Team ID	PNT2022TMID26913
Project Name	Project – Retail Store Stock Inventory Analytics

1. INTRODUCTION

1.1. Project Overview

This project aims to create a retail store stock inventory analytics analytical dashboard for controlling the inventory system of any organisation. Utilizing technology, the inventory analytics dashboard is proposed to control the organization's stock. This system can be used to store inventory information, maintain stock levels, update inventory depending on sales information, and provide sales and inventory reports on a daily or weekly basis. With this system, we are resolving several issues that have an impact on direct sales management and purchasing management. A major retail store may run out of an essential item if inventory is not properly maintained.

1.2. Purpose

The basic goal of inventory management is to make it simple and effective for organisations to order, stock, store, and use inventory. You'll always be aware of the things you have on hand, their quantity, and location if you manage your inventory well.

You can understand how you use your inventory—and how demand changes for it—over time by engaging in strong inventory management. You may focus on what you really need, what is unnecessary, and what is just a waste of money. By the way, inventory control involves striking a balance between keeping enough inventory on hand to meet demand at all times and minimising the cost of ordering and carrying goods.

2. LITERATURE SURVEY

2.1. Existing Solutions

[1] Retailers are faced with a dilemma where neither an excess of inventory on hand nor a running out of stock is negotiable as the retail sector becomes increasingly highly competitive and narrowly profitable. A thorough analysis of important inventory management strategies that have historically been employed by retailers on a large scale. The trade-off between shortage cost and overage cost is identified in the paper as the fundamental issue with inventory management. Once more, the "performance frontier" graph shows that introducing innovative is a practical way to change the efficiency curve. BDA is that innovative in this scenario. The research identifies opportunities for incorporating BDA into traditional inventory management methods and boosting the applicability and feasibility of these models in the big-data environment.

[2] To identify the primary trends and indicators of inventory management in Small and Medium-sized Enterprises, a systematic literature study was conducted (SMEs). The five-year study period between 2015 and 2019 mainly focuses on the retail industry. The main findings of this study include the top inventory control and management models, the Key Performance Indicators (KPIs) for managing them

correctly, and the advantages and difficulties of selecting or implementing an effective system.

[3]   This paper provides an overview of business intelligence, details its primary technologies, and discusses the development and use of business intelligence systems in the retail sector. The system's essential components are business subject and dimension design, ETL tool design, data display middleware design, and the primary innovation.

2.2. References

[1] Vu, Hien. (2018). Inventory management in retail industry - Application of big data analytics. 10.13140/RG.2.2.22027.95522.

[2] Macas, Cinthya & Aguirre, Jorge & Arcentales-Carrion, Rodrigo & Pena, Mario. (2021). Inventory management for retail companies: A literature review and current trends. 71-78. 10.1109/ICI2ST51859.2021.00018.

[3] Gang, Tong & Kai, Cui & Bei, Song. (2008). The Research & Application of Business Intelligence System in Retail Industry. 87 - 91. 10.1109/ICAL.2008.4636125.

2.3. Problem Statement Definition

Having excess inventory poses several significant business and operational problems for retailers. Excess inventory means the company or store ordered more inventory than was demanded. 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. Lack of inventory leads to the lost sales and also having excess inventory provides problems for the retailers. So, we have to keep track of the inventory. The retailer should know the how much inventory he can carry.

3. IDEATION & PROPOSED SOLUTION
3.1. Empathy Map Canvas
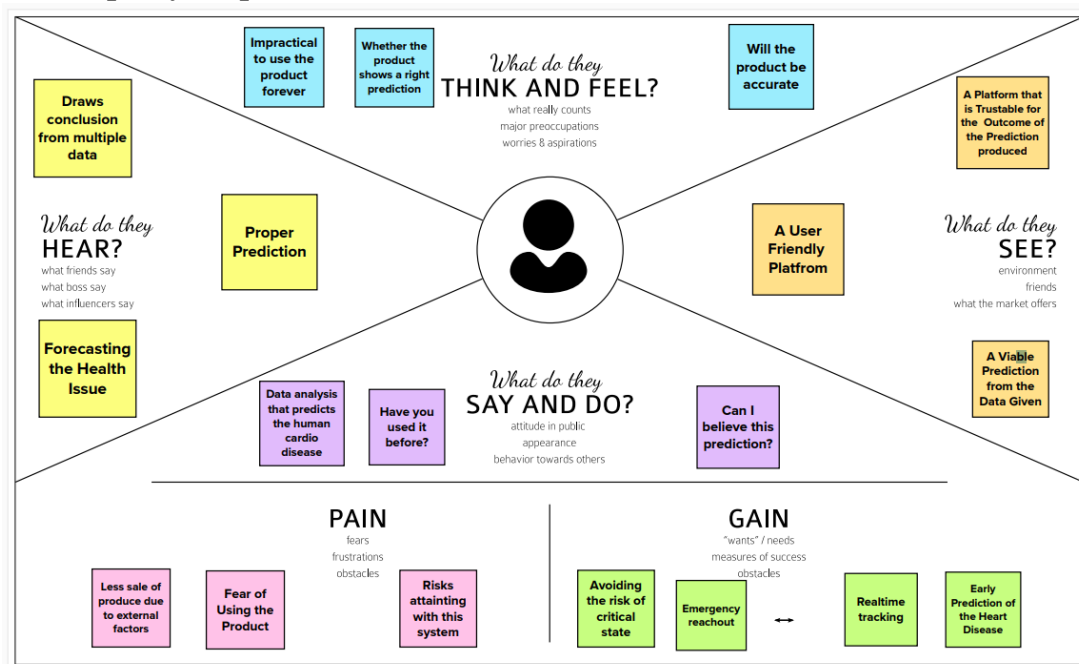
3.2. Ideation & Brainstorming

- Team Gathering, Collaboration and Select the Problem Statement

Template

Brainstorm & idea prioritization

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.

- **10 minutes** to prepare
- **1 hour** to collaborate
- **2-8 people** recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

A Team gathering
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B Set the goal
Think about the problem you'll be focusing on solving in the brainstorming session.

C Learn how to use the facilitation tools
Use the Facilitation Superpowers to run a happy and productive session.

Open article →

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Open article →

1

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

PROBLEM

HOW TO MAKE IT EFFECTIVE FOR A RETAIL STORE TO MANAGE THE INVENTORY AND INCREASE THE DATA ANALYTICS

Key rules of brainstorming
To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

- Brainstorm, Idea Listing and Grouping

Brainstorm

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

10 minutes

Aarthy

| MANAGE MULTI LOCATION WAREHOUSE THROUGH A UNIFIED DATABASE | TO IDENTIFY PROFIT MARGIN BY STYLE, MODEL, PRODUCT ETC | AUTOMATED PROCESS FOR STOCK ALLOCATION |

Anitha

| CREATE A CENTRALIZED RECORD OF ALL PRODUCTS | COMBINE SALES AND INVENTORY DATA | TO MAINTAIN ACCURATE COUNTS |
| TO BUILD A STOCK RECIEVING PROCESS | TO LOCK THE PRODUCT DATA | |

Anncy

| DIFFERENT COLOURS OF THE PRODUCT SHOULD BE MAINTAINED | TO HORD ACCORDING TO THE DEMAND AND SEASON OF THE PRODUCT | TO IDENTIFY THE POPULARITY OF THE PRODUCTS BY LOCATION |
| TO INCREASE/DECREASE PRODUCTS TREND CURVE | | |

Deborablessy

| TO MAINTAIN LOGS FOR BOTH WHOLESALE SIDE AND RETAILER | TO IDENTIFY AND GROUP SIMILAR PRODUCTS | TO BUY IN BULK TO IN ACCORDING TO THE DISCOUNT RATE |

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 and break it up into smaller sub-groups.

20 minutes

TIME AND LOCATION BASED

| TO HOARD ACCORDING TO THE DEMAND AND SEASON OF THE PRODUCT | MANAGE MULTI LOCATION WAREHOUSES THROUGH UNIFIED DATABASE | TO IDENTIFY POPULARITY OF THE PRODUCTS |
| TO INCREASE/DECREASE PRODUCT BY SEASON | TO AVOID OVER BUYING OF PRODUCTS | |

INVENTORY, LOGISTICS

MANAGE MULTI LOCATION WAREHOUSES THROUGH UNIFIED DATABASE	AUTOMATED PROCESS FOR STOCK ALLOCATION	CREATE A CENTRALIZED RECORD OF ALL PRODUCTS
COMBINE SALES AND INVENTORY DATA	TO BUILD A STOCK RECEIVING PROCESS	TO MAINTAIN ACCURATE STOCK COUNTS
TO LOG THE PRODUCT DATA	TO MAINTAIN LOGS FOR BOTH WHOLESALE AND RETAIL	TO BUY IN BULK IN ACCORDING TO THE DISCOUNT RATE

PRODUCT BASED

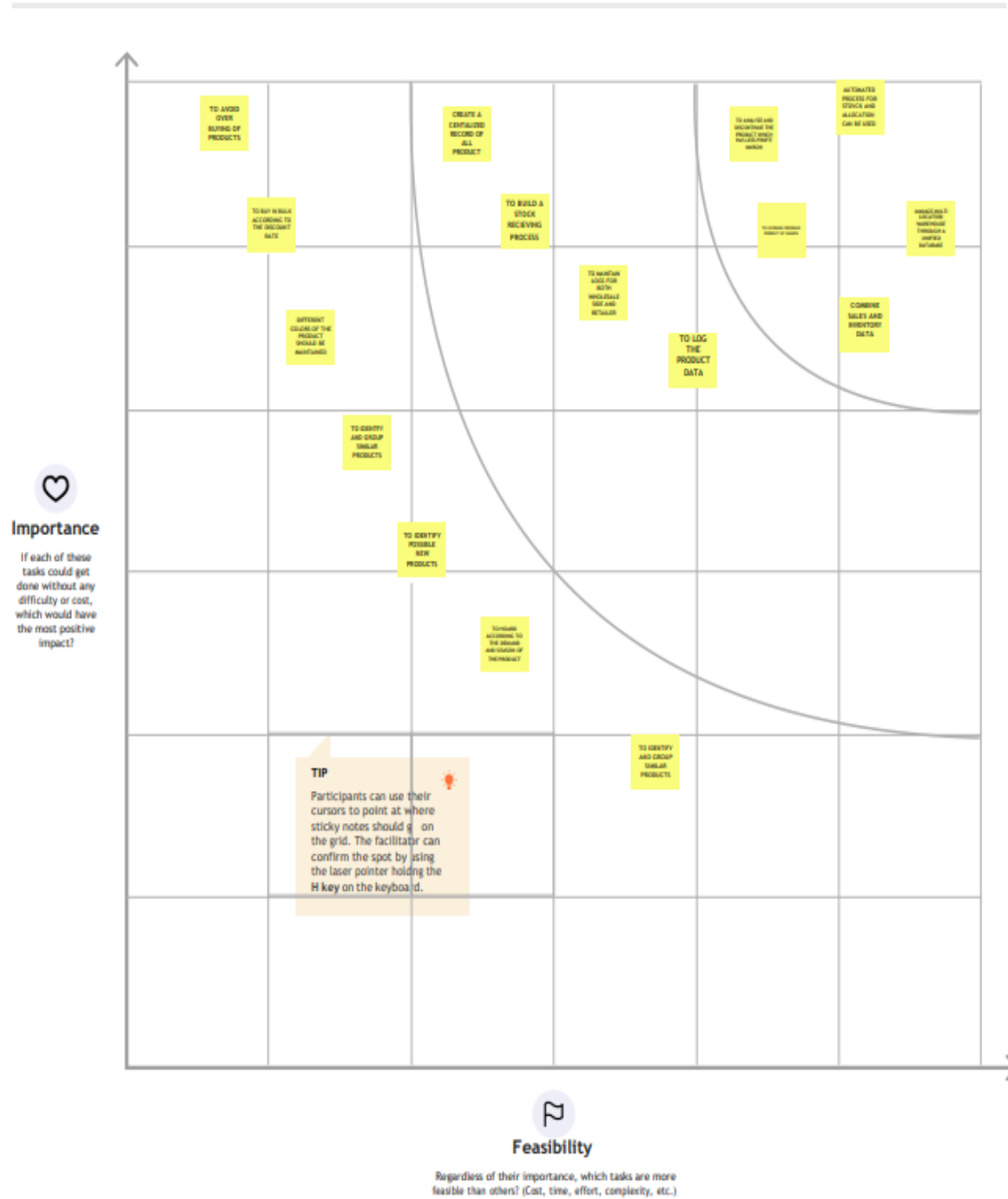| TO ANALYZE AND DISCONTINUE THE PRODUCT WHICH HAS LESS PROFIT MARGIN | DIFFERENT COLORS OF THE PRODUCT | TO IDENTIFY POPULARITY OF THE PRODUCT BY LOCATION |
| TO IDENTIFY POSSIBLE NEW PRODUCTS SIMILAR TO EXISTING POPULAR ONES | TO IDENTIFY AND GROUP SIMILAR PRODUCTS | TO BUY IN BULK ACCORDING TO THE DISCOUNT RATE |

