RETAIL STORE STOCK INVENTORY ANALYTICS

Project Report

Team ID : PNT2022TMID05407

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1.Introduction

1.1Abstract:

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 analyse and present an extensive literature concerning inventory management, containing multiple definitions and fundamental concepts for the retail sector. Inventory Management System is important to ensure quality control in businesses that handle transactions revolving around consumer goods. Without proper inventory control, a large retail store may run out of stock on an important item and it's also easy to lose its possible customer if they do not have sufficient stocks in the store.

A good Inventory Management System will alert the retailer when it is time to reorder. Inventory Management System is also an important means of automatically tracking the stocks of their product. For example, if a business orders ten pairs of socks for retail resale, but only receives nine pairs, this will be obvious upon inspecting the contents of the package, and error is not likely. On the other hand, say a wholesaler orders 100,000 pairs of socks and 10,000 are missing. Manually counting each pair of socks is likely to result in error. An automated Inventory Management System helps to minimize the risk of error. In retail stores, an Inventory Management System also helps track theft of retail merchandise, providing valuable information about store profits and the need for theft-prevention systems. The product quantity is updated by the store operator every time a product

is bought/received. This information is then tracked by a central computer system. The Inventory Management System can serve a variety of functions in this case. It can help in identifying the overstock and understood products prior. It also provides sales insights and stock reports in the form of graphs/ charts which will be useful for easier visualization. All of this data works in tandem to provide businesses with real time inventory tracking information. Inventory Management Systems make it simple to locate and analyse inventory information in real time with a simple database search.

1.2Introduction:

Analytics is the discovery and communication of meaningful patterns in data. As a topic, analytics has found its way from being discussed at the sidelines of industry and technology conferences, to the top of the corporate agenda. With the existing promise of delivering performance improvements not seen since the redesign of core processes in the 1990s, these tools are likely to change the competitive landscape in many industries in the years to come. Big Data is all about the non-traditional ways of dealing with the modern digital data. We exist in an ocean of digital data. It includes data stored in piles of well-structured databases residing with organisations, streams of data generated from the dynamic social networks, various understandable and intangible signals generated by all kinds of digital equipment all over the place. For an organisational, Big Data can be about identifying the right datasets from large amounts of data commonly defined by the three Vs-Volume, Velocity and Variety; transforming them into readily consumable models; and then extracting meaningful insights for devising business strategies.

These insights can be used to improve different aspects of the business - from marketing and sales, to research and operations, and customer services. Big Data enables clients in the retail Industry to track and better understand a variety of information from many different sources like CRM, AdWord/AdSense analytics, inventory management system, emails, transactional data, sensors data etc. Industry can identify the current trends, re-order supplies for hot-selling items, adjust the prices in real time and also manage and control product distribution across different stores to channelize their sales in more effective manner. This provides the retail industry with entirely different perspectives of looking towards the datasets available at their disposal. By collating these organisational datasets with social media data streams, they can also use them for better sales predictions, designing relevant campaigns to suit their profitable customers and thereby ensuring customer satisfaction. Retail inventory management is the process of ensuring you carry products 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. Inventory management is vital for retailers because the practice helps them increase profits.They are more likely to have enough inventory to capture every possible sale while avoiding overstock because too much inventory means working capital costs, operational costs, and a complex operation. Based on the inventory management analysis, we can manage how much inventory is required for selling the product based on which they can calculate the profit and losses. Our 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.

1.3 Objective:

1.3.1 Primary Objective:

1. Identifying Consumer Demands: The first task that a retailer has to perform is to identify the consumer needs and wants. The retailer does not provide raw materials, but offers finished goods and services in a ready-to-use form that the consumers want. For this, from time-to-time, retailer gathers information about consumers' liking, disliking, tastes and preferences.

2. Management of Merchandise: The second task that a retailer performs is the management of merchandise. The retailer performs the function of storing the merchandise and provides as and when required by the customer.

3. Convenience of timing: The retailer creates time utility by keeping the store open and ready for sale according to consumers' convenience. The new trend in retailing to longer trade hours reflects the socio-cultural changes where over one in ten people work outside normal hours resulting in changing trading hours and a panacea for small retailers against the cheaper prices of the super stores and other retail chains. By being available at a location that has easy access and is convenient to shop, retailer creates place utility. Finally, when selected and bought by customers, retailers create ownership utility. In short, retailers are not only the final link between the consumers and the manufacturers but a vital part of the modern business world. In the absence of retailing, one can easily imagine how difficult and costly it is for a consumer to approach a manufacturer for various things every time he wants. Retailers do not sell things in small quantities but make their

shopping convenient and less risky. Retailers have floor staff to answer their queries regarding how to use effectively and safely, guide them what to buy according to individual preferences and budget and give demonstration or display products so that the consumers should have a feel of the merchandise before buying. The successful retailer focuses its activities on meeting these objectives through effective marketing.

1.3.2 Retail Sales Goals:

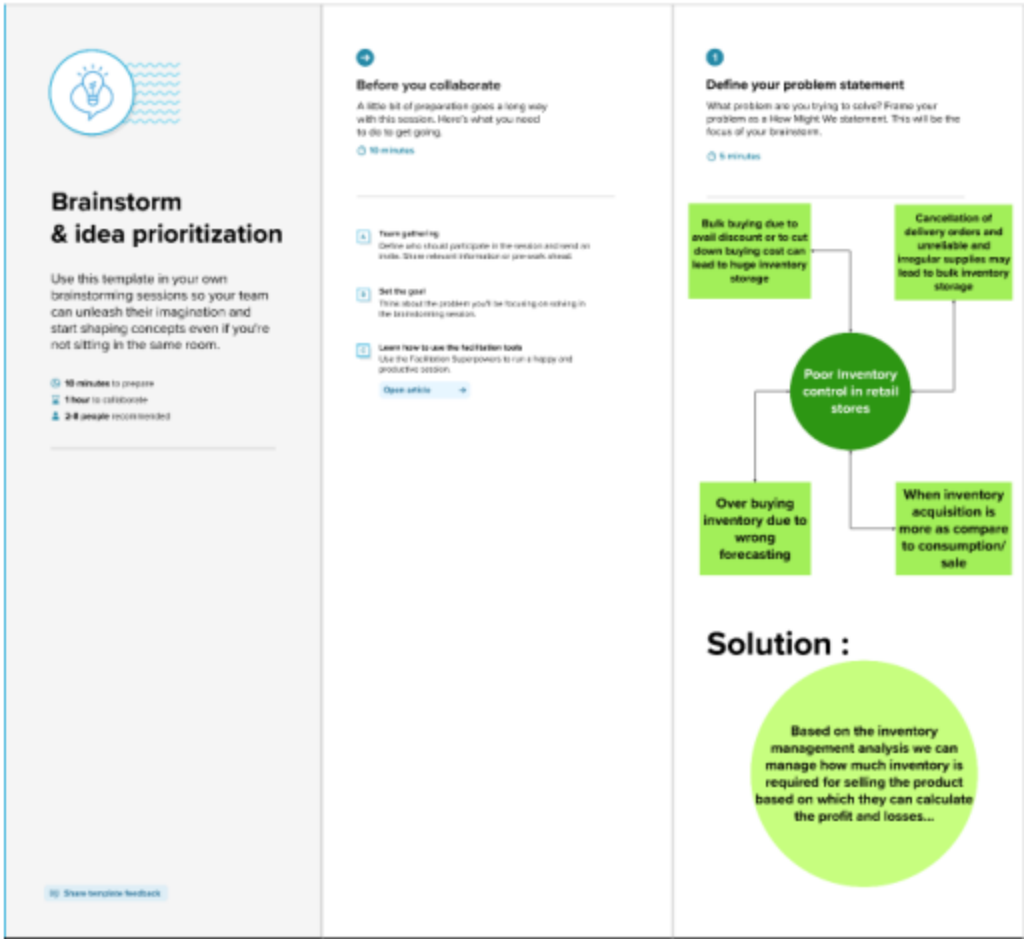
Retail Sales measures the gross receipts of a retail store by selling durable and non-durable goods. The main components of retail sales are grocery, food & clothing and shoe retailing. In India, consumer spending roughly accounts for over 60% of GDP and is therefore, a vital element in the country's economic growth. Any change in retail sales pattern is important and is seen as the timeliest indicator of wide consumption patterns. Retail sales may have short term and long term goals in nature. Short term retail sales goals are supposed to support and merge into long term goals.

2.Project design & Planning

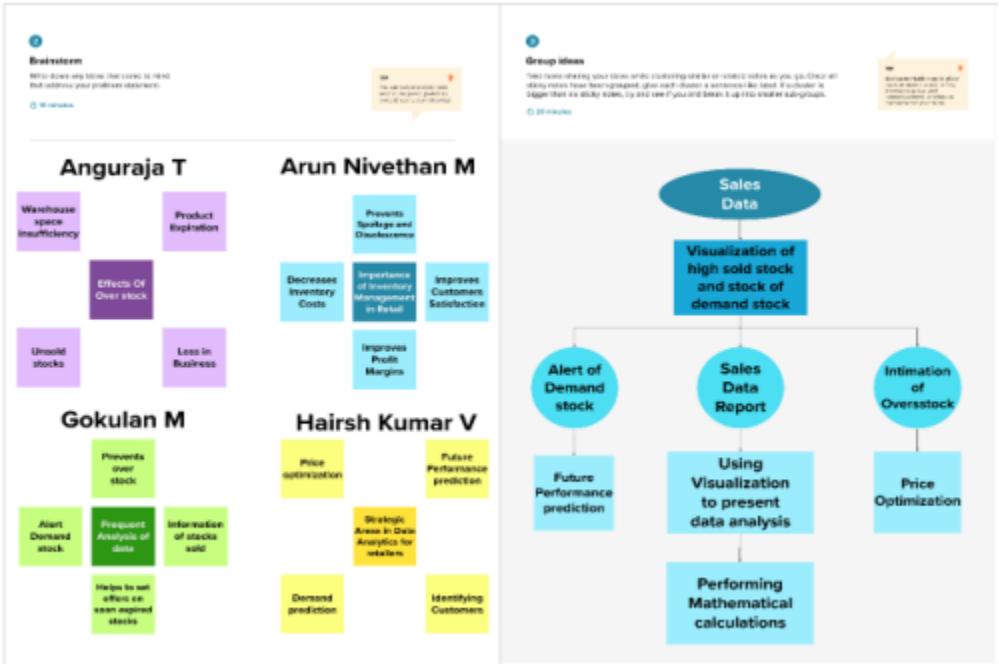
2.1 Ideation Phase

2.1.1 Brainstrom & Ideation:

Step-1: Brainstorm & Idea Prioritization:



Step-2: Brainstorm, Idea Listing and Grouping:



Step-3: Idea Prioritization:

2.1.2 Empathy Map

2.1.3 Literature Review:

COMPONENTS OF RETAIL STORE STOCK INVENTORY ANALYTICS:

According to a new report titled, “Driving Retail store stock inventory Growth by Leveraging Analytics” by consulting firm Waterhouses Coopers (PwC) and the Retailers Association of India (RAI), a successful retail analytics strategy, will cover the following six areas:

1 Predictive modelling: Developing an analytical model to predict the future outcomes and empower business users to take decisions quickly.

2 Big data and hybrid architectures: Convergence of structured and unstructured data through data integration across apps, sensors, social media and other channels.

3 Cloud analytics: Highly scalable and easy way to store and access relevant information, which allows users to access more data faster.

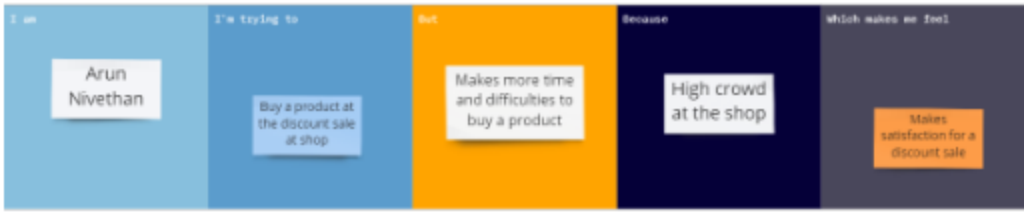
4 Advanced visualizations: Present data in visually compelling ways, enabling companies to expand business intelligence capabilities extended to their executives and other employees.

5 Self-service analytics: Making analytics a more democratic process by allowing users to make decisions based on their own queries without requiring any sophistication.

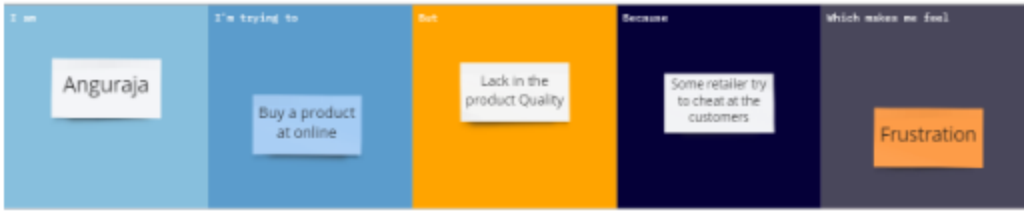
6 Real-time in-memory: A move ahead of the traditional relational database that can help retail analysts to generate deeper insights across the entire value chain of retail operations, including procurement, supply chain, sales and marketing, store operations, and customer management.

