Case Study 3

FreshMart Supermarket - Sales & Inventory Analytics

Industry: Retail

Modules: Reporting, Exploration, Dashboard, Story Making

Real-Time Business Scenario

FreshMart is a supermarket chain with 35 outlets across 8 states in India. The chain sells groceries, fresh produce, dairy, bakery, and household items. The operations head has reported inconsistencies in stock levels — some outlets are overstocked while others face frequent stockouts. The sales team also wants to identify slow-moving products and top-selling categories to optimize purchasing decisions using IBM Cognos Analytics.

Case Study Questions

Question 1 [Reporting]

Create a Sales Summary Report grouped by Category and Sub-Category showing Total Sales, Total Profit, and Profit Margin %. add a calculated field for Profit Margin % = (Profit / Sales) * 100. Format the report with a Header (FreshMart logo text + report date), Footer (page number + 'Confidential'), bold dark green headers, and a prompt for Outlet State selection.

Sales Summary Report:

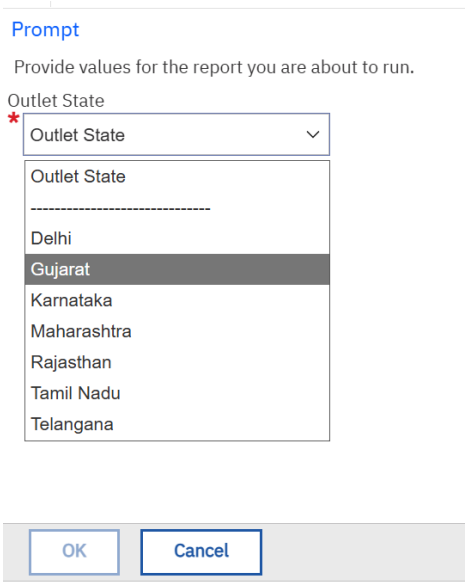
Screenshots

FreshMart Sales Summary Report Date

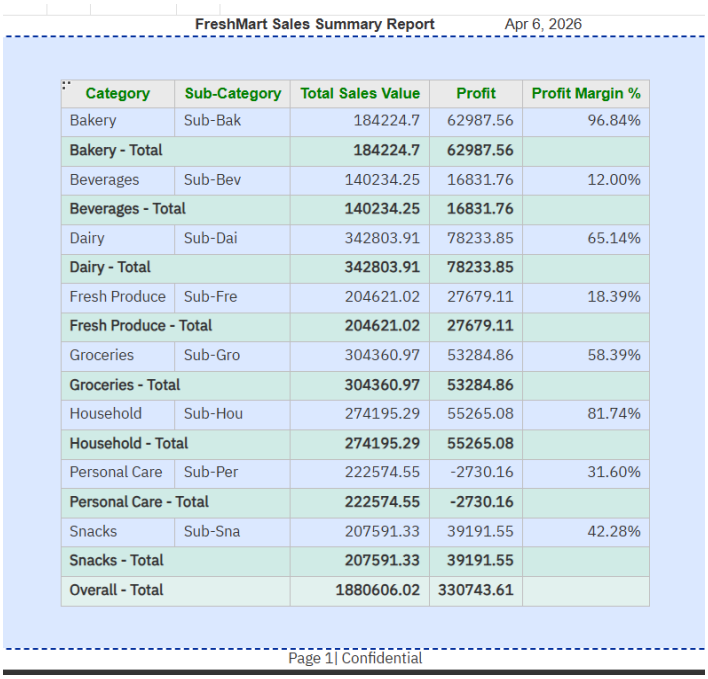
Category	Sub-Category	Total Sales	Total Profit	Profit Margin %
<Category>	<Sub-Category>	<Total Sales >	<Total Profit>	<Profit Margin %>
	<Sub-Category>	<Total Sales >	<Total Profit>	<Profit Margin %>
<Category> - Total		**<Total(Total Sales)>**	**<Total(Total Profit)>**	
<Category>	<Sub-Category>	<Total Sales >	<Total Profit>	<Profit Margin %>
	<Sub-Category>	<Total Sales >	<Total Profit>	<Profit Margin %>
<Category> - Total		**<Total(Total Sales)>**	**<Total(Total Profit)>**	
Overall - Total		**<Total(Total Sales)>**	**<Total(Total Profit)>**	

Page 1| Confidential

Outlet State Selection Dropdown for Dynamic Report Filtering



Sales Summary Report Showing Category, Sub-Category, Sales, Profit and Profit Margin (%)



FreshMart Sales Summary Report Apr 6, 2026

Category	Sub-Category	Total Sales Value	Profit	Profit Margin %
Bakery	Sub-Bak	184224.7	62987.56	96.84%
Bakery - Total		**184224.7**	**62987.56**	
Beverages	Sub-Bev	140234.25	16831.76	12.00%
Beverages - Total		**140234.25**	**16831.76**	
Dairy	Sub-Dai	342803.91	78233.85	65.14%
Dairy - Total		**342803.91**	**78233.85**	
Fresh Produce	Sub-Fre	204621.02	27679.11	18.39%
Fresh Produce - Total		**204621.02**	**27679.11**	
Groceries	Sub-Gro	304360.97	53284.86	58.39%
Groceries - Total		**304360.97**	**53284.86**	
Household	Sub-Hou	274195.29	55265.08	81.74%
Household - Total		**274195.29**	**55265.08**	
Personal Care	Sub-Per	222574.55	-2730.16	31.60%
Personal Care - Total		**222574.55**	**-2730.16**	
Snacks	Sub-Sna	207591.33	39191.55	42.28%
Snacks - Total		**207591.33**	**39191.55**	
Overall - Total		**1880606.02**	**330743.61**	

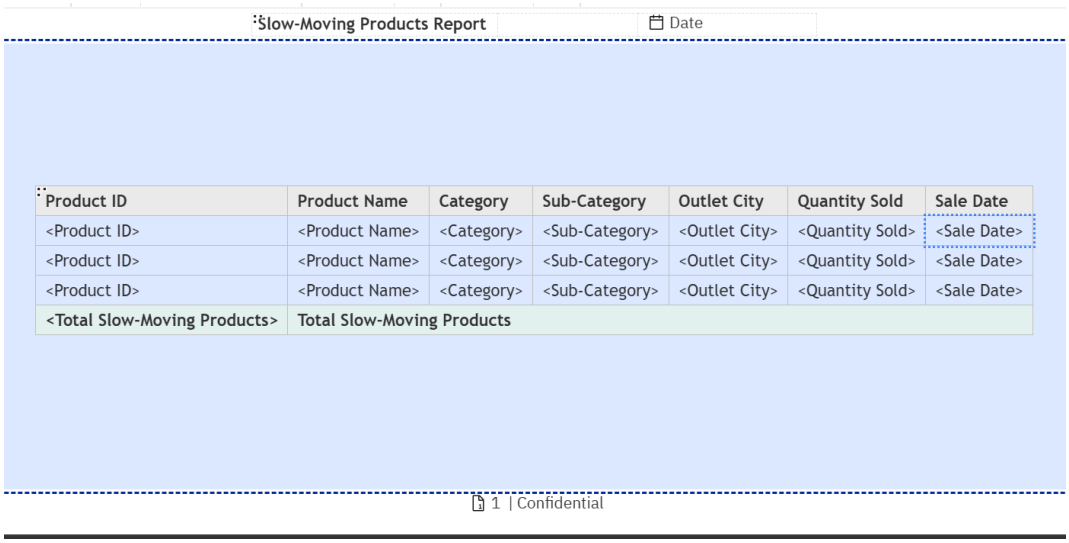
Page 1| Confidential

Question 2 [Reporting]

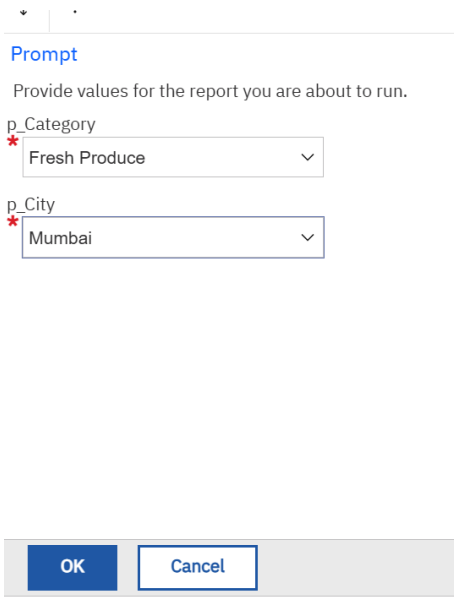
Build a Slow-Moving Products Report listing products where Quantity Sold is below 50 units in the last month. Apply Conditional Styling: Red for 0–20 units, Amber for 21–50 units. Add prompts for Category and Outlet City. Use font Trebuchet MS, size 11 for the report body. Include a count of total slow-moving products as a summary.

