

**RETAIL STORE STOCK INVENTORY
ANALYTICS**

**NALAIYA THIRAN PROJECT BASED LEARNING
on**

**PROFESSIONAL READINESS FOR INNOVATION,
EMPLOYABILITY AND ENTREPRENEURSHIP**

A PROJECT REPORT

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**BACHELOR OF ENGINEERING
IN**

ELECTRONICS AND COMMUNICATION ENGINEERING

COIMBATORE INSTITUTE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE, New Delhi, Accredited with 'A' Grade by NAAC

(An Autonomous Institution)

COIMBATORE – 641 109

November 2022

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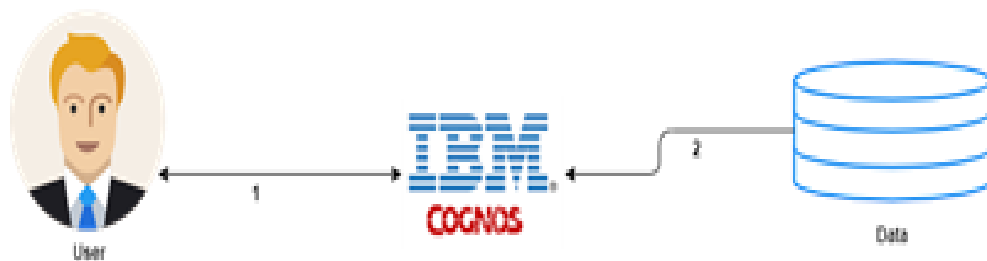
1.INTRODUCTION

1.1 PROJECT OVERVIEW

This dataset contains a lot of historical sales data of a Brazilian top retailer

Basic Questions of every retailer : How much inventory should I carry?
Too much inventory means working capital costs, operational costs and a complex operation, lack of inventory leads to lost sales, unhappy customers and a damaged brand.

This is why short-term forecasting is so important in the retail and consumer goods industry.



PURPOSE

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.

Regardless of the size of your company, having a proper inventory management system is very important for any business.

It can help you keep track of all your supplies and determine the exact prices. It can also help you manage sudden changes in demand without sacrificing customer experience or product quality.

PURPOSE OF INVENTORY

- To maintain accuracy and current stock position.
- To analysis product value in market and meter of flow.
- For replacement (reorder) product and future plan.
- To maintain smooth operation.
- To consume production cost.

2.LITERATURE SURVEY

2.1 EXISTING PROBLEM

Irrespective of the size of the business, inventory management is one of the most challenging processes in the retail sector. In this industry, the efficiency of inventory management directly impacts customer satisfaction. As retail is a fast-paced, and customer-facing sector, customer satisfaction is core to its business growth.

The inventory process involves multiple intricate aspects that drive accurate product delivery. Even a single error in the process can have expensive and long-term consequences. This will eventually affect the company's growth and reputation.

Thus, retail companies need to understand and analyze the risks involved in inventory management. Only then can companies find proactive solutions to the problems.

However, we have observed that companies who can identify the problems of the retail inventory management can select a retail inventory management system that fits their processes best.

CHALLENGES OF RETAIL INVENTORY MANAGEMENT:

Unclear Communication

Even in straightforward business processes, miscommunication can cause irreversible damage to efficiency. You can only imagine the far-reaching impact it would have on a complex and multifarious process,

like inventory management.

For instance, having the correct prices is critical to print the price labels for the products in the inventory. However, if an update in the prices is not communicated before printing the labels, the products would go out with the wrong price labels. The revisions for such errors would take a lot of time. Furthermore, if the miscommunication is not detected in time, it would affect the sales and profitability of the company.

Automation can help you streamline your communication flow across the departments. A retail inventory automation software would provide real-time information about the inventory. Correct and timely information would decrease events of miscommunication.

Inadequate Access

Generally, insufficient access to information would lead to miscommunication issues. Every department needs to have access to data that is crucial to their processes. Hence, the impact of the lack of proper access is not limited to individual processes. But it also affects the complete retail inventory management.

In the absence of adequate access, your team would resemble disconnected groups. Lack of access would leave them uninformed, which, in turn, affects their productivity. Therefore, better access would improve the efficiency of inventory and other business processes.

You can simplify your accessibility issue with retail inventory management software. The software can efficiently manage the access of the users, which would, in turn, improve the quality of the process.

Inefficient Warehouse Management

Many aspects of warehouse management would be vulnerable to errors without integrated software. Inept warehouse management could lead to lost orders, delays in order fulfillment, and errors in shipment. It also causes incorrect stock counts, inaccurate barcodes and labels, increased storage costs, and misplaced products. The problem will only deteriorate if multiple warehouses support your retail operations.

Barcoding technology is a boon to manage complex warehouse operations. A retail inventory management software with a barcode scanning tool could be an effective solution to manage warehouse processes efficiently.

Overselling

For instance, retail businesses keep a reserve of inventories beyond the necessary stock, referred to as safety stock. This safety stock would come to the rescue in a scenario when you are not able to meet the customers' demands with the regular stock. However, If you miscount your inventory, even safety stock may not be able to rescue your business from a chaotic situation.

If you could get notifications about the level of the stock in your inventory, you would minimize the chances of overselling. A retail inventory solution can provide real-time updates about your inventory levels.

Spoiled Goods

Expiration dates become crucial in the inventory tracking process. Inefficient inventory tracking can cause considerable stock and monetary loss for retail businesses.

For instance, the warehouse staff sends out a shipment of products with a later expiration date while warehousing considerable stock with an earlier expiration date. This error would not only hamper the process cycle but would also increase the risk of spoilage of the product with an earlier expiration date.

You can manage this issue with the introduction of technology. A retail inventory management solution can track the status of perishable goods and help you reduce spoilage.

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2.3 Problem Statement Definition:

Problem Statement	I am (customer)	I'm trying to	But	Because	Which makes me feel
PS-1	Retailer	Get the product details	Unable to get the information	I can't able to communicate the store	Tension
PS-2	Retailer	Sale the product	Unable to sale the product	The product is loss quality	Anxiety
PS-3	Retailer	Buy the product	Unable to get the product	The product is in process	Stress
PS-4	Retailer	Sale the product	Unable to maintain the stock	Unable to maintain inventory detail	Angry
PS-5	Retailer	Buy the product	Unable to get product	The product unavailability	Depressed

Problem Statement template helps you focus on what matters to

create experiences people will love. A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face.

Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service

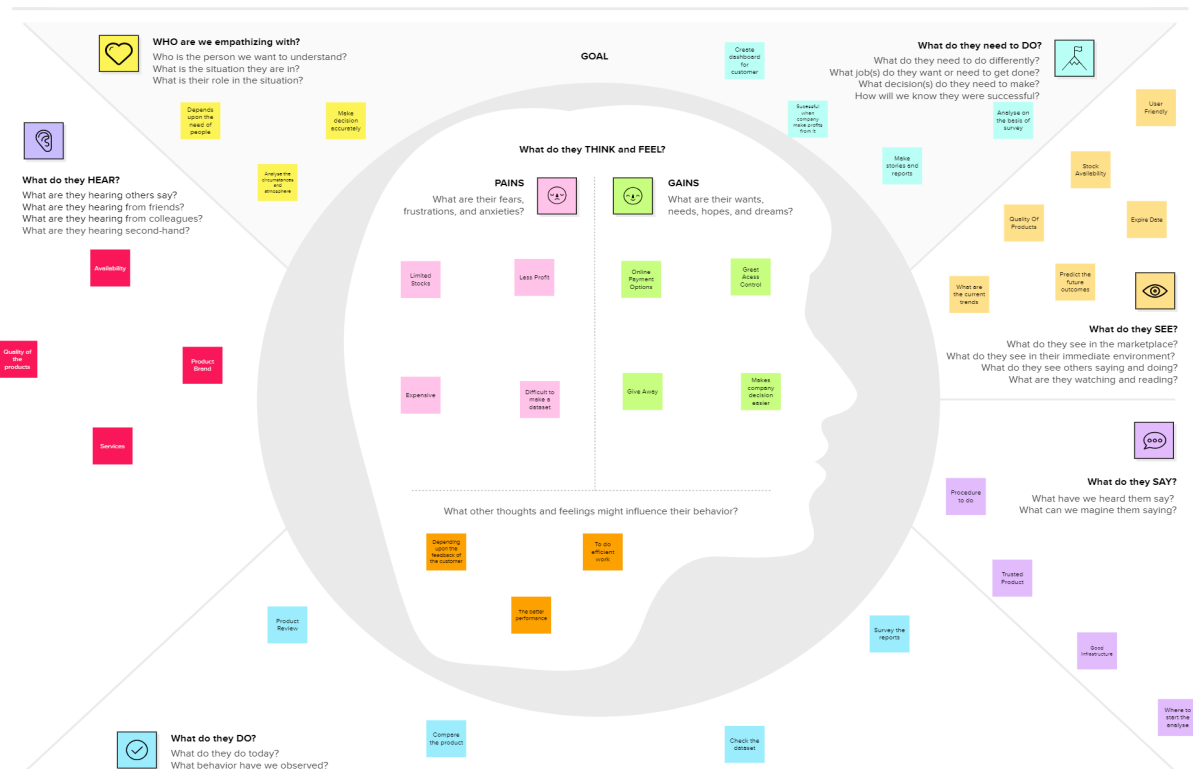
3.IDEATION PHASE

3.1 EMPATHY MAP CANVAS



Develop shared understanding and empathy

Summarize the data you have gathered related to the people that are impacted by your work. It will help you generate ideas, prioritize features, or discuss decisions.



3.2 IDEATION & BRAINSTROMING:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions. Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Step 1: Team Gathering, Collaboration and Select the Problem Statement

Step 2: Brainstorm, Idea Listing and Grouping

2 Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

Sevamuthukumar.A

- Reduce cost of product
- Get ideas from existing data
- Know the 3 best processes
- Automate the 3 best steps
- Identify the 3 best steps
- Know the 3 best steps

Kavitha N

- Identify the 3 best steps
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- Identify the 3 best steps

Nithyashree V

- Identify the 3 best steps
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Hollyshruthi V

- Identify the 3 best steps
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- Identify the 3 best steps
- Identify the 3 best steps

3 Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

⌚ 20 minutes

First in First Out

Percent of inventory sold

Month-end inventory value

Self-through rate by product

Customer reports

Low Stock

Money Transaction Devices Needed

Month-end inventory snapshot

Set reorder points for each product

Sales Summary

Invite an expert to your location

Have an influencer promote your location

Step-3: Idea Prioritization

3.PROPOSED SOLUTION

3.3 Proposed Solution

S. No.	Parameter	Description
1.	Problem Statement	<ul style="list-style-type: none">• To checking the stock and then calculate the sales percentage of the stock.
2.	Idea / Solution description	<ul style="list-style-type: none">• This predicate by using Random Forest algorithm.• Then K means algorithm is used to check the stock.• IBM Cognos is use to show to make Dashboard for the stock.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">• Automatically order the Stock when the Stock gets over.• Giving the percentage which stock is sellers more in weekly & Monthly.
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none">• We can sell the best quality brand product and get the profit.• It is essential for the retailer to track the daily product flow to calculate the profit and loss of the store.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none">• Retailers will have to adjust their business models to accommodate the changing needs of customers
6.	Scalability of the Solution	<ul style="list-style-type: none">• We can avoid for checking the stock daily because it will check automatically and say the growth for the store.

3.4 Problem Solution Fit :

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) Who is your customer? i.e. working parents of 0-5 y.o. kids	6. CUSTOMER CONSTRAINTS What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.	5. AVAILABLE SOLUTIONS Which solutions are available to the customers when they face the problem? Or: need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking	Explore AS, differentiate
	1. Customer 2. Retailer 3. Seller	1. Best stock 2. Availability of stock	1. This predicate by using Random Forest algorithm. Then K means algorithm is used to check the stock.	
Focus on J&P map into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.	9. PROBLEM ROOT CAUSE What is the real reason that this problem exists? What is the back-story behind the need to do this job? i.e. customers have to do it because of the change in regulations.	7. BEHAVIOUR What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefiting; indirectly associated: customers spend free time on voluntary work (i.e. Greenpeace)	Focus on J&P map into BE, understand RC
	1. High Cost 2. Quality of product 3. Waste brands	1. Short-stock recovery establishment. 2. Counting inventory less frequently.	1. It easy-way to calculate predict the stock and see which is sales more.	
Identify strong TR & EM	3. TRIGGERS What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.	10. YOUR SOLUTION If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.	8. CHANNELS of BEHAVIOUR 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.	Identify strong TR & EM
	1. Product personalisation can provide people with a level of personal service that is difficult to replicate online.	1. We can sell the best quality brand product and get the profits.	1. Buy one Get one offer to the product. 2. Cashback Credit for buy the product.	
4. EMOTIONS: BEFORE / AFTER How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design.				
1. High cost - Anxiety 2. Good Quality - Satisfaction 3. Low Price - Happy				

4.REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS:

Inventory Management

The primary purpose of inventory management is to ensure there is enough goods or materials to meet demand without creating overstock, or excess inventory.

Inventory Tracking

Inventory tracking is the systems and methods a company uses **to monitor how raw materials or finished goods move through the supply chain**. Fundamental to generating revenue, the goal is to have the right amount of stock to meet customer demand.

Transfer Management

Businesses that manage multiple sites have the advantage of moving their product to where it's most valuable. Bundling or kitting your products can be attractive to customers, especially during certain times of the year. Transfer management can help guide and direct your workforce to reduce any confusion and streamline their efforts.

Multi-Location Tracking

Stock Transfer

Order Picking

Kitting and Product Bundling

Voice Picking

Purchasing

Purchasing is an incredibly important feature to any warehouse that heavily relies on vendor goods to produce their own. This feature mainly works to help users create and manage purchase orders.

Some inventory software solutions allow users to add items to purchase orders through barcode scanners. Purchasing also involves receiving partial orders and tracking backorders.

