x4) + (1x3) + (0.75x1) + (0.33x2))
= 0.5 x (2 + 3 + 0.75 + 0.66)
= 0.5 x 6.41
= 3.2050
= 0.5 x (0.5^4 x 1^3 x 0.75^1 x 0.33^2)
= 0.5 x (0.0625 x 1 x 0.75 x 0.1089)
= 0.5 x 0.0051
= 0.0025
= 3.2050 + 0.0025
= 3.2075

Pegawai 5
= 0.5 x ((0.5x4) + (0.75x3) + (0.5x1) + (1x2))
= 0.5 x (2 + 2.25 + 0.5 + 2)

= 0.5 x 6.75
= 3.3750
= 0.5 x (0.5^4 x 0.75^3 x 0.5^1 x 1^2)
= 0.5 x (0.0625 x 0.4218 x 0.5 x 1)
= 0.5 x 0.0131
= 0.0065
= 3.3750 + 0.0065
= 3.3815

No	Alternatif	Nilai Qi
1	Pegawai 1	4.8945
2	Pegawai 2	3.3355
3	Pegawai 3	3.6398
4	Pegawai 4	3.2075
5	Pegawai 5	3.3815

Dari tabel diatas, dapat dilihat Pegawai 1 memperolah nilai Qi tertinggi.Dengan demikian pegawai 1 direkomendasikan sebagai pegawai terbaik.