Screenshots

Slow-Moving Products Report Layout with Product Details



Prompt Page for Selecting Category and Outlet City

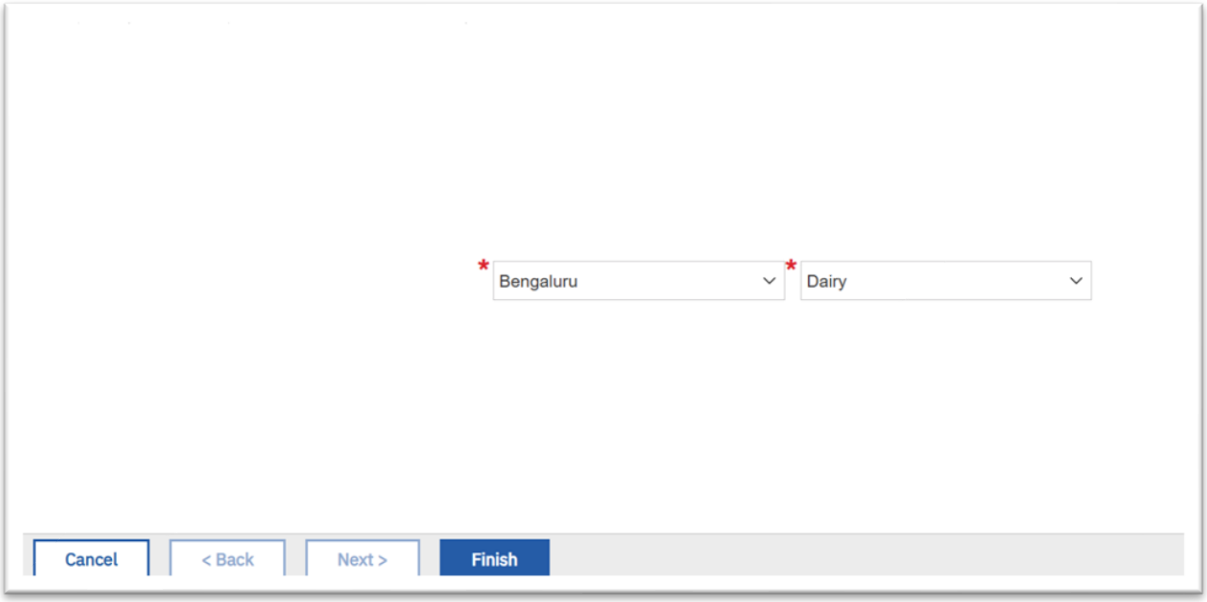


Conditional Styling Applied – Low Sales Products Highlighted in Red (0–20 Units)

Slow-Moving Products Report Apr 6, 2026

Product ID	Product Name	Category	Sub-Category	Outlet City	Quantity Sold	Sale Date
PRD0166	Product_166	Fresh Produce	Sub-Fre	Mumbai	3	2024-12-07
1	Total Slow-Moving Products					

Category and Outlet City Selection for Filtering Slow-Moving Products



Conditional Styling Applied – Medium Low Sales Highlighted in Amber (21–50 Units)

Product ID	Product Name	Category	Sub-Category	Outlet City	Quantity Sold	Sale Date
PRD0187	Product_187	Dairy	Sub-Dai	Bengaluru	34	2024-12-13
1	Total Slow-Moving Products					

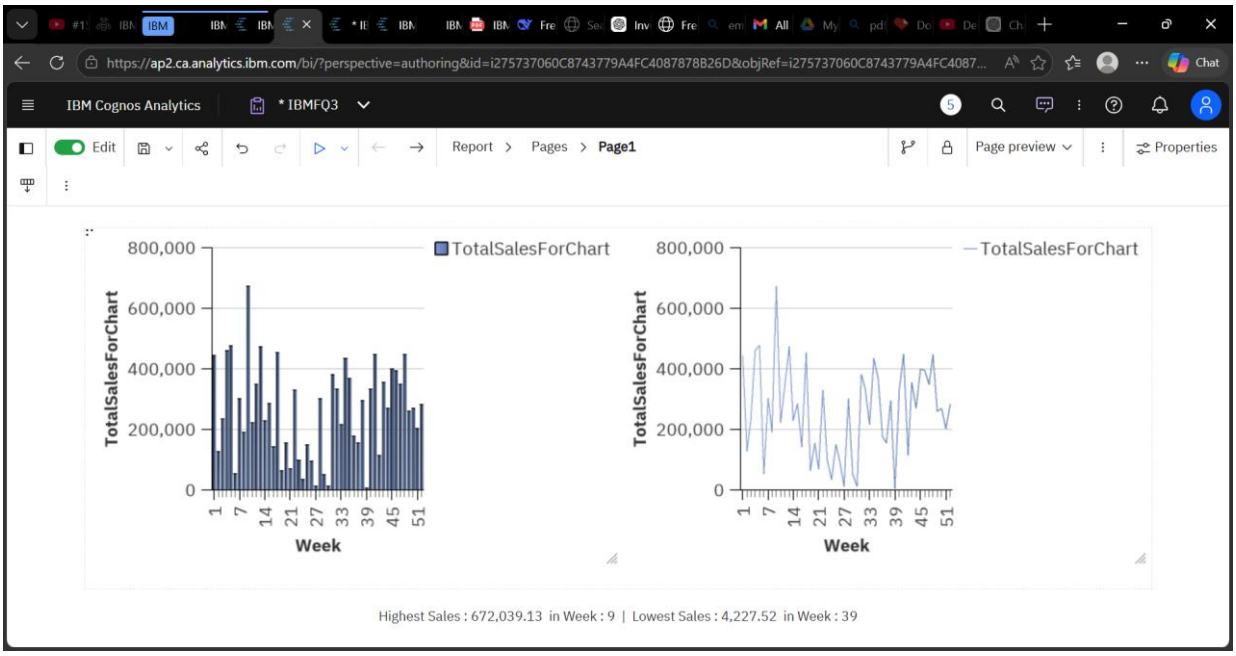
Question 3 [Reporting]

Using Report Visualize Prompt, build a visualization that allows managers to choose between a Bar chart and a Line chart to view Weekly Sales Trends across all outlets. Summarize the highest and lowest sales weeks using a text object at the report bottom. Add Conditional Styling to weeks with sales below the monthly average.

Screenshots

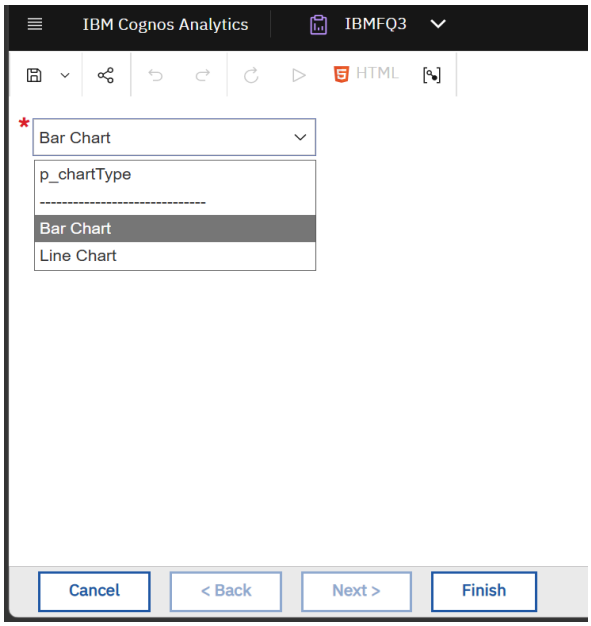
Weekly Sales Trend Analysis Report

Comparison of Weekly Sales Across All Outlets with Dynamic Chart Selection

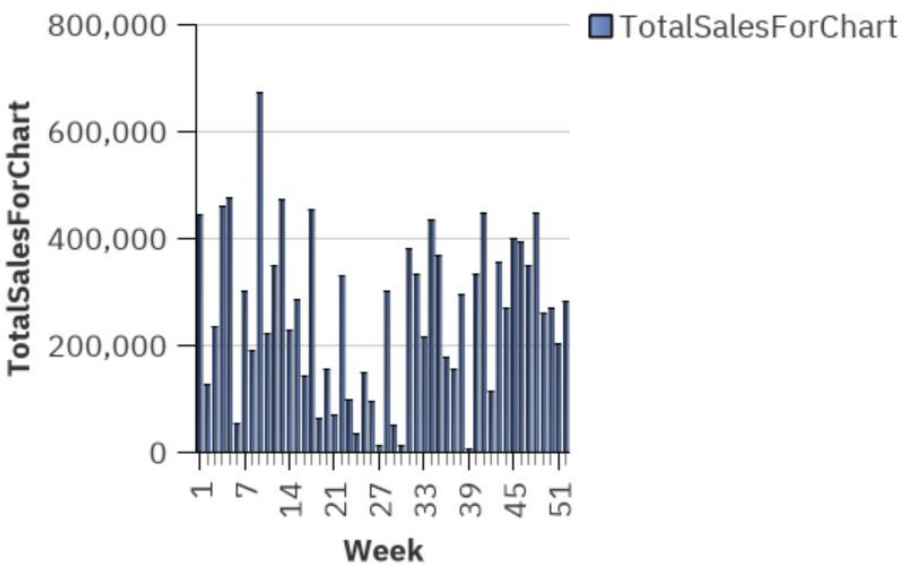


Report Visualization Selection for Weekly Sales Analysis

Select Chart Type : Bar Chart

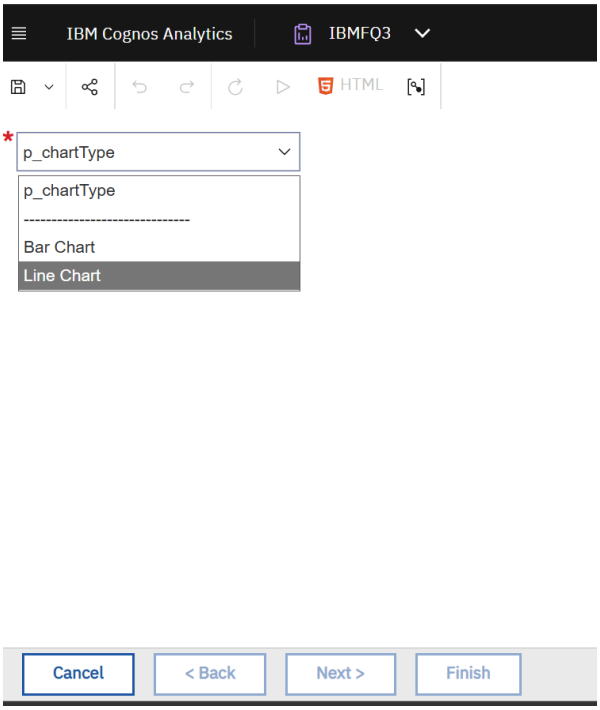


Weekly Sales Trend (Bar Visualization)

