

IBM - Nalaiya Thiran

Retail Store Stock Inventory Analytics

Literature Survey

1. Data-driven segmentation of customer behavior in the retail industry

Authors: Carmichael, Chen & Luo

The traditional marketing strategies are data-driven and include Business analytics to improve customer relevancy and efficiency. Customer segmentation has become an important part of marketing analytics because it allows the customers to be grouped based on their purchase behaviors, segment demographics, and behavioral involvement. This segmentation is used to create tailored marketing campaigns based on the target customers to have an idea of the effectiveness of a campaign for each segment. Gathering enough data to analyze it for each segment has been the main limitation here.

2. Management of Multi-Item Retail Inventory Systems with Demand Substitution

Authors: Stephen A. Smith

This paper presents the problem of determining the optimal capacity of a storage system with respect to some specified criteria. It assumes that the storage system is subject to an input X and a release $Y \{1\}$ at least one of which is a random variable following a known distribution function, so that the storage function Z is a stochastic process. The optimal capacity over a time horizon $(0, T)$ is determined by maximizing the expected profit.

3. Inventory Management Explained

Author: David J

Calculations for forecasting, lot sizing, and safety stock are well known to the inventory management community, but are generally not understood to the level necessary to effectively use them. This lack of understanding results in incomplete calculations, incorrect inputs, flawed logic, or a fallback to less effective, keep-it-simple approaches.

4. Recommendation systems using recommender algorithms

Authors: Chavan & Mukhopadhyay

Such systems use the past purchase history and the customer's search data to supply relevant recommendations for the customer. All big 3 companies such as Amazon and Netflix personalize the content for the user based on their shopping habits and behavior patterns. An effective recommendation system can increase sales manifold, by presenting users with items that they would need before the user even recognizes they need it. The hybrid recommendation algorithms are more suitable in the e-commerce field. It improves the quality and efficiency by providing the user with a great shopping experience.

5. International Journal of Production Economics

Author: Mario Pena /University of Cuenca

Data Analytics, as a capability has been everything it takes to change the face of inventory optimization and retail as a whole. Inventory analytics refers to tracking metrics that gauge the movement and performance of your physical products. The ongoing assessment and evaluation of inventory provides the insights. Nowadays, organizations, and especially those performing activities in the retail sector, face multiple challenges in the planning and management of their resources. For this sector, having efficient management of human, technological, or material resources refers to the performance that companies characterized by the experience gained in their management could obtain over time. Therefore, the correct inventory management has become essential, especially in organizations.