- Purchase Order

- Bulk Purchase Orders

- Partial Receiving

- Supplier Management

- Back-ordering

Shipping

From labeling to multi-carrier shipping and dispatching orders as multiple shipments, ensure your customers get their in-stock goods quickly with back-ordered items sent at a later time. Some systems allow you to ship by lot IDs, which is great for FIFO and LIFO shipments.

Some advanced systems sync orders with inventory levels, mark items for shipment, support multichannel sales and make auto-adjustments to maintain profitability. Order management systems are an essential feature of increasing and maintaining customer satisfaction.

- Labeling

- Multi-carrier Shipping

- Multiple Shipment Orders

Shipment by ID

Reporting and Analytics

Make your business thrive using inventory metrics and KPIs to evaluate patterns in your processes to forecast future demand and sales. Demand forecasting is a way to reduce safety stock and carrying costs.

Inflow Reports IM Many systems offer easy-to-understand dashboards to visualize your data. Keeping inventory around simply for safety's sake is no longer necessary when you have great insights into how much you'll actually need.

Dashboards

Customized Reports

Report Integration

Drill-down

Deployment

Since not every system offers both deployment methods, you'll have to consider which is best for your company before you shortlist. Cloud-based inventory products typically have fewer sunk costs, offer better visibility and maintain a backup of your data. But many companies prefer on-premise due to privacy concerns or industry compliance standards.

There are also several types of cloud deployment methods like SaaS, PaaS and IaaS. Some products may offer you deployment options that are more specified, so it's important to understand the differences.

On-premise

Cloud-based

Mobile Support

Mobile support is often OS-specific, so it's important to keep that in mind as well. While most vendors try to support all popular platforms, it's not a universal concern. So it's always important that the inventory app you invest in can run on your existing hardware.

Native Application

Mobile Website

Operating System

Integration

If you use multiple systems for your business, it's important they integrate well. It could be beneficial to integrate your other supply chain management systems, CRM platforms.

Centralizing business functions that used to exist only as separate processes is one of the greatest benefits of business software. If your systems can't share information freely, you're not getting the most from them.

Integration and Synchronization

API/Web Service

4.2 Non Functional Requirements

Usability

Usability defines how difficult it will be for a user to learn and operate the system.

Efficiency of use: the average time it takes to accomplish a user's goals, how many tasks a user can complete without any help, the number of transactions completed without errors, etc.

Intuitiveness: how simple it is to understand the interface, buttons, headings, etc.

Low perceived workload: how many attempts users need to accomplish a particular task.

Security

Security requirements ensure that the software is protected from unauthorized access to the system and its stored data. It considers different levels of authorization and authentication across different users roles. For instance, data privacy is a security characteristic that describes who can create, see, copy, change, or delete information. Security also includes protection against viruses and malware attacks.

Reliability

Reliability defines how likely it is for the software to work without failure for a given period of time. Reliability decreases because of bugs in the code, hardware failures, or problems with other system

components. To measure software reliability, you can count the percentage of operations that are completed correctly or track the average period of time the system runs before failing.

Performance

Performance is a quality attribute that describes the responsiveness of the system to various user interactions with it. Poor performance leads to negative user experience. It also jeopardizes system safety when it's overloaded.

Availability

Availability is gauged by the period of time that the system's functionality and services are available for use with all operations. So, scheduled maintenance periods directly influence this parameter. And it's important to define how the impact of maintenance can be minimized. When writing the availability requirements, the team has to define the most critical components of the system that must be available at all times. You should also prepare user notifications in case the system or one of its parts becomes unavailable.

Scalability

Scalability requirements describe how the system must grow without negative influence on its performance. This means serving more users, processing more data, and doing more transactions. Scalability has both hardware and software implications. For instance, you can increase

scalability by adding memory, servers, or disk space. On the other hand, you can compress data, use optimizing algorithms, etc.

5.PROJECT DESIGN

5.1 DATA FLOW DIAGRAM

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

5.2 Solution & Technical Architecture

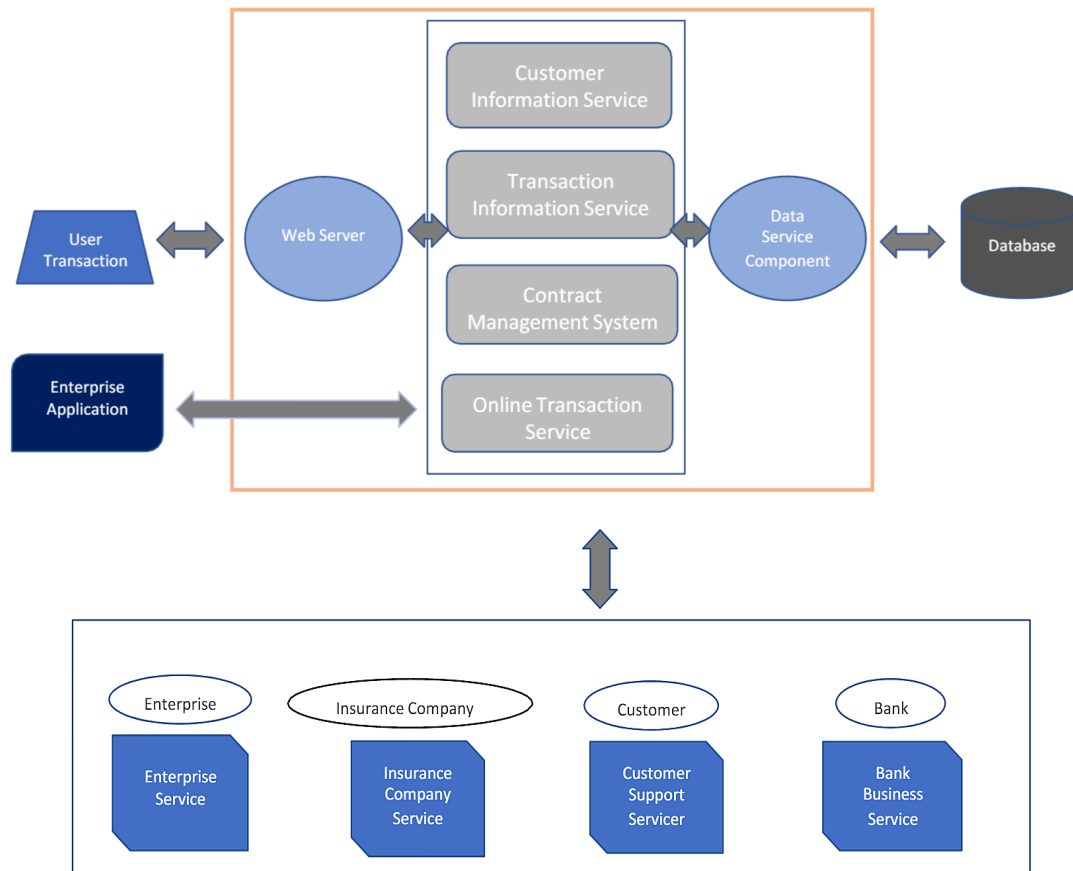
This data-set contains a lot of historical sales data of a Brazilian top retailer
Basic Questions of every retailer : How much inventory should I carry? Too much inventory means working capital costs, operational costs and a complex

operation, lack of inventory leads to lost sales, unhappy customers and a damaged brand.

