

ABSTRACT

Real investment is a decision which resulting on budget in real activa or finance activa with the purpose of resulting bigger revenue in the future. In PT Pertamina UP II Dumai, real investment also placed as a long term investment which is related to the real activa capital which decision making accuracy is fully needed. To simplify manager operation in making the decision, Decision Support System (DSS) is needed which has interactive system in decision making process through alternatives gained in data, information and model tabulation. Whereas the real investment alternatives in this case including technique, sensitivity analysis, economy parameter, portofolio, and urgency.

In this final project, SPPK is developed using *Dempster Shafer Analytical Hierachy Process* (DS/AHP) methode in deciding priority of real investment proferred. DS/AHP is a decision supporting method which exploit *Pairwise Comparison* in the integration, *Consistency Ratio* to check matrix consistency and *Dempster's Rules of Combination* to count each *Decisoin Alternative* (DA) integrity.

From this analysis, decision result of SPPK is using accurate DS/AHP method because DS/AHP can handle nil datas / information / knowledge which also modeled / integrated, by joining a collection of the whole criteria/alternatives which also become an item in the integration, so it can resulting an output which is similar with the reality

Keyword : Real investment, DSS, DS/AHP, *Pairwise Comparison*, *Consistency Ratio*, *Dempster's Rules of Combination*, sensitivity analysis, portofolio.