Abstract

Increasing competition in the business world to make the players have to think creatively in order to attract the attention of consumers, both in terms of the sale price of the quality of its production of goods. Supply Chain Management can provide a solution for producers to overcome it. Supply Chain Management provides a product stream from the beginning of the goods began to be distributed and supplied to consumers, but without the storage of goods in warehouses. Because the storage of goods in warehouses is exactly what led to the increase in the price of each item sold, such as building rental costs, the cost of guards, and other administrative costs. If things that are additional as above can be eliminated, the price of goods sold will not be added to these things. Therefore, if the goods are supplied or not can be predicted with precision.

Particle Swarm Optimization is one of the optimization algorithm inspired by social behavior of flocks of birds that fly in flocking (bird flocking) or schools of fish that swim in groups. In implementation, PSO will generate agent of each particle in which there is representation of the solution, then by calculating the fitness function and the velocity at each iteration, the agent from the overall particle will move to the agent particles are considered to be very close to the point of the solution. The selection agent is considered to be very close to the point of the solution will vary at each iteration until all particles are at a point which is considered optimal. So that the supply demand forecast methods using Particle Swarm Optimization algorithm is able to generate predictions of whether the goods are to be supplied or not.

Keywords: Supply Chain Management, Supply Demand Prediction, Particle Swarm Optimization