- Idea Prioritization

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

Sticky notes on grid:
- TO AVOID OVER BUYING OF PRODUCTS
- CREATE A CENTRALIZED RECORD OF ALL PRODUCT
- TO ANALYZE AND RECONTINUE THE PRODUCT WHICH HAS LESS PROFIT MARGIN
- AUTOMATED PROCESS FOR STOCK AND ALLOCATION CAN BE USED
- TO BUY IN BULK ACCORDING TO THE DISCOUNT RATE
- TO BUILD A STOCK RECIEVING PROCESS
- MANAGE MULTI LOCATION WAREHOUSE THROUGH A UNIFIED DATABASE
- TO MAINTAIN LOGS FOR BOTH WHOLESALE SIDE AND RETAILER
- DIFFERENT COLORS OF THE PRODUCT SHOULD BE MAINTAINED
- TO LOG THE PRODUCT DATA
- COMBINE SALES AND INVENTORY DATA
- TO IDENTIFY AND GROUP SIMILAR PRODUCTS
- TO IDENTIFY POSSIBLE NEW PRODUCTS
- TO MARK ACCORDING TO THE DEMAND AND SEASON OF THE PRODUCT
- TO IDENTIFY AND GROUP SIMILAR PRODUCTS

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the H key on the keyboard.

3.3. Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Having excess inventory poses several significant business and operational problems for retailers. Excess inventory means the company or store ordered more inventory thanwas demanded. Most businesses are burdenedwith the costs associated with carrying extra inventory, therefore, short-term forecasting is so important in the retail and consumer goods industry. So analysis and Visualization of stocksshould be done to prevent the loss of retailers and proper management of store.
2.	Idea / Solution description	Effective retail inventory analytics results in lower costs and a better understanding of salespatterns. Using Cognos analytics tools information like, 1. Product locations 2. Quantities of each product type 3. Which stock sells well and which doesn't, by location and sales channel. 4. Profit margin by style, model, productline or item 5. Ideal amount of inventory to have inback stock and storage 6. How many products to reorder andhow often 7. When to discontinue a product 8. How changing seasons affect sales Can be analysed which help them increasing profits while avoiding overstock and minimizing expenses
3.	Novelty / Uniqueness	A Dashboard for centralized record of all theproducts will be created which involves all necessary details of the product. By doing sothe understanding of stocks will be effective thereby increasing the profit of retailers

4.	Social Impact / Customer Satisfaction	Good inventory management allows businessesto answer the questions of their customers about the product, which could lead them to purchase the item. Having visibility of the activities of your inventory gives customer support the data they need
5.	Business Model (Revenue Model)	Step 1: Create a centralized record of allproducts Step 2: Identify Stock location Step 3: Do regular and accurate stock counts Step 4: Combine Sales data with inventory datato simplify reporting Step 5: Purchasing process description Step 6: Establish process for markdown andpromotions Step 7: Create Stock Receiving procedures Step 8: Provide description of return procedure Step 9: Determine Dead stock procedure Step 10: Provide Profitable inventory value
6.	Scalability of the Solution	This project aims at small retail store owners for managing their sales and profit of the store.Through this methodology retail store owners can manage stocks effectively thereby reducingloss and increasing profit through proper management and provide customer satisfaction

3.4. Problem Solution Fit

Project Design Phase-I - Solution Fit

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS
Who is your customer?

Retail Store Owner

6. CUSTOMER
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.

- Implementation Problem
- Poor Maintenance of database
- Lack of enough Capital amount

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

- An inventory Management system tracking stocks on a daily basis there by predicting demands
- But Integration with accounting is very difficult

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS — J&P
Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different

- Excess Inventory leading to business and operational problems
- Cost associated with excess inventory
- Stocking up unwanted inventories

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 legulations.

- Improper Knowledge of stock management
- Sudden change in demands
- Insufficient storage capacity

7. BEHAVIOUR — BE
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 benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

- Identify customer demands and their buying patterns
- Understanding customer demands the stocks can be managed accordingly

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS — TR
What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

Sudden loss due to changing customer demands

4. EMOTIONS: BEFORE / AFTER — EM
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.

Before : Frustrated
After   : Satisfaction

10. YOUR SOLUTION — SL
If you are working on an existing business, write down your current situation 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.

- Centralized record of all products
- Identify Stock location
- Do regular and accurate stock counts
- Combine Sales data with inventory data to simplify reporting
- Purchasing process description
- Establish process for markdown and promotions
- Create Stock Receiving procedures
- Provide description of return procedure
- Determine Dead stock procedure
- Provide Profitable inventory value

8. CHANNELS of BEHAVIOUR — CH

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.

Online :
Advertisements
Free Shipping
Offline :
Arranging most demanded products in front section

Identify strong TR & EM

4. REQUIREMENT ANALYSIS
4.1. Functional Requirement

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Login	Login using User id Login using Email Login using Password
FR-4	Stock management	Adding or Removing stocks based on the users needs. Analyse the stock details periodically. Generate different barcodes for different products.
FR-5	Billing	Billing will be made easier through barcodes. Receipt Generation.
FR-6	Review	Customer can give reviews on the product.

4.2. Non-Functional Requirement

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	An analytics platform helps you understand your customers. It allows you to save on costs. It helps you improve your store's indoor conditions.
NFR-2	Security	Protecting digital information from unauthorized access, corruption, or theft throughout its entire lifecycle.
NFR-3	Reliability	Prevents from loss. Helps in stock prediction.
NFR-4	Performance	The solution offers lower request time for any request processed. Receipt Generation.

NFR-5	Availability	Can be used by both retailers and customers for all devices. The solution understands the request made to server to provide efficient results by prioritizing the request made and load balancing.
NFR-6	Scalability	Proposed solution offers higher compatibility with any kinds of working environment. Easier for disk space management and obtaining results. Works with lesser down time when new functional are being tested and added to solution.

5. PROJECT DESIGN
5.1. Data Flow Diagram

Project Planning Phase II
Data Flow Diagram

Zero Level DFD :

First Level DFD :

5.2. Solution & Technical Architecture
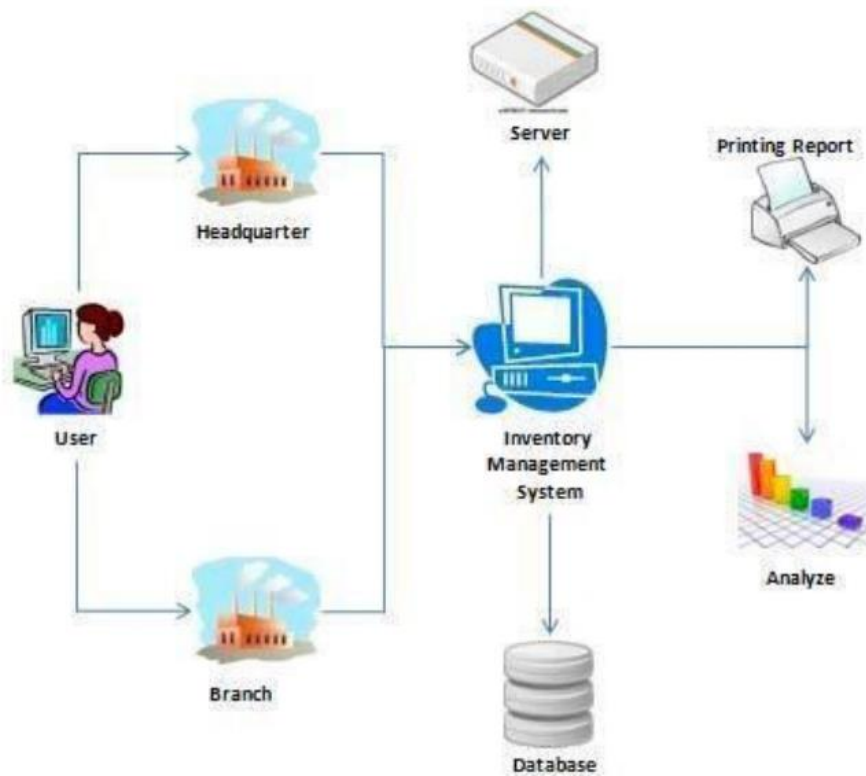
Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	Frontend - Dashboard	User Interacts with the application	HTML, CSS & JavaScript
2.	Backend - Database	Database Service on Cloud	IBM cloud
3.	Application Logic	Logic for the process in the application	Python
4.	File Storage	Storage of file requirements	IBM object Storage
5.	Infrastructure (Server/Cloud)	Application deployment on cloud	IBM Cloud, Kubernetes
6.	Notification system	Sends email to alert retailer for critical stock	SendGrid
7.	Data Visualization	The data is visualized into different forms	IBM Cognos Analytics, Python

5.3. User Stories

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 confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered	I can receive confirmation email & click confirm	High	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
			for the application			
		USN-3	As a user, I can register for the application through Google	I can register & access the dashboard with Google Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can register application through Gmail	Medium	Sprint-1

	Login	USN-5	As a user, I can log into the application by entering email & password	I can login to the application using email & password	High	Sprint-1
	Dashboard	USN-6	As a user, I can view the dashboard and perform analysis	I can access the dashboard	High	Sprint-2
	View Stocks	USN-7	As a user, I can view the products	I can access the product details	High	Sprint-2
	Search Stocks	USN-8	As a user, I can search the products		Medium	Sprint-2
	Add/Delete Stocks	USN-9	As a user, I can add/delete products	I can update the products.	High	Sprint-3
	Invoice Generation	USN-10	As a user, I can generate invoice calculating taxes, discount and calculate credits	I can generate the invoice	High	Sprint-4
	Report Generation	USN-11	As a user, I can generate reports based on product sales	I can generate report	High	Sprint-3
	Stock Prediction	USN-12	As a user, I can predict out of stock		High	Sprint-4

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer – Web User	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1

		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Google	I can register & access the dashboard with Google Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can register application through Gmail	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can login to the application using email & password	High	Sprint-1
	Dashboard	USN-6	As a user, I can view the dashboard and perform analysis	I can access the dashboard	High	Sprint-2
	View Stocks	USN-7	As a user, I can view the products	I can access the product details	High	Sprint-2
	Search Stocks	USN-8	As a user, I can search the products		Medium	Sprint-2
	Add/Delete Stocks	USN-9	As a user, I can add/delete products	I can update the products.	High	Sprint-3
User Type	**Functional Requirement (Epic)**	**User Story Number**	**User Story / Task**	**Acceptance criteria**	**Priority**	**Release**
	Invoice Generation	USN-10	As a user, I can generate invoice calculating taxes, discount and calculate credits	I can generate the invoice	High	Sprint-4

	Report Generation	USN-11	As a user, I can generate reports based on product sales	I can generate report	High	Sprint-3
	Stock Prediction	USN-12	As a user, I can predict out of stock		High	Sprint-4

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	AARTHY, ANITHA
Sprint-1	Confirmation	USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	AARTHY, ANITHA
Sprint-1	Registration through Gmail	USN-4	As a user, I can register for the application through Gmail	2	Medium	AARTHY, ANITHA
Sprint-1	Login	USN-5	As a user, I can log into the application by entering my email & password	1	High	AARTHY, ANITHA
Sprint-2	Dashboard	USN-6	As a user, I can view my dashboard and can perform stock prediction and analysis	3	High	ANNCY, DEBORAH
Sprint-2	View Stocks	USN-7	As a user, I can view the list of categorized products and their details	4	High	ANNCY, DEBORAH