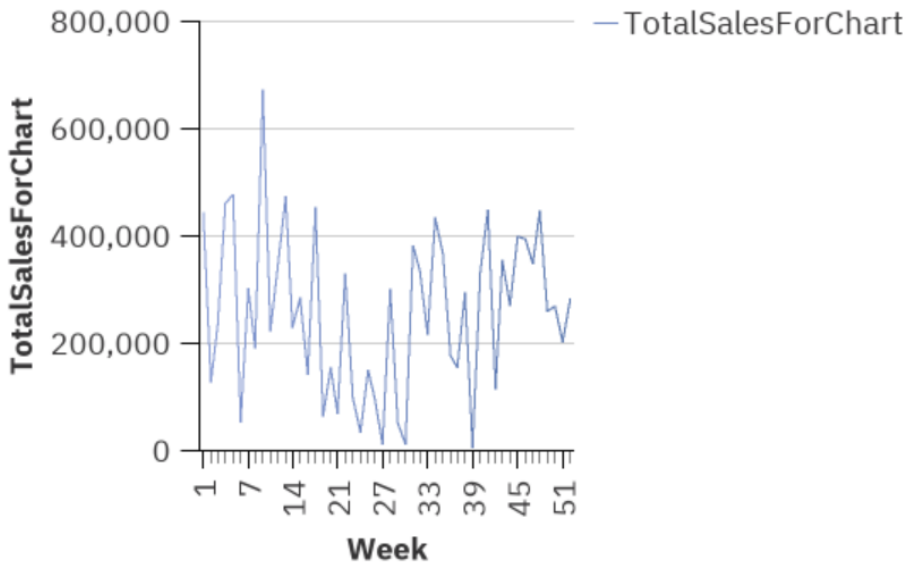


Highest Sales : 672,039.13 in Week : 9 | Lowest Sales : 4,227.52 in Week : 39

Select Chart Type : Line Chart



Weekly Sales Trend (Line Visualization)

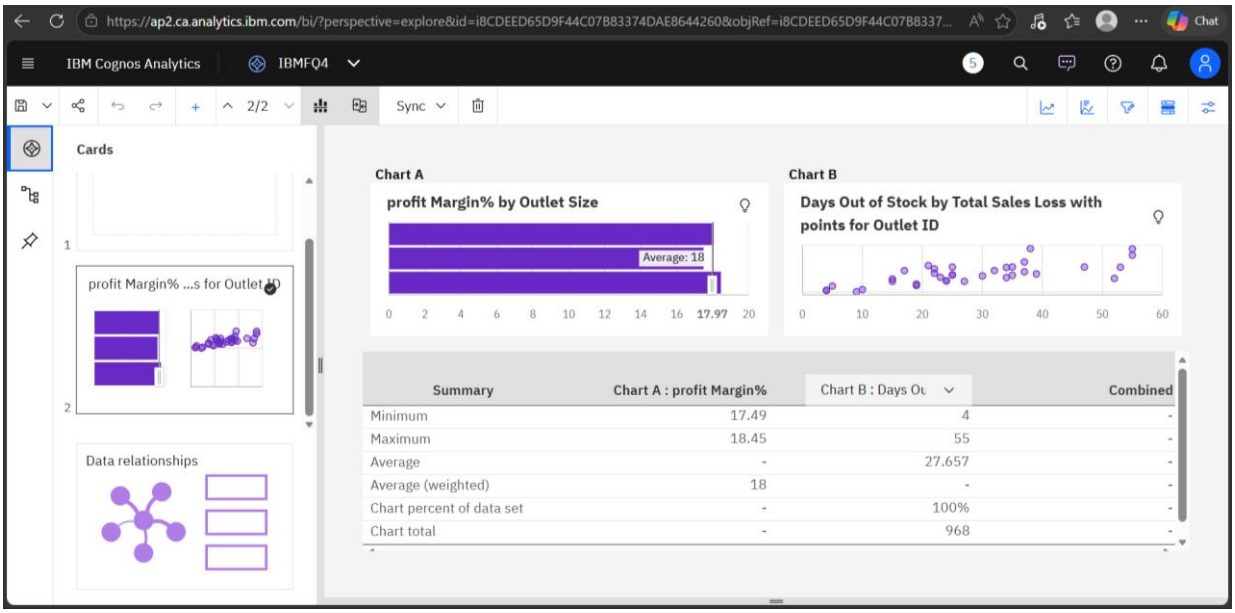


Highest Sales : 672,039.13 in Week : 9 | Lowest Sales : 4,227.52 in Week : 39

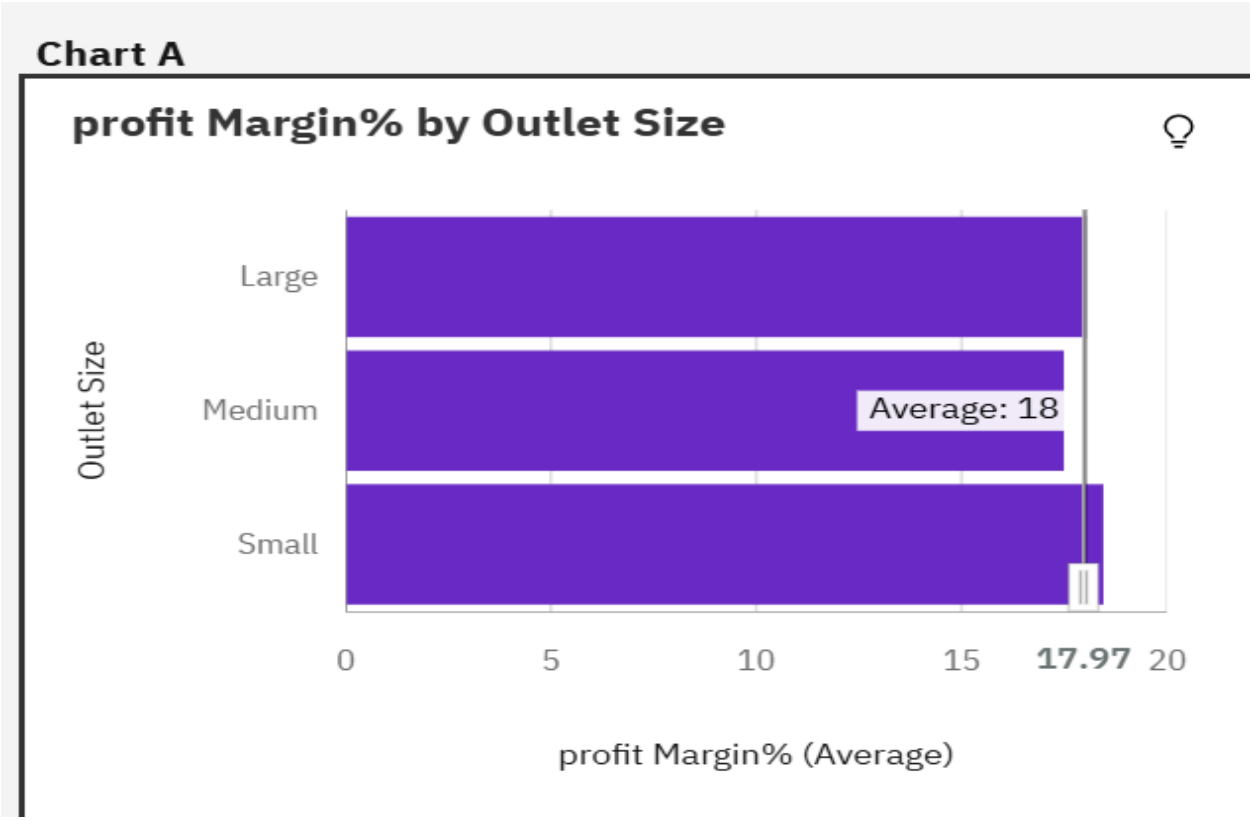
Question 4 [Exploration]

