Ideation Phase
Literature Survey

Date	19 September 2022
Team ID	PNT2022TMID08875
Project Name	Retail Store Stock Inventory Analytics

Literature Survey:

Title **:** International Journal of Production

Author **:** Mario Pena **/**University of Cuenca

Year **:** 2013

Abstract **:** Data Analytics, as a capability has been everything it takes to change the face of inventory optimization and retail. 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.

Title : Inventory management for retail companies: A literature review and current trends

Author : Cinthya Vanessa Muñoz Macas, Mario Peña

Year : 2021

Abstract : In recent years, the correct management of inventories has become a fundamental pillar for achieving success in enterprises. Unfortunately, studies suggesting the investment and adoption of advanced inventory management and control systems are not easy to find. In this context, this article aims to analyze and present an extensive literature concerning inventory management, containing multiple definitions and fundamental concepts for the retail sector. A systematic literature review was carried out to determine the main trends and indicators of inventory management in Small and Medium-sized Enterprises (SMEs). This research covers five years, between 2015 and 2019, focusing specifically on the retail sector. The primary outcomes of this study are the leading inventory management systems and models, the Key Performance Indicators (KPIs) for their correct management, and the benefits and challenges for choosing or adopting an efficient inventory control and management system. Findings indicate that SMEs do not invest resources in sophisticated systems; instead, a simple Enterprise Resource Planning (ERP) system or even programs such as Excel or manual inventories are mainly used.

Title : Management of Multi-Item Retail Inventory Systems with Demand Substitution

Author : Stephen A. Smith

Year : 2000

Abstract : Smith, Stephen & Agrawal, Narendra. (2000). Management of Multi-Item Retail Inventory Systems with Demand Substitution. Operations Research. 48. 50-64. 10.1287/opre.48.1.50.12443.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.

Title **:** Optimizing Inventory Replenishment and Shelf Space Management in Retail Stores

Author : Alyaa Abouali, Nermine Harraz, M. Nashat Fors

Year : 2014

Abstract **:** The retail stores put up for sale multiple items while the spaces in the backroom and display areas constitute a scarce resource. Availability, volume, and location of the product displayed in the showroom influence the customer's demand. Managing these operations individually will result in sub-optimal overall retail store's profit; therefore, a non-linear integer programming model (NLIP) is developed to determine the inventory replenishment and shelf space allocation decisions that together maximize the retailer's profit under shelf space and backroom storage constraints taking into consideration that the demand rate is positively dependent on the amount and location of items displayed in the showroom. The developed model is solved using LINGO® software. The NLIP model is implemented in a real-world case study in a large retail outlet providing a large variety of products. The proposed model is validated and shows logical results when using the experimental data collected from the market.