Designing Decision Support System for Provisioning of Rotable Component Boeing 737-800 NG at PT. GMF Aero Asia

Name : Corry Indria Hapsari  
NRP : 2505 100 074  
Department : Industrial Engineering FTI-ITS  
Supervisor : Prof. Ir. Suparno, MSIE., Ph.D.  
Co Supervisor : Nani Kurniati, ST., MT.

**Abstract**

Provisioning for Boeing 737-800 NG rotatable component is procurement activity that support airline’s operational. Determining in existing condition still has problem because it doesn’t consider about homebase stock. Hence, some mechanism in determination is needed to simplify and adopt consideration about homebase stock.

Beginning with all those consideration, tool called decision support system (DSS) is built in order to simplify provisioning determination and decision making based on minimum cost per year between provisioning combination that contains four methods, consignment, individual purchase, standard exchange and flatrate exchange. This DSS is made with Macro Excel. The additional function of this DSS can show the component effectivity for each aircraft registration dan supporting repair vendor for each component. This tool can be used till 10 years from 2010.

From DSS, minimum cost per year for provisioning is individual purchase for component with stock = <0 at homebase and standard exchange for component with stock >0 at homebase. Average cost per year is USD$ 5.605.614. For the sensitivity analysis, modification in flatrate percentage from 59% to 49%, resulting change in decision to combination between individual purchase dan flatrate exchange. Saving due to modification is USD $776.330,86 per year.

**Keyword** : provisioning, rotatable component, decision support system