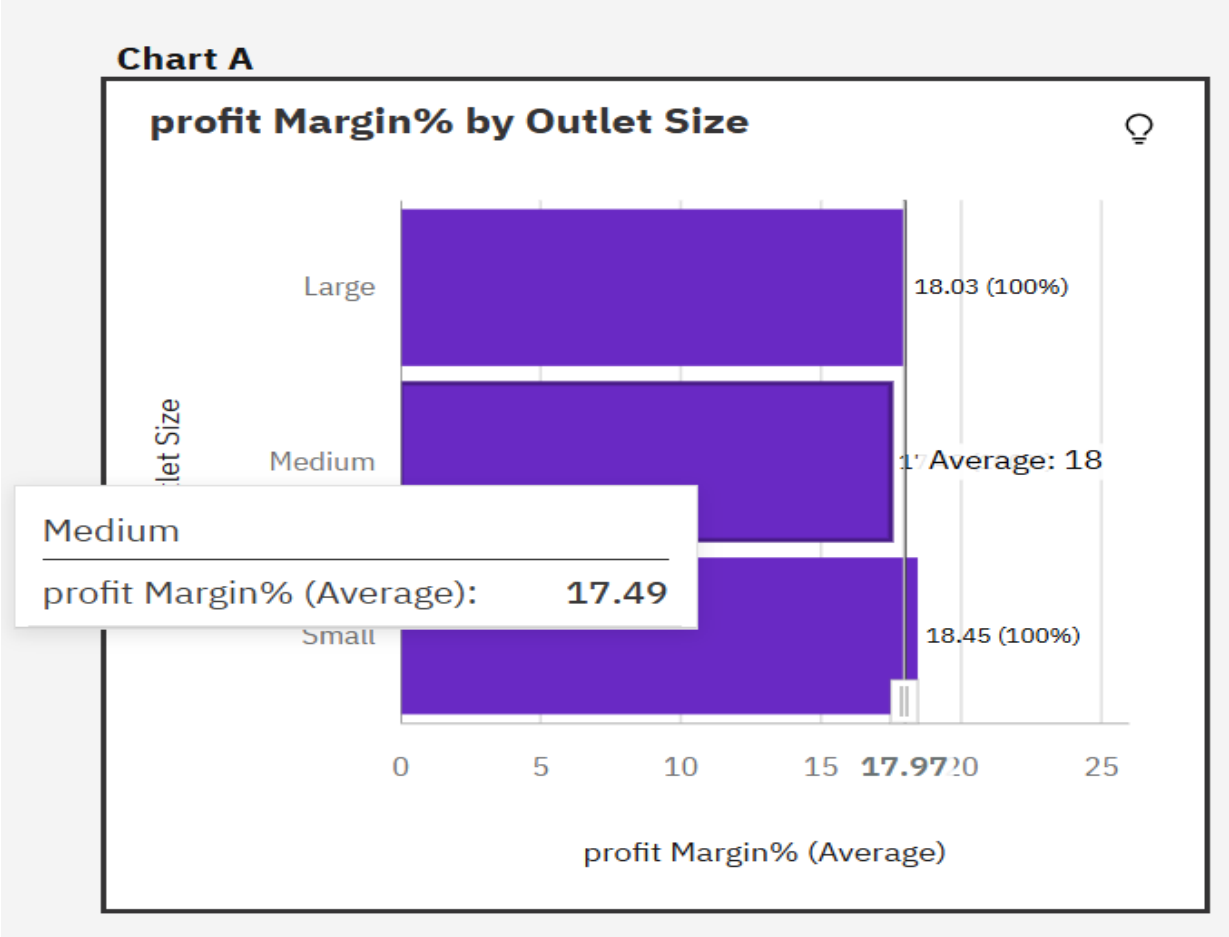
Using Cognos Exploration on the FreshMart dataset, explore the relationship between Outlet Size and Profit Margin. Investigate whether larger outlets consistently outperform smaller ones. Also explore how Days Out of Stock correlates with Total Sales loss. Capture and annotate all key exploration charts in your submission.