Sprint-2	Insights generation	USN-8	As a user, I can able to collect more insights From the dashboard.	2	Medium	ANNCY, DEBORAH
Sprint-3	Report generation	USN-9	As a user, I can generate reports based on product sales	5	High	AARTHY, DEBORAH
Sprint-3	Stock Prediction	USN-10	As a user, I can predict out-of-stock and less stock for a product	5	High	AARTHY, DEBORAH
Sprint-4	Notification system	USN-11	As a user, I can view notifications for expired and out of stock product	4	High	ANITHA, ANNCY
Sprint-4	Re-Ordering stock	USN-12	As a user I can reorder stocks based on predictions and notification	3	High	ANITHA, ANNCY
Sprint-2	Updating stock	USN-13	As a user I can add/delete products	5	High	ANNCY, DEBORAH
Sprint-4	Invoice generation	USN-14	As a user I can generate invoice calculating taxes, discount and calculate credits	4	High	ANITHA, ANNCY
Sprint-4	Discount system	USN-15	As a user I can provide discount based on credit points	3	Medium	ANITHA, ANNCY

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	25 Oct 2022	29 Oct 2022	6	30 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	20 Nov 2022	14	20 Nov 2022

6.3. JIRA Reports
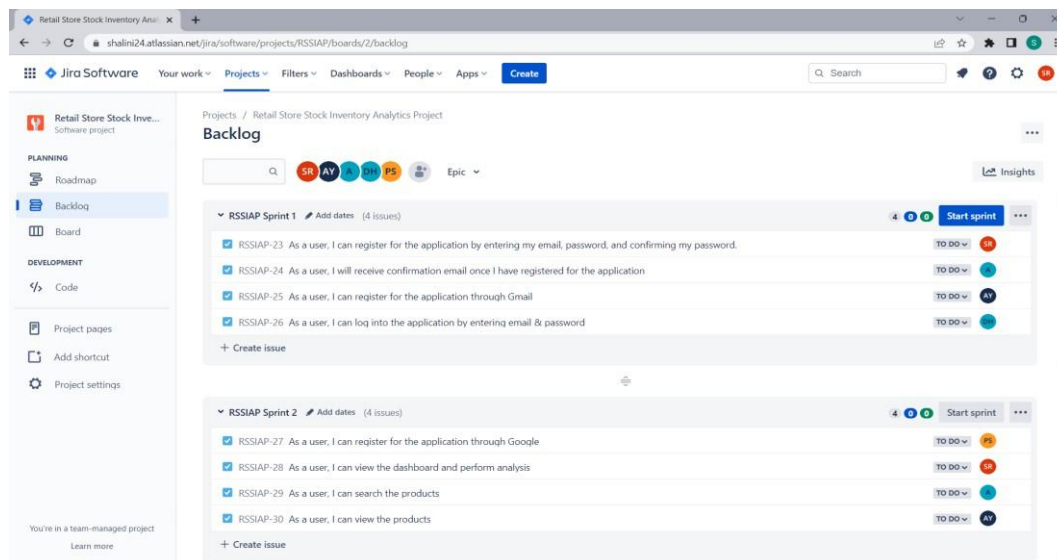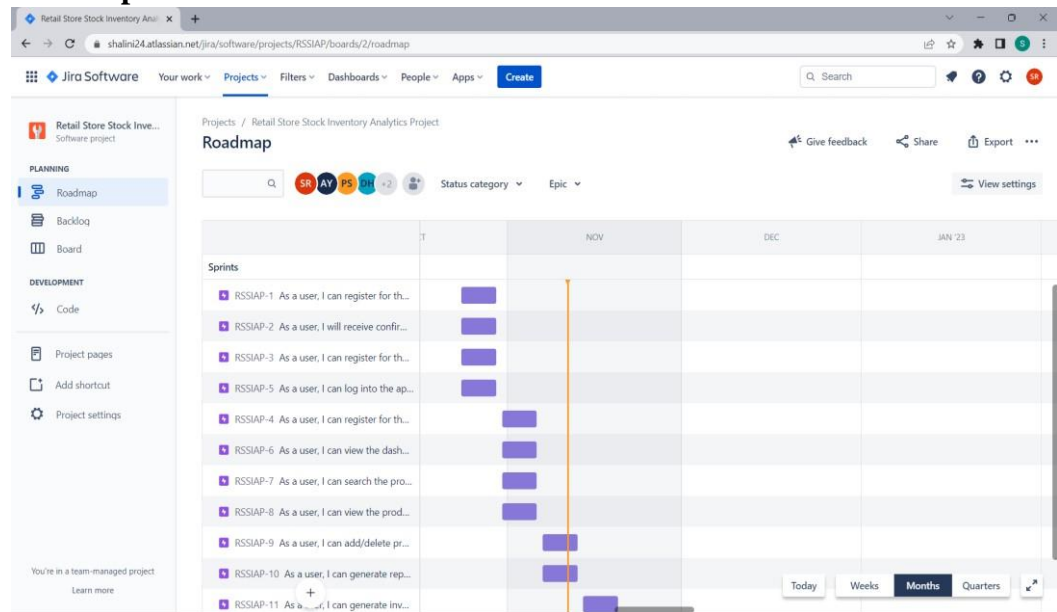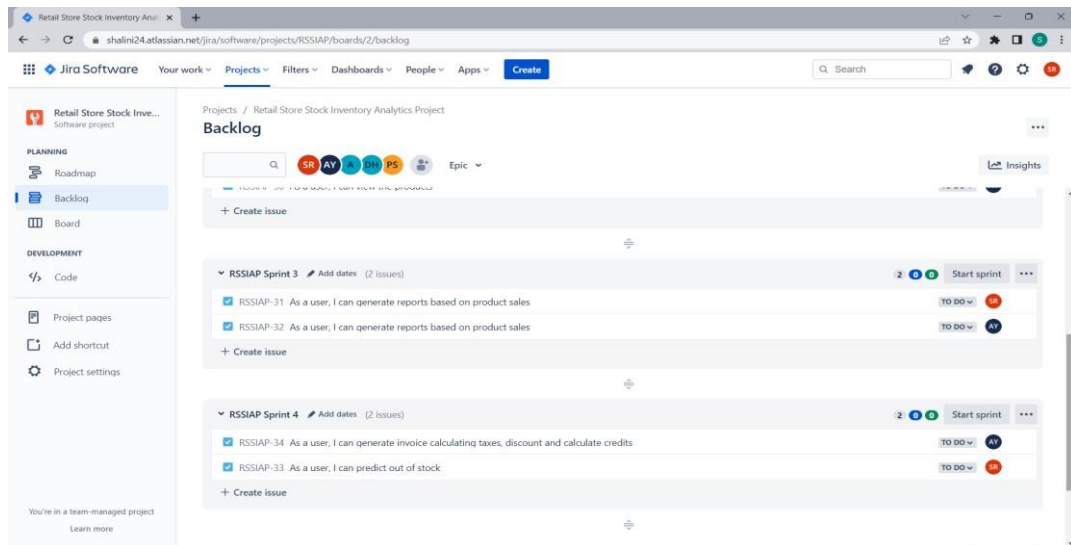
7. CODING & SOLUTIONING
7.1. Data Collection & Preparation

Data Collection 1. Download the dataset

Dataset   link   -

https://drive.google.com/file/d/1awFIKJ9LiIdnNHwGLcsqNDbbwshFHR-w/view

2. Loading the dataset

Tool Used – IBM Cognos Analytics
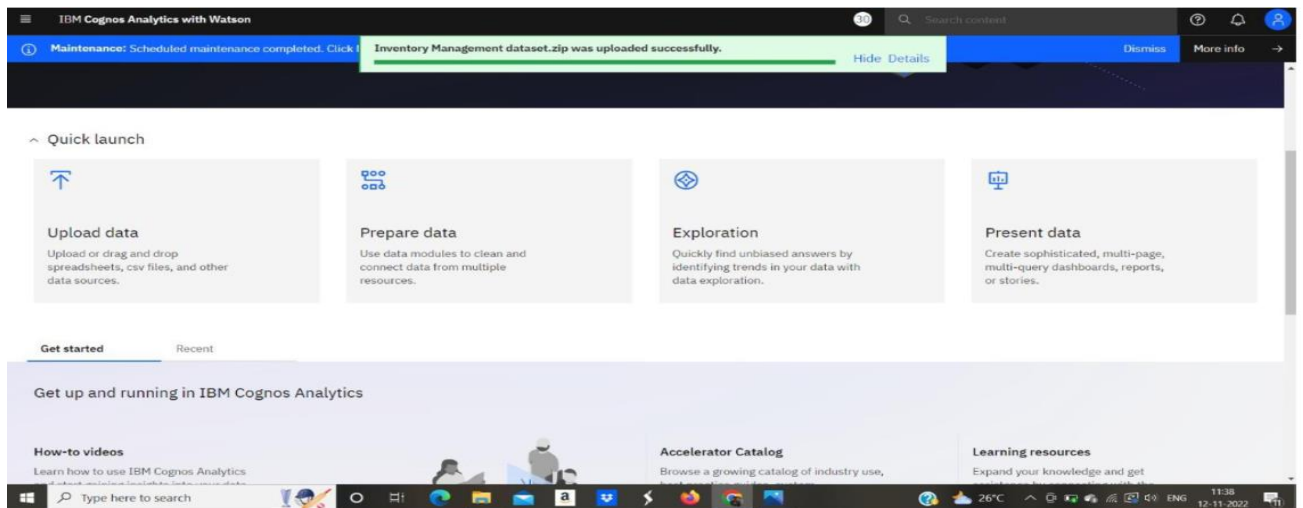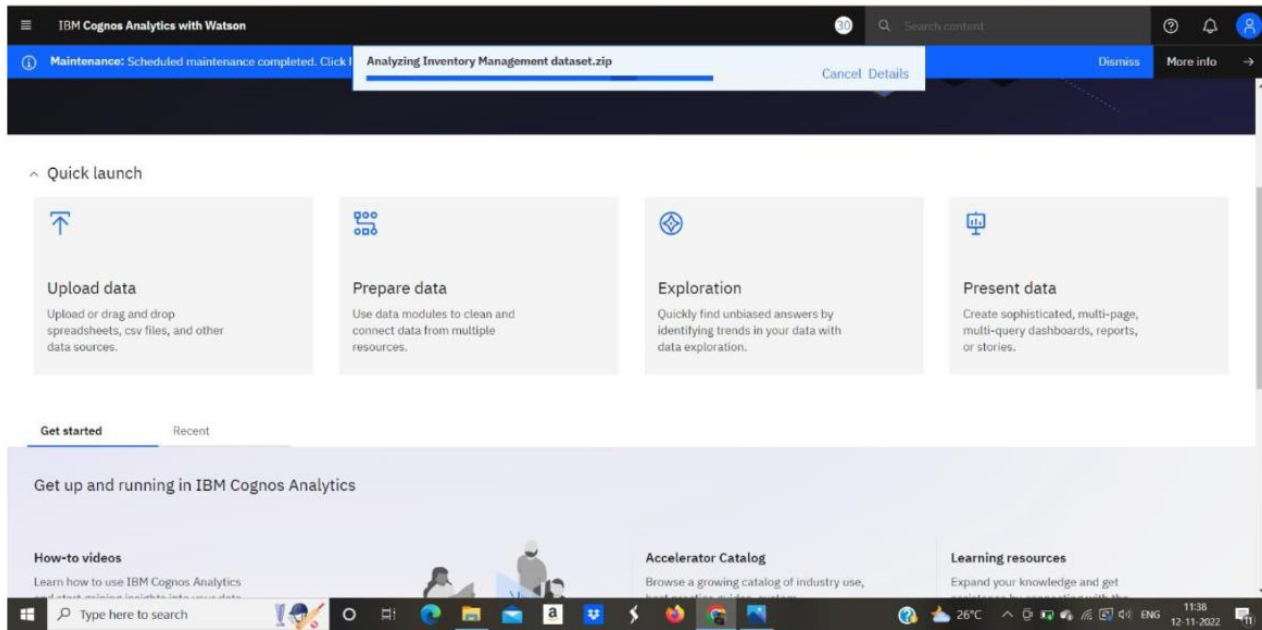
Data Preparation

