JOBSHEET FOR DECISION SUPPORT SYSTEMS COURSE

WEEK : 4

MATERIAL : Analytical Hierarchy Process (AHP)

OBJECTIVE :

1. Students know the ranking stages using the AHP method.
2. Students can find eigenvector values in the AHP inter-criteria matrix.
3. Students can find eigenvector values in the matrix between alternatives for each AHP criterion.
4. Students can find the final weights that will be sorted as AHP output.

PRACTICUM PROCEDURE

1. Assignments are carried out in groups of 2 people.
2. Solve the case study problem (free to use any theme and data) using the AHP method with the following conditions:
   a. There are at least 5 criteria (4 benefits and 1 cost, or 3 benefits and 2 cost)
   b. There are at least 4 alternative choices.
3. There are many possible numbers that can be used, so the numbers used should not be the same as other groups.

EXAMPLE CASE 1

Southcorp Development builds and manages malls in America. The company has identified three potential locations for its latest project, namely Atlanta, Birmingham, and Charlotte. The company has also identified four main criteria as a basis for location comparison, namely:

a. Customer market share
b. Income level
c. Infrastructure
d. Transportation

By considering the purchase price of the location, determine the best alternative location using the AHP method!

EXAMPLE CASE 2

Calculate using the AHP method to select a futsal field to be rented by Information Technology students, with the following criteria:

a. Rental price
b. Distance from campus
c. Facility
d. Parking area

e. Floor type

Alternative choices: Champions Tidar, SM Futsal Zone, and Angkasa Futsal Malang