Screenshots



Profit Margin % by Outlet Size

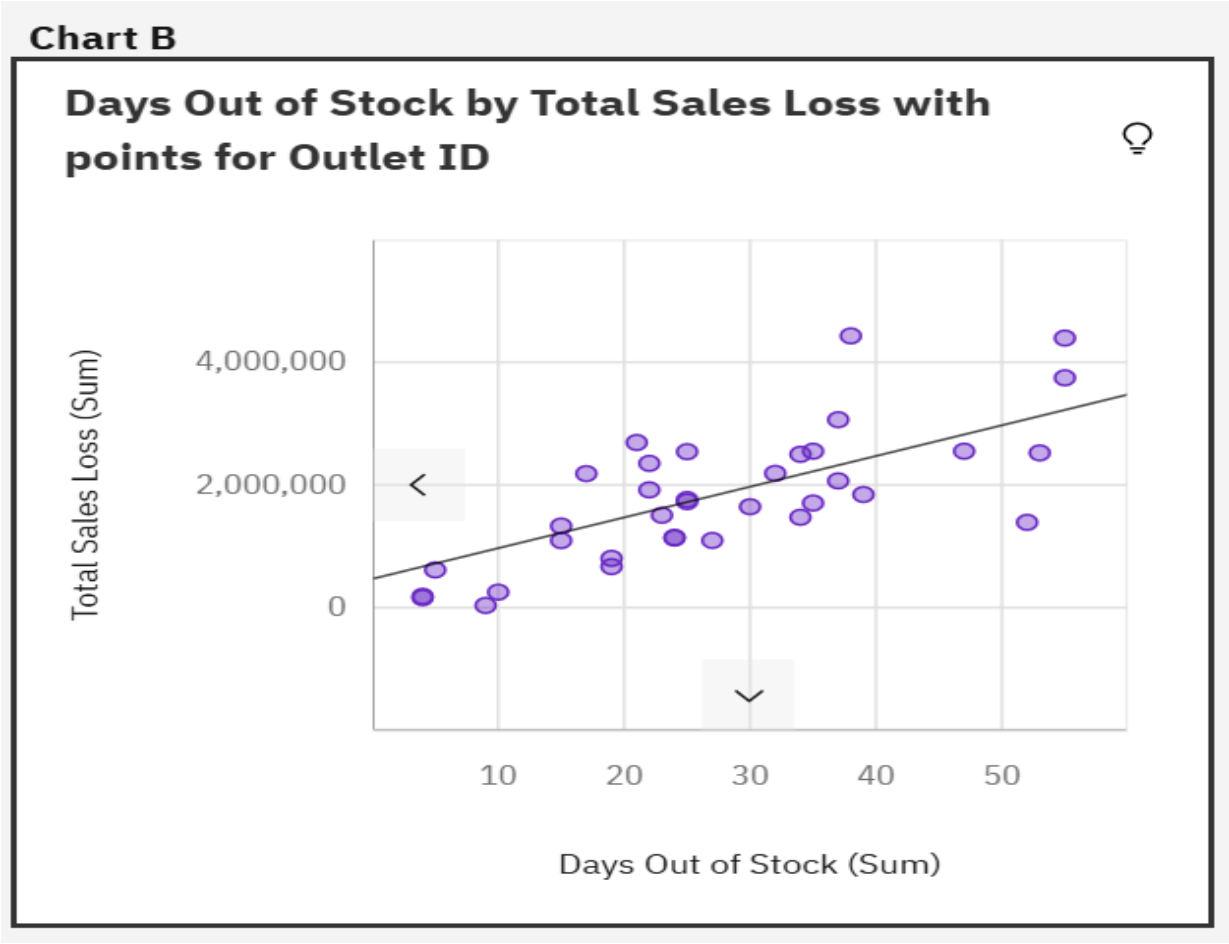


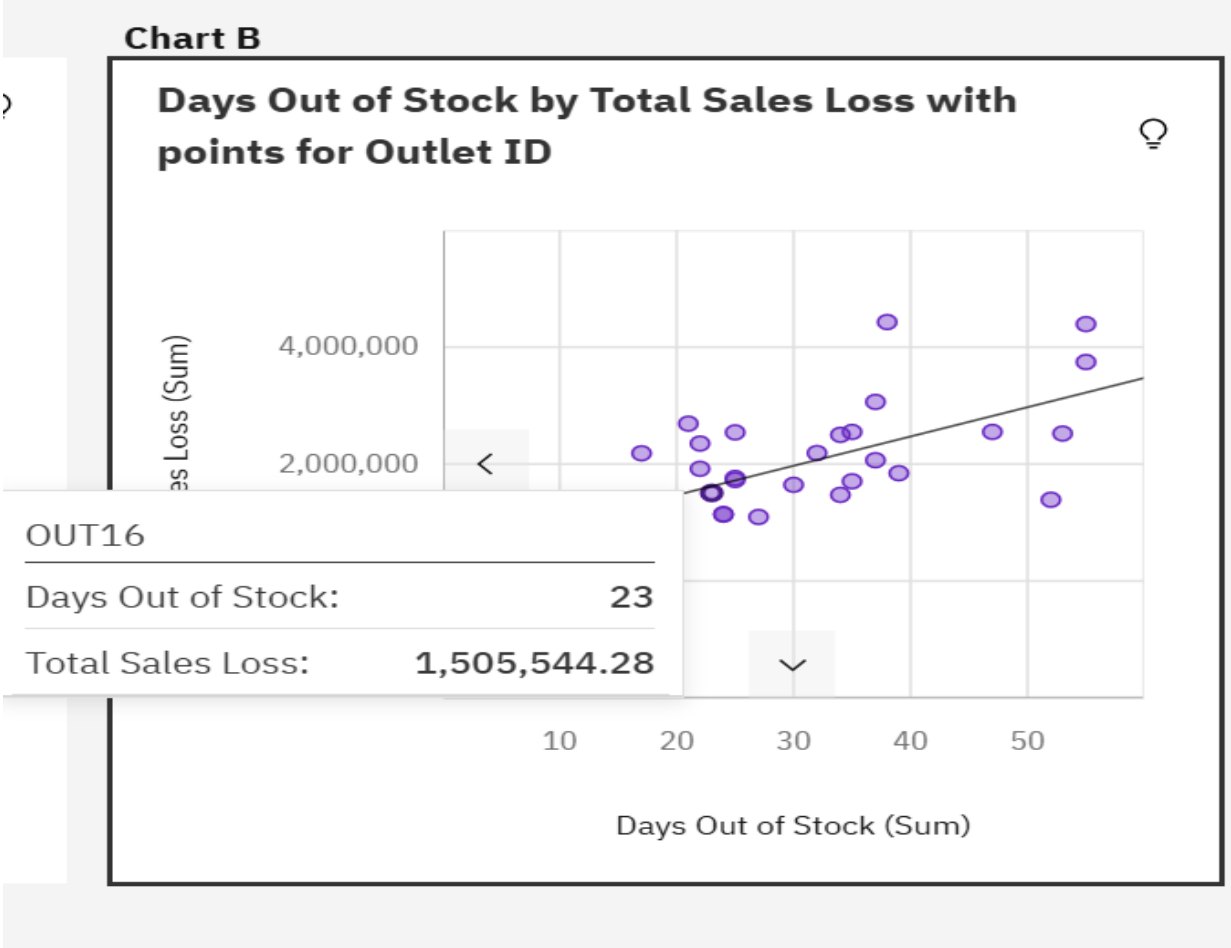


Outlet size has minimal impact on profit margin, with small outlets performing slightly better than others.

- Average Profit Margin = **18%**
- Small = **18.45% (Highest)**
- Medium = **17.49% (Lowest)**
- Small & Medium = **69.5% of total outlets**

Days Out of Stock vs Total Sales Loss (Scatter Plot)





Poor inventory management directly leads to increased sales loss, making stock availability a critical factor.

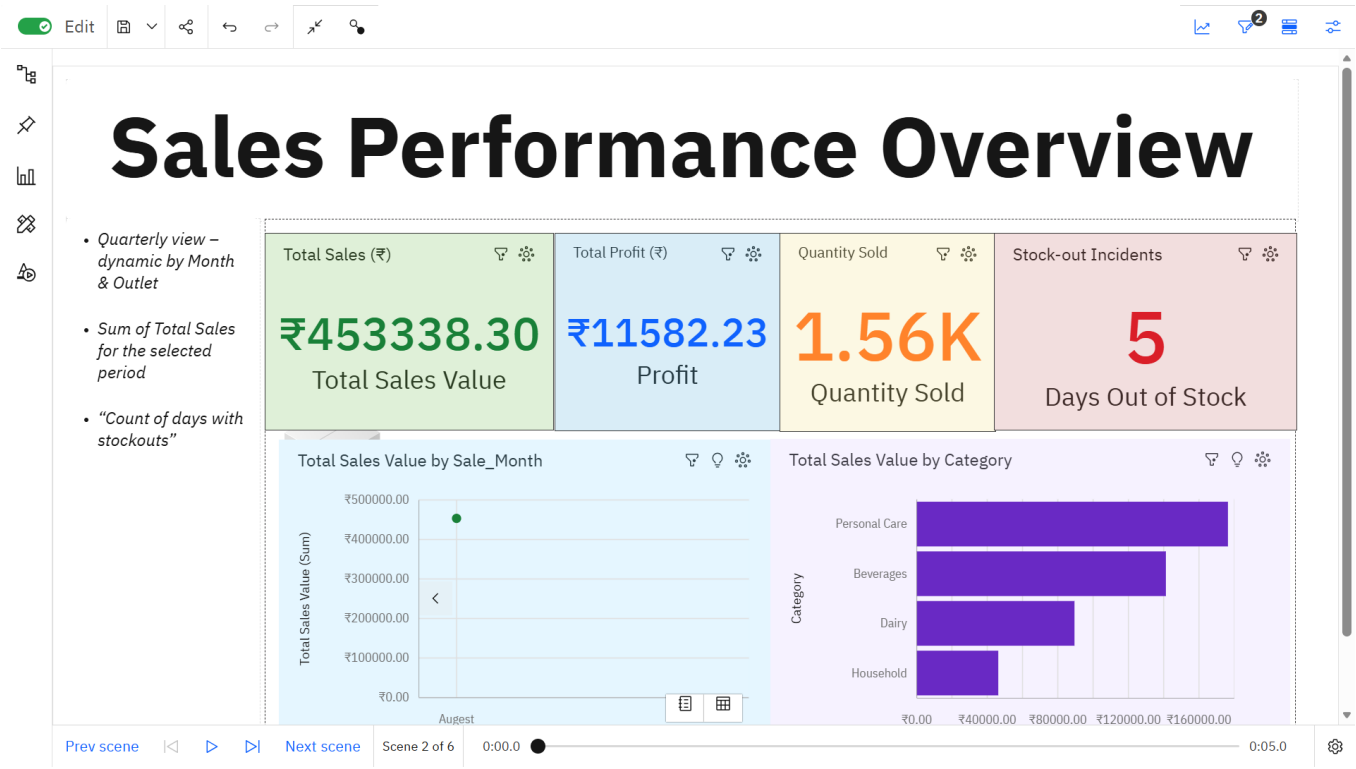
- Total Sales Loss > **63 million**
- Positive relationship between variables
- Equation: Total Sales Loss = 468674 + 50063 × Days Out of Stock

Question 6 [Story Making]

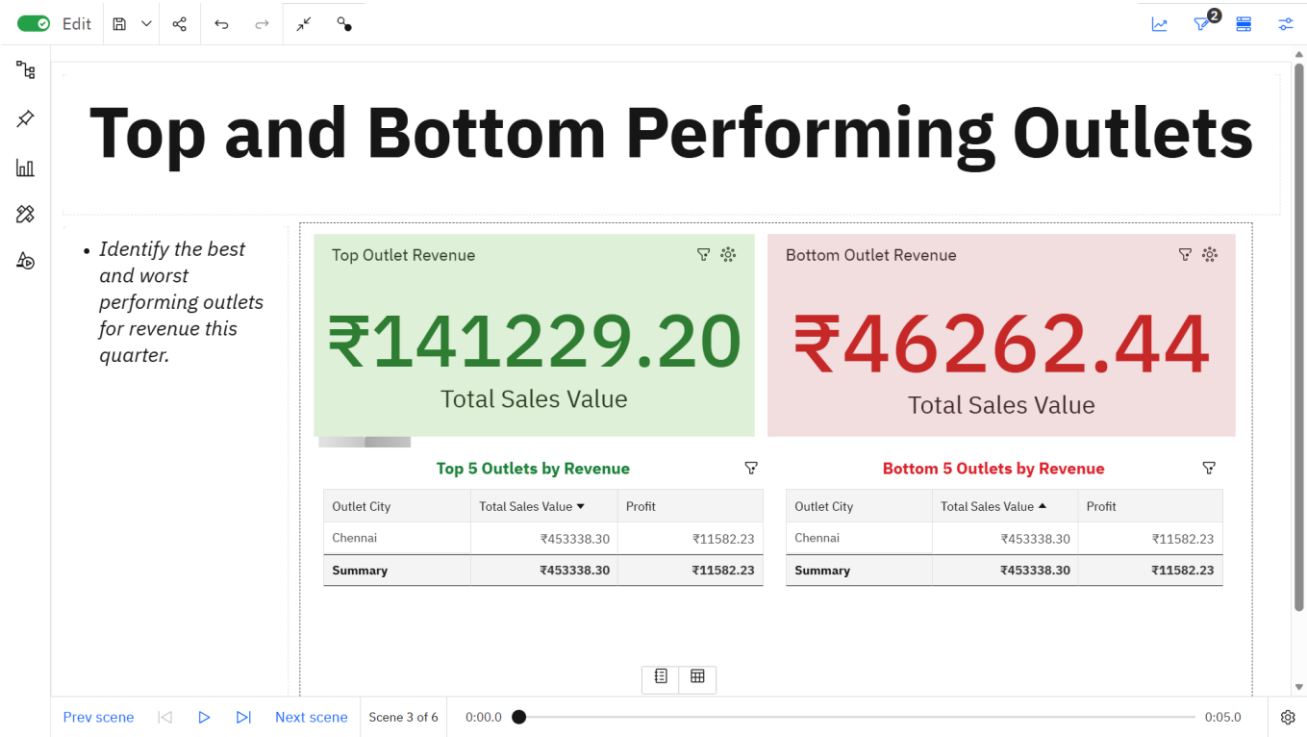
Create a Cognos Analytics Story for the FreshMart Quarterly Business Review with scenes: Scene 1 — Sales Performance Overview, Scene 2 — Top and Bottom Performing Outlets, Scene 3 — Category Revenue Breakdown, Scene 4 — Inventory & Stockout Impact Analysis, Scene 5 — Recommendations to Reduce Stockouts and Boost Slow Movers.