Month Data

Revenue Data

Year Data

Sales Data

Stock Data

Price Data

7.2. Data Exploration

DATA EXPLORATION

- Load the Dataset
- Sales by Year
- Price by Year
- Stock by Year
- Stock and Price for Year Colored by Price
- Sales by M_Data colored by M_Data
- Stock by M_Data colored by M_Data
- M_Data hierarchy colored by M_Data and sized by Price
- Revenue by Year colored by Year
- Stock and Sales by Year
- Revenue by M_Data colored by M_Data
- Price by M_Data
- Year colored by Year sized by sales
- Stock summary
- sales by Year colored by Year and sized by Year
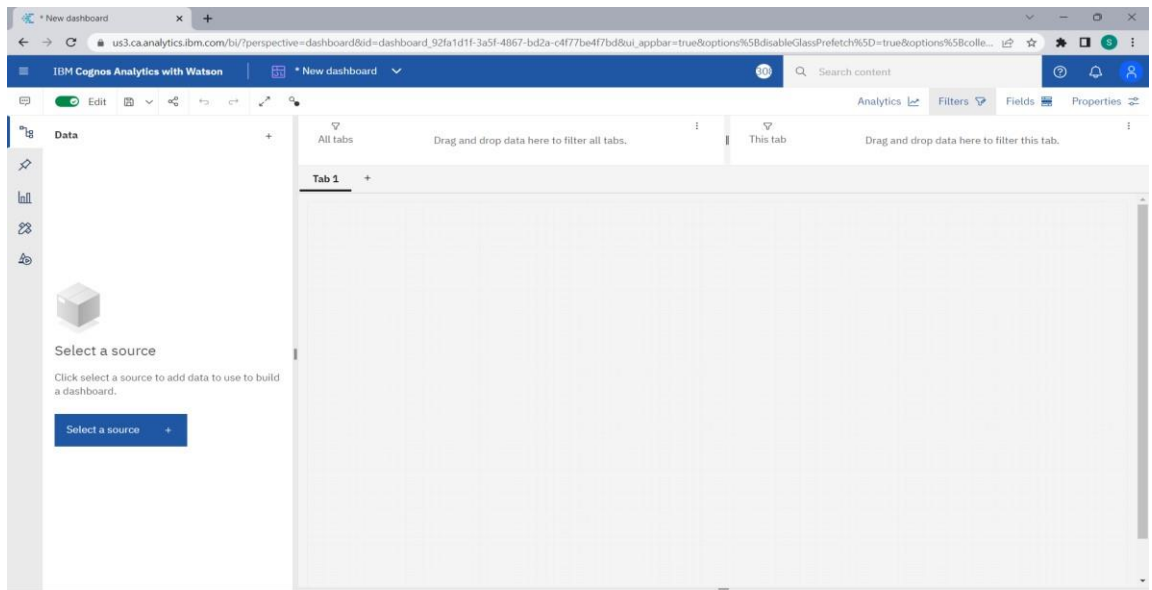- Revenue
- Prepared Visualization link

1. Sales by Year

sales by year

2. Price by Year

price by year colored by price

price (Sum)
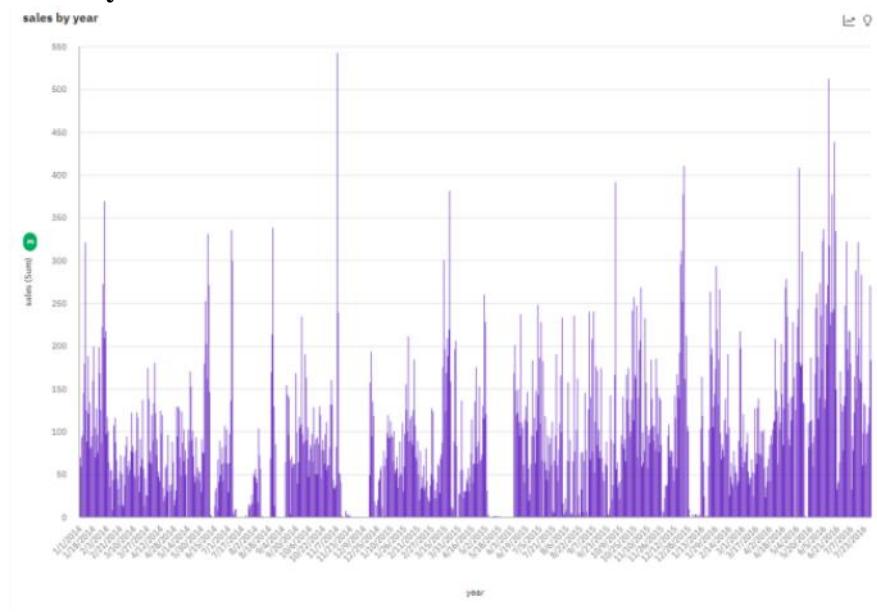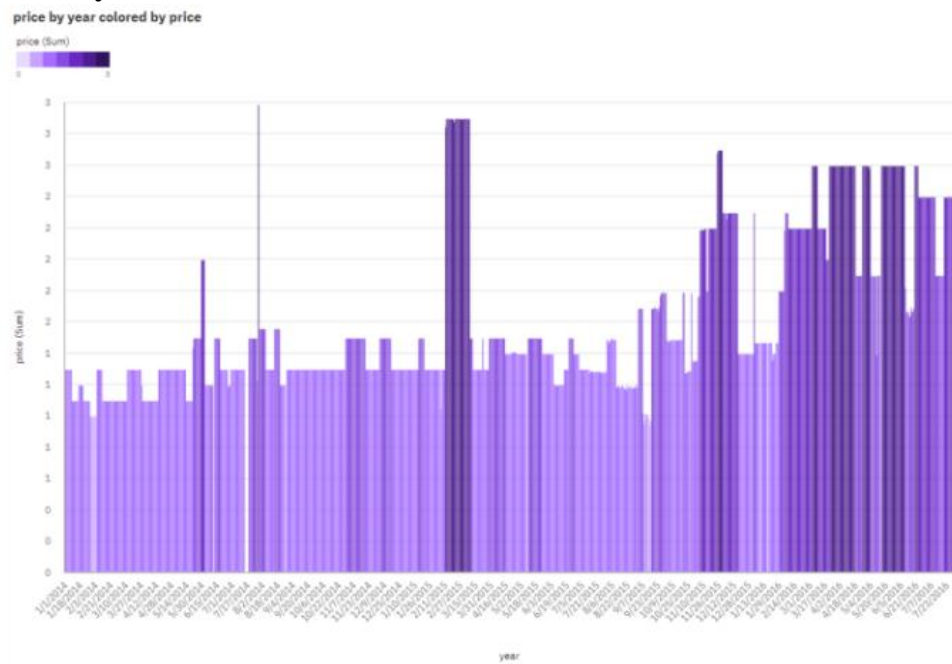
3. Stock by Year
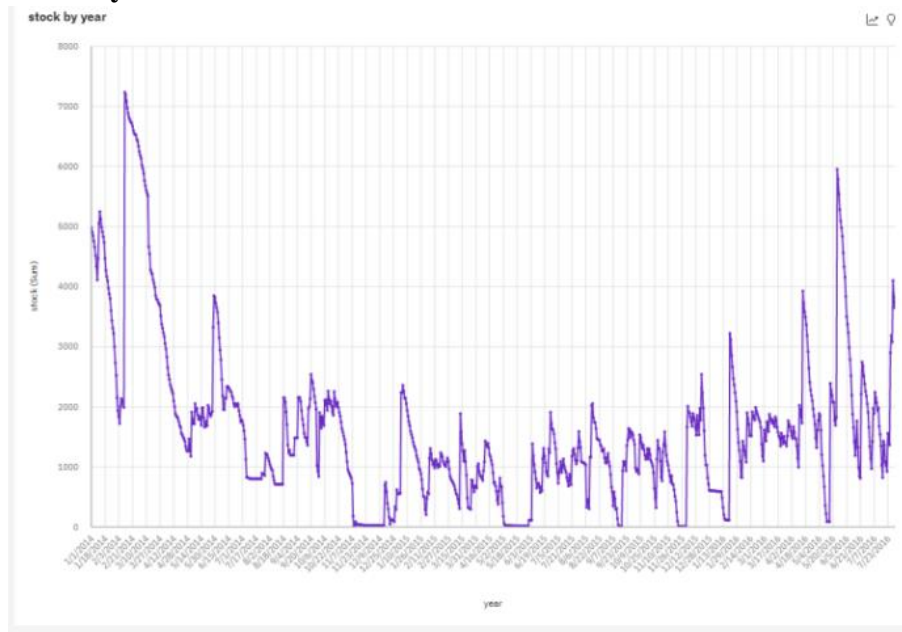
stock by year

