

# The Applications of ordering materials using Time Series Forecasting with CB Predictor

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## Abstract

Shortage of raw materials may occur in manufacturing companies, which is caused by inaccurate orders for raw materials, and lack of raw material supplies. This problem causes inefficient costs due to the production process, the possibility of having to emergency procurement to fulfill customer orders. The solution to this problem is to develop a web-based system that supports ordering of raw materials. The calculation based on the estimated time series with the CB-Predictor. The methodology in the calculation is (1) collecting historical data on the use of raw materials, step (2) forecasting raw material needs, step (3) calculating the order quantity based on forecasting data, by comparing the deterministic method and the probabilistic method. The safety stock for each raw material calculated for situations outside normal conditions, for example increasing orders. The design method, the system to be developed uses the Unified Modeling Language (UML) modeling language based on the concept of Object Oriented Analysis and Design (OOAD). The result is a web-based system application model to support a more efficient and accurate calculation of ordering raw materials. With the proposed application of information systems, the company can estimate raw material needs more quickly and accurately, and can determine the quantity of orders that are tailored to the needs. So that the costs associated with ordering and storing raw materials can be minimized

## Keywords

Inventory, forecast, CB predictor, safety stock, unified modeling language

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## Biography / Biographies (for single author – biography and multiple authors- biographies) – 12 font bold

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