

Supply Chain Optimization in the Package Industry through Machine Learning Analysis

Ashok. R¹ and Priya. R²

PG Student, Department of Computer Applications¹

Professor, Department of Computer Applications²

Vels Institute of Science Technology and Advanced Studies, Pallavaram, Chennai, India

srvashok22@gmail.com and priyaa.research@gmail.com

Abstract: *The package industry relies heavily on efficient supply chain management to meet customer demands and maintain profitability. However, managing complex supply chains involving multiple suppliers, transportation networks, and distribution channels poses significant challenges. This research proposes a machine learning-based approach to optimize supply chain operations in the package industry. By analysing historical data on supply chain activities, including procurement, inventory management, and distribution, our system aims to identify patterns and trends to improve decision-making processes. Machine learning algorithms such as support vector machine, naïve Bayes, and logistic regression are utilized to forecast demand, optimize inventory levels, and streamline logistics operations. Experimental results demonstrate the effectiveness of the proposed approach in enhancing supply chain efficiency and reducing operational costs in the package industry.*

Keywords: package industry, supply chain optimization, machine learning analysis, demand forecasting, inventory management