2.1.4 Problem Statement:

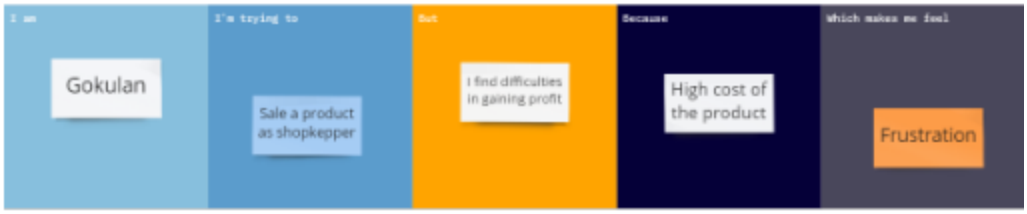
Problem Statement 1:



Problem Statement 2:



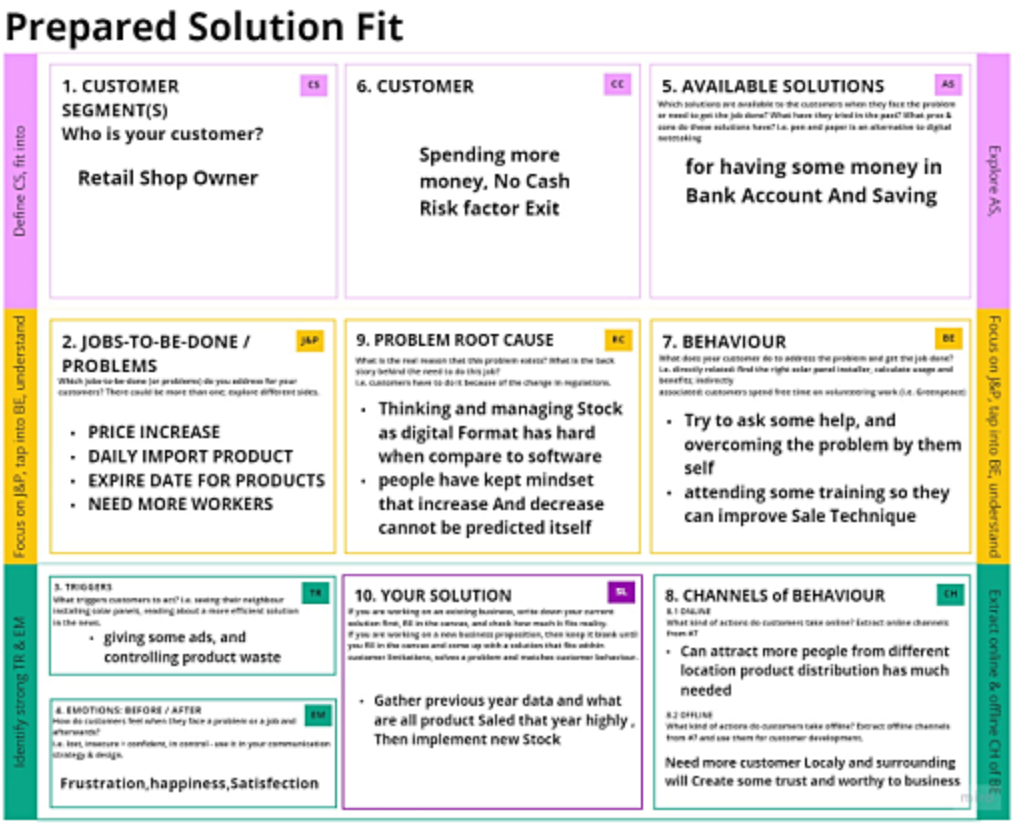
Problem Statement 3:



Problem Statement 4:

2.2 Project design phase – I

2.2.1 Prepared Solution Fit:



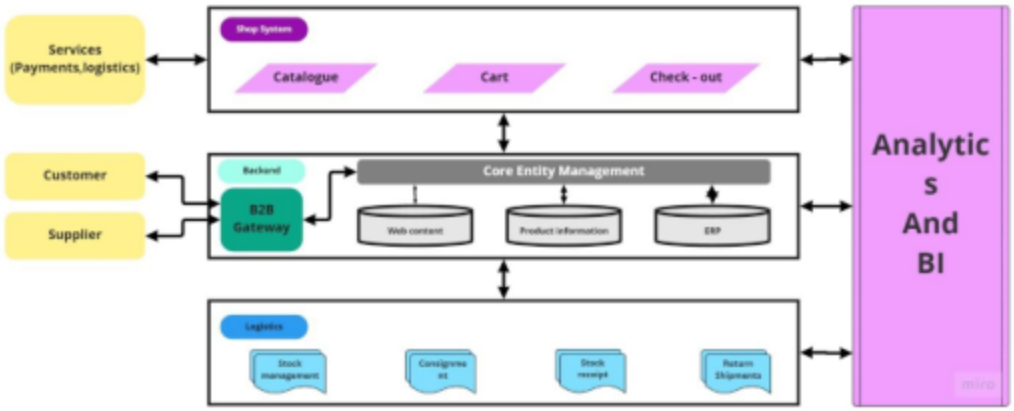
2.2.2 Proposed Solution Fit:

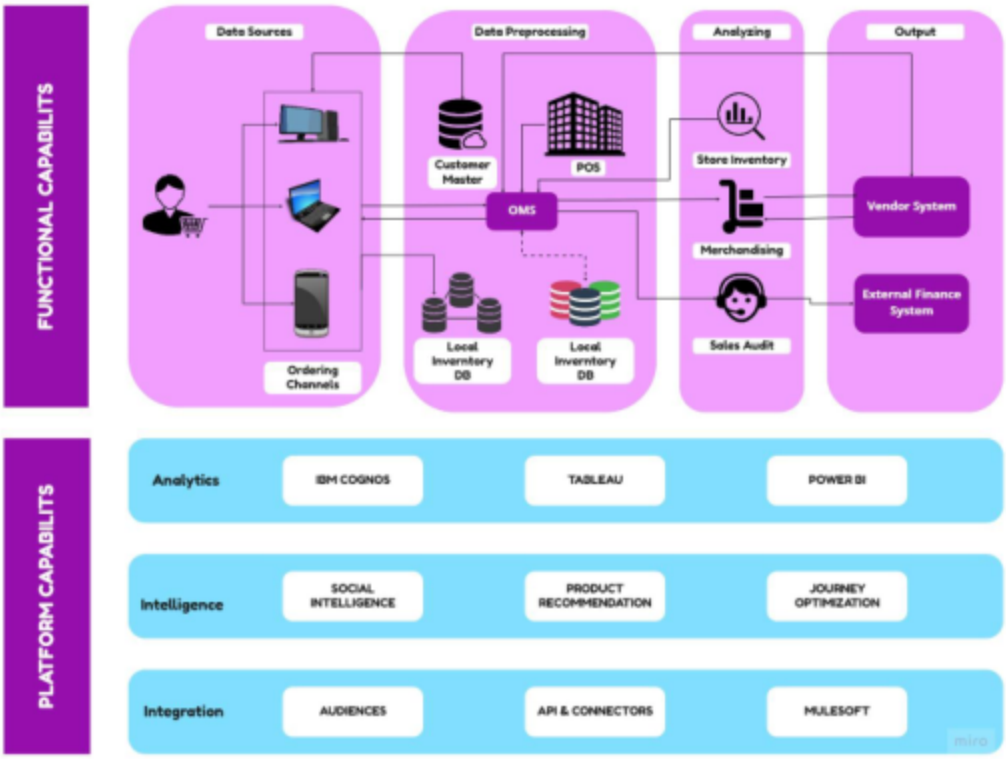
S.No.	Parameter	Description
1.	Problem Statement (Problem to besolved)	When inventory becomes hard to find, you have inventory visibility problems. Lack of visibility is one of the most common inventory management problems. Another major issue faced by retail stores is that they do not have any systematic system to record and keep their inventory data. These problems can be solved by methods such as visualization and analysis of stock data.

2.	Idea / Solution description	The solution to the problems involves techniques such as Visualizations, Predictions, Trend analysis. These can be done via IBM Cognos Analytics easily. The main goal is to utilize the given data set about the Retail Store Stock Inventory and store the data in the cloud, So the retail store can use this information to easily predict the inventory easily and quickly. The retailer can view and maintain his stocks in a visualized manner as per the requirements byusing Cognos Analytics Tool which has several functionalities in which the dataset can be handles and maintained with ease.
3.	Novelty / Uniqueness	The uniqueness of this project mainly comes from the way that the data is handled and managed.It allows thorough analysis of our store which helps to avoid overstocking and also the analysis of the competitive relevant market is possible. In this way, gathering customer feedback and measuring business results is also possible.
4.	Social Impact/ Customer Satisfaction	The following points denotes possible social impacts and customer satisfactions: # Customers will get more varieties Highavailability of the products. #When customers get the products they want faster with fewer mistakes or out-of-stocks, it increases the loyalty of the customer. #An effective inventory management clears the queries that pop's up on the customer's head about the product, and eventually could convince them to purchase the item. #An inventory management plan can be developed to streamline ordering and wasted time on inventory control can be reduced.

5.	Business Model(Revenue Model)	This model increases the number of sales, keeping the required number of stocks and reduce the loss to retailers. This also helps the retailers to understand the customer needs. Similarly, it improves the decision-making process of the customers since the data they're seeing are clear and concise.
6.	Scalability of the Solution	This solution is applicable for small retail stores as well as large departmental stores. Retailers can understand the deepest customer needs and adjust their offering to meet shopper's demands. It can also analyse a wide range of dataset can be datasets and different types of visualizations can be done. Features such as adding a new location, Expanding product line ups, Investing in modern methods of sales and improving the shopping experience is possible.

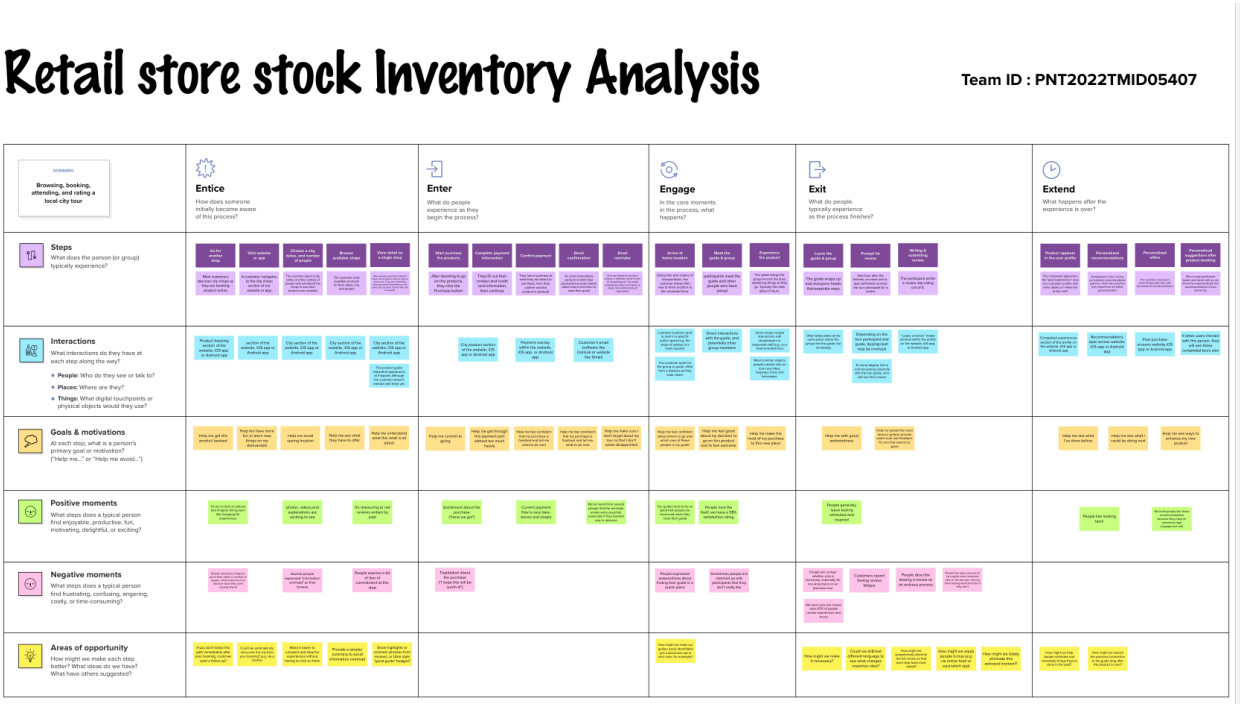
2.2.3 Solution Architecture:



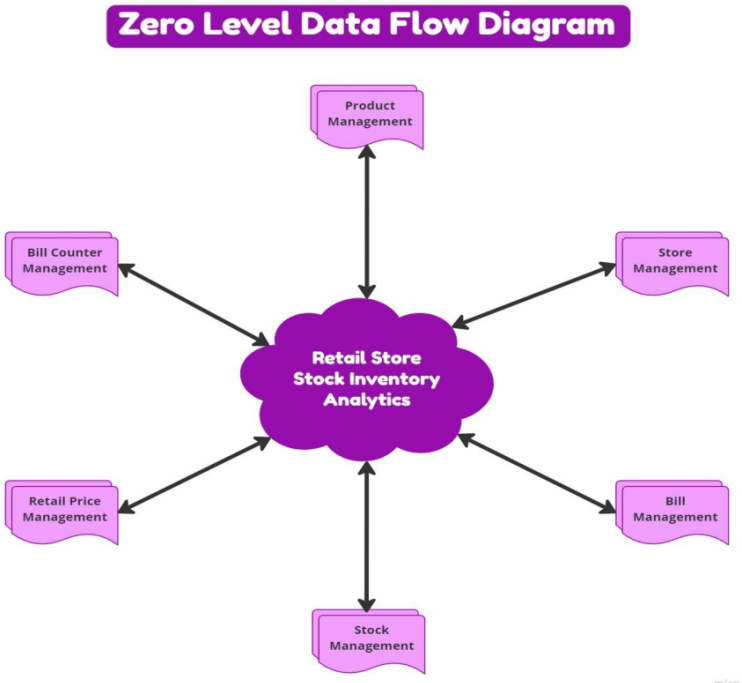


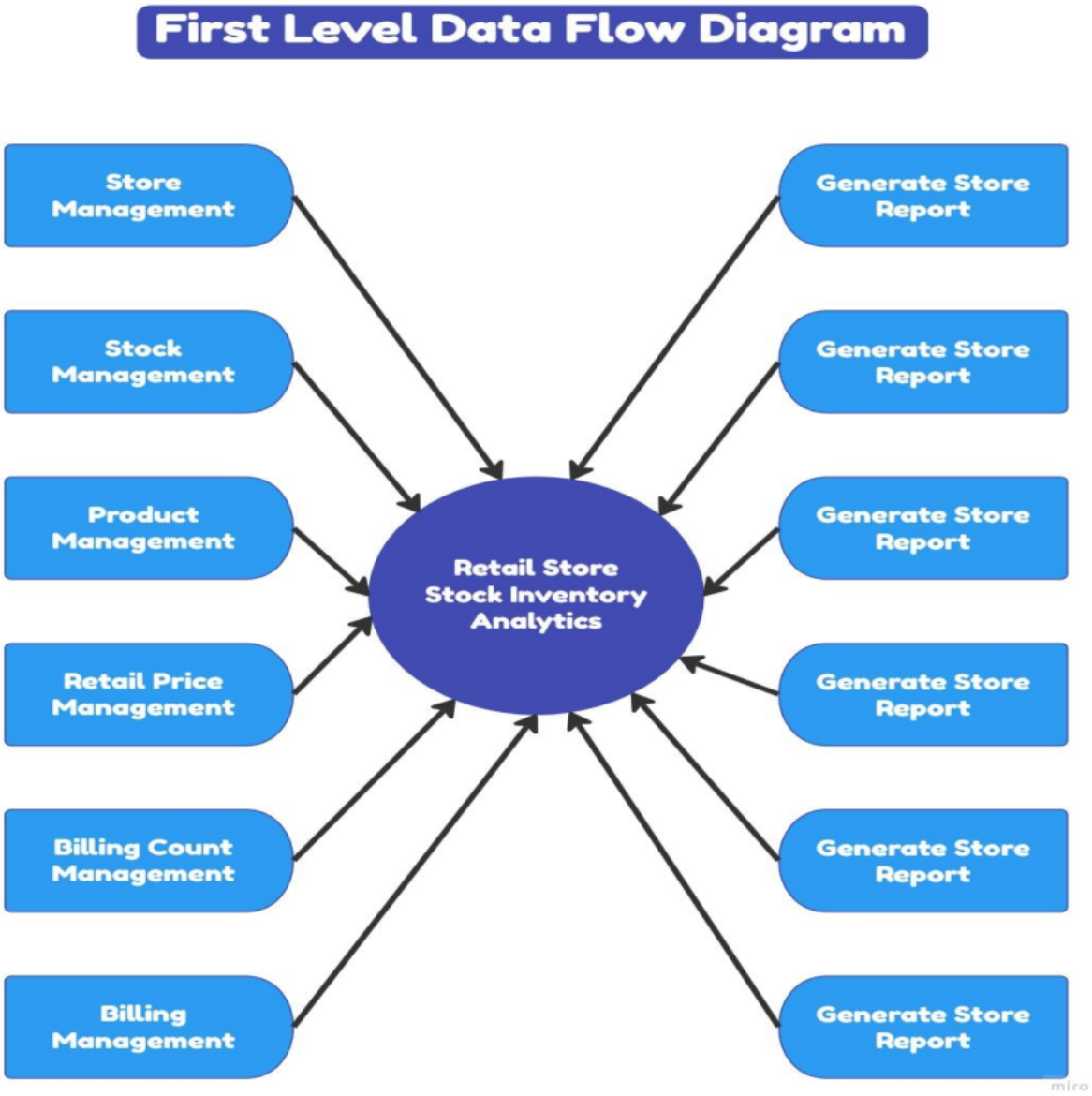
2.3 Project Design Phase – II

2.3.1 Customer Journey Map:



2.3.2 Data Flow Diagrams:




First Level Data Flow Diagram
Store Management
Stock Management
Product Management
Retail Price Management
Billing Count Management
Billing Management
Retail Store Stock Inventory Analytics
Generate Store Report
Generate Store Report
Generate Store Report
Generate Store Report
Generate Store Report
Generate Store Report
miro