This is why short-term forecasting is so important in the retail and consumer goods industry.

Automatically order the Stock when the Stock gets over.

Technical Architecture



5.3 User Stories

6.PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-1	Confirmation	USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-2	Registration through Facebook	USN-3	As a user, I can register for the application through Facebook	2	Low	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-1	Registration through Gmail	USN-4	As a user, I can register for the application through Gmail	2	Medium	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-2	Dashboard	USN-6	As a user, I can view my dashboard and can perform stock prediction and analysis	3	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-2	View list of stocks	USN-7	As a user I can view the list of categorized products and their details	4	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-2	Search products	USN-8	As a user I can search through the product using barcode	2	Medium	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-3	Report generation	USN-9	As a user I can generate reports based on product sales	5	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Stock Prediction	USN-10	As a user I can predict out of stock and less stock for a product	5	High	Selvamuthukumar, Kavitha,Hollyshruthi, Nithyashree
Sprint-4	Notification system	USN-11	As a user I can view notification for expired andout of stock products	4	High	Selvamuthukumar, Kavitha,Hollyshruthi, Nithyashree
Sprint-4	Re-Ordering stock	USN-12	As a user I can reorder stocks based on predictions and notification	3	High	Selvamuthukumar, Kavitha,Hollyshruthi, Nithyashree
Sprint-2	Updating stock	USN-13	As a user I can add/delete products	5	High	Selvamuthukumar, Kavitha, Hollyshruthi, Nithyashree
Sprint-4	Invoice generation	USN-14	As a user I can generate invoice calculating taxes, discount and calculate credits	4	High	Selvamuthukumar, Kavitha,Hollyshruthi, Nithyashree
Sprint-4	Discount system	USN-15	As a user I can provide discount based on credit points	3	Medium	Selvamuthukumar, Kavitha,Hollyshruthi, Nithyashree

6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	6	6 Days	24 Oct 2022	29 Oct 2022	6	29 Oct 2022
Sprint-2	16	6 Days	31 Oct 2022	05 Nov 2022	16	05 Nov 2022
Sprint-3	10	6 Days	07 Nov 2022	12 Nov 2022	10	12 Nov 2022
Sprint-4	14	6 Days	14 Nov 2022	19 Nov 2022	14	19 Nov 2022

6.3 Report from JIRA

The screenshot shows the Jira Software interface for the 'Retail Store Stock Inventory Analytics' project. The 'RSSIA board' is displayed with three columns: 'TO DO', 'IN PROGRESS 6 ISSUES', and 'DONE 5 ISSUES'. The 'IN PROGRESS' column contains six issues, each with a description, a label, and a status icon. The 'DONE' column contains five issues, each with a description, a label, and a status icon. The interface includes a sidebar with navigation options like 'Roadmap', 'Backlog', 'Board', 'Reports', 'Code', 'Project pages', 'Add shortcut', and 'Project settings'. The top navigation bar shows 'Jira Software', 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', 'Apps', and a 'Create' button. The bottom status bar shows the system clock as 19:59.

Column	Issue ID	Description	Label	Status
IN PROGRESS 6 ISSUES	RSSIA-9	As a Fruit Vendor, I can identify the sudden ups and downs in market	LOGIN	SA
	RSSIA-15	As a Stock Broker, I can find the valuable stock at the period of time	REPORT	H
	RSSIA-11	As a Fruit Vendor, I can log into my stock activities	DASHBOARD	H
	RSSIA-19	As a Restaurant owner, I can easily able to know my traditional customers	DATA MODULE	NV
	RSSIA-2	As a fruit vendor, I can know the previous year statistics about the fruits	REGISTRATION	NV
	RSSIA-23	As a restaurant owner, I can able to see a visual representation of my way of journey	STORY	NV
DONE 5 ISSUES	RSSIA-13	As a Stock broker, I can know my shares in the market by the analytics	LOGIN	K
	RSSIA-17	As a Stock Broker, I can predict the hike of the product	DATA EXPLORATION	SA
	RSSIA-7	As a Fruit Vendor, I want to know my warehouse locations instantly	DASHBOARD	K
	RSSIA-21	As a Restaurant owner, I can create my unique menu for my customer	REPORT	SA
	RSSIA-1	As a Fruit Vendor, I can receive		

The screenshot shows the Jira Software interface for the 'Retail Store Stock Inventory Analytics' project. The 'RSSIA board' is displayed with three columns: 'TO DO', 'IN PROGRESS 9 ISSUES', and 'DONE 2 ISSUES'. The 'IN PROGRESS' column contains nine issues, each with a description, a label, and a status icon. The 'DONE' column contains two issues, each with a description, a label, and a status icon. The interface includes a sidebar with navigation options like 'Roadmap', 'Backlog', 'Board', 'Reports', 'Code', 'Project pages', 'Add shortcut', and 'Project settings'. The top navigation bar shows 'Jira Software', 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', 'Apps', and a 'Create' button. The bottom status bar shows the system clock as 7:59 PM on 11/19/2022.

Column	Issue ID	Description	Label	Status
IN PROGRESS 9 ISSUES	RSSIA-21	As a Restaurant owner, I can create my unique menu for my customer	REPORT	SA
	RSSIA-17	As a Stock Broker, I can predict the hike of the product	DATA EXPLORATION	SA
	RSSIA-13	As a Stock broker, I can know my shares in the market by the analytics	LOGIN	K
	RSSIA-7	As a Fruit Vendor, I want to know my warehouse locations instantly	DASHBOARD	K
	RSSIA-9	As a Fruit Vendor, I can identify the sudden ups and downs in market	LOGIN	SA
	RSSIA-15	As a Stock Broker, I can find the valuable stock at the period of time	REPORT	H
	RSSIA-11	As a Fruit Vendor, I can log into my stock activities	DASHBOARD	H
	RSSIA-19	As a Restaurant owner, I can easily able to know my traditional customers	DATA MODULE	NV
	RSSIA-2	As a fruit vendor, I can know the previous year statistics about the fruits	REGISTRATION	NV
DONE 2 ISSUES	RSSIA-13	As a Stock broker, I can know my shares in the market by the analytics	LOGIN	K
	RSSIA-7	As a Fruit Vendor, I want to know my warehouse locations instantly	DASHBOARD	K

Browser tabs: Nithyashree V has invited you to, RSSIA board - Agile board - Jira

Address bar: nithyavelmurugan.atlassian.net/jira/software/projects/RSSIA/boards/1

Jira Software navigation: Your work, Projects, Filters, Dashboards, People, Apps, Create

Left sidebar: Retail Store Stock Inve... Software project, PLANNING (Roadmap, Backlog, Board, Reports), DEVELOPMENT (Code), Project pages, Add shortcut, Project settings

Main content: Projects / Retail Store Stock Inventory Analytics, RSSIA board

Board columns: TO DO (+ Create issue), IN PROGRESS, DONE 11 ISSUES

Issues in DONE column:

- As a Fruit Vendor, I can receive confirmation message once the Stocks were restored
DATA MODULE
RSSIA-4
- As a Fruit Vendor, I can log into my stock activities
DASHBOARD
RSSIA-11
- As a Stock Broker, I can find the valuable stock at the period of time

Bottom status bar: 75°F Haze, 8:55 PM 11/19/2022

Browser tabs: (47) WhatsApp, IBM, IBM-Project-12194-1659, Nithyashree V has invited, RSSIA board - Agile board

Address bar: nithyavelmurugan.atlassian.net/jira/software/projects/RSSIA/boards/1

Jira Software navigation: Your work, Projects, Filters, Dashboards, People, Apps, Create

Left sidebar: Retail Store Stock Inve... Software project, PLANNING (Roadmap, Backlog, Board, Reports), DEVELOPMENT (Code), Project pages, Add shortcut, Project settings

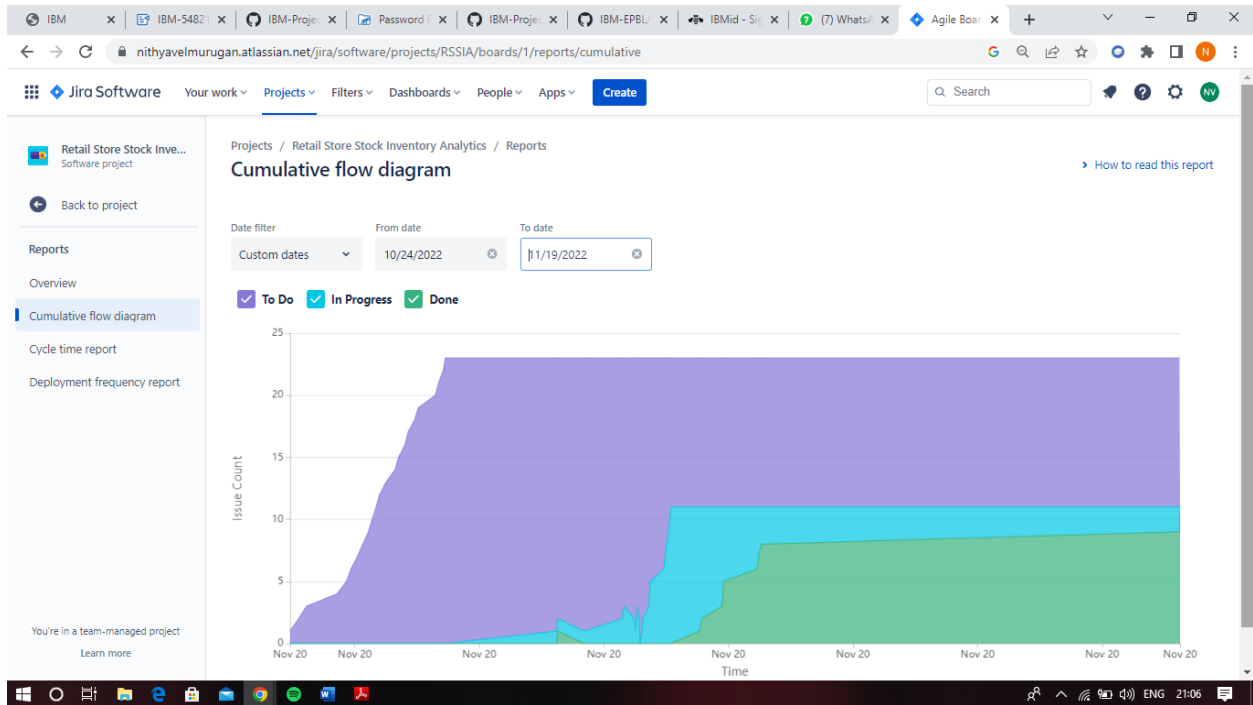
Main content: Projects / Retail Store Stock Inventory Analytics, RSSIA board

Board columns: TO DO, IN PROGRESS, DONE 11 ISSUES

Issues in DONE column:

- As a Fruit Vendor, I can identify the sudden ups and downs in market
LOGIN
RSSIA-9
- As a Stock Broker, I can predict the hike of the product
DATA EXPLORATION
RSSIA-17
- As a Restaurant owner, I can create my unique menu for my customer
REPORT
RSSIA-21

Bottom status bar: Type here to search, 27°C, 21:04 19-11-2022



IBM x IBM-S4821 x IBM-Proje x Password x IBM-Proje x IBM-EPBLU x IBMId - S x (8) Whats x Retail Stor x

nithyavelmurugan.atlassian.net/jira/software/projects/RSSIA/boards/1/backlog

Jira Software Your work Projects Filters Dashboards People Apps Create

Search

Retail Store Stock Inve... Software project

PLANNING

Roadmap

Backlog

Board

Reports

DEVELOPMENT

Code

Project pages

Add shortcut

Project settings

You're in a team-managed project Learn more

Projects / Retail Store Stock Inventory Analytics

Backlog

Board (11 issues)

<input checked="" type="checkbox"/>	RSSIA-4 As a Fruit Vendor, I can receive confirmation message once the Stocks were restored	DATA MODULE	DONE	H
<input checked="" type="checkbox"/>	RSSIA-11 As a Fruit Vendor, I can log into my stock activities	DASHBOARD	DONE	H
<input checked="" type="checkbox"/>	RSSIA-16 As a Stock Broker, I can find the valuable stock at the period of time	REPORT	DONE	H
<input checked="" type="checkbox"/>	RSSIA-9 As a Fruit Vendor, I can identify the sudden ups and downs in market	LOGIN	DONE	SA
<input checked="" type="checkbox"/>	RSSIA-17 As a Stock Broker, I can predict the hike of the product	DATA EXPLORATION	DONE	SA
<input checked="" type="checkbox"/>	RSSIA-21 As a Restaurant owner, I can create my unique menu for my customer	REPORT	DONE	SA
<input checked="" type="checkbox"/>	RSSIA-13 As a Stock broker, I can know my shares in the market by the analytics	LOGIN	DONE	S
<input checked="" type="checkbox"/>	RSSIA-7 As a Fruit Vendor, I want to know my warehouse locations instantly	DASHBOARD	DONE	S
<input checked="" type="checkbox"/>	RSSIA-19 As a Restaurant owner, I can easily able to know my traditional customers	DATA MODULE	DONE	NV
<input checked="" type="checkbox"/>	RSSIA-2 As a fruit vendor, I can know the previous year statistics about the fruits	REGISTRATION	DONE	NV
<input checked="" type="checkbox"/>	RSSIA-23 As a restaurant owner, I can able to see a visual representation of my way of Journey	STORY	DONE	NV

+ Create issue

Backlog (0 issues)