4. Stock and Price for Year Colored by Price

stock and price by year
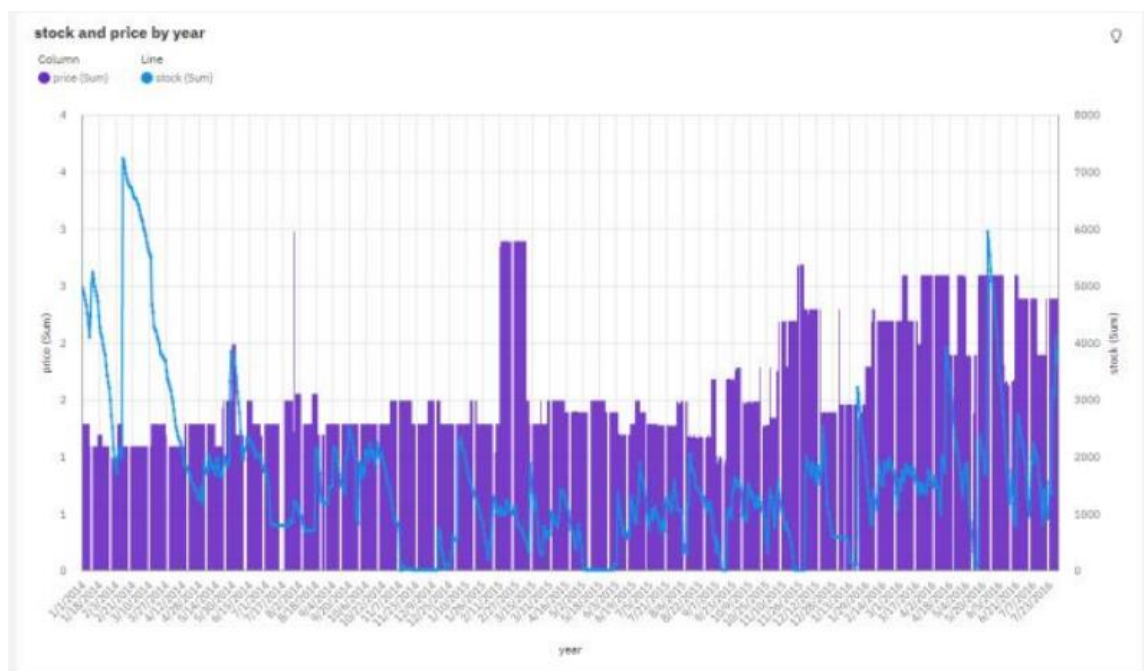
5. Sales by M_Data colored by M_Data
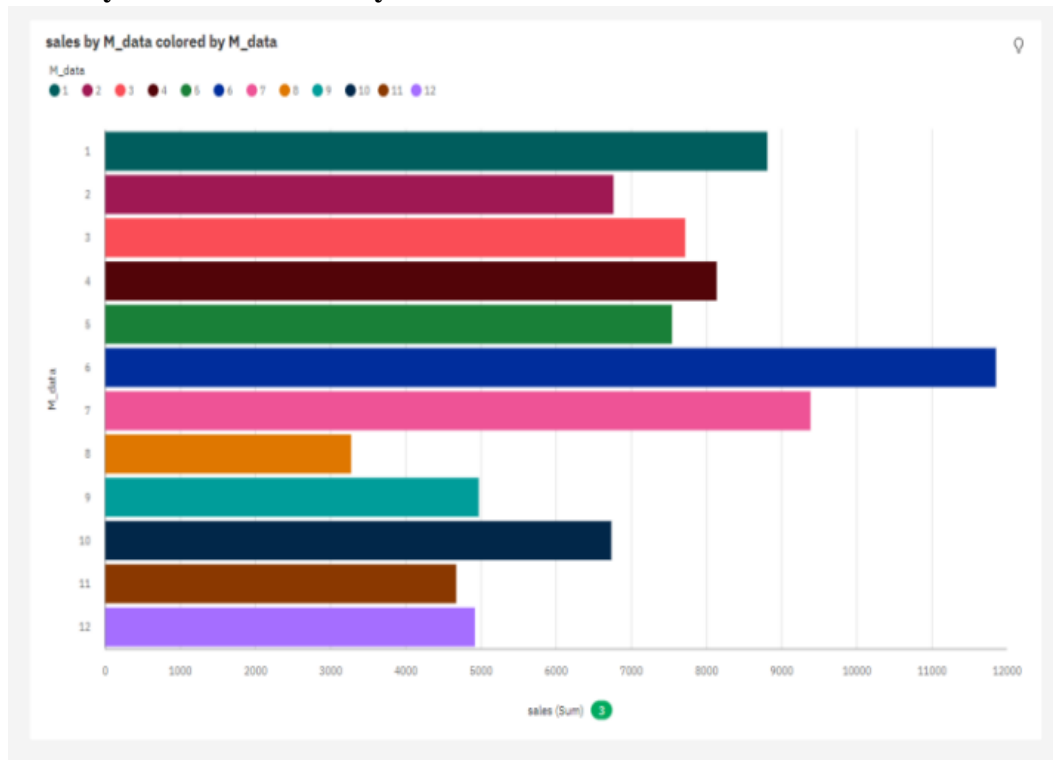
6. Stock by M_Data colored by M_Data
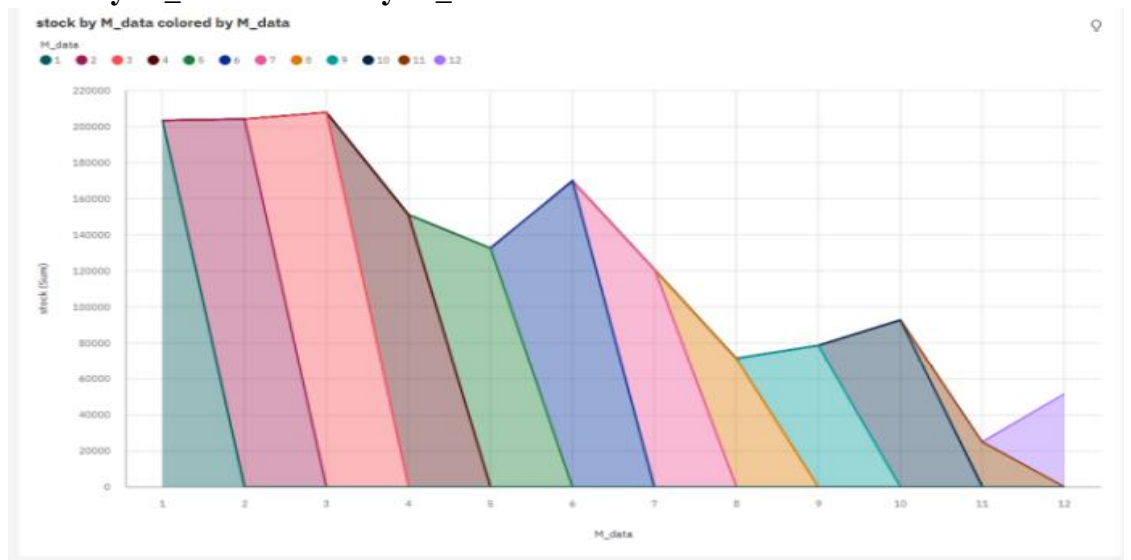
7. Price by M_Data colored by M_Data
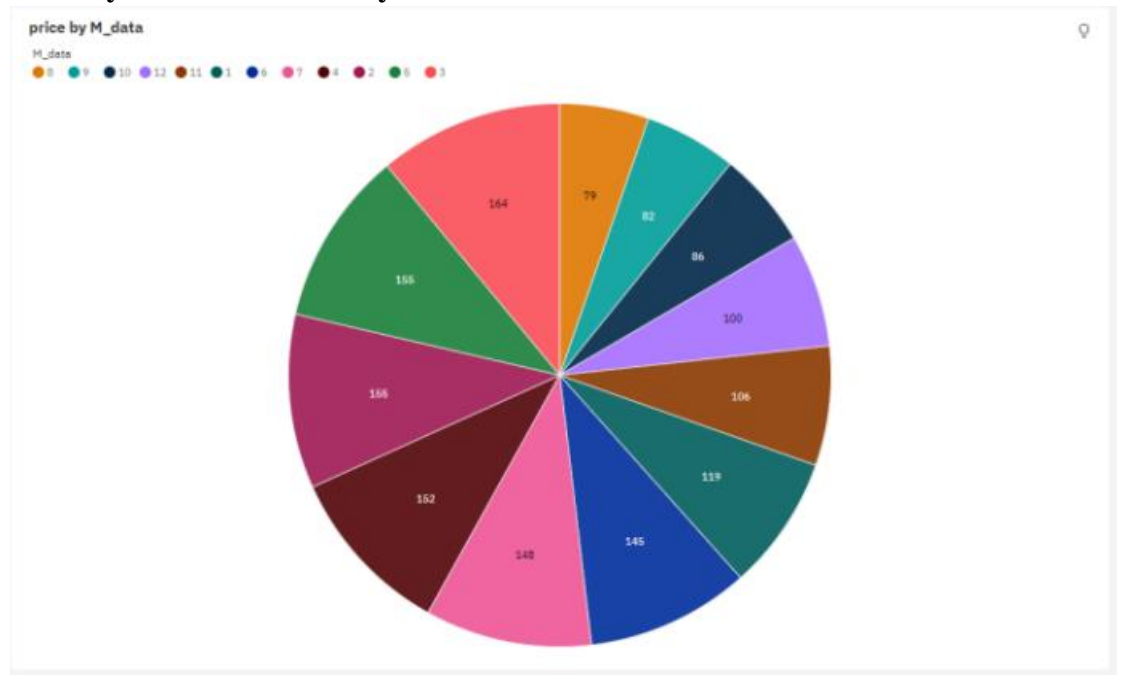
8. M_Data hierarchy colored by M_Data and sized by Price

9. Stock Summary

stock

1506938

stock

10. Revenue by Year colored by Year

year by Revenue with points for year
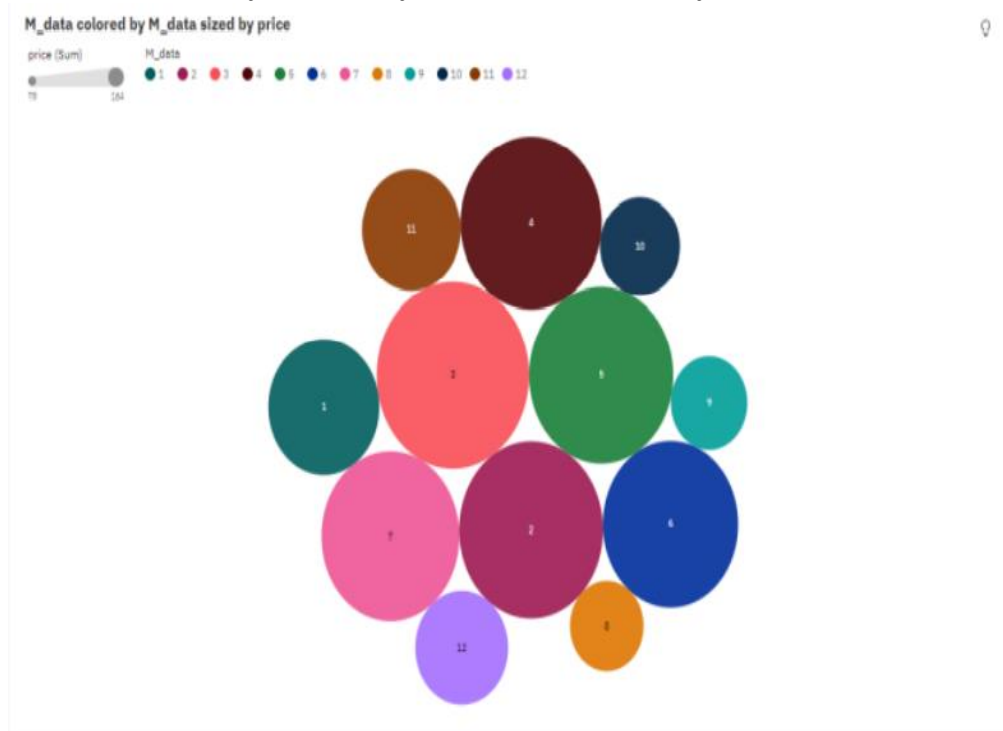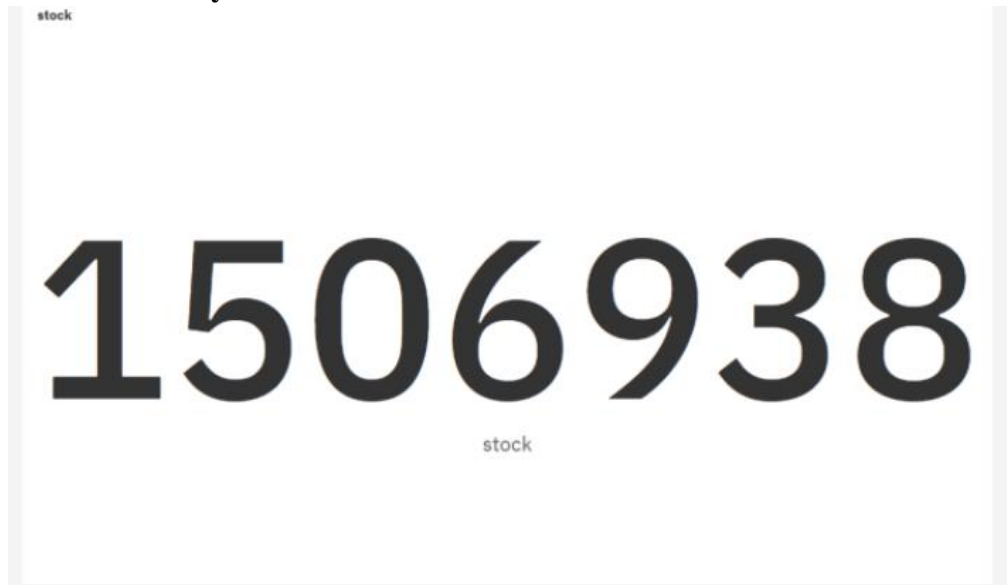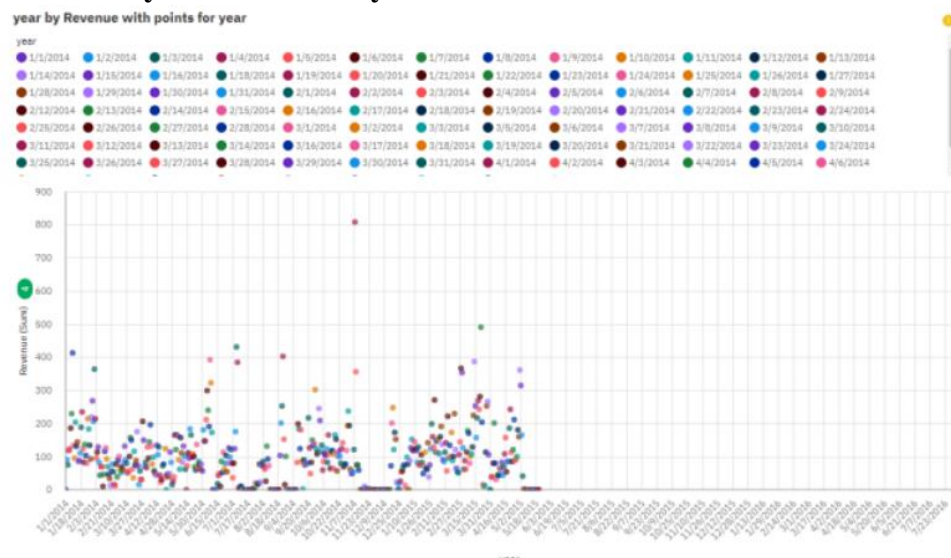
year