User Type	Functional Requirement (Epic)	User Story Number	User Story/ Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirmingmy password.	I can access my account /dashboard	High	Sprint-1
		USN-2	As a user, after completing the registration I will receive confirmation email once I have registered for the web application	I can receive confirmationemail &click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application throughFacebook	I can register & access the dashboard with FacebookLog in	Low	Sprint-2
		USN-4	As a user, I can register for the application throughGmail	I can register & access the dashboard withGmail login	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by enteringemail & password after installing the web application.	I can access the dashboard photoblogging the application	High	Sprint-1
	Dashboard	USN-6	As a user, I can view the charts and graphsrepresentation of the dataset and theinformationsho wn in the dashboard.	I can analysis the stocksin my retail store.	High	Sprint-1
Customer (Webuser)		USN-1	As a user, I can register for the web application entering my email, password and confirming mypassword.	I can access my accountdashboard	High	Sprint-1
		USN-2	As a user, after completing the registration I will receive confirmation email once I have registered for the web application	I can receive confirmationemail & click confirm	High	Sprint-1

Administrator		USN-3	As a user, I can register for the application throughFacebook	I can register &access the dashboard with FacebookLogin	Low	Sprint-2
		USN-4	As a user, I can register for the application throughGmail	I can register & access the dashboard withGmail login	Medi um	Sprint-1

User Type	**Functional Requirement (Epic)**	**User Story Number**	**User Story/ Task**	**Acceptance criteria**	**Priority**	**Release**
	Login	USN-5	As a user,I can log into the application by entering email & password after installing the web application.	I can access the dashboard by login into the application	High	Sprint-1
	Dashboard	USN-6	As a user, I can view the charts and graphsrepresentation of the dataset and the information shown in the dashboard.	I can analysis the stocksin my retail store	High	Sprint-1
Customer CareExecutive		CCE-1	As a customer care executive, I will always be available for the interaction with the customer to clarify the queries.	An executive will analysis thecustomer complaints and rectify their problems.	High	Sprint-2
Administrator		ADMIN-1	As an administrator, I will manage backup and recovery, data modelling and design, distributed computing, database system, and adata security	Administrator can evaluate, design, review and implementing a data and they are also responsible for updating and maintaining the data	High	Sprint-2

2.3.3 Functional Requirement:

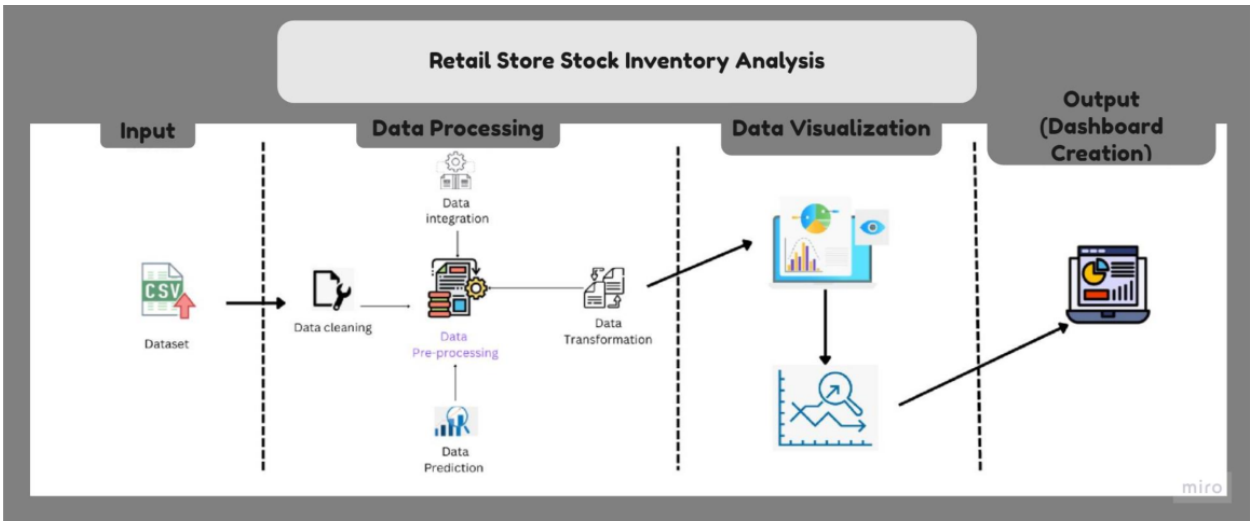
FR No.	Functional Requirement (Epic)	Sub Requirement (Story/ Sub-Task)
FR-1	**User Registration**	Registration through Form Registration through Linked INRegistration through Website Registration through G-mail
FR-2	**User Confirmation**	Confirmation via EmailConfirmation via OTP
FR-3	**User Login**	Login with usernameLogin with password
FR-4	**Profile update**	Update the usercredentialsUpdate the Contact details
FR-5	**Uploading Data**	Collect the customer details as well as product detailsUpload the product details This modelpredicts the bestsold products and also itanalysis the available stocks
FR-6	**Recommendation**	User will request for Item Get the Itemrecommendations
FR-7	**Ratings and Reviews**	The user i.e retailer of any shopcan give theirratings and viewof this models

Non-Functional Requirement:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story/ Sub-Task)
FR-1	**User Registration**	Registration through Form Registration through Linked INRegistration through Website Registration through G-mail
FR-2	**User Confirmation**	Confirmation via EmailConfirmation via OTP
FR-3	**User Login**	Login with usernameLogin with password
FR-4	**Profile update**	Update the usercredentialsUpdate the Contact details

FR-5	**Uploading Data**	Collect the customer details as well as product detailsUpload the product details This modelpredicts the bestsold products and also itanalysis the available stocks
FR-6	**Recommendation**	User will request for Item Get the Itemrecommendations
FR-7	**Ratings and Reviews**	The user i.e retailer of any shopcan give theirratings and viewof this models

2.3.4 Technology Architecture:



Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The userinteracts with application using Web UI	HTML, CSS,JavaScript
2.	Data Processing	The data from the dataset is pre-processed	IBM CognosAnalytics
3.	Cloud Database	The cleandataset is storedon IBM Cloud	IBM Cloud
4.	Data visualization	The data is visualized into different forms	IBM CognosAnalytics, Python
5.	Prediction	These Algorithm techniques are usedto predicttheproper way to make the stock in store.	ML algorithms –Logistic Regression, Linear Regression, Random Forest, ABC Techniques.

Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used	IBM CognosAnalytics, Python
2.	Security Implementations	Request authentication using Encryptions	Encryptions
3.	Scalable Architecture	Scalability consists of 3-tiers	Web Server– HTML, CSS, JavaScript Application Server – Python Database Server – IBM Cloud
4.	Availability	The application is available forcloud users	IBM CloudHosting
5.	Performance	The usercan know howto maintain the inventoryto increase profits.	ML algorithms

3 Project Planning

3.1 Prepare Miletone and Activity List

Milestone	Activity	Description	Date
Working with the Dataset	Understanding The Dataset	Understand thedataset to provide better visualization.	29 Oct 2022
	Loading the Dataset	Load the dataset intothe IBM Cognos.	29 Oct 2022
	Prepare the dataset	Prepare thedataset in theIBM Cognos.	29 Oct 2022
Data visualization charts	Year Wise PriceUsing Line Graph	Visualize theyear wise price using linegraph in IBM Cognos.	05 Nov 2022

	Year Wise StockUsing Line Graph	Visualize the year wise stock using linegraph in IBM Cognos.	05 Nov 2022
	Top10 Sales By Year Using Line Graph	Visualize the top10 salesby year using line graphin IBMCognos.	05 Nov 2022
	Top10 Revenue By Year Using LineGraph	Visualize the top10 revenue by year usingline graph in IBMCognos.	05 Nov 2022
	Monthly Stock Using Heat Map	Visualize the monthly stockusing Heat Mapin IBM Cognos.	05 Nov 2022
	Monthly Sales Using Tree Map	Visualize the monthly salesusing Tree Map in IBM Cognos.	05 Nov 2022
	Monthly Revenue Using Pie Chart	Visualize the monthly Revenue using Pie Chart in IBM Cognos.	05 Nov 2022

	Summary Cards of TotalRevenue, Sales,Stock, Price	Visualize the summary cards of total Revenue, Sales, Stock, Pricein IBM Cognos.	05 Nov 2022
Dashboard	Dashboard Creation	Create Dashboard for various visualization in IBM Cognos.	12 Nov 2022
Report	Report Creation	Create Report to visualize detailedreport of sales, stock,price in IBM Cognos.	19 Nov 2022

Story	Story Creation	Create storyto make on the data in IBM Cognos.	19 Nov 2022

3.2 Sprint Plan Dlivery:

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 theapplication by entering my email, password, and confirming my password.	2	High	Anguraja T Arun Nivethan MGokulan M Harish Kumar V
Sprint-1	Confirmation	USN-2	As a user, I will receiveconfirmation email onceI have registered for the application	1	High	Anguraja T Arun Nivethan MHarish KumarV
Sprint-2	Registration through Facebook	USN-3	As a user, I can register for the application through Facebook	2	Low	Anguraja T Gokulan M HarishKumar V
Sprint-1	Registration through Gmail	USN-4	As a user, I can register for the application through Gmail	2	Medium	Anguraja T Arun Nivethan MGokulan M HarishKumar V
Sprint-1	Login	USN-5	As a user, I can log into the application byentering email & password	1	High	Anguraja T Arun Nivethan MGokulan M HarishKumar V
Sprint-2	Dashboard	USN-6	As a user, I can viewmy dashboard and canperform stock prediction	3	High	Anguraja T Arun Nivethan MGokulan M

			and analysis			
Sprint-2	View listof stocks	USN-7	As a user I can viewthe list of categorized products and their details	4	High	Anguraja T Arun Nivethan MGokulan M HarishKumar V
Sprint-2	Search products	USN-8	As a user I can searchthrough the productusing barcode	2	Medi um	Anguraja TGokulan M Harish Kumar V
Sprint-3	Report generation	USN-9	As a user I can generate reports based onproduct sales	5	High	Anguraja T Arun Nivethan MHarish KumarV

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 stockand less stock for a product	5	High	Anguraja T Arun Nivethan MHarish KumarV
Sprint-4	Notification system	USN-11	As a user I can viewnotification for expiredandout of stock products	4	High	Anguraja TGokulan M Harish Kumar V
Sprint-4	Re-Ordering stock	USN-12	As a user I canreorder stocks basedon predictions and notification	3	High	Anguraja T Arun Nivethan MGokulan M Harish Kumar V
Sprint-2	Updating stock	USN-13	As a user I can add/delete products	5	High	Anguraja T Arun Nivethan MGokulan M

Sprint-4	Invoice generation	USN-14	As a user I can generate invoice calculating taxes,discount and calculate credits	4	High	Anguraja T Arun Nivethan MGokulan M Harish Kumar V
Sprint-4	Discount system	USN-15	As a user I can provide discount based on creditpoints	3	Medium	Anguraja T Arun Nivethan MGokulan M

Project Tracker, Velocity & Burndown Chart:

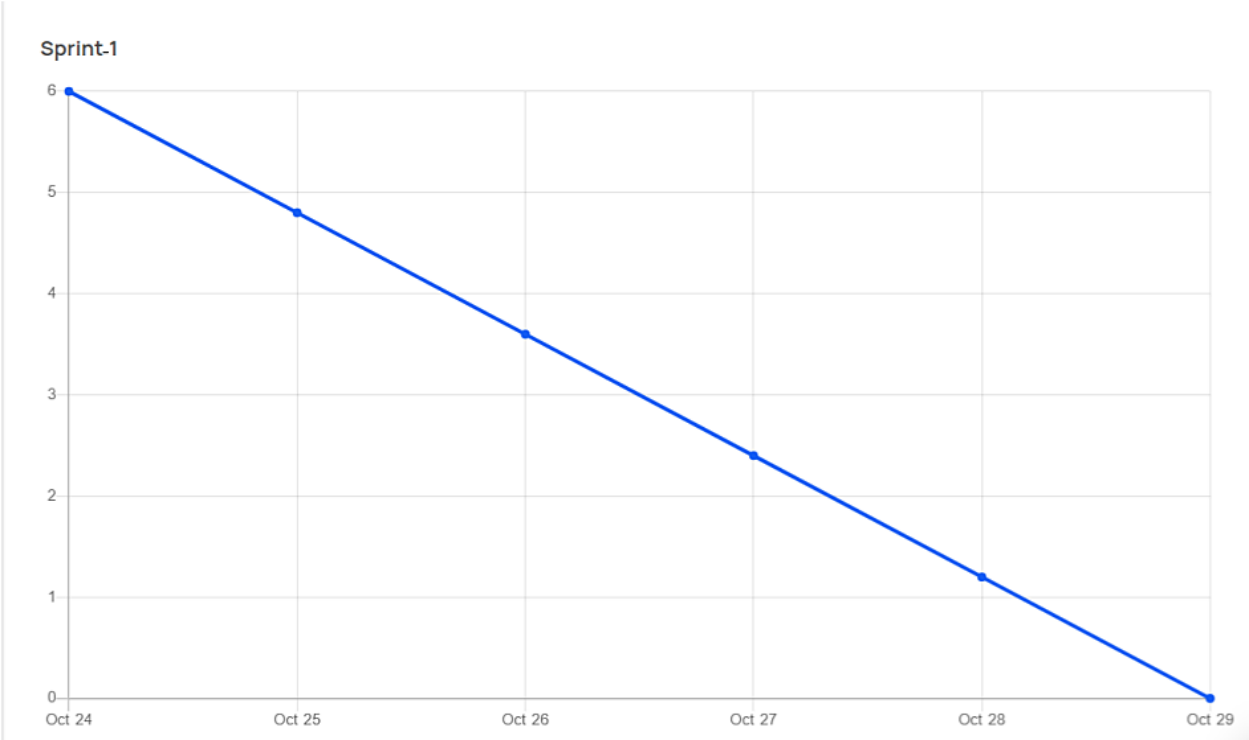
Sprint	**Total Story Points**	**Duration**	**Sprint Start Date**	**Sprint End Date (Planned)**	**Story Points Completed (as on Planned End Date)**	**Sprint Release Date(Actual)**
Sprint-1	6	6 Days	24 Oct 2022	29 Oct 2022	6	29 Oct 2022
Sprint-2	16	6 Days	31 Oct 2022	05 Nov 2022	16	05 Nov 2022
Sprint-3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