Your backlog is empty

Quickstart

IBM x IBM-5482 x IBM-Proje: x Password x IBM-Proje: x IBM-EPBL x IBMId - Si x (8) Whats: x Retail Stor x

nithyavelmurugan.atlassian.net/jira/software/projects/RSSIA/boards/1/roadmap

Google Search

Jira Software

Your work Projects Filters Dashboards People Apps Create

Search

Retail Store Stock Inve...
Software project

PLANNING

- Roadmap
- Backlog
- Board
- Reports

DEVELOPMENT

- Code

Project pagesAdd shortcutProject settings

You're in a team-managed project
Learn more

Projects / Retail Store Stock Inventory Analytics

Roadmap

NV K SA H

Status category Epic

View settings

	OCT	NOV	DEC	JAN 23	FEB 23
> RSSIA-1 Registration					
> RSSIA-3 Data module					
> RSSIA-5 Dashboard					
> RSSIA-6 Dashboard					
> RSSIA-8 Login					
> RSSIA-10 Dashboard					
> RSSIA-12 Login					
> RSSIA-14 Report					
> RSSIA-16 Data Exploration					
> RSSIA-18 Data module					
> RSSIA-20 Report					
> RSSIA-22 Story					
+ Create Epic					

Today Weeks Months Quarters Quickstart

7.CODING AND SOLUTIONING

7.1 FEATURE 1

Centralized inventory management

One of the most important functions of the inventory management system is that it tracks all of the information about the inventory. An inventory management system effectively keeps a good track of the stock levels, history of the product as well as many other product specifications. One of the greatest features of the inventory management system software is that it syncs with other modules of the inventory system. This assists in the operation of the inventory system accurately.

Tagging and Barcoding

Another great feature of the inventory management system is the elimination of standard human errors. Manual data functioning can cause errors, but scanning the barcode saves ample time for workers. The barcoding feature reduces employee training sessions and budget value.

Traditionally, recording the data of the products requires so much effort.

The inventory management system has made it easier by offering barcoding and tagging features. Now, the bulkiest work is completed in the least amount of time. Thus, inventory management system software lets you track the products efficiently with the help of tagging and barcoding.

Reporting of the business activities

One of the most advantageous tools of an inventory management system is the reporting of various business activities. Management of an inventory business demands people in charge to remain updated regarding various business activities such as the driver's location, the status of the product, information regarding the shipment of the order, etc. You can integrate many tools in the inventory management app for carrying out the reporting of tasks efficiently.

Forecasting of the inventory

It is a quite discomfoting situation when company products go out of stock. An inventory management system allows you to check what products get out of stock, and what products are abundantly available in the stock of the company. This is a uniquely beneficial way of maintenance of a good user experience as well as spending resources wisely. Consequently, business owners purchase the business inventory smartly and intelligently. This feature of the inventory management system helps managers in meeting customer expectations and reduction of stock out risks.

7.2 FEATURE 2

Alerts regarding the inventory details

The manual work inventory supervision days are bygone. Now, managers do not have to spend a good amount of time and energy on the management of the stock data. A great inventory management system is one with a stock-out alert feature. In the alerts, the software describes various consequential issues that may occur due to reduced stock of a particular item.

Backup and security of the inventory

No matter the type of your business, proper backup, and security of the inventory is critical for the functioning of the inventory. Inventory management systems software has good security layers that make hacking impossible. In case inventory software gets hacked, the data has a backup that business operators can access and use. So, backup and security of the inventory prevent any hiccups.

Internet of Things (IoT) and Cloud data software

Inventory management system is cloud-based software, which can be accessed

from all types of devices. Also, inventory management system software is IoT-driven, which makes it easier to record all the details of the inventory intelligently and smartly.

IoT keeps the inventory optimized and organized efficiently. All of the employees of the company can get real-time updates.

Integration of inventory management software with other systems

Nowadays, companies have installed an ERP system that has increased the productiveness of the companies to a greater extent. If inventory management systems software can be integrated with ERP, the company can benefit a lot from the integration. Data can be retrieved relentlessly from the system.

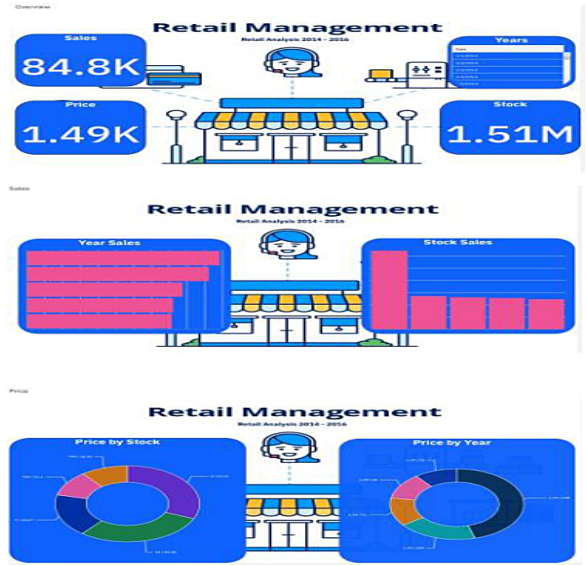
Optimized inventory



Another great feature of the inventory management software system is that it optimizes and organizes the inventory of companies. It becomes easier for the managers to function and meet deadlines with the optimized inventory.

8.TESTING

8.1 TEST CASES

MODEL PERFORMANCE TESTING

S. NO	PARAMETER		SCREENSHOTS/VALUES
1.	Dashboard design		<p>The dashboard is created with three category i.e,Overview,Sales,Price</p>  <p>The first screenshot displays the 'Retail Management' dashboard overview for the period 2024-2025. It features three main metrics: Sales at 84.8K, Price at 1.49K, and Stock at 1.51M. The second screenshot shows the 'Year Sales' and 'Stock Sales' bar charts, both for the period 2024-2025. The third screenshot shows the 'Price by Stock' and 'Price by Year' donut charts, also for the period 2024-2025.</p>
2.	Data Responsiveness		<p>The data is downloaded from external API and uploaded in the IBM cognos analytics with watson and data module is created.</p>
3.	Amount Data is Rendered		<p>The dataset which downloaded from the external API and uploaded rendered from the DB2</p>

4.	Utilization of data filters		<p>The data filters is used for preprossesing the data.i.e,Cleaning of data,Removing the null value.The unwanted columns are removed from the dataset and additional data which are required is added to the dataset</p>
5.	Effective User Stories		<p>The story is created with two scenes i.e,Introduction,Sales by Year & Stock</p> 
6.	Descriptive Report		<p>The report is created with two visualizations i.e,Result,Sales greater than 350.</p> 

8.2 USER ACCEPTANCE TESTING

Purpose of document

The purpose of the document is to give a clear view on what needs to be done i.e. the target and what is done and what are the things required to achieve the goal. The functional and User Application Interface is given under the feature type. The objective is given under the components column. The steps which need to be performed to achieve the goal is given under the Steps to execute column. The data which need to be tested is given under the test data column. The result or final objective which need to be achieved or attained are given under the expected result. The outcome which is actually attained is given under the actual result column. The status column contains whether the test is passed or fail. If in case the test failed the details of it has to be filled in the comments column. The automation of the test case has to be filled in the TC for automation which is denoted by “yes” or “no”. If in case the test failed the bug which occurred has to be given with its ID in the bug ID column. The person who performed the respective action is given under the executed by column.

