

CHAPTER 1

INTRODUCTION

1.1 Background

In today's era, the use of technology is needed to support efficiency especially with a pandemic like this. With current conditions, the number of passengers has decreased drastically. Of course, the amount of expenditure will be greater than the amount of income.

To solve this problem, a forecasting system is needed that can make predictions in the future related to the number of passengers. In this project, a forecasting system will be made using the Double exponential smoothing algorithm. In its application this program will perform repeated calculations with alpha parameters 0.1 to 0.9 and then a comparison will be made to determine the results with the smallest error percentage. The data to be used is flight history data for the last three years.

This algorithm will calculate the predicted number of passenger departures and then a comparison will be made against the actual data. To determine the accuracy of this method, it takes a calculation method called mean absolute percentage error (MAPE). With this system, efficiency can be done to cope with losses due to a very significant decrease in the number of passengers caused by the pandemic.

1.2 Problem Formulation

Some questions that want to be proved in this project :

1. How to use Double Exponential Smoothing algorithm to predict the data?
2. How to use MAPE to do comparison?

1.3 Scope

In this project there are few limitations on certain things :

1. This project just using 1 algorithm to make prediction
2. This project will used alpha from 0 to 1 to compare the results

And also there are hypotheses that are made in this project :

1. The forecasting result will make high presenase error if had a fluktuante data.
2. The differences of alpha could affected the result.

1.4 Objective

The purpose of this project is to make forecacsting based on flight data from angkasa pura. The result of this project can be used to make efisiensi during the covid-19 pandemic.

