Cargo optimization in an airline using agent-based modeling

Rizky Arden, author

Abstrak

Cargo plays a very important role in the aviation industry as a supporting revenue. In Airline X, cargo supports the revenue by 4% - 6% of the total revenue. There are opportunities to optimize the cargo compartment in Airline X by analyzing every agent involved in the 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. In addition, the theory used in this research is distribution function, to determine what type of distribution that represents the agent behavior. The final result shows that with the predetermined number of iterations, which is 300 iterations, the optimal value was obtained base on the convergent result. On the other hand, the distribution of passenger and baggage described as the Gaussian Distribution Function, while the distribution of EBT described as the Negative Exponential Distribution Function. These distributions represent agent behavior.