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

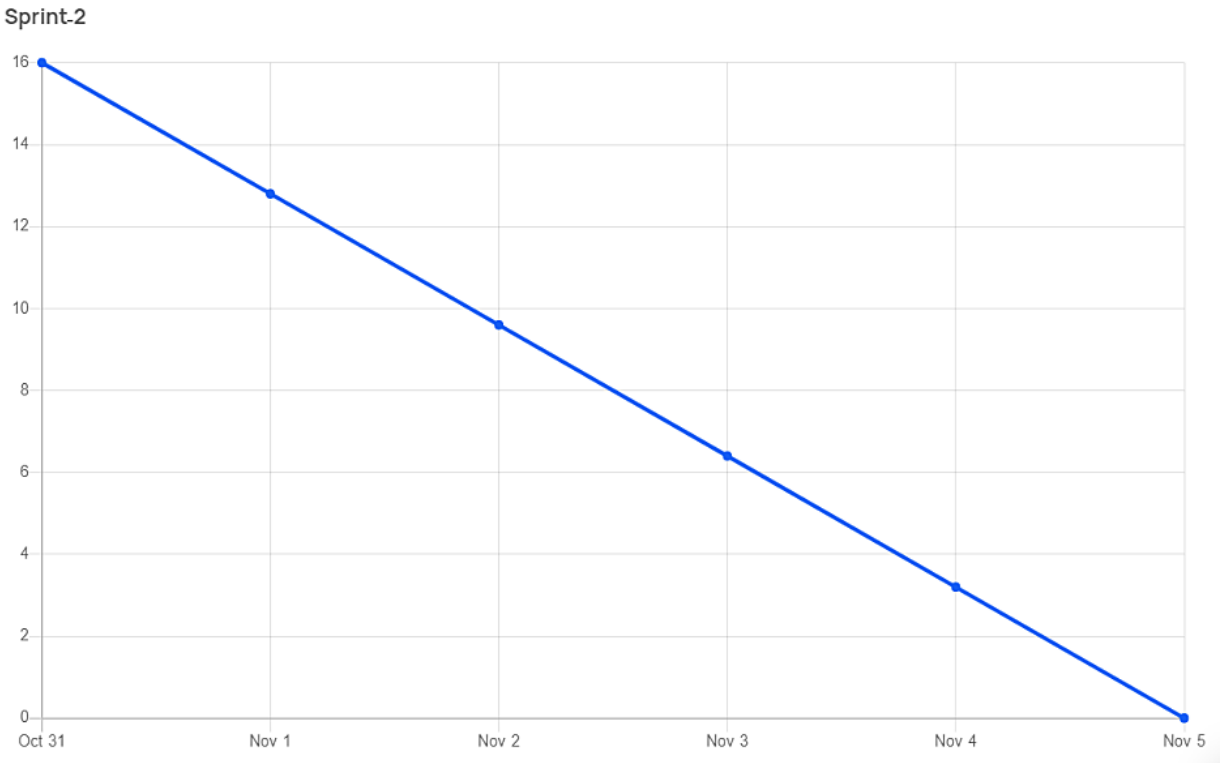
Sprint	**Total StoryPoints**	**Duration**	**Average Velocity**
Sprint-1	6	6 Days	6/6=1

Sprint-2	16	6 Days	16/6=2.67
Sprint-3	10	6 Days	10/6=1.67
Sprint-4	14	6 Days	14/6=2.33
Total	46	24	46/24=1.91

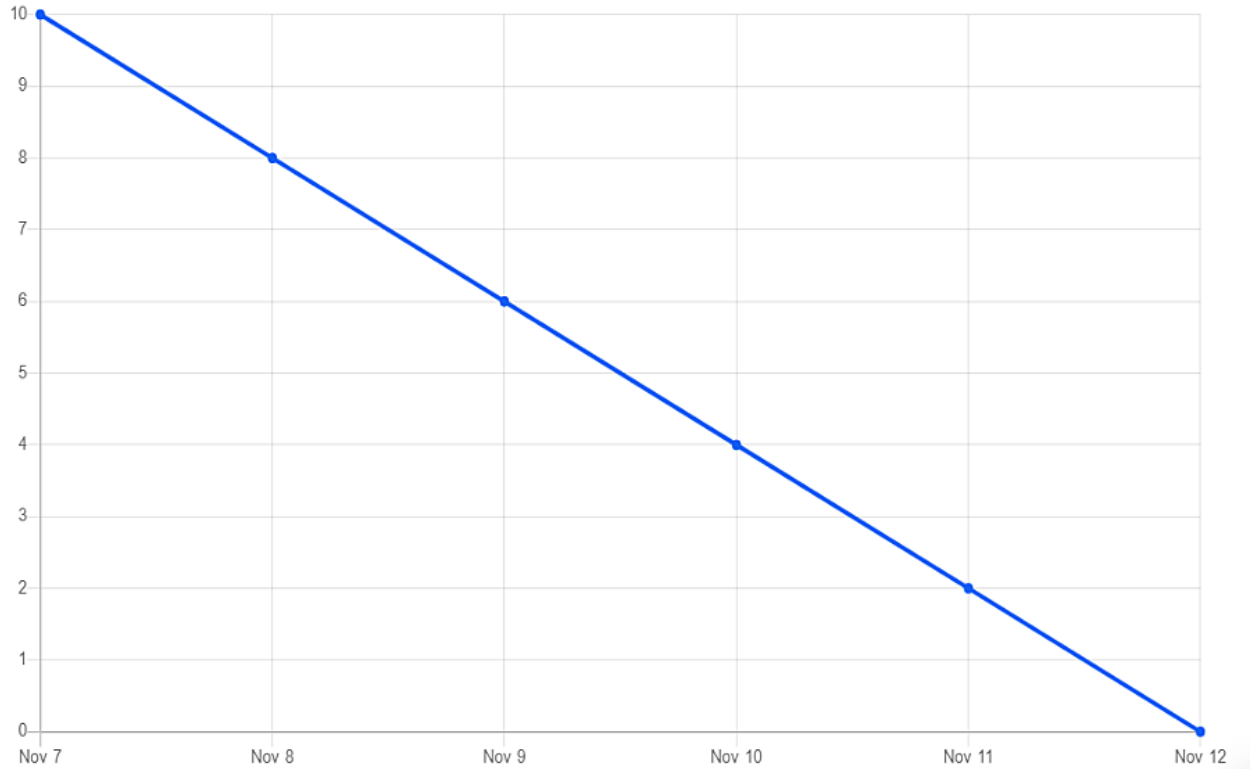
Sprint – 1:



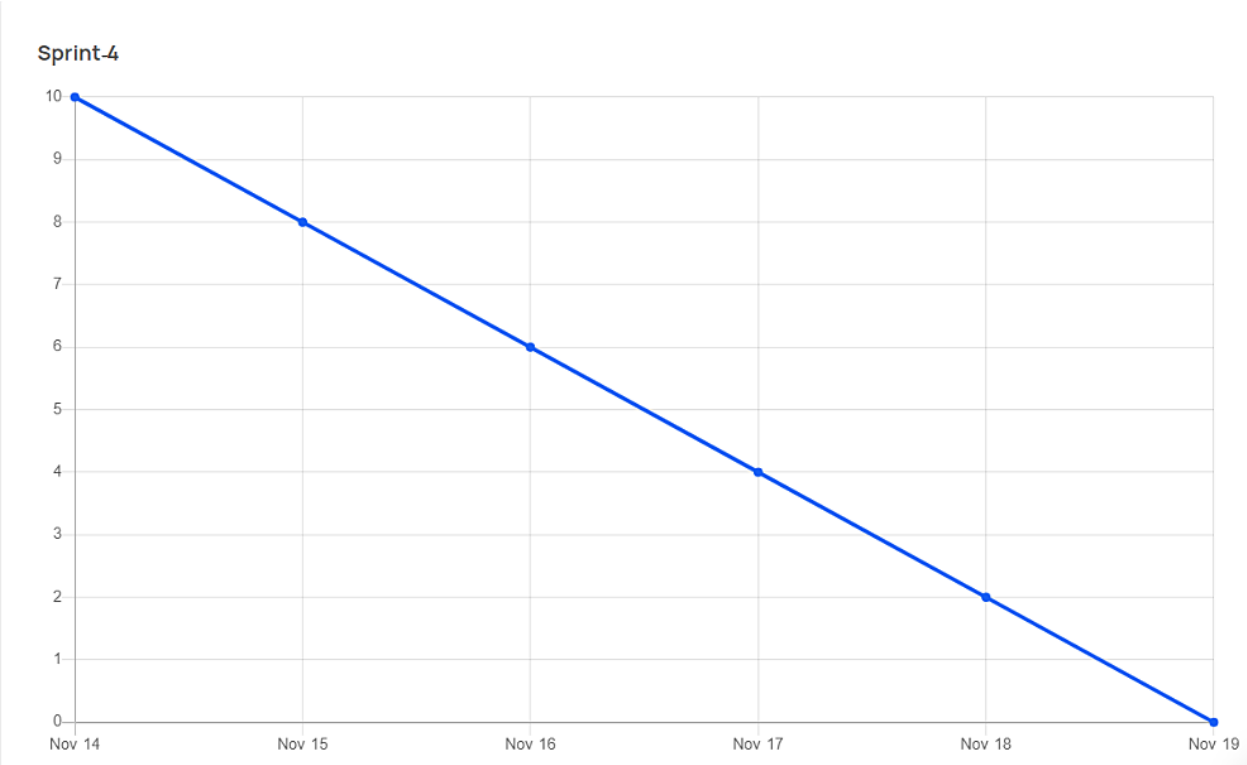
Sprint – 2:



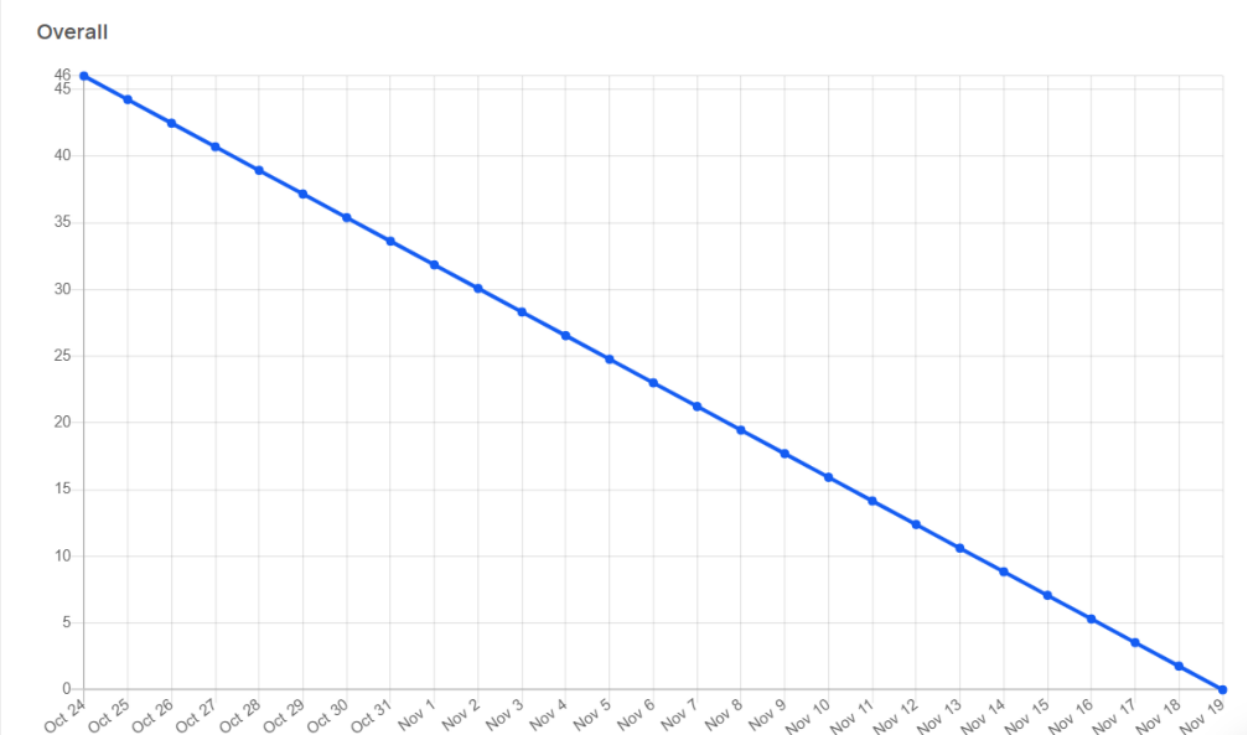
Sprint – 3:



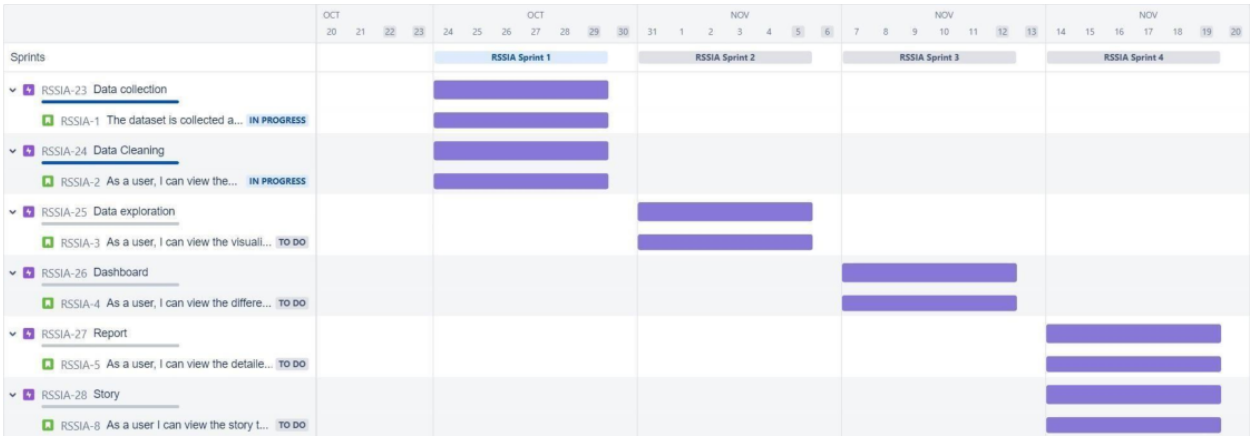
Sprint – 4:



Overall Burndown Chart:



Jira Software Tool:



Milestones and Activities:

MILESTONES	**ACTIVITIES**
Login	• Login into Dashboard
Dashboard	• View Stocks • Perform Predictions • Search Products
Updating Stocks	• View Products • Add Products • Delete Products
Visualization	• Report generation • Out of stock prediction • In stock prediction
Discount system	• Discounts based on credits • Invoice generation
Orders	• Reorder Stock
Notification system	• Notification uponcritical stock

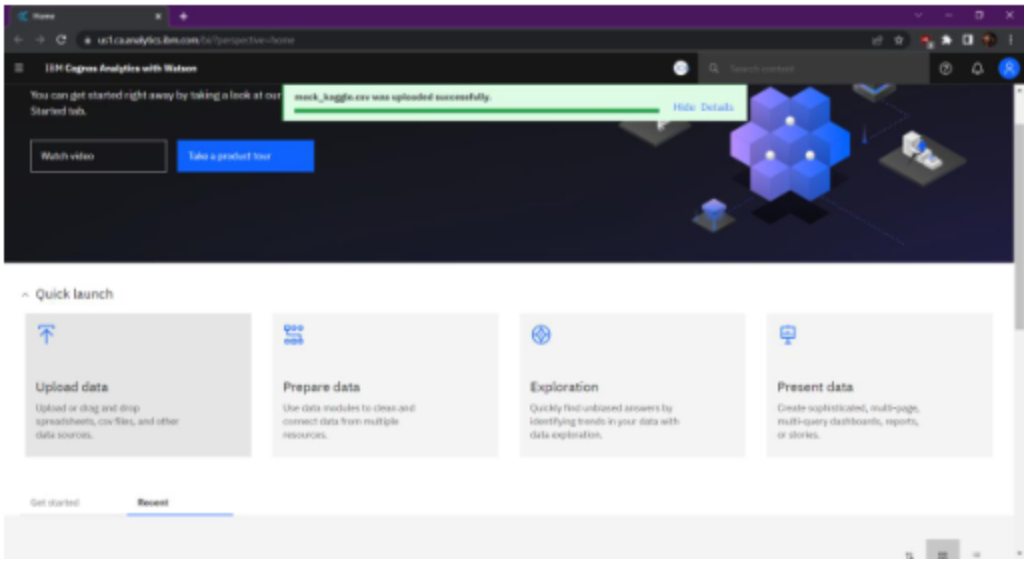
4 Project Development Phase

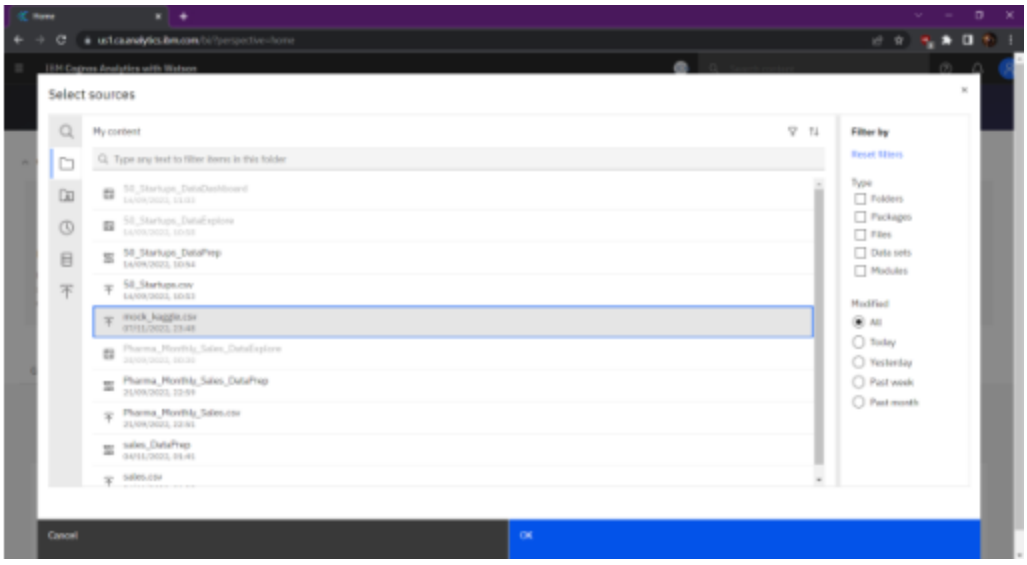
4.1 Sprint – 1:

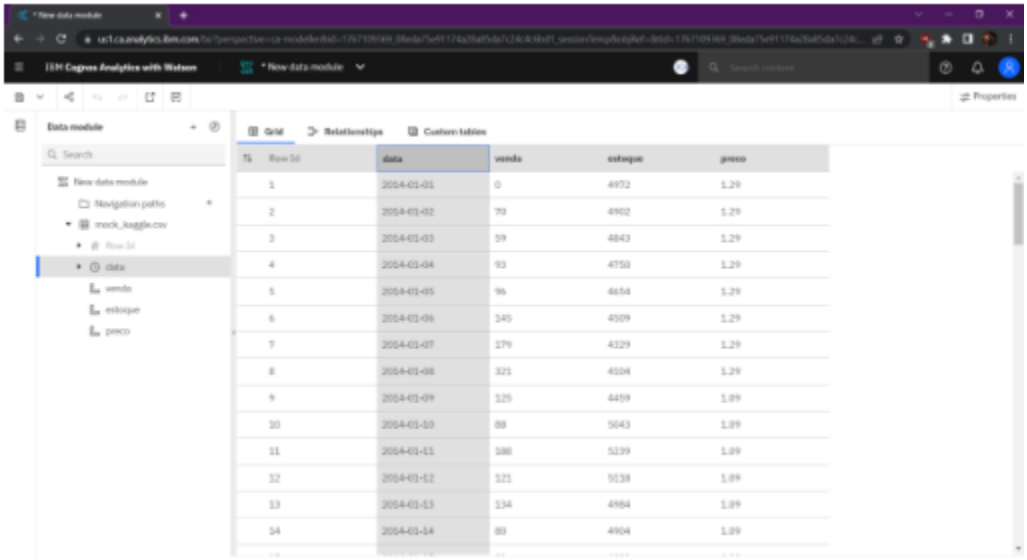
Data Collection and Data Preparation:

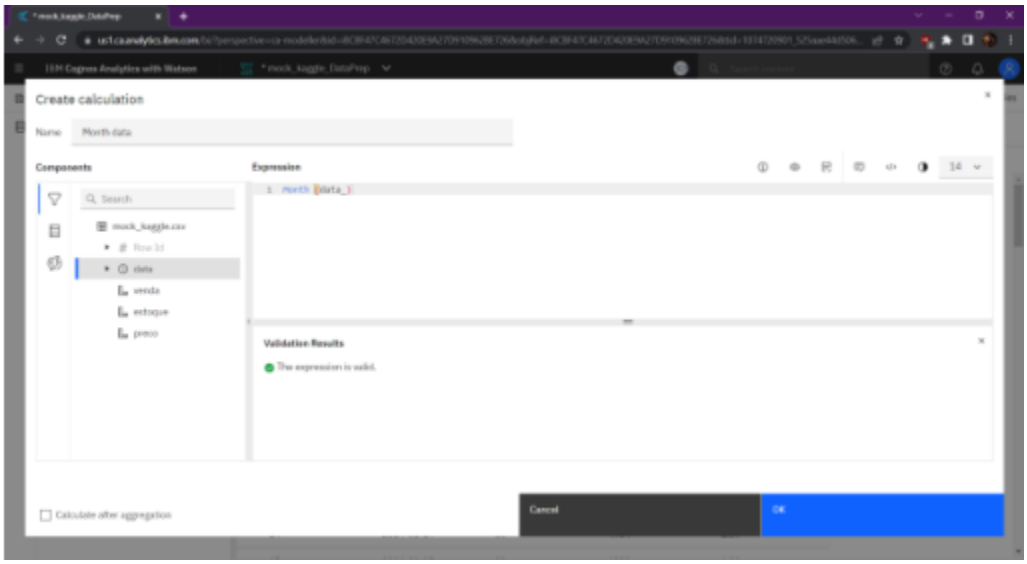
Dataset link:

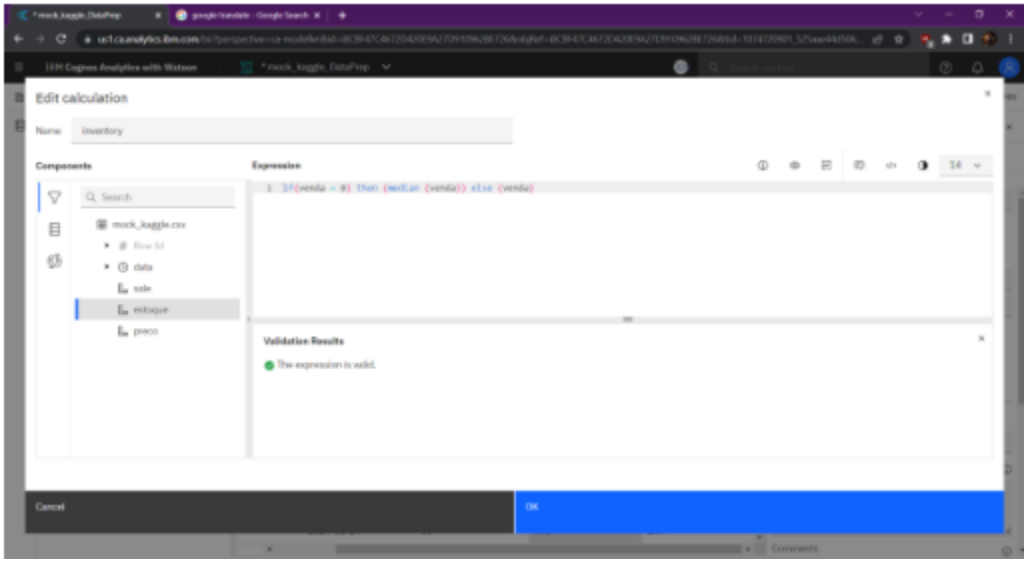
https://drive.google.com/drive/folders/1kiL-5CHJmQvbk9VyFsuUs-myAupBZGNy

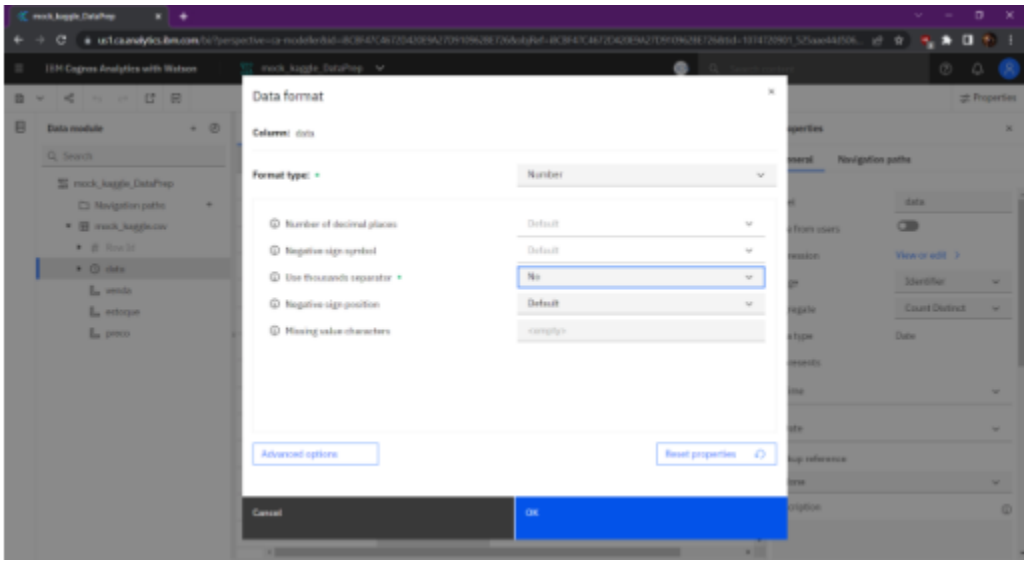


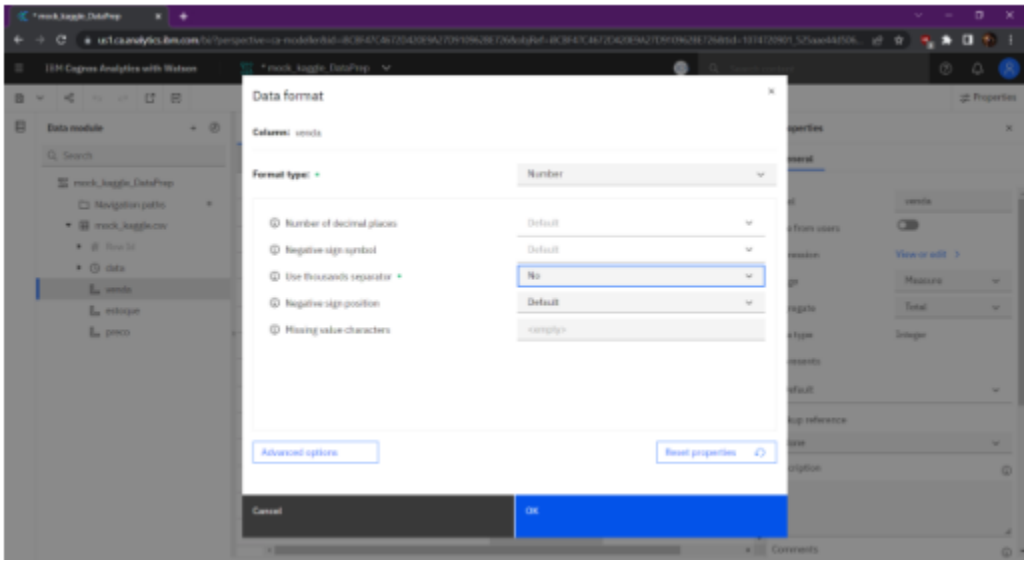



Data module
Grid
Relationships
Custom tables
data
venda
estoque
preco


Create calculation
Name
Month data
Components
Expression
Validation Results
The expression is valid.
Calculate after aggregation
Cancel
OK