Screenshots

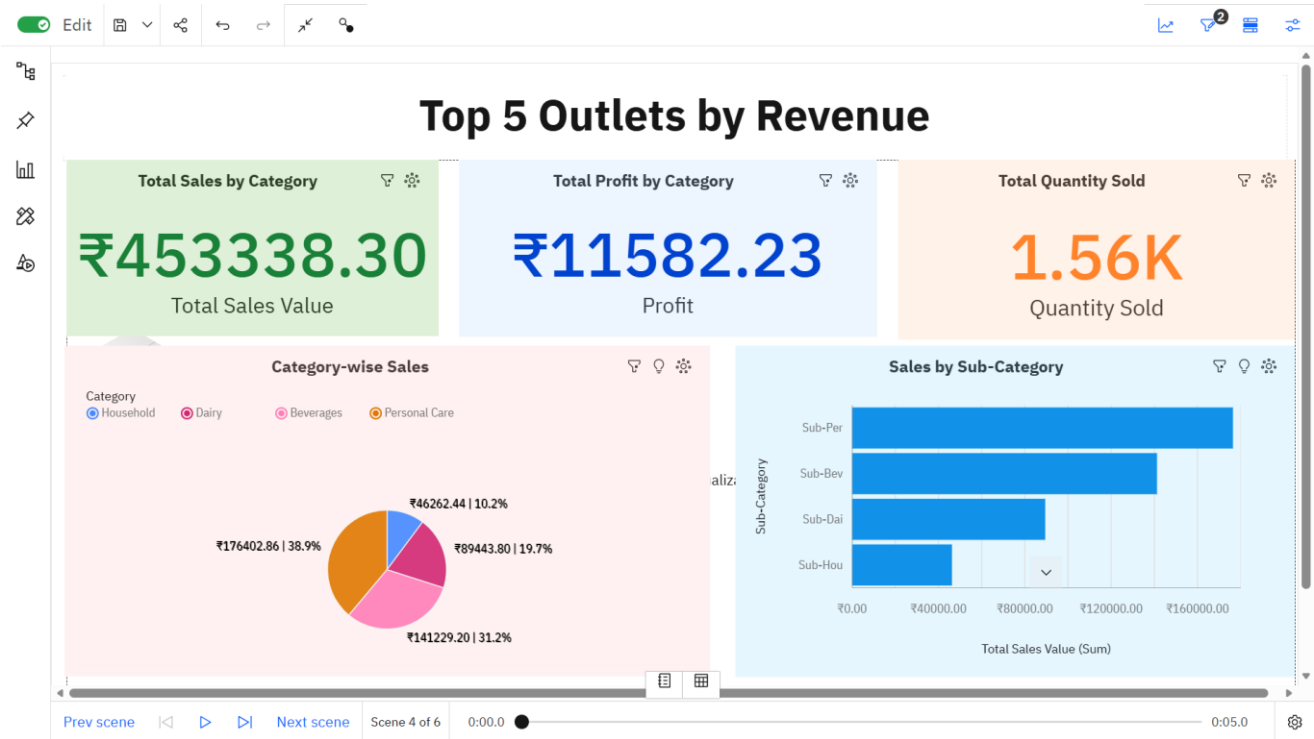
Scene 1 — Sales Performance Overview



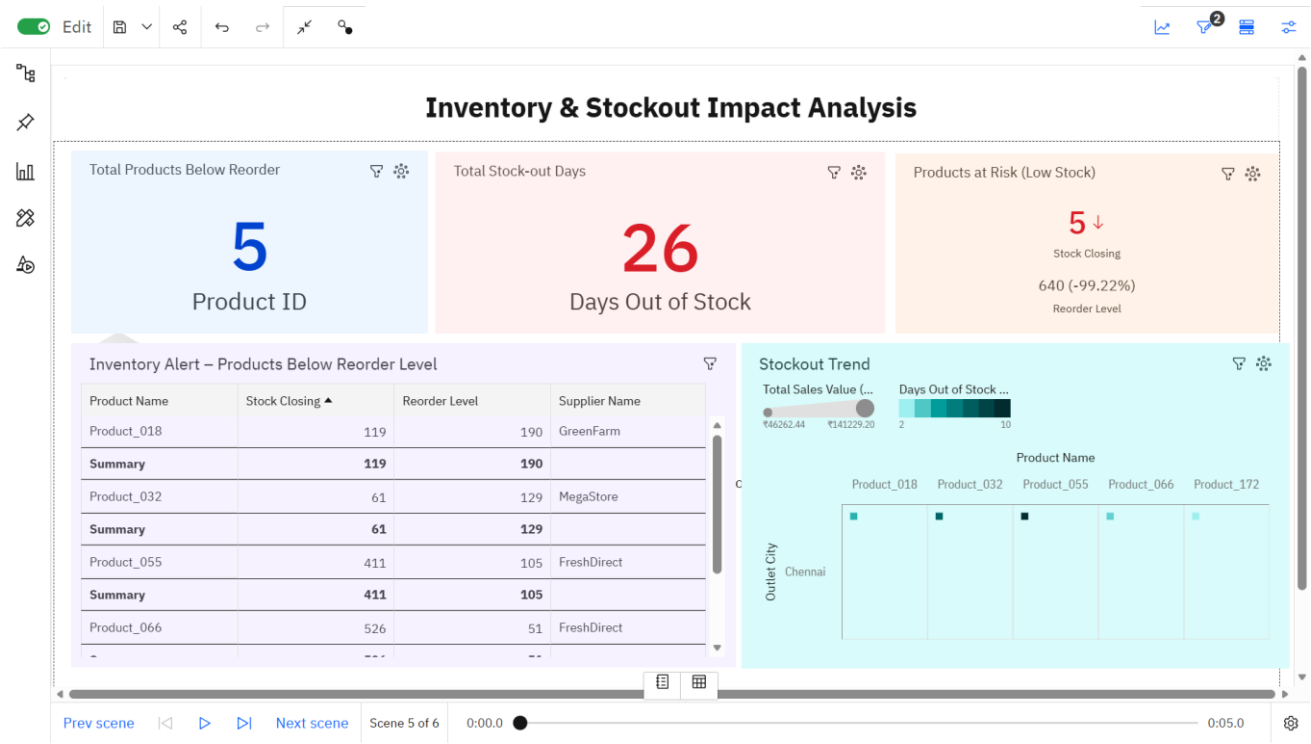
Scene 2 — Top and Bottom Performing Outlets