11. Stock and Sales by Year
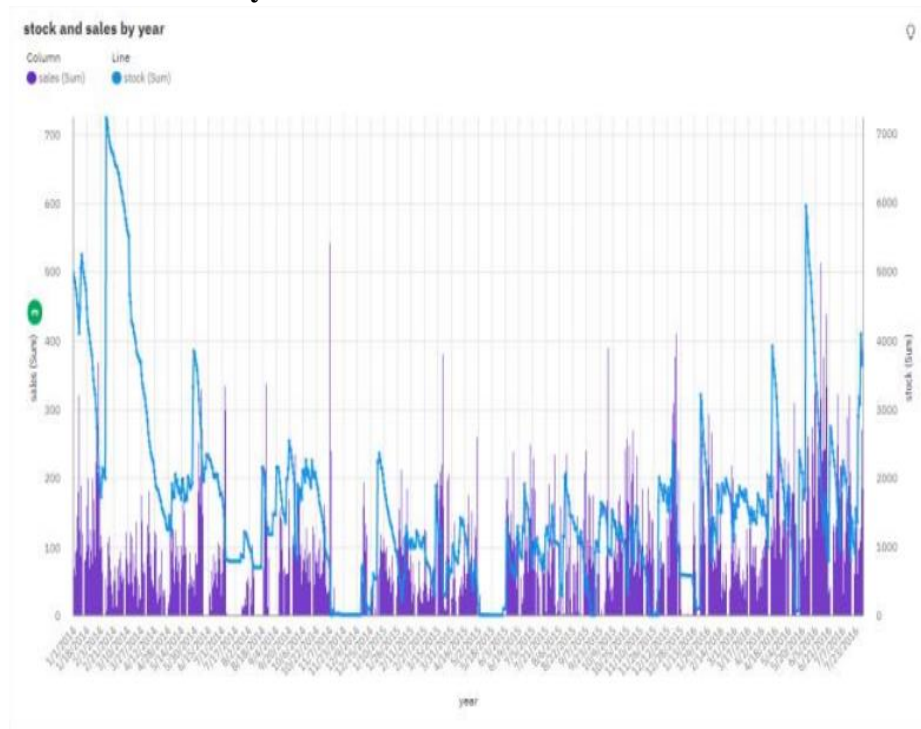
12. Revenue by M_Data colored by M_Data
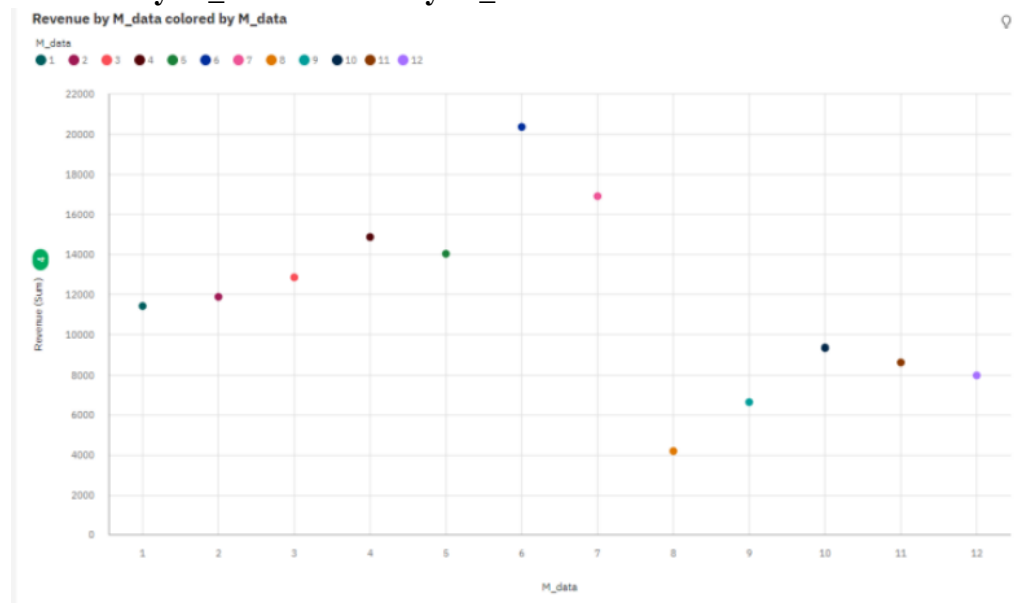
13. Year colored by Year sized by sales
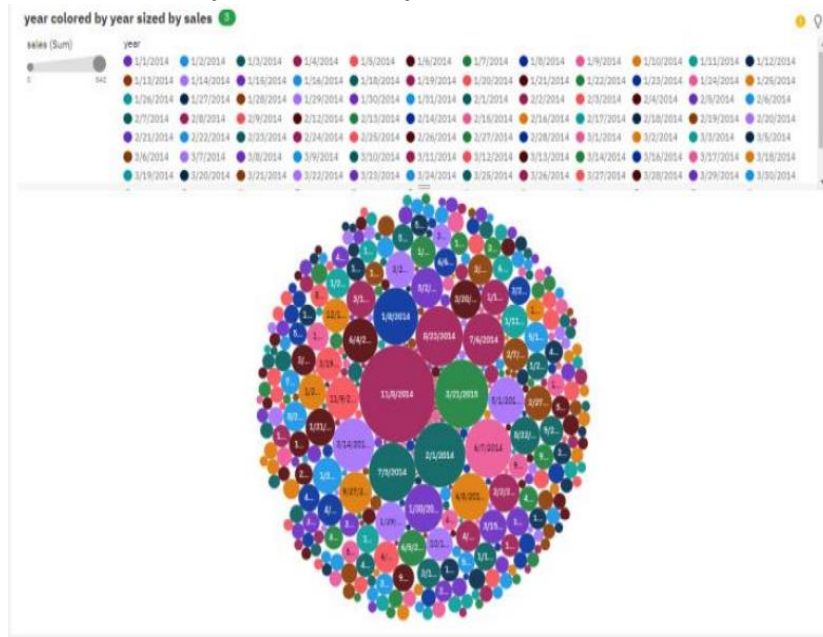
14. Wordcloud for Year sized by Sales

15. sales by Year colored by Year and sized by Year:

16. Revenue
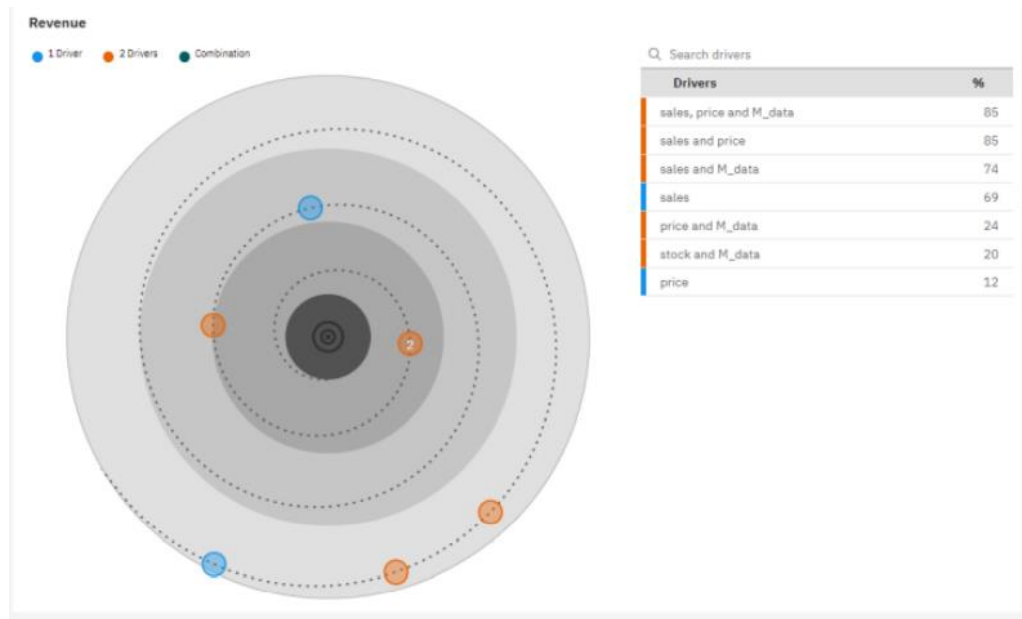
Prepared Visualization Link:

https://us1.ca.analytics.ibm.com/bi/?perspective=explore&pathRef=.my_folders%2F Ne w%2Bexploration&subView=model00000184754989c9_00000004
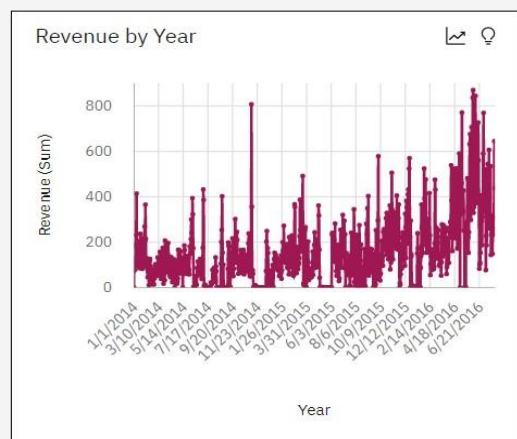
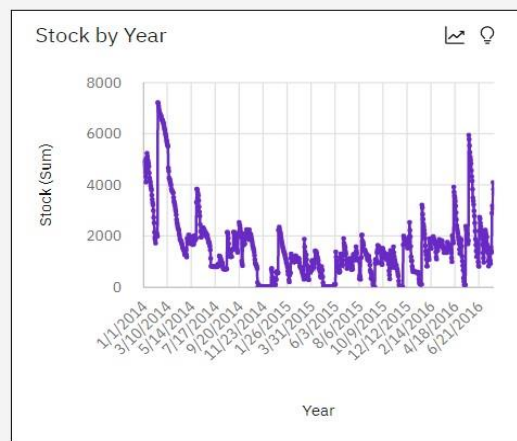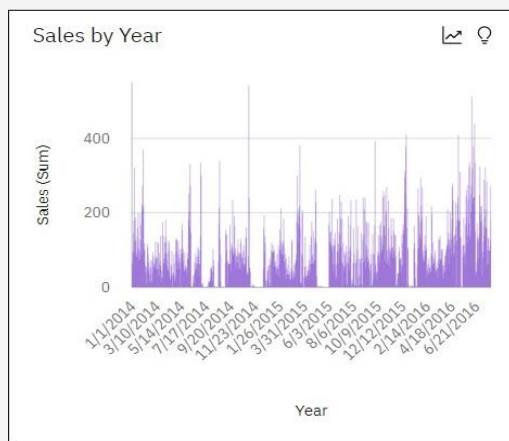## 7.3. Dashboard Creation
Create Dashboard
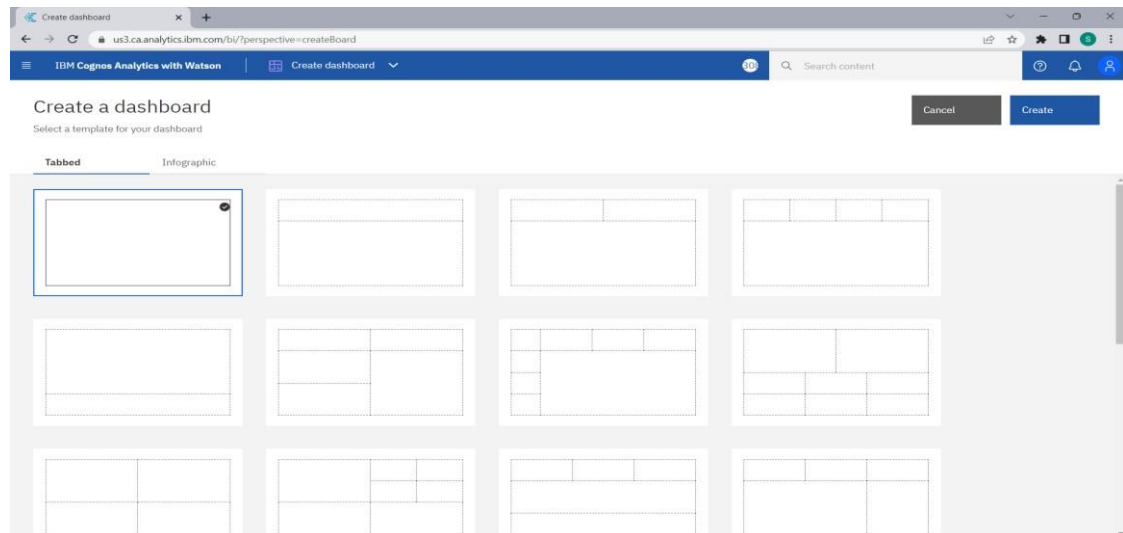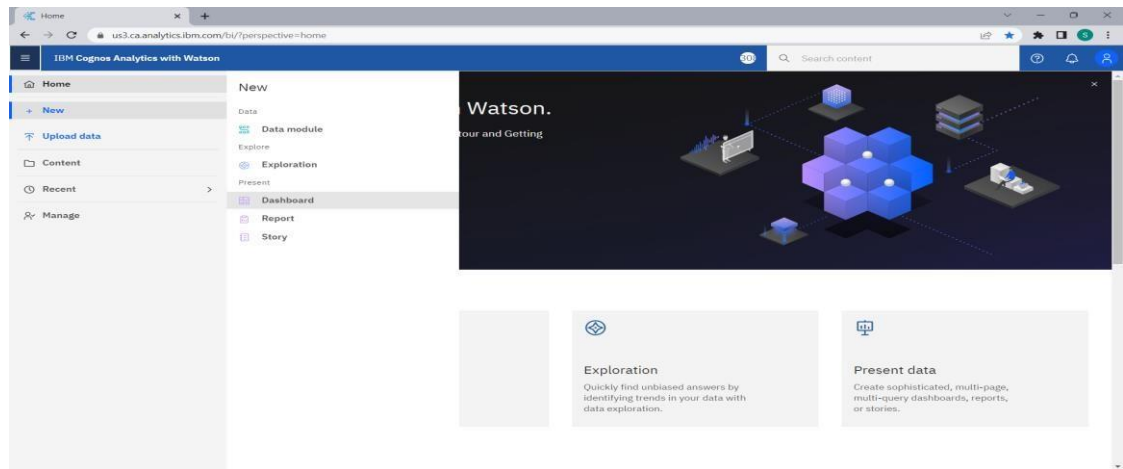
Select and Upload prepared data:

