

## PredictionSCMS: The Implementation of an AI-Powered Supply Chain Management System

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**Abstract :** The paper discusses the main aspects involved in the development of a supply chain management system using the newly developed PredictionSCMS software as a basis for the discussion. The discussion is focused on three topics: the first is demand forecasting, where we present the predictive algorithms implemented and discuss related concepts such as the calculation of the safety stock, the effect of out-of-stock days etc. The second topic concerns the design of a supply chain, where the core parameters involved in the process are given, together with a methodology of incorporating these parameters in a meaningful order creation strategy. Finally, the paper discusses some critical events that can happen during the operation of a supply chain management system and how the developed software notifies the end user about their occurrence.

**Keywords :** demand forecasting, machine learning, risk management, supply chain design

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