

ABSTRACT

Cargo plays a very important role in aviation industry. It supports the revenue for the company and help others to ship their goods in a fast way. In Airline X, cargo support the revenue by 4% - 6% from the total revenue. There are opportunities to optimize the cargo compartment in Airline X with analyzing every agents involved in purpose to know the optimum cargo loaded into the compartment using Agent - Based Modelling. The method used in this research is Rejection Sampling in Monte Carlo and Agent – Based Modelling itself, and the theory used in this research is distribution function, to determine what type of distribution. The simulation result used predetermined number of iteration. The final result shows that with the predetermined number of iteration, the optimal value was obtained base on the convergent value and the distribution of passenger and baggage described as Gaussian Distribution Function, while the distribution of EBT described as Negative Exponential Distribution Function.

Keyword: Cargo Optimization, Agent – Based Modelling, Monte Carlo Simulation, Rejection Sampling, Gaussian Distribution Function, Negative Exponential Distribution Function.