

## **Demand Forecasting Using Artificial Neural Networks Optimized by Particle Swarm Optimization**

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**Abstract :** Evolutionary algorithms and Artificial neural networks (ANN) are two relatively young research areas that were subject to a steadily growing interest during the past years. This paper examines the use of Particle Swarm Optimization (PSO) to train a multi-layer feed forward neural network for demand forecasting. We use in this paper weekly demand data for packed cement and towels, which have been outfitted by the Northern General Company for Cement and General Company of prepared clothes respectively. The results showed superiority of trained neural networks using particle swarm optimization on neural networks trained using error back propagation because their ability to escape from local optima.

**Keywords :** artificial neural network, demand forecasting, particle swarm optimization, weight optimization

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