Edit calculation
Name
inventory
Components
Expression
Validation Results
The expression is valid.
Cancel
OK


Data format
Columns: data
Format type: *
Number
Number of decimal places
Default
Negative sign symbol
Default
Use thousands separator *
No
Negative sign position
Default
Missing value characters
<empty>
Advanced options
Reset properties
Cancel
OK


Data format
Columns: vends
Format type: *
Number
Number of decimal places
Default
Negative sign symbol
Default
Use thousands separator *
No
Negative sign position
Default
Missing value characters
<empty>
Advanced options
Reset properties
Cancel
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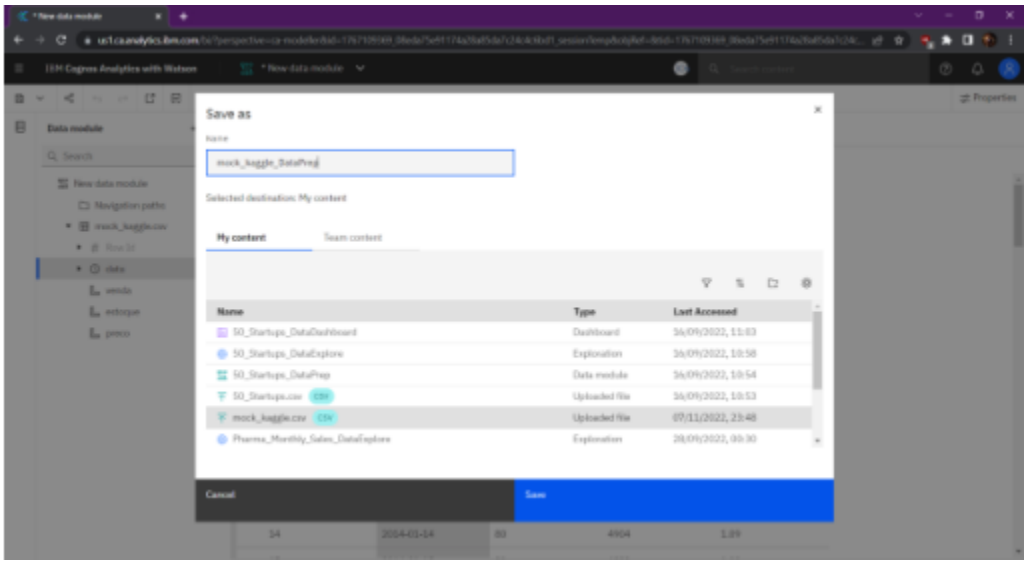
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My content
Team content
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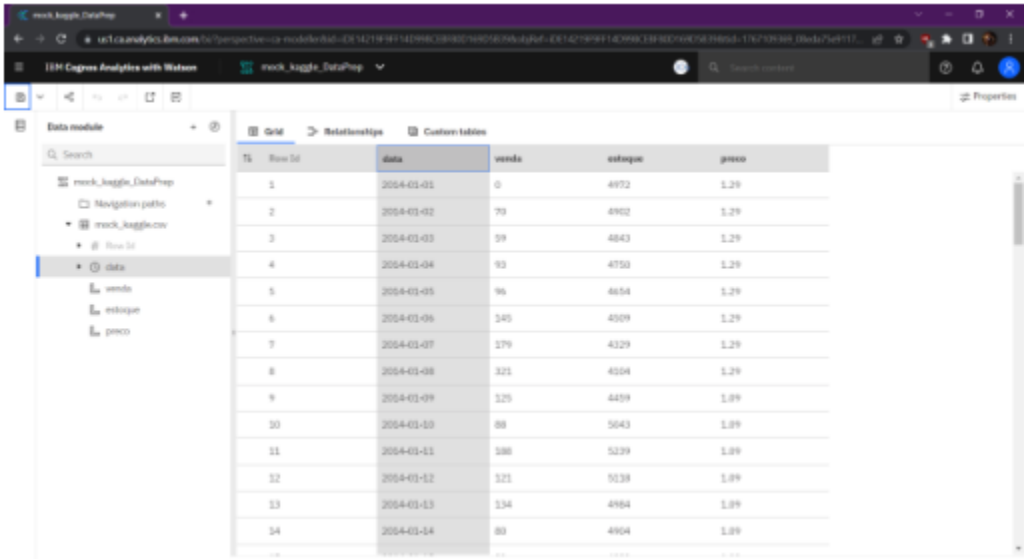
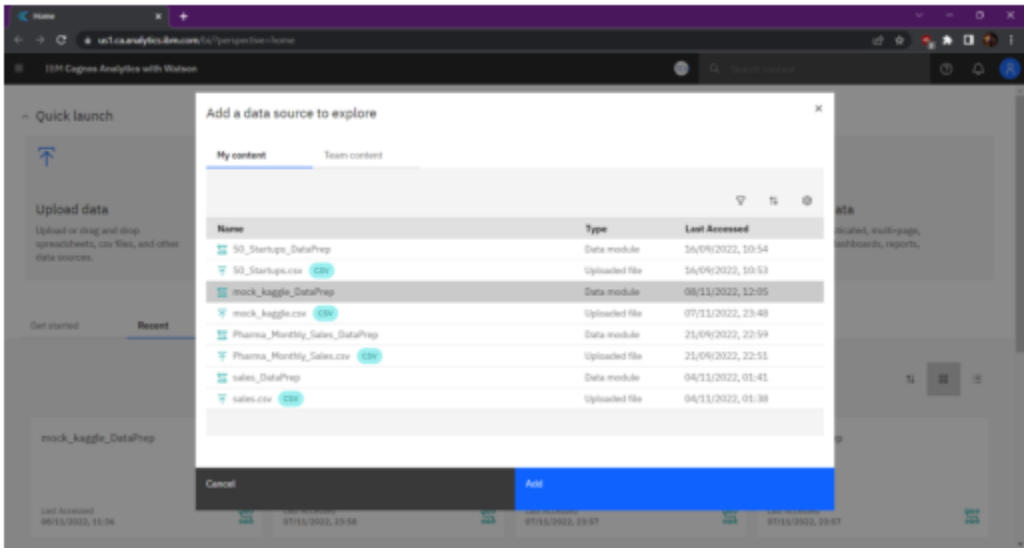
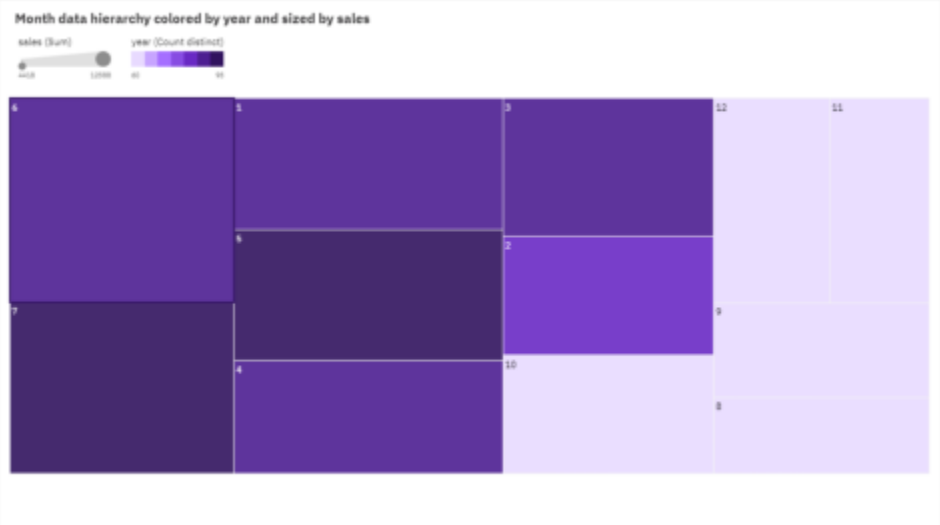
Type
Last Accessed
Cancel
Save

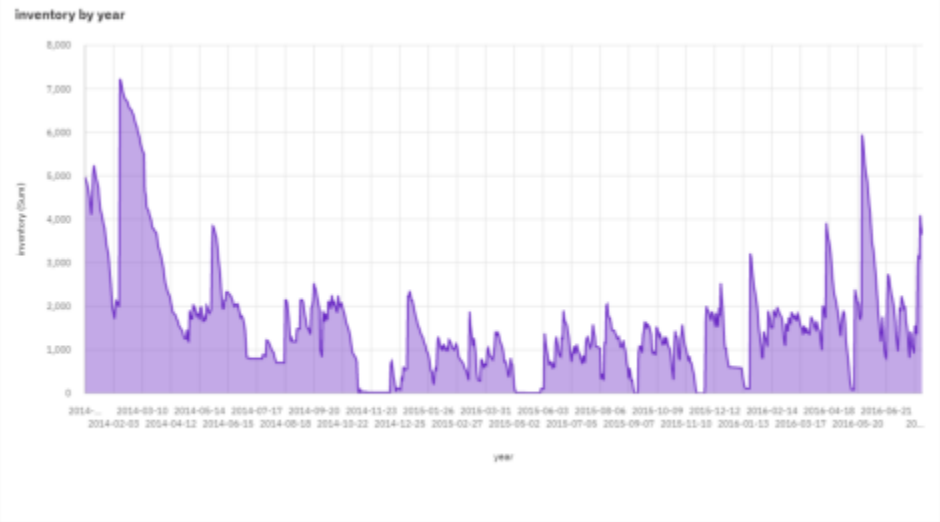


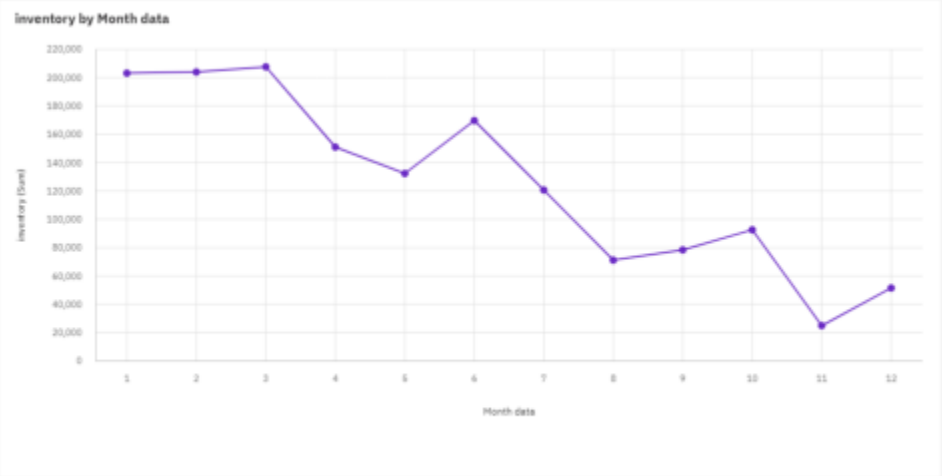
4.2 Sprint – 2:

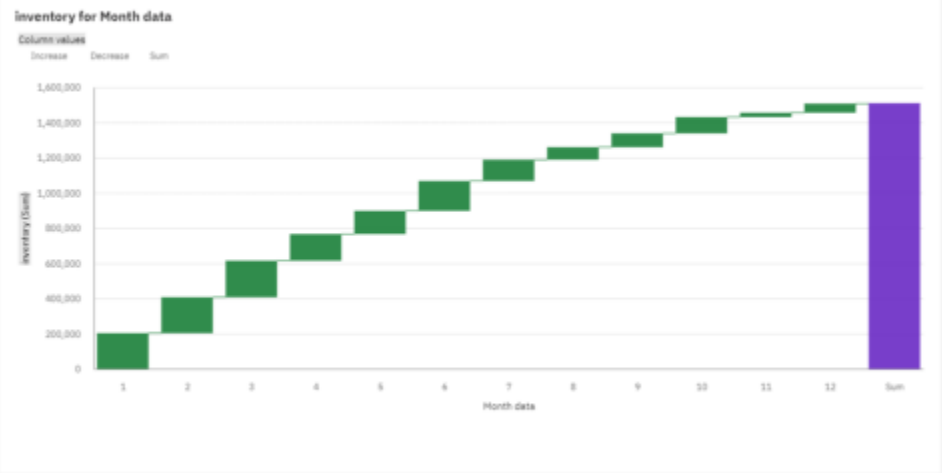
Data Exploration:

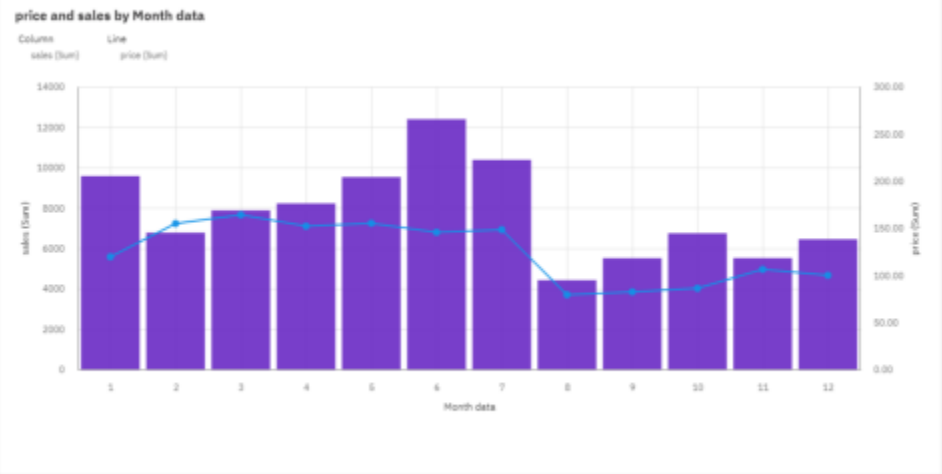



Month data hierarchy colored by year and sized by sales
sales (Sum)
year (Count distinct)
6
1
3
12
11
5
2
7
9
4
10
8

