

Modelling and Simulation of APOC Operations

Sashiko Shirai Reyna

Aviation Academy
Amsterdam University of Applied Sciences
Amsterdam, The Netherlands
o.s.shirai.reyna@hva.nl

Miguel Mujica Mota

Aviation Academy
Amsterdam University of Applied Sciences
Amsterdam, The Netherlands
m.mujica@hva.nl

Daniel Delahaye

Ecole Nationale de l'Aviation Civile
Université de Toulouse
Toulouse, France

José M. Ortiz

Associate Lecturer in Economics
Middlesex University London
London, England

Abstract— This work aims at developing an agent-based platform that allows to model and analyze decisions made by different stakeholders in an Airport Operations Centre. We will develop a methodology combining agent-based modelling and field/lab behavioral experiments for identifying the incentives behind the decisions of the stakeholders in an Airport Operations Centre environment. Once, the causal relationships have been identified, these will be translated into an agent-based environment so, it will be possible to have a virtual environment for identifying which incentives are the best for aligning the objectives of the center, considering the diversity of objectives present in the system. The causal-relationships identified in the study will be validated with a human-in-the-loop environment already developed under the SESAR program. This study is an interdisciplinary one which integrates simulation, decision making and behavioral science in the airport operations center environment.