Inventory Management System For Retailers

Introduction:

Retail inventory management is the process of ensuring you carry merchandise that shoppers want, with neither too little nor too much on hand. By managing inventory, retailers meet customer demand without running out of stock or carrying excess supply.

In practice, effective retail inventory management results in lower costs and a better understanding of sales patterns. Retail inventory management tools and methods give retailers more information on which to run their businesses. Applications have been developed to help retailers track and manage stocks related to their own products. The System will ask retailers to create their accounts by providing essential details. Retailers can access their accounts by logging into the application.

Once retailers successfully log in to the application they can update their inventory details, also users will be able to add new stock by submitting essential details related to the stock. They can view details of the current inventory. The System will automatically send an email alert to the retailers if there is no stock found in their accounts. So that they can order new stock.

Literature Survey

Title: Research paper on Inventory management system

Year: 2018

Authors :Punam Khobragade , Roshni Selokar, Rina Maraskolhe, Prof. Manjusha Talmale

This paper raises concerns about the bill's information section in light of desktop applications.The Inventory Management System is software that streamlines processes by removing paperwork, human error, and manual lag time. Additionally, it can track sales and inventory levels, alerting a store owner when it's time to reorder and how much to buy.This paper seeks to redefine retailer requirements in a way that will help readers better understand why.An essential step in any project is the generation of backup data.As a solution, a

straightforward desktop application was developed in which there was no information spillage from the stockroom. And furthermore, it gives the one table organization look so that after the end of the month we know about what we sold.

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

Year: 2021

Authors: Cinthya Vanessa Muñoz Macas, Jorge Andrés Espinoza Aguirre, Rodrigo Arcentales-Carrión, Mario Peña

This article's goal is to study and summarize a significant amount of research on inventory management that includes numerous definitions and key ideas for the retail industry. Due to their considerable economic impact, retail businesses have grown to be quite important in many nations. The necessity to evaluate their KPIs becomes extremely important as a result. According to research, there are 22 crucial inventory management KPIs that must be taken into account when shops assess their inventories. Ten main indicators were established from them, including inventory level, actual inventory and its connection to the business' information system, shortage or shortage frequency, frequency of product reordering or replenishment, service level, replacement frequency, product availability, inventory excess, number of items on the shelf, and level of income or profit.The three major benefits of improved operating performance, lower financial loss, and better profit rates demonstrate the significance of analyzing an inventory management system utilizing indicators.

Overall, the study's findings indicate that the systems, approaches, and tools are mostly focused on order quantity, inventory localisation, and optimization.Given its capacity to track inventory and high levels of reliability in inventory records, RFID systems are the most popular tools in the retail sector for resolving location-related problems. Similarly, systems like the EOQ, JRP, the AUD and IQD policies, and MDP focus on establishing the right order of goods to achieve optimization levels when it comes to order quantity. In fact, research suggests that retailers are working with VMI. In this system, the supplier manages the inventory in accordance with the actions of the retailer, leading to a total SC optimization. Additionally, the current study developed methods for optimizing the inventory, including the Bayesian Estimation Method, the LIS for Omni-Channel, the Threshold and Differential Algorithms, and the Multi Channel Distribution Center. Retailers with limited resources now have access to less expensive tools that can assist with managing their inventory, such as bar codes or policies like EOQ, AUD, and IQD, allowing them to maximize their stock without having to make substantial investments.

Title: A Review of Inventory Management System

Year:2021

Author:Varalakshmi G , Asst Prof. Shivaleela

This article focuses on the development of an inventory management system, a Windows web application that focuses on inventory and issues. It is very convenient for the owners because this application allows the stores to keep records of sales and purchases. If inventory is not maintained, it leads to consumer dissatisfaction and slower sales. By maintaining the inventory system, manual work and human errors are reduced, which at the same time speeds up the process. This inventory management system will also be able to track sales information as inventory. The inventory management system has a number of functions and also has logical tools for evaluating ideal inventory levels and automatically selecting appropriate replenishment strategies. It also has features such as the ability to identify stock levels, automatically calculate reorder points, and alert you to potential stockouts. This technique minimizes delays and eliminates the risk of stocking fast-moving goods. It regulates the movement of inventory in and out, tracks stock levels for all items and inventory, provides access to sales data and analytics, and helps businesses specify specific Safety Stock Requirements. There are four types of inventory management such as raw materials, work in progress, finished items and MRO. Due to weak sales and inventory, it is difficult to keep records manually such as quantity sold per day. Another problem that has been noted is that most customers who buy in-store do not get a suitable receipt as a reference, making it difficult for customers to exchange their existing goods if there are any problems. The primary purpose is to maintain inventory at a level that is neither overstocked nor understocked. As a result of the inventory management system, there will be higher income and profitability, a better climate for employees and an overall increase in customer satisfaction.

Title of the paper: Simulation of inventory management systems in retail stores: A case study

Year:2021

Authors: Puppala Sridhar, C.R.Vishnu, R Sridharan

This paper proposes a simulation of the inventory system in a supermarket. The simulation model was developed, tested, and examined using the well-known Arena programme.The package provides standard drag-and-drop components for building the model. The performance parameter used for analysis is inventory level, which directly affects total cost, reorder point, and service level. For the A-category products, the simulation model was developed with a continuous review inventory control system in mind. We've compared the outcomes of running the model using the traditional ordering policy and the suggested ordering policy. The best settings for the stock control parameters are found using the OptQuest module

of Arena programme, and the results are compared. It has been found that the traditional approach to placing an order is absurd and pointless. The first stage in simulation modeling is to synthesize the incoming data. Sales data from the preceding two years are used to study demand trends for the selected item using the input analyzer module of Arena simulation software. The distributions for client arrival and purchase orders for that particular item are also modeled using data on client arrival and purchase for that item. The model initially contrasts the level of inventory with the incoming demand. The transaction is recorded as a lost sale if there is more inventory on hand than there is demand; otherwise, the demand will be satisfied and the inventory level will be updated. If there is more demand than there is inventory on hand at the time, the reorder level is checked.

References

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