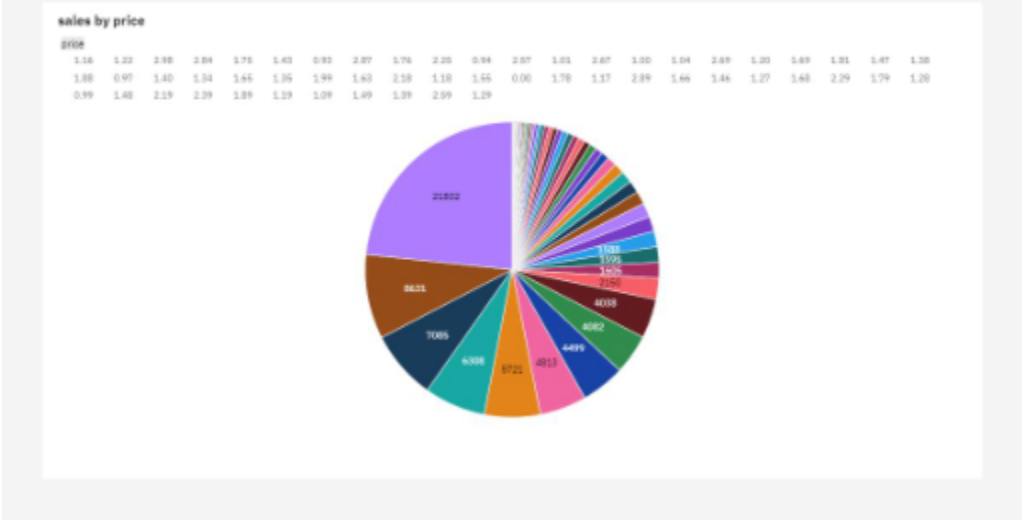

inventory by year
inventory (Sum)
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
year

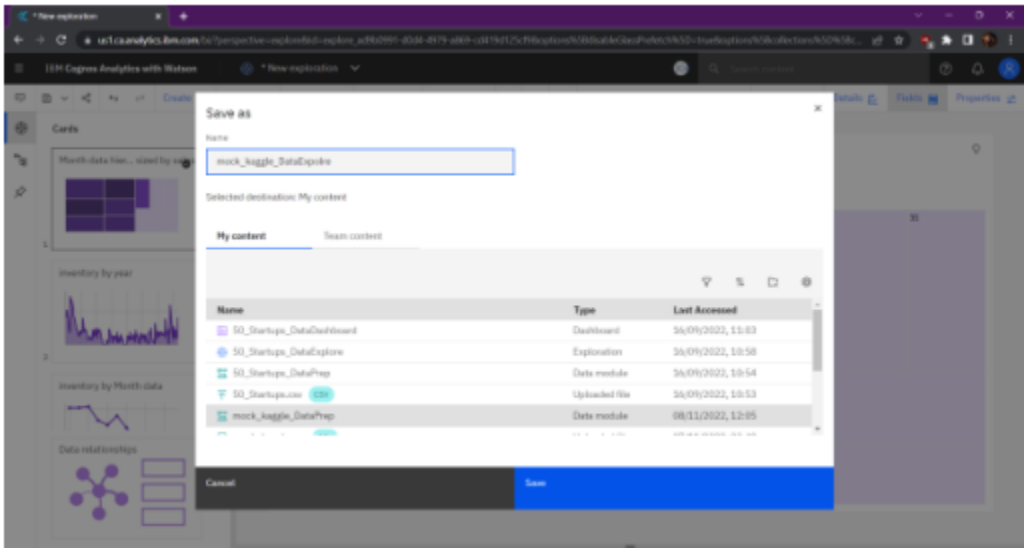

inventory by Month data
inventory (Sum)
Month data


inventory for Month data
Column values
Increase
Decrease
Sum
inventory (Sum)
Month data


price and sales by Month data
Column
sales (Sum)
Line
price (Sum)
sales (Sum)
price (Sum)
Month data


price sized by year
year (Count distinct)
1
140
1.29
2.59
1.49
1.09
1.39
2.19
1.19
1.48
2.39
1.46
1.89
2.89
2.29
1.68
1.28
1.55
1.79
2.98
2.87
1.78
0.99
1.40
0.00
1.17
2.69
1.99
1.65
1.81
2.18
2.25
1.75


sales by price
price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My content
Team content
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Type
Last Accessed
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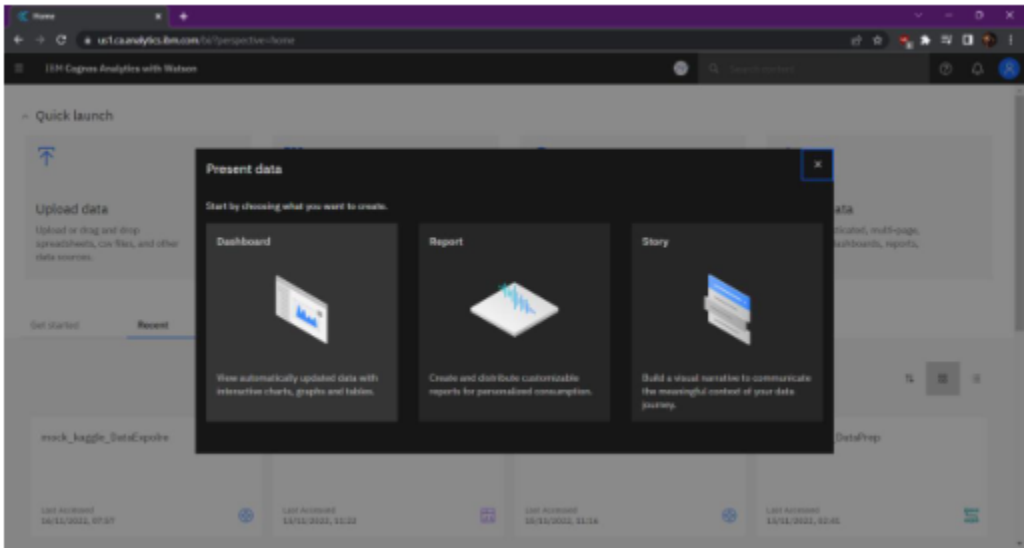
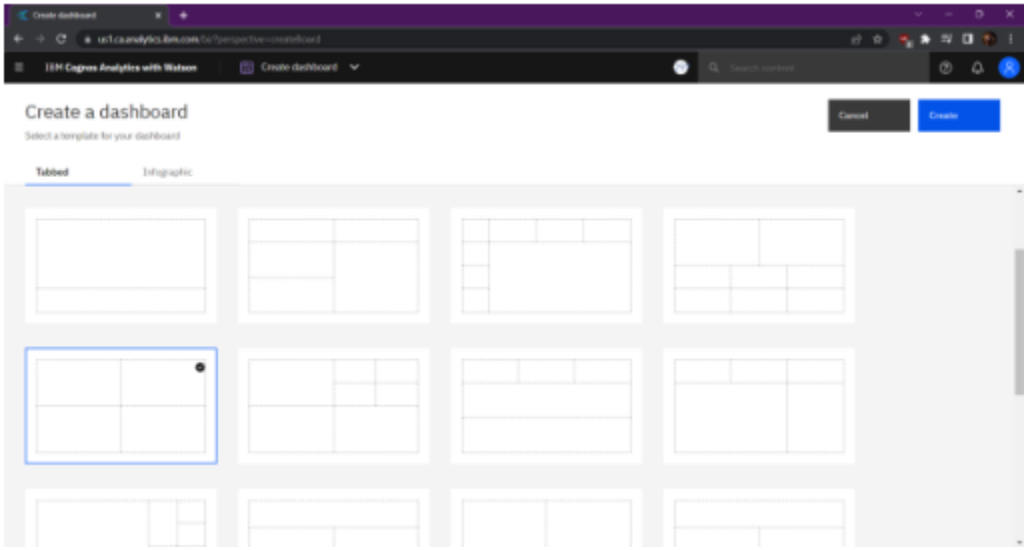
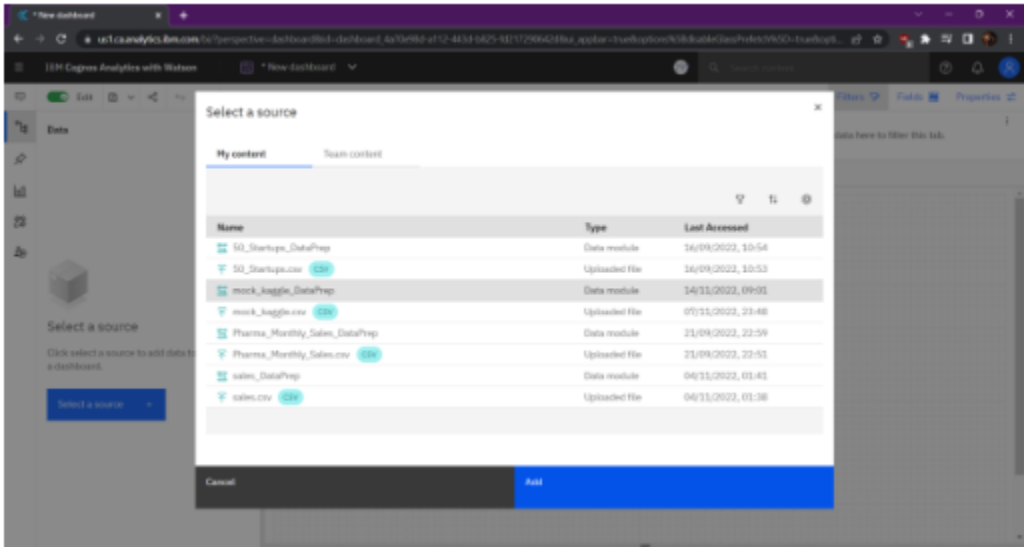
4.3 Sprint – 3:

DashBoard Creation:



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Team content
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Type
Last Accessed
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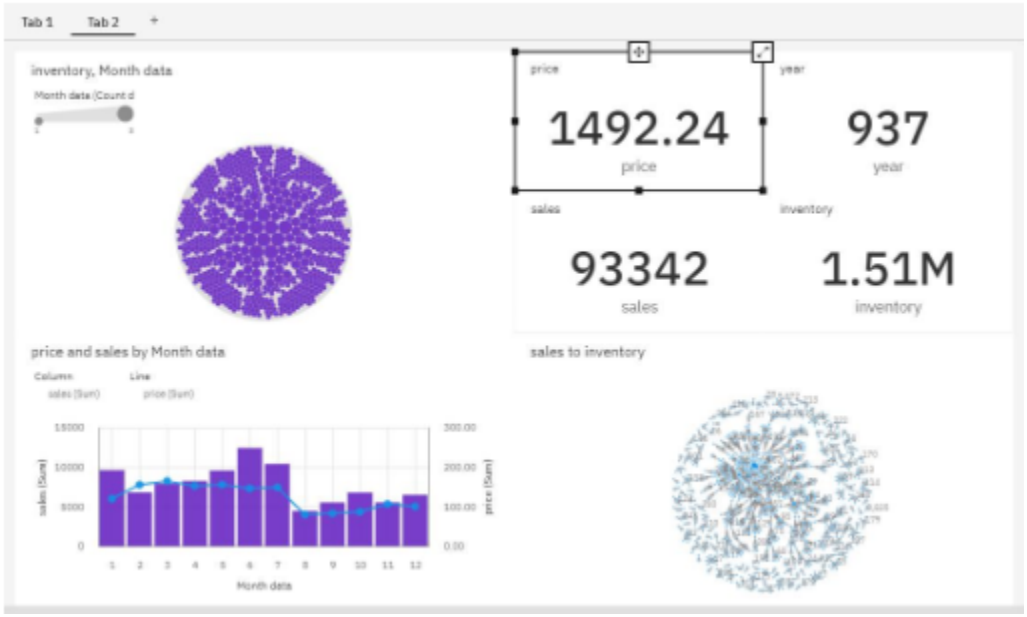
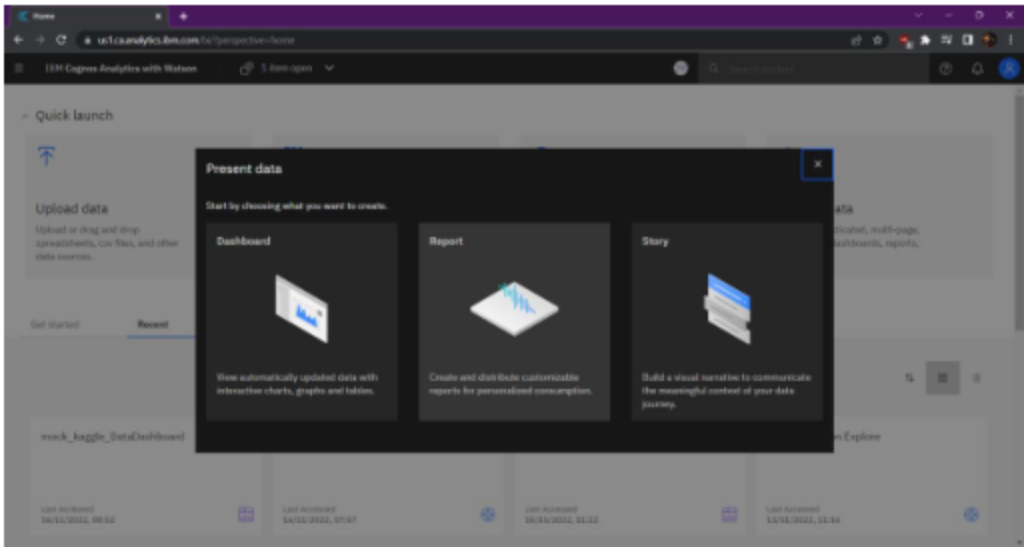
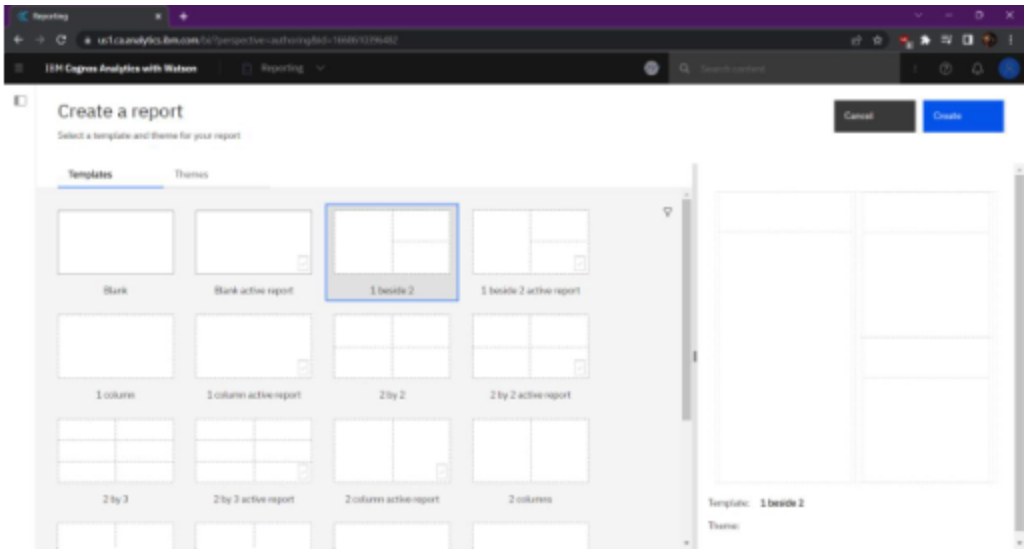
Add
Select a source