Dashboards

Price by M_Data colored by M_Data

M_Data
● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8
● 9 ● 10 ● 11 ● 12

Revenue by M_Data colored by M_Data

M_Data
● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8
● 9 ● 10 ● 11 ● 12

Sales by Year

Stock by Year
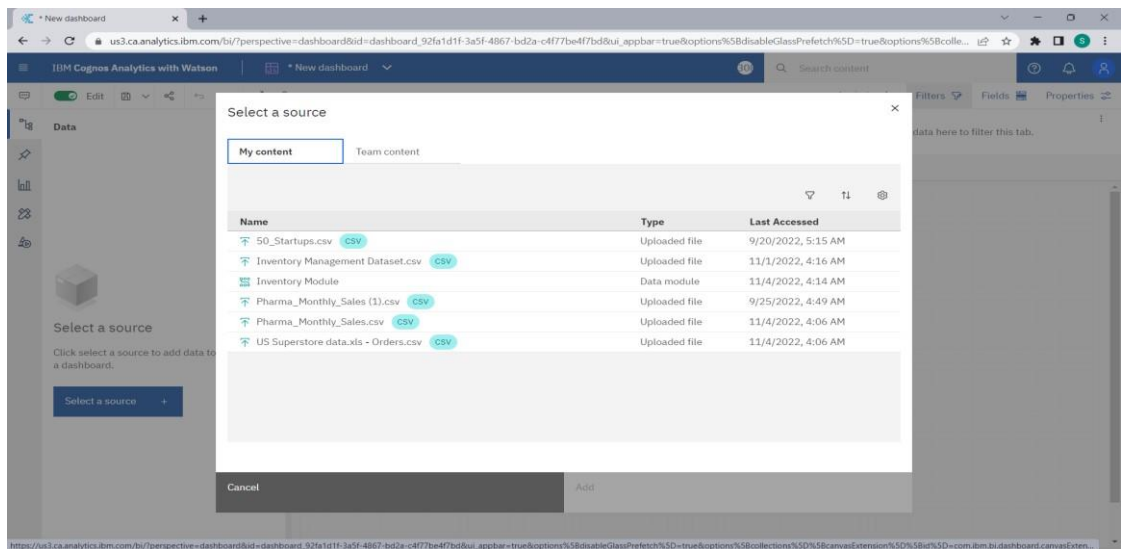
Price by Year
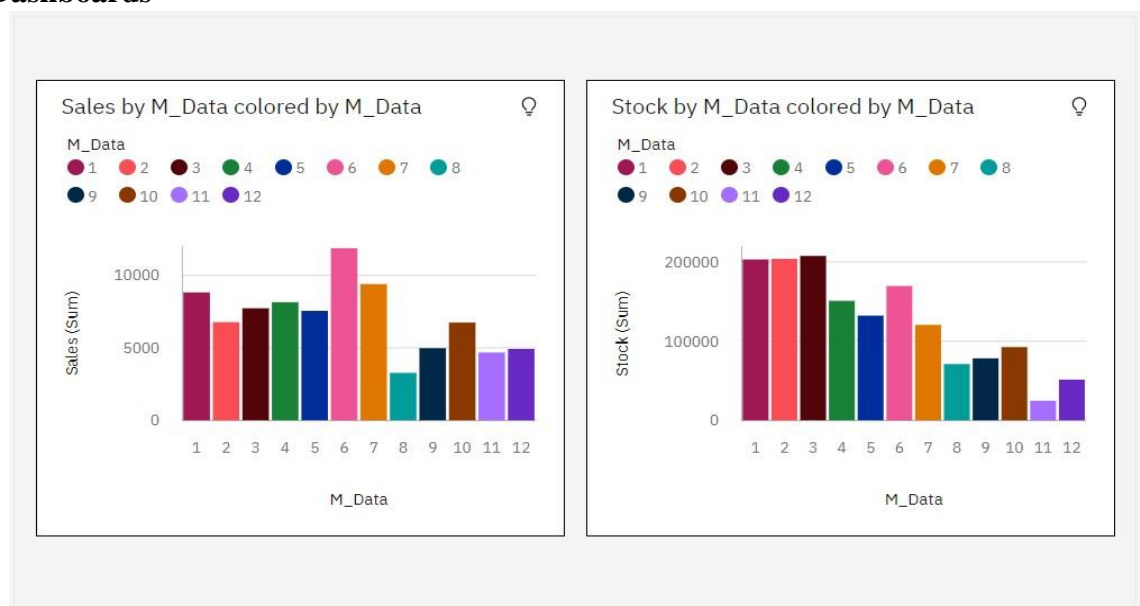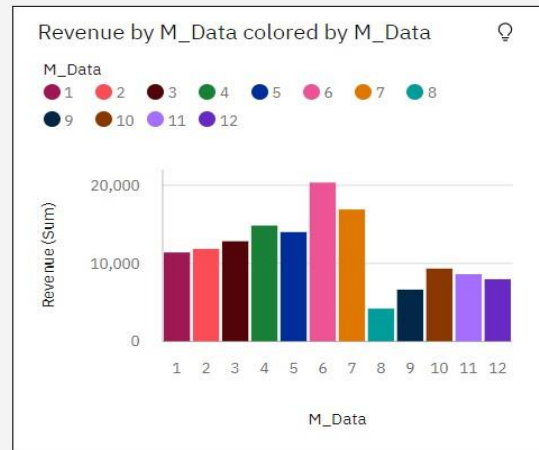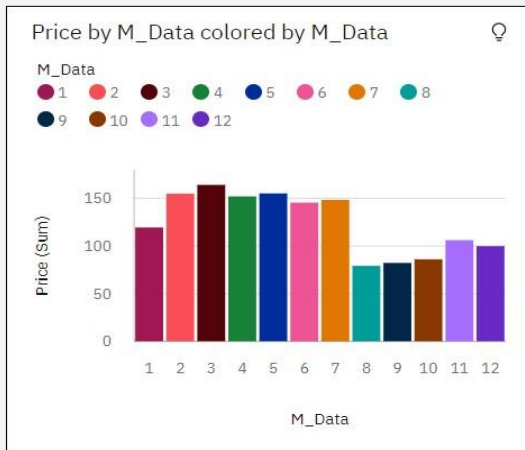
Revenue by Year

Sales

84830

Sales

Stock
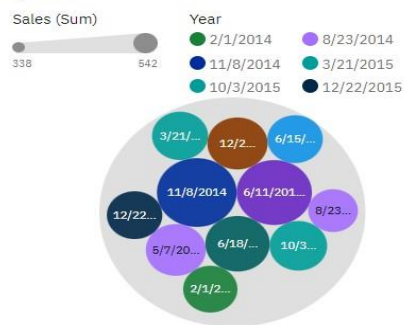
1506938

Stock

Price

1492

Price

Revenue

139K

Revenue

Year hierarchy colored by Year and sized by Sales
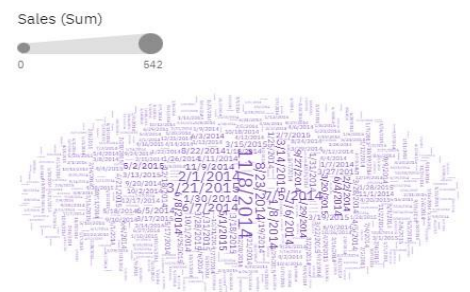
Sales (Sum)
338 — 542

Year
- 2/1/2014
- 8/23/2014
- 11/8/2014
- 3/21/2015
- 10/3/2015
- 12/22/2015

Stock for Year hierarchy

Stock (Sum)
6665 — 7228

Year
- 2/12/2014
- 2/13/2014
- 2/14/2014
- 2/15/2014
- 2/16/2014
- 2/17/2014

2/12/2014 2/15/2014 2/18/2014 2/19/2014
2/13/2014 2/16/2014 2/20/2014
2/14/2014 2/17/2014 2/21/2014
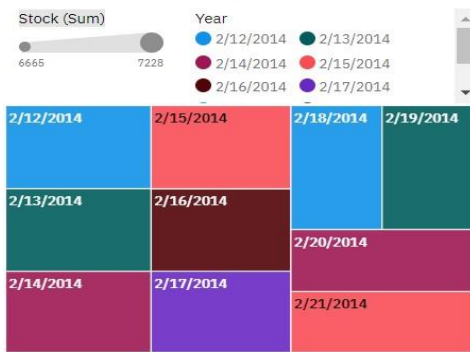
Stock and Sales for M_Data colored by M_Data

