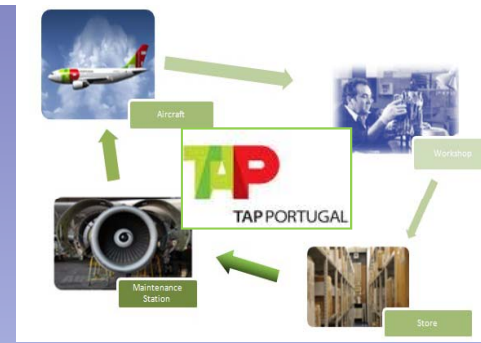


Development of procedures to control and manage the aircraft Rotables Inventory System

Bebiana Maria Miranda Alves de Macedo

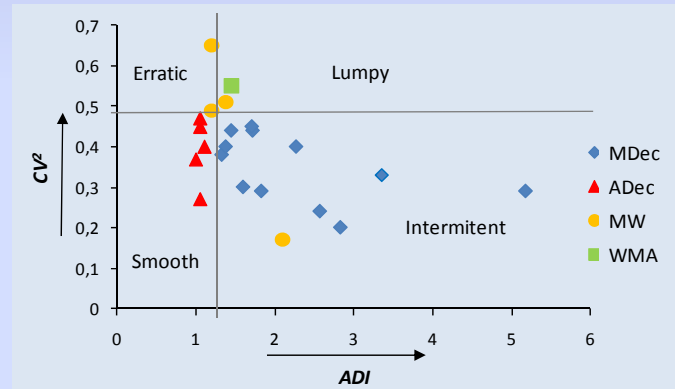
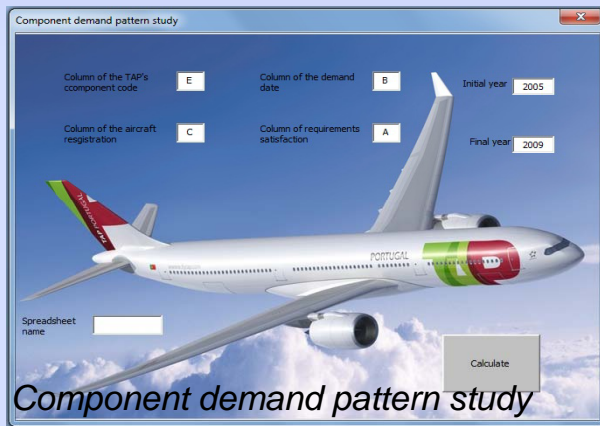
Dissertação para a obtenção do Grau de Mestre em Engenharia Aeroespacial (2010)

Orientadores: Prof. Paulo Peças e Prof^a Elsa Henriques

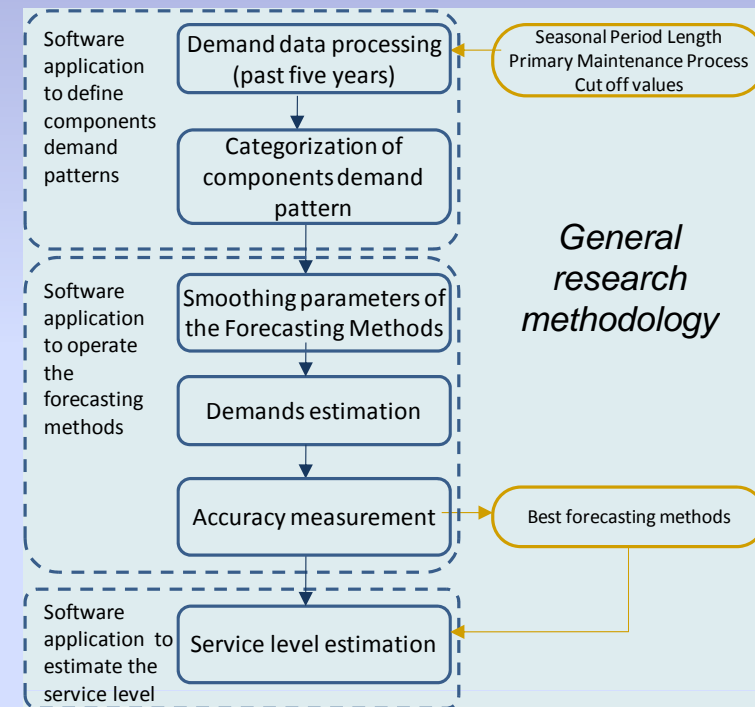


Abstract:

This research paper focuses the aircraft Rotables maintenance Inventory System difficulties. The main purpose is the development of procedures to control and manage the aircraft Rotables Inventory Level and Service Level. For this, a study was conducted at the "Rotables Management and Control, Maintenance & Engineering Logistics Department" of a Portuguese airline "Transportes Aéreos Portugueses". In the research the categorization of the Rotable Demand Pattern, 13 Forecasting Methods and a "new" model to calculate the Inventory Service Level were identified, implemented and developed, respectively.



Combination of each rotatable demand pattern with the appropriate forecasting method



Results:

- A new model to assess, control and forecast the Rotables inventory system was suggested;
- Evaluating the forecasting methods and utilizing one of the most accurate ones, the suitable scheme/framework for the representation of the categorization of Rotable demand pattern vs. demand forecasting methods was performed;
- The deviations attained with the calculation of the inventory service level using the Poisson distribution were overcome by the results obtained using the "new" model developed;
- The "new" model developed estimates the service level most approximate with the real service level;