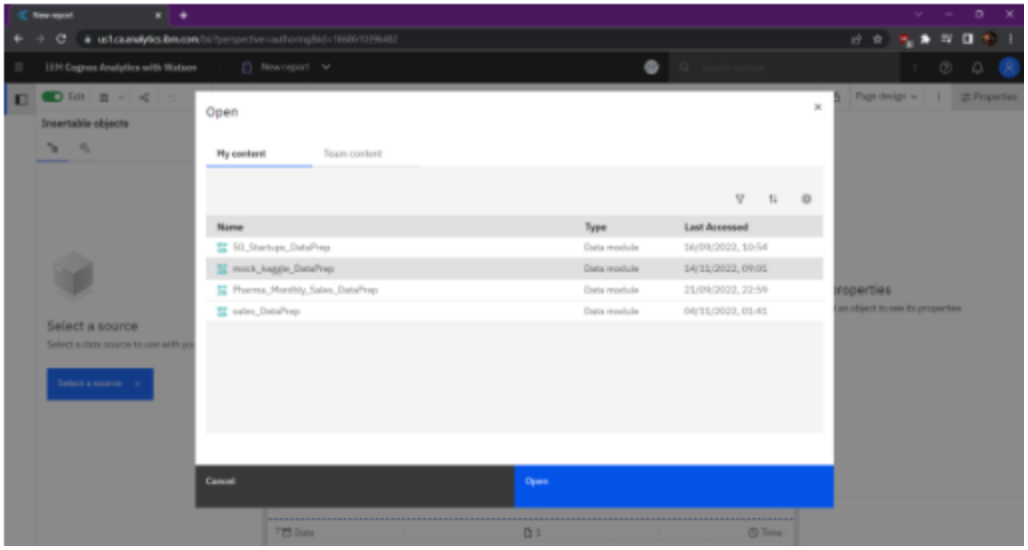

Tab 1
Tab 2
inventory, Month data
price
year
1492.24
price
937
year
sales
inventory
93342
sales
1.51M
inventory
price and sales by Month data
sales to inventory
Month data

4.4 Sprint – 4:

4.4.1 Report Creation:



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Team content
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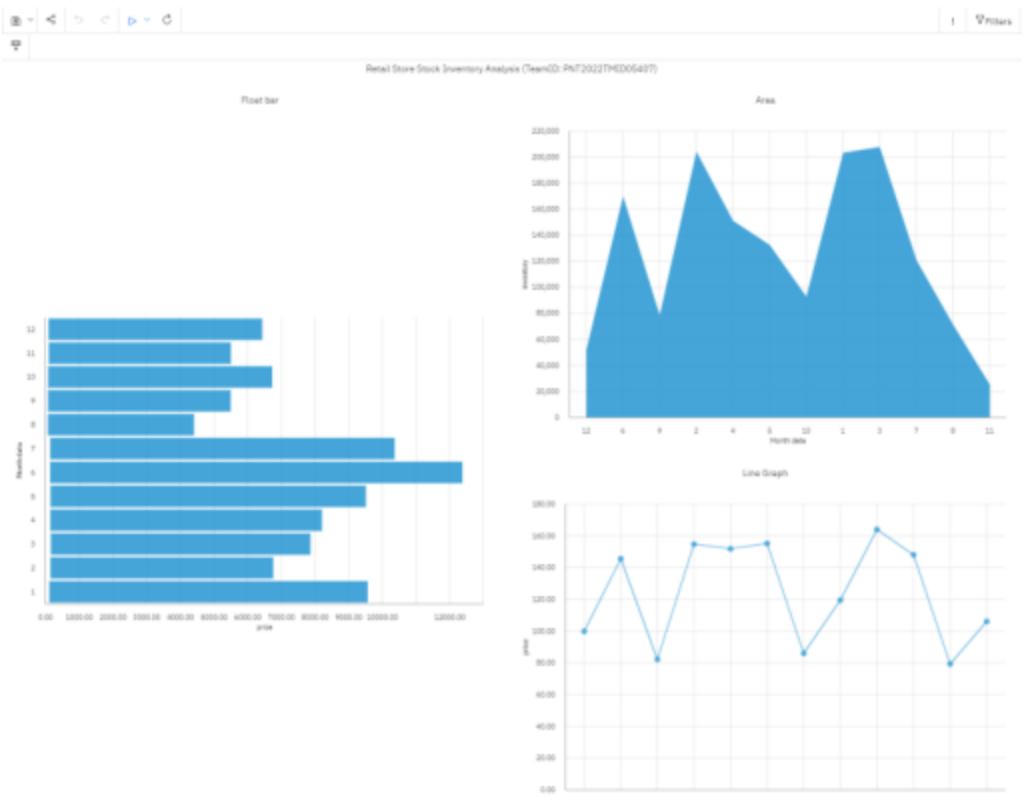
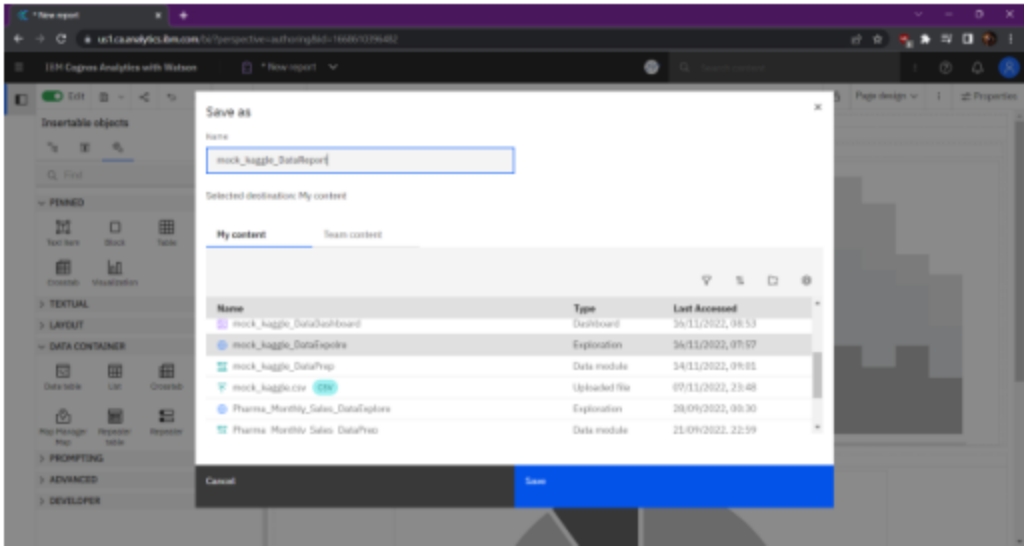
Open


Retail Store Stock Inventory Analysis
Float bar
Area
Line Graph


Retail Store Stock Inventory Analysis (TeamID: PNT2022TMID05407)
River report
Stepped Report
Month data
year
Pie donut report
93342
sales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mock_kaggle_DataReport
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My content
Team content
Name
Type
Last Accessed
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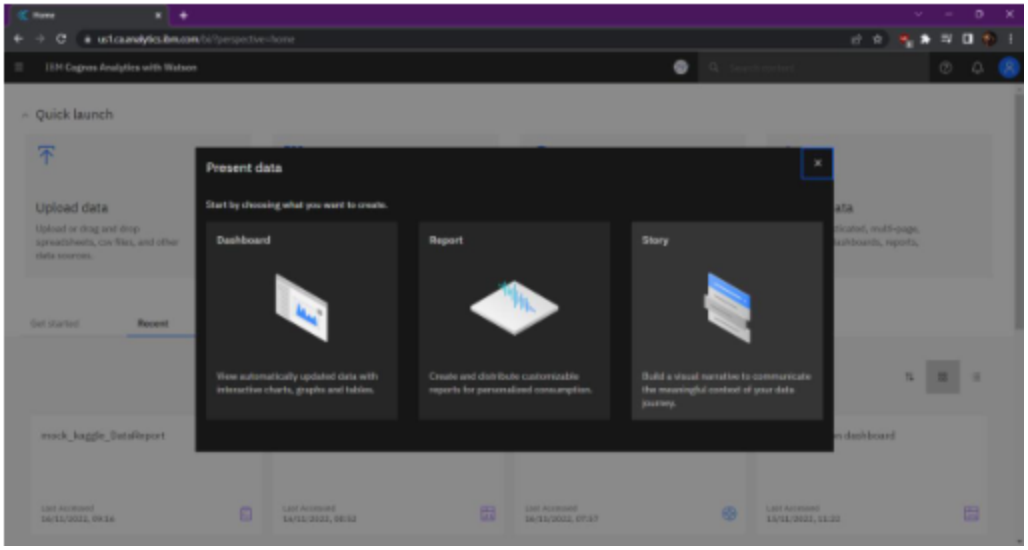
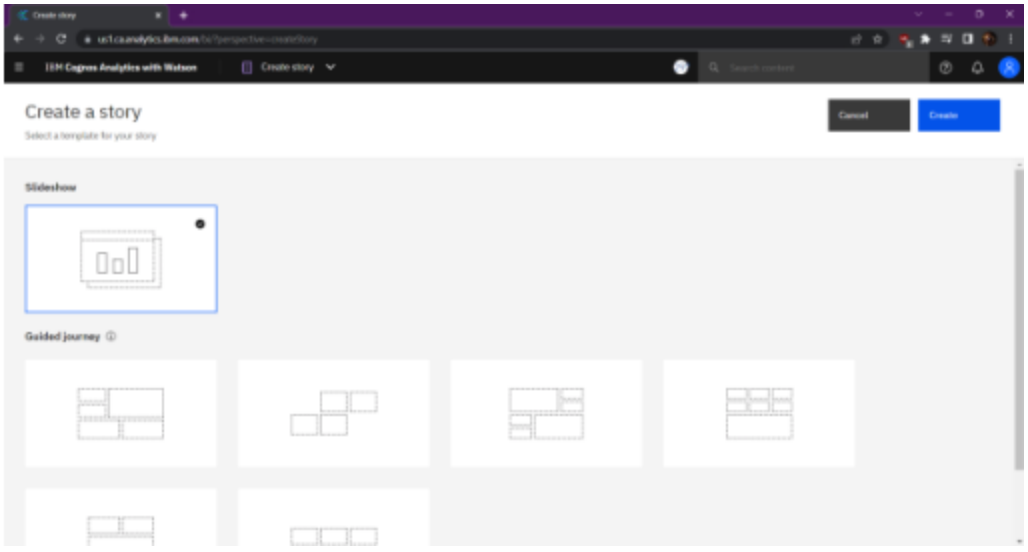
Save

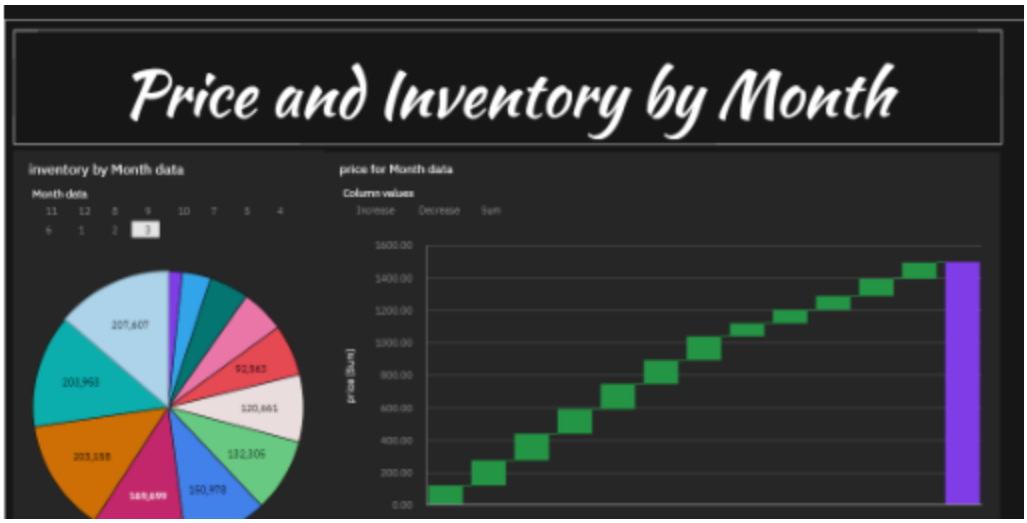
4.4Sprint – 4:

4.4.2 Story Creation:

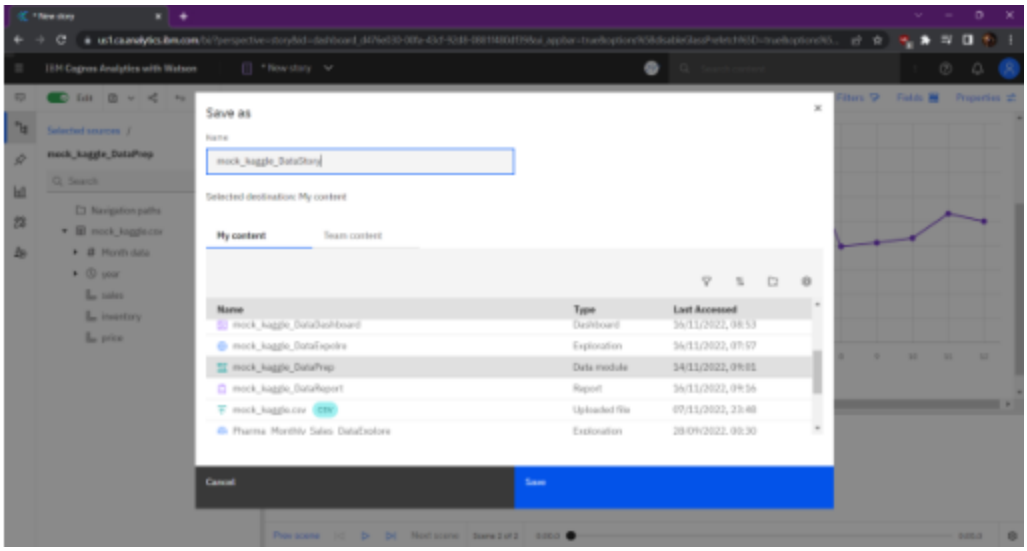





Price by Month data
price and Month data
Month data
price
1
119.39
2
164.74
3
163.98
4
161.95
5
161.06
6
146.44
7
148.28
8
79.18
9
83.24
10
86.03
11
106.09
12
99.84
price by Month data
price (Sum)
Month data


Price and Inventory by Month
inventory by Month data
Month data
price for Month data
Column values
Increase
Decrease
Sum
price (Sum)


Sales and Inventory for the Month
inventory by Month data
sales by Month data
sales (Sum)



5 Advantage & Disadvantage:

5.1 Advantages:

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.

5.2 Disadvantages:

- Loss of items.
- Scanning errors.
- Improper inventory tracking.
- Hacking.
- Theft.

6 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 defined.

7 Appendix: https://github.com/IBM-EPBL/IBM-Project-8127-1658909718