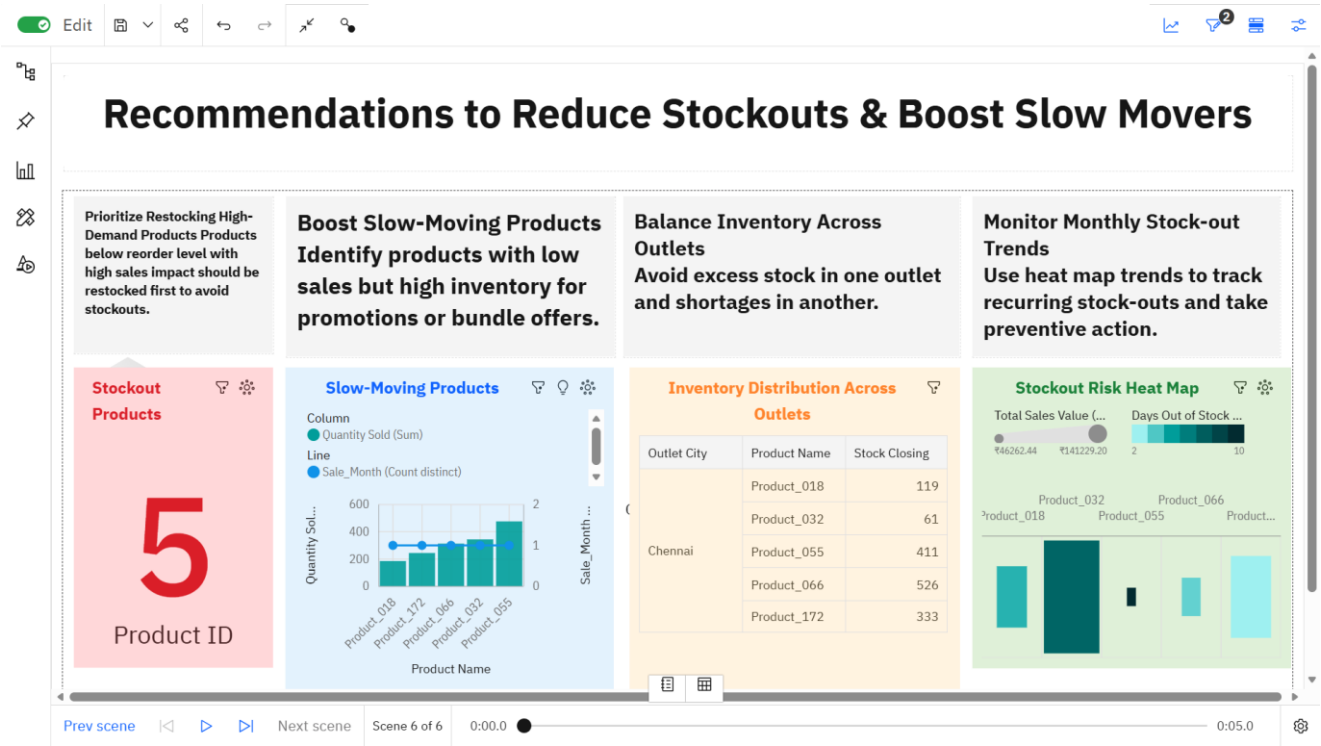
Scene 3 — Category Revenue Breakdown



Scene 4 — Inventory & Stockout Impact Analysis



Scene 5 — Recommendations to Reduce Stockouts and Boost Slow Movers

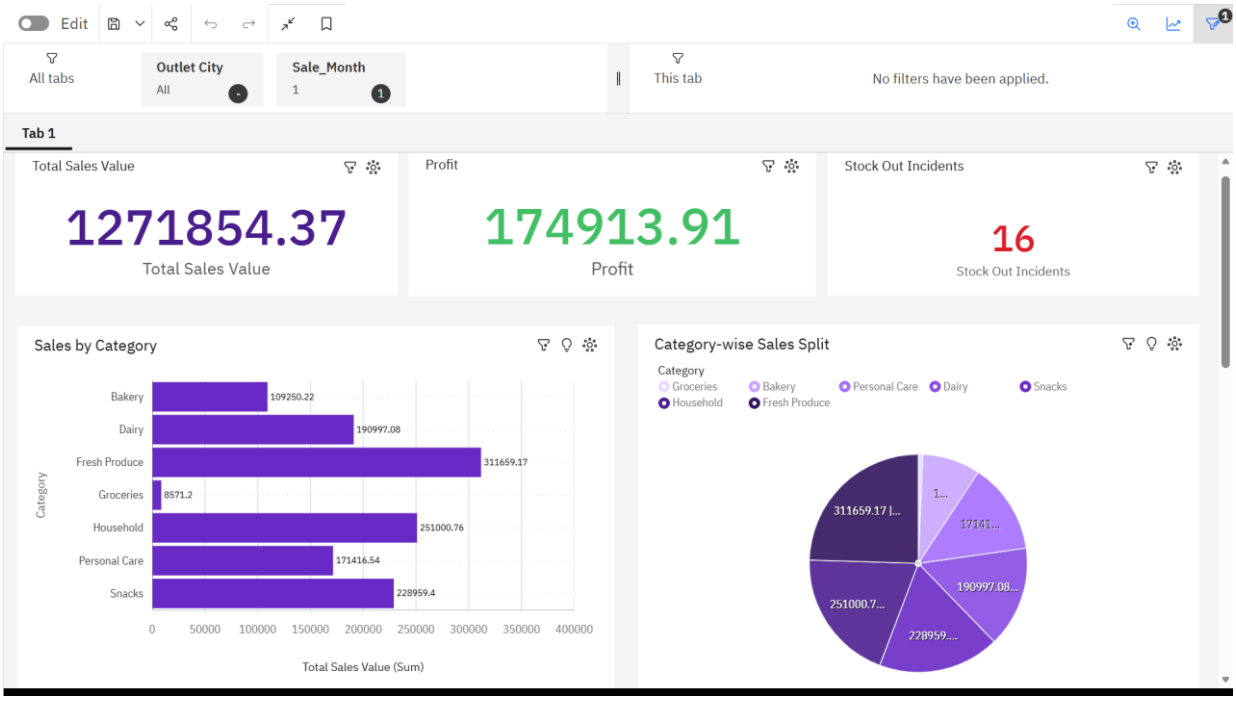


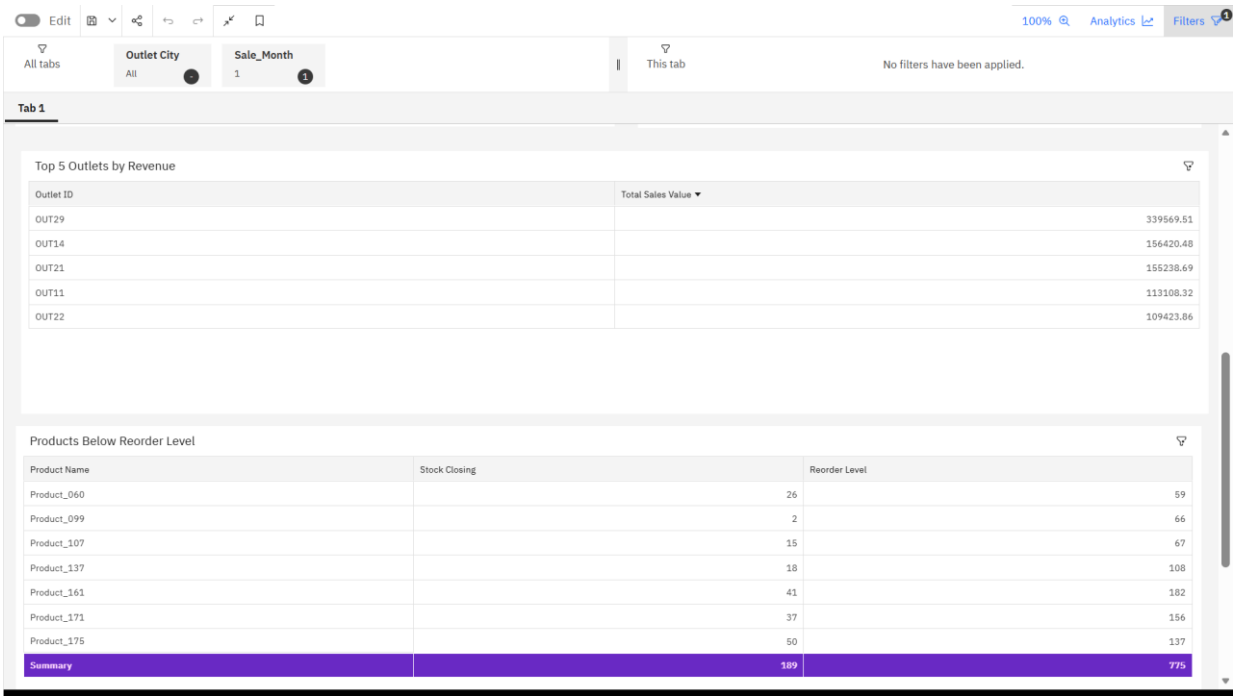
Question 5 [Dashboard]

Design a Store Manager Dashboard containing: (1) KPI tiles — Total Sales, Total Profit, and Stock-out Incidents this month, (2) A Bar chart for Sales by Category, (3) A Map or table of Top 5 Outlets by Revenue, (4) A Pie chart for Category-wise Sales Split, (5) An Inventory Alert table showing products below reorder level. Add outlet and date filters.

Screenshots

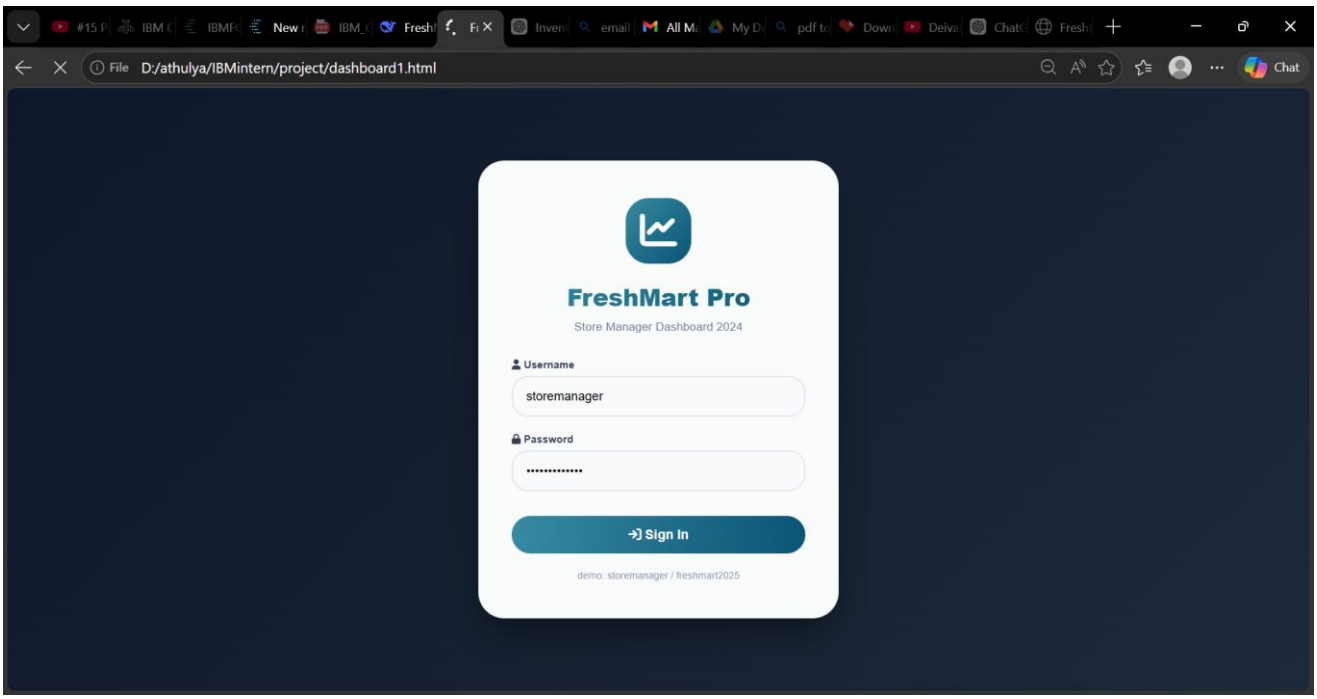
FreshMart Store Manager Dashboard - KPI Tiles, Category Charts, Outlet Rankings & Inventory Alerts



