LITERATURE SURVEY

Inventory Management System for Retailers

Domain: Cloud Computing

Team ID : PNT2022TMID34691

Batch NO: B8-2A4E

Team SIZE: 04

Team MEMBERS: 01. VAISHAK T.S.

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Survey Paper 1: Inventory management for retail companies

Author: Cinthya Vanessa Muñoz Macas,jorge Andrés Espinoza Aguirre,Rodrig o Arcentales-Car riónMario Peñn

Published year: March 2021.

Key Methodology: They focused on solving all the retail issues that happened from 2015 to 2019 through different systems and software. They addressed almost 22 issues that retailers faced. All the software and methodologies they suggested were not cost effective and couldn't be used by small scale retailer.

Survey Paper 2: Inventory decisions on the transportation system and carbon emissions under COVID-19 effects.

Author: Abu Hashan Md Mashuda,Suja nMiah,YoefDar yantoc,Ripon K.Chakrabortty, S.M. MahmudulHas an,Ming-Lang Tseng

Published year: September 2022

Key Methodology: This study investigates how intensification of the COVID-19 affects the retailer's profit. Study about the interrelation of vaccination and covid outbreak in transportation. This model provides the decision making on efficient uses of green technology. This study considers product deterioration, time-dependent holding costs, price-dependent demands, and carbon emissions from vehicle operation and intends to establish a harmonious relationship among these attributes.This study failed to show how COVID-19 affects customers’ purchases instead of the effects on the transportation system.

Survey Paper 3: Two-stage inventory management with financing under demand updates

Author: TianyunLi, WeiguoFang, MelikeBaykalGürsoy

Published year: February 2021

Key Methodology: The paper presents a recourse approach to solve the two-stage optimization problem and derive the optimal inventory/financing policies. This research incorporates the financial and operational decisions into demand updates, and brings new managerial results and insights due to the complexity of the objective function, we do not have simple formulas for the optimal procurement policies, we provide the complete analytical description of the optimal solutions.

Survey Paper 4: Internet of things for perishable inventory management systems: an application and managerial insights for micro, small and medium enterprises.

Author: Pratik Maheshwari, Sachin Kamble, Ashok Pundir, Amine Belhadi, Nelson Oly Ndubisi & Sunil Tiwari

Published Year: April 2021

Key Methodology: The study aimed to investigate the impact of IOT on existing operating parameters (holding cost, selling cost, deterioration rate, shortage cost, goodwill cost, unit purchase cost) and how it can increase the overall profit of retailers by reducing spoilage we formulated and analyzed IOT implementation costs in the retailer warehouse. They only focused on retailer benefits. They only considered deterministic demand rates with zero lead time..

Survey Paper 5: Design and Implementation of a Computer Based Household Inventory System

Author: Laff non Stop, Yonas Kebede

Published Year: March 2021

Key Methodology: The research work embraces all activities of household inventory management valuation feasibility and liability but our study is narrowed down to the valuation of property as a way of bringing the work home. It is focus on valuation because the field area of household inventory is generated to acknowledge the importance of household inventory to individual and the society at large. It doesn’t support the small scale industry which couldn't afford a computer.

Survey paper 6: The relationship between capacity utilization and inventory investment.

Author: Abramovitz , Odiglian

Published Year: 1957

Key Methodology: The relationship between capacity utilization and inventory investment. Existing stock of inventories was expected to adjust to the desired levels. Thus the variable, existing stock of inventories, was essential to be negatively related with the desired stock. The result was that there is positive relation among the ratio of inventory to sales and inventory investment. High ratio of stocks to sales in the past suggests requirement of high levels of inventories in the past and promising high investment in inventories in the current period also.

Survey Paper 7: Study on manufacture inventories

Author: Krishnamurty and Sastry

Published Year: 1970

Key Methodology: It is the most comprehensive study on manufacturers’ inventories. They used the CMI data and the consolidated balance sheet data of public limited companies published by the RBI, in order to analyse each of the major components, like the raw materials, goods-in-process and finished goods, for 21 industries over the period ranging from 1946-62. The study was a time series one although there were some inter-industry cross-section analyses that were carried out in the analysis. The Accelerator represented by change in sales, bank finance and short-term interest rate was found to be an important determinant. The utilisation of productive capacity and price anticipations was also found to be relevant in the study.

Survey Paper 8: Inventory management for public limited companies

Author: George

Published Year: 1972

Key Methodology: It was the study on cross section analysis of balance sheet data of 52 public limited companies for the period of 1967- 70. Accelerator, internal and external finance variables were considered in the formulation of equations for raw materials including goods-in-process inventories. However, equations for finished goods inventories conceive only output variable. Deliberation was given on accelerator and external finance variables.

Survey Paper 9: Inventory management practices and business performance for small scale enterprises

Author: Nyabwanga, Robert Nyamao & Ojera, Patric

Published Year: 2012

Key Methodology: They Highlighted the association between inventory management practices and business performance of small-scale enterprises (SSEs), in Kisii Municipality, Kisii County, Kenya. They used a cross-sectional survey study based on a small sample size of 79 SSEs. The study inferred that inventory comprised the maximum portion of working capital, and improper management of working capital was one of the major reasons of SSE failures. The empirical results disclosed that a positive significant relationship existed between business performance and inventory management practices with inventory budgeting having the maximum influence on business performance ensued by shelf-space management. The study suggested that by following effective inventory management practices business performance can be enhanced.

