Use Case: Sales Performance Analysis for Retail Sector

A retail company wants to analyze its sales performance across different regions, products, and time periods. The company has collected data on sales, revenue, product categories, and customer demographics, and wants to create interactive dashboards to visualize this data.

Table 1: Sales Data

Sales ID	Region	Product ID	Sales Date	Sales Amount
1	North	101	2022-01-01	1000
2	North	102	2022-01-05	800
3	South	101	2022-01-10	1200
4	South	102	2022-01-15	1000
5	East	101	2022-01-20	900
6	East	102	2022-01-25	700
7	West	101	2022-01-30	1100
8	West	102	2022-02-01	900

Table 2: Product Data

Product ID	Product Name	Product Category
101	TV	Electronics
102	Shirt	Fashion
103	Laptop	Electronics
104	Dress	Fashion

Table 3: Customer Data

Customer ID	Region	Age	Gender
1	North	25	Male
2	North	30	Female
3	South	28	Male
4	South	22	Female
5	East	35	Male
6	East	40	Female
7	West	20	Male
8	West	38	Female

Table 4: Region Data

Region	Region Name
North	North Region
South	South Region
East	East Region
West	West Region

Data Visualization Requirements:

The retail company wants to create the following data visualizations:

1. **Regional Sales Comparison**: A bar chart to compare sales across different regions.
2. **Product Category Sales**: A pie chart to show the sales distribution across different product categories.
3. **Customer Demographics**: A scatter plot to show the relationship between customer age and sales amount.
4. **Quarterly Sales Trend**: A line chart to show the sales trend across different quarters.

Tools and Technologies:

To build these data visualizations, we can use tools like:

1. Streamlit
2. Power BI
3. Any opensource tool

Expected Outcomes:

The expected outcomes of this project are:

1. Interactive dashboards to visualize sales performance across different regions, products, and customer demographics.
2. Insights into regional sales trends, product category sales distribution, and customer demographics.
3. Data-driven decisions to optimize sales strategies and improve revenue growth.