Test Case Analysis

SECTION	TEST CASE	NOT TESTED	FAIL	PASS
Dataset	5	0	0	5
Dashboard	8	0	0	8
Report	2	0	0	2
Story	5	0	0	5
Embed dashboard, report and story in simple .html file	15	0	0	15
Embed dashboard, report and story in simple web app	25	0	0	25

9.RESULTS

9.1 PERFORMANCE METRICS

The following are the five most effective inventory KPIs and metrics:

Demand Forecast Accuracy

An excellent inventory management metric for determining how strong collaboration is in a manufacturing operation, demand forecasting reflects the variation in real or actual demand and what is estimated at the factory level. Inventory metrics for manufacturing can make operations more effective by closing the gaps between forecasted demand and actual demand.



This inventory metric also contributes directly to reducing inventory carrying costs, a key indicator of inventory management effectiveness. With demand forecasts on hand, you're less likely to order inventory beyond market demand. Further, demand forecasts can also clue you in on when to order more stock than normal, so you never miss a chance for growth.

Customer Satisfaction Levels

Often measured in net promoter scores (NPS), customer satisfaction levels need to be evaluated across all distribution and selling channels. Best-in-class manufacturers measure selling and distribution separately, determining an NPS for each channel. This is to index your customers' order-to-delivery times and check to see if they're consistent with what you originally expected.

Perfect Order Performance

Perfect order performance quantifies how effectively an organization delivers complete, accurate and damage-free orders to customers on time. The equation that defines the perfect order index (POI) or perfect order performance is:
$$(\text{percent of orders delivered on time}) * (\text{percent of orders complete}) * (\text{percent of orders damage free}) * (\text{percent of orders with accurate documentation}) * 100.$$

DIFOT, or delivered in full and on time, is a critical KPI for purchase orders. But it can be a bit misleading if manufacturers assess it individually instead of using it in the POI formula above. The more configurable products are, the more difficult perfect order performance is to attain. However, the rapid growth of manufacturing intelligence is making perfect order performance more attainable than ever across the spectrum of production strategies.

1. Fill Rate Effectiveness as a Percentage of All Orders

Measuring supply chain collaboration needs to be a priority when selecting inventory metrics and KPIs to manage your operation. Tracking fill rate effectiveness as a percentage of all orders directly reflects how many orders or

requests for material from production centers are fulfilled. Taking this metric a step further provides insights into how well production centers are managing inbound inventories to meet customer delivery dates.

Gross Contribution Margins by Product, Production Facility and Business Unit

Best-in-class inventory management solutions provide gross contribution margin (GCM) performance levels across several different dimensions of business. GCM is one of the most effective metrics a business can use to evaluate how well collaboration is happening across business units. If you know the GCM attributable to a given production center, you can track performance and effectiveness levels by location.

10.ADVANTAGES AND DISADVANTAGES

ADVANTAGES

An advantage of the retail inventory method is that it does not require a physical inventory. The retail inventory method only requires an organization to record the retail prices of inventory items.

If an organization has multiple locations in different cities and states, performing a physical inventory can become a costly and time-consuming undertaking. By using retail inventory, an organization can prepare an inventory for a centralized location.

The retail inventory method also allows the organization to create an inventory value report for budgeting or the preparation of financial statements.

DISADVANTAGES

On the other hand, the retail inventory method is only accurate if all pricing across the board is the same and all pricing changes occur at the same rate. In most cases this is not realistic in retail because of the many variations that exist in merchandise pricing.

1. For example, depreciation, markdowns, product damage and theft can affect the price of the retail inventory.
2. For this reason, any calculations made using the retail inventory method should serve only as an estimate.

11.CONCLUSION

CONCLUSION

For the success of the program, the managers of the retail stores must formulate a modern way of managing the inventory by instituting electronic systems to take care of the resources of the company. This ensures that they can be accounted for and there are proper records available all the time for reference to be made when the need arises. Besides, the retail management system is necessary for ensuring that there is accountability in the way the company handles its stock. It helps in saving time.

Retail companies have acquired significant importance within several countries due to their high economic contribution. Therefore, the need to analyze their KPIs becomes highly significant, as well as their different systems, methodologies, and tools used within inventory management and optimization. From the aspects mentioned above, the main trends in inventory management within companies were define.

12.FUTURE SCOPE

New inventory management skills

As stock control advances, inventory managers need new skills to match them. Besides organizational skills and general computational skills in math, data analytics, and forecasting, inventory managers in 2019 will need to learn bits and pieces of topics like:

Coding and algorithms (you may need to insert a few lines of codes here and there.)

Application programming interfaces (APIs).

Enterprise resource planning (ERP).

New reporting technologies (they keep improving; you want to keep up with them.)

As an inventory manager or store operator or owner, you may not need to know these skills too in-depth, but a basic knowledge of them is necessary.

Inventories that power experiential retail

1. Experiential retail is a trend that's catching fire — especially in the past few months.
2. In fact, they keep popping up in the news section of Google search results:
3. The concept of consumers being in an exciting and relaxed place because a brand is becoming one of the strongest arms of retailing today. But as experiential retail grows in prominence and usefulness, the inventories that power them grow as well.
4. For example, Nordstrom launched “Nordstrom Local” — a new line of smaller stores, with its first in West Hollywood, California. They didn't design the store to sell anything; it's simply an inventory that powers experiential retail for Nordstrom.
5. According to [CNBC](#), “Nordstrom Local will have eight dressing rooms where shoppers may try on clothes, but stores won't actually keep inventory for purchase in stock.”

6. The stores also have bars where shoppers can order drinks.
7. “Shopping today may not always mean going to a store and looking at a vast amount of inventory,” Shea Jensen, Nordstrom’s senior vice president of customer experience, explains. “It can mean trusting an expert to pick out a selection of items.”
8. From brands like Amazon and Apple to backyard restaurants, every store is launching its own experiential retail initiatives in whatever way possible.

13.APPENDIX

SOURCE CODE

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <!-- basic -->
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <!-- mobile metas -->
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <meta name="viewport" content="initial-scale=1, maximum-scale=1">
    <!-- site metas -->
    <title>IBM Analytical Board</title>
    <meta name="keywords" content="">
    <meta name="description" content="">
    <meta name="author" content="">
    <!-- bootstrap css -->
    <link rel="stylesheet" href="css/bootstrap.min.css">
    <!-- style css -->
    <link rel="stylesheet" href="css/style.css">
    <!-- Responsive-->
    <link rel="stylesheet" href="css/responsive.css">
    <!-- favicon -->
    <link rel="icon" href="images/favicon.png" type="image/gif" />
    <!-- Scrollbar Custom CSS -->
    <link rel="stylesheet" href="css/jquery.mCustomScrollbar.min.css">
    <!-- Tweaks for older IEs-->
    <link rel="stylesheet" href="https://netdna.bootstrapcdn.com/font-awesome/4.0.3/css/font-
awesome.css">
    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/fancybox/2.1.5/jquery.fancybox.min.css"
media="screen">
  </head>
  <!-- body -->
  <body class="main-layout">
    <div id="mySidepanel" class="sidepanel">
```

