

Table 8: Rate of return $h = 640$ hours

Nb of aircraft	ROR per year (%)
1	2.213
2	6.607
3	2.194
4	-0.937
5	-2.805

decrease and this causes expected total cost also decreases. Reduction of the total cost can lead to increases in the profit and the rate of return. Table 8 shows the total flight hours per year is 640 hours, and FAO owning 2 planes will expect to have a rate of return of 6.607% per year.

7 Conclusion

FAO is a concept of joint aircraft ownership among a number of business people. This research wants to estimate the profit management in the joint aircraft charter scheme is implemented in Indonesian data with very large number of airports being observed. The simulation is run using the python program on a laptop and using Google Collab. We want to use GPU accelerator so that the computation times faster.

In this research, a stochastic scheme has been successfully built to generate requests from FAO owners. To optimize cost and time, an optimization model to determine optimal pairing has also been successfully built. Based on the assumption and the calculations in the simulation, the number of aircraft that provided the optimum profit and rate of return is 2 aircraft. Having total flight hours of 800 hours per year, the expected rate of return is 0.308 %. For total flight hours of 640 hours, FAO will be able to get an expected rate of return of 6.607%.

In the future, the research can be continued with the different provisions of shares of ownership and find the optimal form of the type of ownership that makes the most profit among others. For the application in the real world, the FAO management could think of the appropriate total flight hours so the obtained profit is acceptable.

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