Talk

Demand Forecasting for Slow-Moving Products in Healthcare Supply Chains

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Abstract

Demand forecasts play a crucial role in most decision-making processes within healthcare supply chains. For instance, production and inventory management decisions require short-term forecasts at the individual product level, while strategic decisions rely on long-term forecasts at higher aggregation levels. Moreover, healthcare supply chains deal with a wide variety of products (e.g., medicines and pharmaceuticals, consumables and disposals, medical devices and equipment, nutrition and dietary products, vaccines) each characterized by distinct demand patterns. These patterns range from fast-moving products with varying levels of demand volatility to slow-moving items with intermittent and lumpy demand, which pose significant challenges for forecasting and inventory management. Given these challenges, specific forecasting approaches and methods are required.

This seminar presents recent advancements in forecasting methods for slow-moving products in healthcare supply chains, including hierarchical forecasting-type methods and both statistical and machine learning techniques. The effectiveness of these methods is demonstrated through numerical and empirical analyses using data from major hospitals and healthcare organizations in France and internationally.

Supply Chain Forum: An International Journal

The best papers presented at the Vietnam Symposium in Supply Chain Management (VSSCM 2025) will be considered for publication in an issue of *Supply Chain Forum: An International Journal*.

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