

CHAPTER 3

RESEARCH METHODOLOGY

The steps taken to do this research are:

1. Learning from journal

There are 6 journals used to understand the algorithm and the process. From these journals, the researcher tried to understand and take the core of each journal that would be used in this project.

2. Analyzing Problems

At this step, the researcher will analyze the problems in the Luwak coffee company Semarang. This step done after learning from the journal. The problem that happen in Luwak coffee company is that they cannot estimate the stock of Luwak coffee for sale in the future. They were also hesitant to add items in their warehouse. For that problem, the researcher made a prediction program to predict the coffee stock.

3. Study Data and Recapitulate Data

The data obtained from the Luwak coffee company Semarang but the data is still in the Excel format and it isn't under the criteria for the program. The data need to do recapitulation for easier processing.

4. Coding Process

After the data recapitulated, the next process is data normalization and then, the Backpropagation algorithm process.

5. Data Comparison Analysis

In this step, after the prediction process is done, the prediction data for each hidden layer will be compared with the actual data and then will produce the RMSE value. The RMSE value will obtained from every

hidden layer. After that, the result will shown and the optimal result will be taken by looking at the smallest RMSE number. The algorithm will be running 10 times and then, the researcher will looking for the precentage accuration of the algorithm.