Survey Paper 9: Relationship between inventory management and firm performance along with capital intensity

Author: Sahari, Tinggi and Kadri

Published Year: 2012

Key Methodology: Empirically analysed the relationship between inventory management and firm performance along with capital intensity. For the purpose they took a sample of 82 construction firms in Malaysia for the period 2006–2010. Using the regression and correlation analysis methods, they deduced that inventory management is positively correlated with firm performance. In addition, the results indicate that there is a positive link between inventory management and capital intensity

Survey Paper 10: Study of inventory management

Author: Panigrahi

Published Year: 2013

Key Methodology: Undertook an in-depth study of inventory management practices followed by Indian cement companies and its affect on working capital efficiency. The study also investigated the relationship between profitability and inventory conversion days. The study, using a sample of the top five cement companies of India over a period of 10 years from 2001 to 2010, concluded that a considerable inverse linear relationship existed between inventory conversion period and profitability.

Survey Paper 11: Economic production quantity models

Author: E.W.Twaft

Published Year: 1988

Key Methodology: This method is an extension of the EOQ model. The classical economic production quantity model (EPQ) has been widely used. Numerous research efforts have been undertaken activities to extend the basic EPQ model by releasing various assumptions or adding new so that the model conforms more closely to real-world situations. Recently, re-work have attracted considerable attention because of the reduction of the natural resources and the rise in the cost of raw material.

Survey Paper 12: Inventory Control System

Author: Rashmi Mishra

Published Year: August 2018

Key Methodology: The process of managing a company’s inventory levels, whether that be in their own warehouse or spread over other locations. It comprises management of items from the time you have them in stock to their final destination (ideally to customers) or disposal (not ideal). An inventory control system also monitors their movement, usage, and storage.  
Inventory control means managing your inventory levels to ensure that you are keeping the optimal amount of each product. Proper inventory control can keep track of your purchase orders and keep a functional supply chain. Systems can be put in place to help with forecasting and allow you to set reorder points, too.

Survey Paper 13: Application of modern scientific inventory control techniques

Author: R.S. Chadda

Published Year: 1964

Key Methodology: Study had been made on inventory management practices of Indian companies. The analysis suggested application of modern scientific inventory control techniques like operations research. These modern scientific techniques furnish opportunities for the companies, Companies can minimize their investment in inventory but there is continuous flow of production. He argued that industrially advanced countries, like, USA, were engaged in developing highly sophisticated mathematical models and techniques for modernizing and redefining the existing tools of inventory investment.

Survey Paper 14: Comprehensive study on manufacturers’ inventories

Author: Lambrix and Singhvi

Published Year: 1978

Key Methodology: Adopted working capital cycle approach in working capital management, also suggested that investment in working capital can be optimized and cash flows can be improved by reducing the time frame of physical flow starting from the receipt of raw material to the shipment of finished goods, i.e. inventory management, and by improving the terms and conditions on which firm sells goods as well as receipt of cash.

Survey Paper 15: Relationship between inventory performance and financial performance

Author: Capkun, Hameri and Weiss

Published Year: 2009

Key Methodology: Statistically analysed the relationship between inventory performance and financial performance in manufacturing companies using the financial information of a large sample of US-based manufacturing firms over a 26-year period, that is, 1980 to 2005. They inferred that a significant relationship existed between inventory performance along with the performance of its components and profitability. Raw material inventory performance was highly correlated to gross profit and operating profit. Work in progress inventory was highly correlated to gross profit measures while finished goods inventory performance was more correlated with operating profit measures.

Survey Paper 16: Investigated the effects of raw materials inventory management

Author: Eneje et a

Published Year: 2012

Key Methodology: Investigated the effects of raw materials inventory management on the profitability of brewery firms in Nigeria using a cross sectional data from 1989 to 2008 which was gathered for the analysis from the annual reports of the sampled brewery firms. Measures of profitability were examined and related to proxies for raw materials inventory management by brewers. The Ordinary Least Squares (OLS) stated in the form of a multiple regression model was applied in the analysis. The study revealed that the local variable raw materials inventory management designed to capture the effect of efficient management of raw material inventory by a company on its profitability is significantly strong and positive and influences the profitability of the brewery firms in Nigeria. They concluded that efficient management of raw material inventory is a major factor to be contained with by Nigerian brewers in enhancing or boosting their profitability.

Survey Paper 17: Effect of Inventory Management

Author: Edwin Sitienei and Florence Memba

Published Year: 2015

Key Methodology: Conducted a study on Effect of Inventory Management on profitability of Cement Manufacturing Companies in Kenya. The study concluded that Gross profit margin is negatively correlated with the inventory conversion period, Increase in sales, which denotes the firm size enriches the firm’s inventory levels, which pushes profits upwards due to optimal inventory levels. It is also noted that firms inventory systems must maintain an appropriate inventory levels to enhance profitability and reduce the inventory costs associated with holding excessive stock in warehouses.