M_Data
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

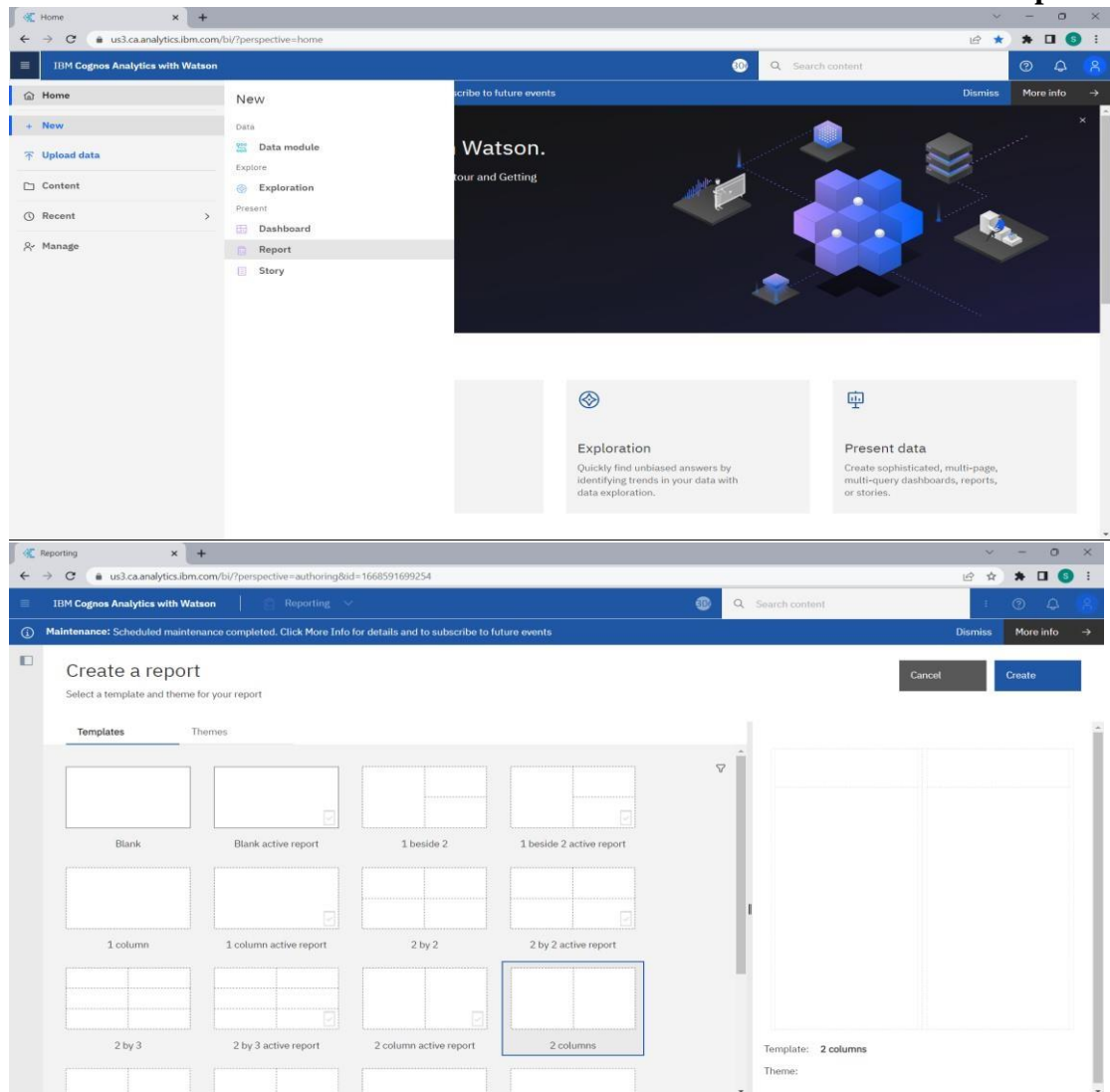1 2 3 4 5 6 7 8 9 10 11 12

Year sized by Sales

Sales (Sum)
0 — 542
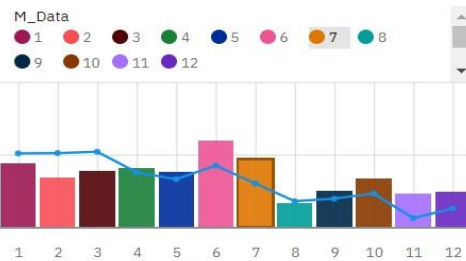
8. REPORT & STORY

8.1. Report Creation

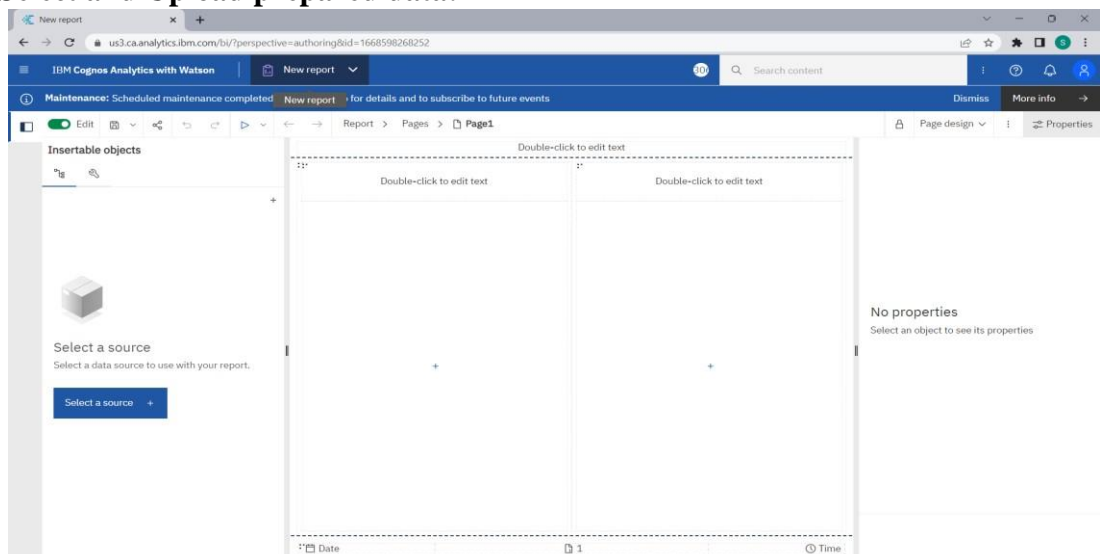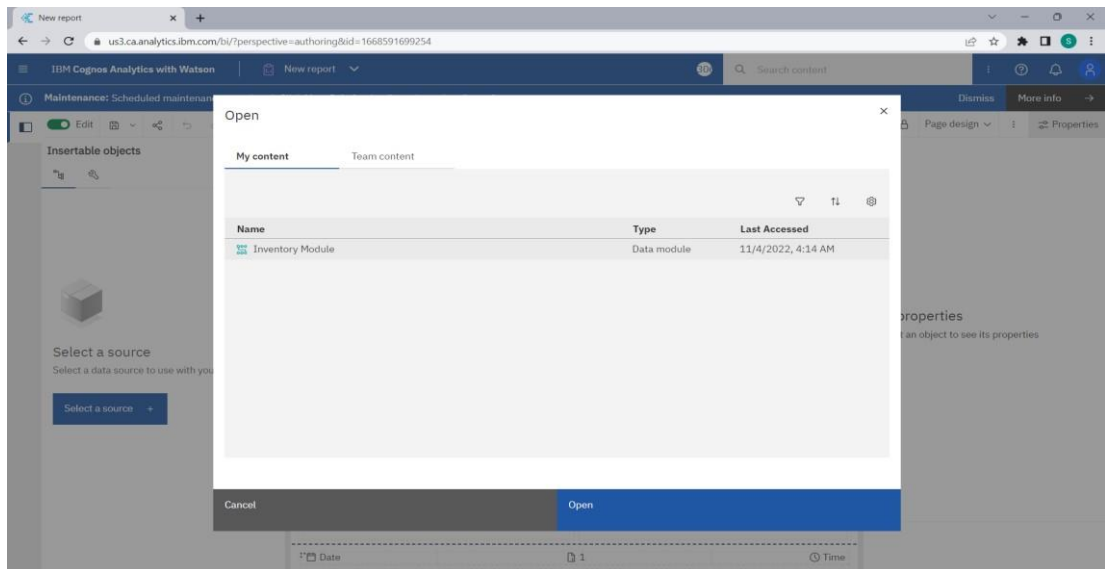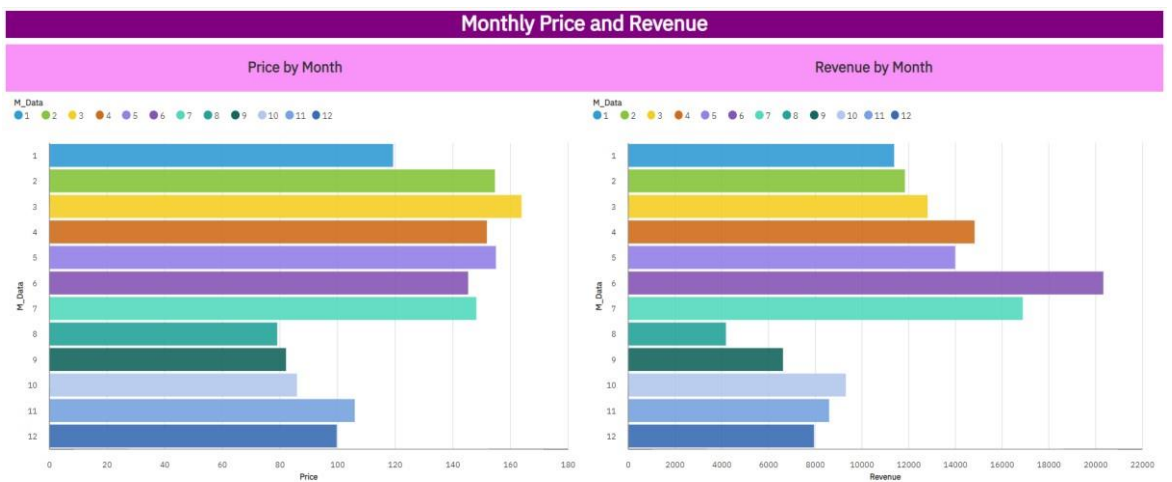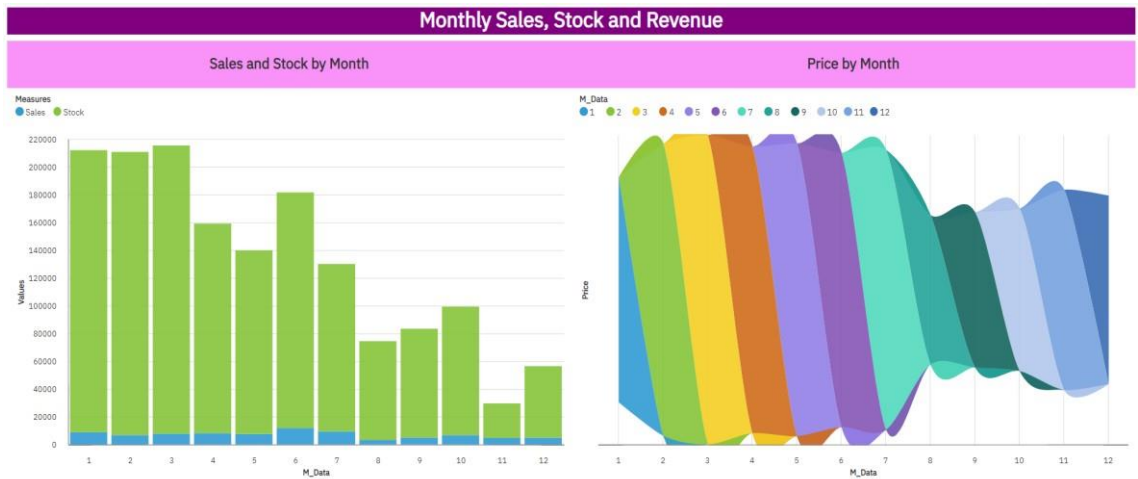**Create**   **Report:**

Select and Upload prepared data:

Reports

Monthly Sales, Stock and Revenue

Sales and Stock by Month

Price by Month

Monthly Sales and Stock

Sales by Month

Stock by Month

Monthly Price and Revenue

Price by Month

Revenue by Month

Sales and Stock

Highest Sales in Month

Sales and Stock by Month
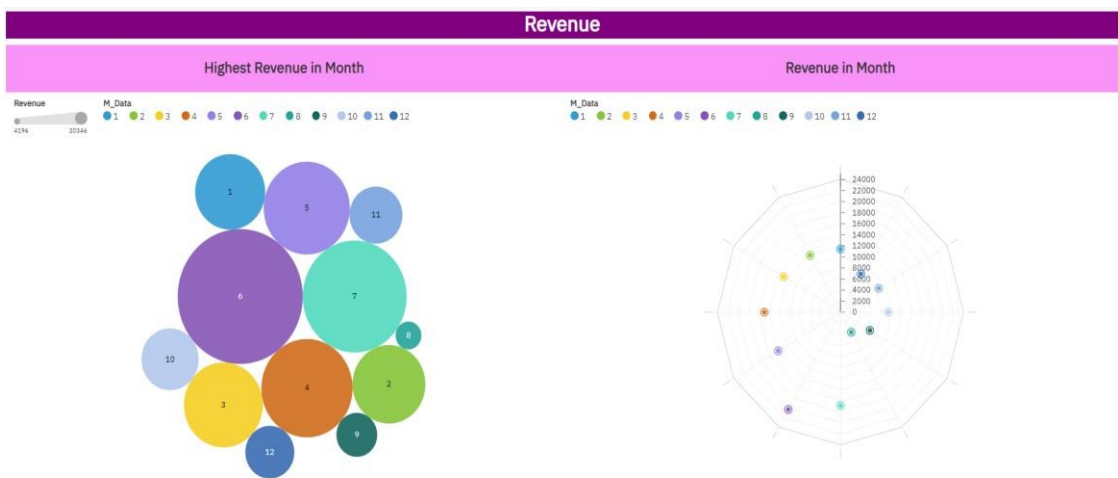

Revenue

Highest Revenue in Month

Revenue in Month

8.2. Story Creation

https://us1.ca.analytics.ibm.com/bi/?perspective=story&pathRef=.my_folders%2FNew%2BStory&action=view&sceneId=model000001849deb53ba_00000000&sceneTime=5000

9. APPENDIX

GitHub - https://github.com/IBM-EPBL/IBM-Project-1655-1658408797