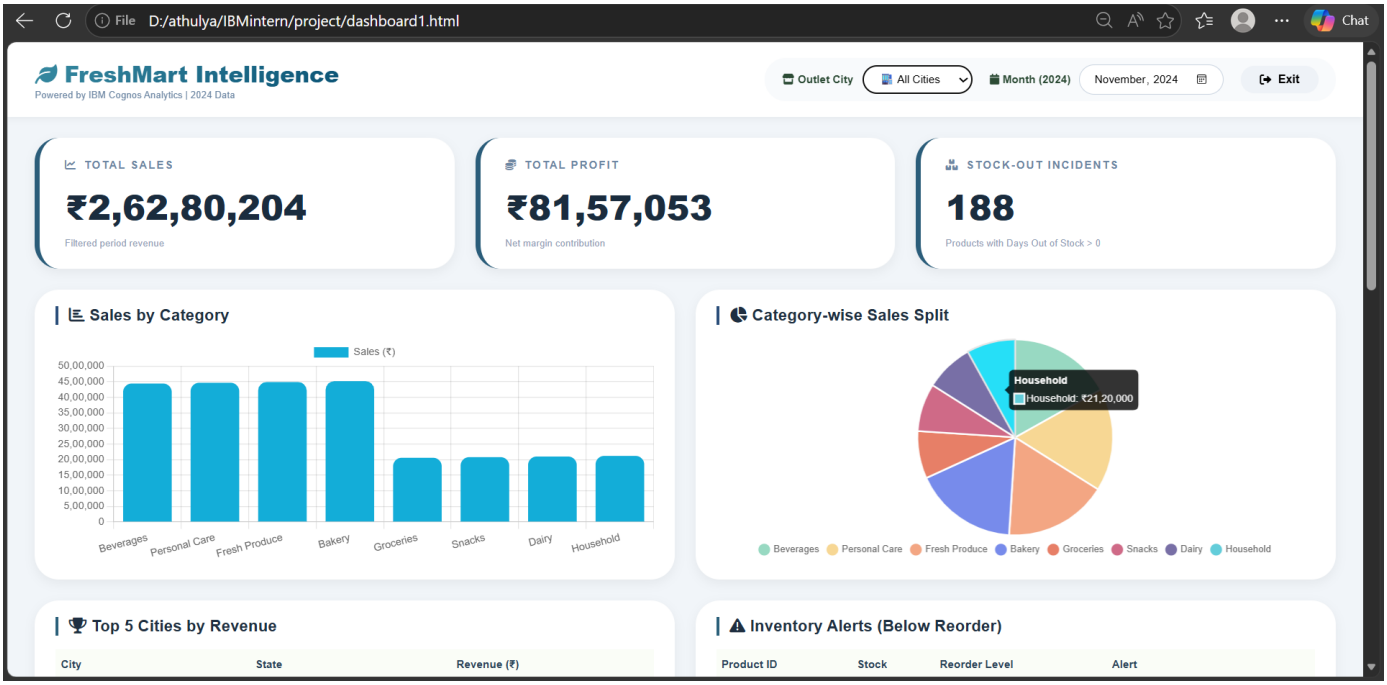


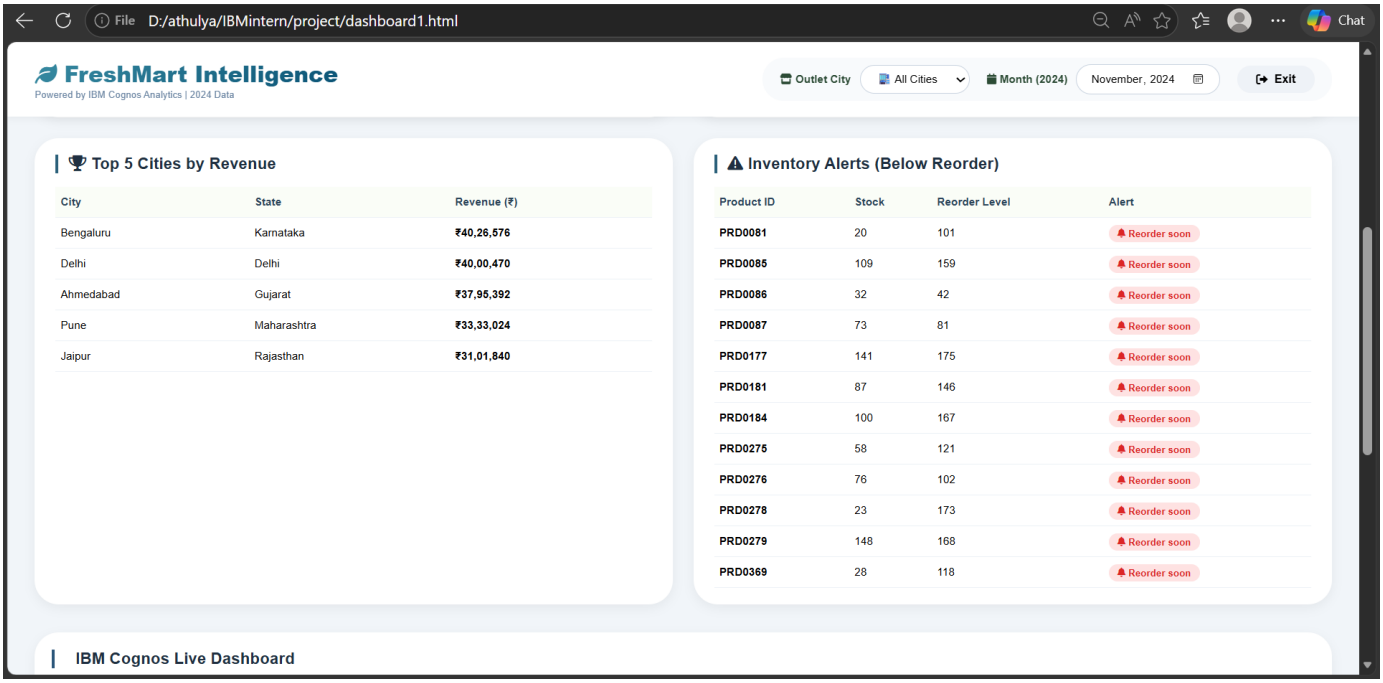
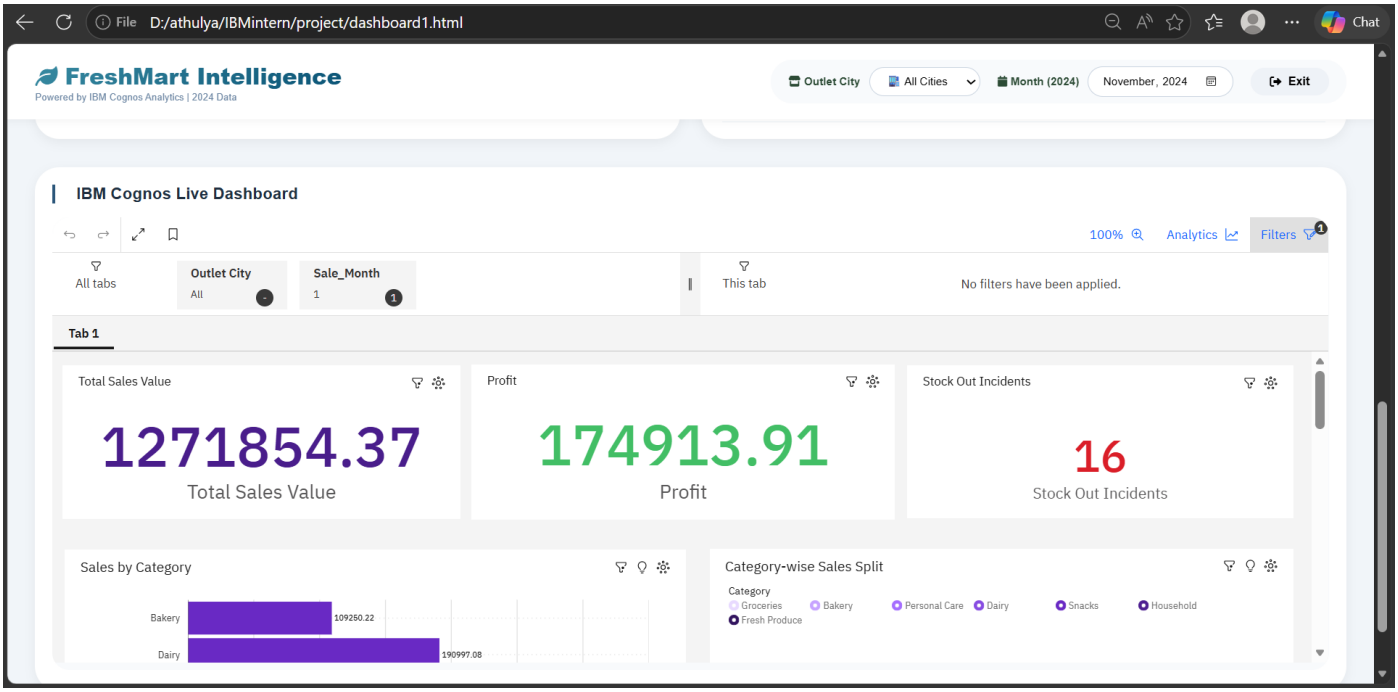
WEBPAGE SCREENSHOT

Login Page



Dashboard Page:





IBM Cognos | FreshMart Live Dashboard