```
<a href="javascript:void(0)" class="closebtn" onclick="closeNav()">×</a>
<a href="index.html">Home</a>
</div>
<!-- header -->
<header>
  <!-- header inner -->
  <div class="header">
    <div class="container-fluid">
      <div class="row">
        <div class="col-xl-4 col-lg-4 col-md-4 col-sm-4">
        </div>
        <div class="col-xl-4 col-lg-4 col-md-4 col-sm-4">
        </div>
      </div>
    </div>
  </div>
</header>
<section class="banner_main">
  <div id="banner1" class="carousel slide" data-ride="carousel">
    <ol class="carousel-indicators">
      <li data-target="#banner1" data-slide-to="0" class="active"></li>
      <li data-target="#banner1" data-slide-to="1"></li>
      <li data-target="#banner1" data-slide-to="2"></li>
    </ol>
    <div class="carousel-inner">
      <div class="carousel-item active">
        <div class="container">
          <div class="carousel-caption">
            <div class="text-bg">
              <h1>Data Analytics</h1>
              <span>Board</span>
            </div>
          </div>
        </div>
      </div>
      <div class="carousel-item">
        <div class="container">
```



```

        <div class="carousel-caption">
            <div class="text-bg">
                <h1>Create </h1>
                <span>Analysis</span>
            </div>
        </div>
    </div>
</div>
<div class="carousel-item">
    <div class="container">
        <div class="carousel-caption">
            <div class="text-bg">
                <h1>Store</h1>
                <span>Analysis</span>
            </div>
        </div>
    </div>
</div>
</div>
<div>
    <a class="carousel-control-prev" href="#banner1" role="button" data-slide="prev">
        <i class="fa fa-arrow-left" aria-hidden="true"></i>
    </a>
    <a class="carousel-control-next" href="#banner1" role="button" data-slide="next">
        <i class="fa fa-arrow-right" aria-hidden="true"></i>
    </a>
</div>
</section>
<!-- <div id="contact" class="contact">
    <div class="container">
        <div class="row">
            <div class="col-md-12">
                <div class="titlepage">
                    <h2>Continent Outcome</h2>
                    <center>
                        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2Fwebsite%2Bfile%2Fcontinent%2Bmap&closeWindowOnLastView=true&ui_appbar

```

=false&ui_navbar=false&shareMode=embedded&action=view&mode=dashboard&subView=model0000018484d8cead_00000002" width="1200" height="1000" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</center>

</div>

</div>

</div>

</div> -->

<div id="contact" class="contact">

<div class="container">

<div class="row">

<div class="col-md-12">

<div class="titlepage">

<h2>Store Analysis</h2>

<center>

<iframe

src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2Fstore&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=view&mode=dashboard&subView=model00000184851898e0_00000000" width="1200" height="1000" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</div>

</div>

</div>

<div id="contact" class="contact">

<div class="container">

<div class="row">

<div class="col-md-12">

<div class="titlepage">

<h2>Analytical Stock Outcome</h2>

<center>

<iframe

src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2Fwebsite%2Bfile%2Fstock%2Bsecond%2Bfile&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=view&mode=dashboard&subView=model00000184898c32d4_00000000" width="1200" height="1000" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

```

        </center>
    </div>
</div>
</div>
<div id="contact" class="contact">
    <div class="container">
        <div class="row">
            <div class="col-md-12">
                <div class="titlepage">
                    <center>
                        <h2>Daily Customer Count of Store Analysis</h2>
                        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2
Fwebsite%2Bfile%2Fstore%2Bwebsite&closeWindowOnLastView=true&ui_appbar=f
alse&ui_navbar=false&shareMode=embedded&action=view&mode=dashbo
ard&subView=model000001848a190533_00000002" width="1200" height="1000"
frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>
                    </center>
                </div>
            </div>
        </div>
    </div>
<div id="team" class="team">
    <div class="container">
        <div class="row">
            <div class="col-md-12">
                <div class="titlepage">
                    <h2>Our Team</h2>
                    <p>
                        </p>
                </div>
            </div>
        </div>
    </div>
    <div class="row">
        <div class="col-md-4">
            <div class="team_box">
                <figure></figure>

```

```

<div class="social_box">
  <ul class="social_team">
    <li><a href="#"><i class="fa fa-facebook" aria-hidden="true"></i></a></li>
    <li><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
    <li><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
    <li><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
  </ul>
  <h3>Selvamuthukumar</h3>
  <p>Team Lead - Developer</p>
</div>
</div>
<div class="col-md-4">
  <div class="team_box">
    <figure></figure>
    <div class="social_box">
      <ul class="social_team">
        <li><a href="#"><i class="fa fa-facebook" aria-hidden="true"></i></a></li>
        <li><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
        <li><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
        <li><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
      </ul>
      <h3>Nithyashree</h3>
      <p>Software Engineer</p>
    </div>
  </div>
</div>
<div class="col-md-4">
  <div class="team_box">
    <figure></figure>
    <div class="social_box">
      <ul class="social_team">
        <li><a href="#"><i class="fa fa-facebook" aria-hidden="true"></i></a></li>
        <li><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
        <li><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
        <li><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
      </ul>
    </div>
  </div>
</div>

```

```

        <h3>Selva muthukumar & Holly </h3>
        <p>Data Analyst</p>
    </div>
</div>
</div>
</div>
</div>
</div>
</div>
<div class="footer">
    <div class="container">
        <div class="row">
            <div class="col-md-4">
                <h3>Retail Store Stock Analysis</h3>
                <p>To Identify the stock analysis of retail store to recognize and formulate the
seamless operation to overcome the necessity for the products and also to identify the back-up
stock of the risk products which are going on a fast sale process. </p>
            </div>
            <div class="col-md-4">
                <div class="fid_box">
                    <h3>Find us </h3>
                    <ul class="location_icon">
                        <li><a href="#"><i class="fa fa-map-marker" aria-
hidden="true"></i></a>Kavitha N<br>Nithyashree V<br>Coimbatore Insititute of Engnieering
And Technology <br>Coimbatore</li>
                        <li><a href="#"><i class="fa fa-phone" aria-hidden="true"></i></a><br>
+91 6385262317<br> +91 6379543989
                        </li>
                        <li><a href="#"><i class="fa fa-envelope" aria-hidden="true"></i></a><br>
kavitha.tech<br>nithya.dev@gmail.com
                        </li>
                    </ul>
                </div>
            </div>
        </div>
    </div>
    <div class="col-md-4">
        <div class="fid_box">
            <h3>News letter</h3>

```

[illegible]

```
function closeNav() {  
    document.getElementById("mySidepanel").style.width = "0";  
}  
</script>  
</body>  
</html>
```

GIT HUB LINK

<https://github.com/IBM-EPBL/IBM-Project-54821-1662458046>

PROJECT DEMO LINK

<https://drive.google.com/file/d/1zLVqffylke1X1uuEIQjCAGvfF1Disn4y/view?usp=drivesdk>