CHAPTER 1

INTRODUCTION

1.1 Background

Humans need food to fullfill their nutritional needs. Foods that can fullfill human nutritional needs are called primary food. There are a variety of primary foods,including corn, potatoes, wheat, rice, soybeans, cassava.

The primary food that is eaten by indonesian people is rice. According to Ministry of Republic Indonesia data, rice consumption is increasing every year from 2011, producing 65.75 million tons and in 2017 producing 81.38 million tons which made an increase of 2.56% exceeding the rice target set at 79 million tons.

I chose this research because PT.GAJAH BINTANG UTAMA is still manual in processing data so that the data needed to produce rice is less accurate, which makes PT.GAJAH BINTANG UTAMA not optimal in generating profits.

This research is important, because with the existence of Rice Stock Prediction research PT.GAJAH BINTANG UTAMA Using Backpropagation is expected by PT. GAJAH BINTANG UTAMA can predict the amount of rice production more accurately so that the profits generated are also more optimal.

Backpropagation algorithm has been widely used in several studies to predict various kinds of sales, for example rice sales,musical instrument,bread , stationery,and etc. My research entitled Rice Stock Prediction PT.GAJAH BINTANG UTAMA Using Backpropagation also use this algorithm /method.

Related to previous research of the same type, namely Prediksi Harga Eceran Beras Di Pasar Tradisional Di 33 Kota Di Indonesia, my research has a

difference , where my result have 2 prediction: total sales and stock, then i compare stock prediction and total sales prediction.

In this research, the research create a system for predicting stocks of rice using backpropagation to be produced by PT.GAJAH BINTANG UTAMA. Knowing the stocks of rice to be produced, the company will be able to manage the stock that will be produced in the future.

1.2 Problem Formulation

1. Can algorithm backpropagation predict the total sales of rice?

2. Can Algorithm backpropagation predict the stocks of rice ?

3. Does learning rate , hidden layers , max epoch , and target error affect the output predictions?

1.3 Scope

In this project researcher use Python 2.7 The data from sales of rice in PT.GAJAH BINTANG UTAMA from 1 April 2019 until 30 April 2020. The algorithm used in this project is backpropagation and min-max normalization method.The variable used in thi project is temperature , date , and price sales. This research only focuses on stock prediction and total sales prediction for each day and update data manually.

1.4 Objective

The first objective of this research is to predict the total sales and stock for each day. The second goal is to compare total sales and prediction of total sales to be used in predicting stock. The third goal is to build a system that can be used by PT.GAJAH BINTANG UTAMA so that it can be used as a production reference.