

## Abstract

Gold is one of alternative commodity of investment for some people. Sometimes, they must take a right decision related to the fluctuations price of gold in the market. The experienced will be easier to make a decision based on instinct. However, the precision of the prediction's result become an obstacle which can make the chance of loss is higher. Therefore, a solution is needed to help investor to handle those problems. The goal is investor can forecast tomorrow gold's price, more prepared in facing the condition of gold's market, and profit maximisation with high precision forecasting result.

There's been a method that usually used by the investor to predict the price of gold. Moreover, this method have many learning algorithm that can be combined. But, these method have a few constraint. The constraint are this method need a lot of data in learning process and need to be scaled when the process is running.

However, there's a method that can built a calculating machine just with four sequential data. This method known as adaptive grey model. This model is a hybrid of grey model and trend & potency tracking method. This method use four sequential data to built the calculating machine. This machine always adapt along with which data being processed. The adaptive side of this method makes the machine always change based on the condition of inputted data. If there's a change in the sequence, the amount, or the value of data, the bond between data and the result will also changed.

This final project will develop a system that can forecast the price of gold based on four days earlier gold's price as the input and calculated with adaptive grey model.

This final project show a result that adaptive grey model can be implemented as a method to forecast the price of gold with four days earlier gold's price as the input and system's precision reach 99 %.

**Keywords** : grey model, adaptive grey model, trend and potency tracking method, forecasting the price of gold, profit maximization