Power BI Sales Dashboard Report

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# 1. Data Source

Platform: Kaggle Dataset – Synthetic Beverage Sales Data

Format: CSV files containing fields like:

* Order\_ID,
* Customer\_ID,
* Product,
* Category,
* Quantity,
* Discount,
* Unit\_Price,
* Total\_Price,
* Region,
* Order\_Date

# 2. Data Preparation

# Tools Used: Python (for CSV merging & cleaning), Power BI (Power Query) Steps:

* Multiple CSVs consolidated.
* Added a dynamic filename based on the dataset and date.
* Transformed Order\_Date column to extract:
  + Year
  + Month
  + MonthYear (e.g., "Jan 2021")
  + Is\_Weekend (boolean)
* Cleaned up columns and ensured correct data types.

# 3. Calculated Columns and DAX Measures

Basic Measures

* Total\_Sales = SUM(Total\_Price)
* Total\_Orders = COUNT(Order\_ID)
* Total\_Customers = DISTINCTCOUNT(Customer\_ID)
* Avg\_Order\_Value = DIVIDE([Total\_Sales], [Total\_Orders])

Advanced Calculated Columns / KPIs

|  |  |
| --- | --- |
| Metric | Description |
| Is\_Weekend | TRUE if order on Sat/Sun |
| Customer\_Frequency | Count of rows per Customer\_ID |
| Customer\_Frequency\_Month | Frequency per MonthYear |
| Customer\_Lifetime\_Value | Total sales per Customer\_ID |
| Customer\_Recency | Days since last order |
| Customer\_Returns | Count of returns (Order\_ID repeats) |
| Customer\_Type\_Label | High / Medium / Low value |
| Product\_Popularity | Number of times product purchased |
| Category\_Sales | Sum of Total\_Price by Category |
| Revenue\_per\_Unit | Total\_Price / Quantity |
| Net\_Unit\_Price | Unit\_Price \* (1 - Discount) |
| Sales\_per\_Region | Total sales by Region |
| Top\_Region\_by\_Customers | Distinct customers by Region |
| YoY\_Growth | YoY % growth based on Total\_Sales |
| MoM\_Growth | Month-over-month growth % |

# 4. Power BI Visualisations

Dashboard Pages & Visuals

Page 1 – Overview Cards

* Total Orders (Card)
* Total Customers (Card)
* Total Sales in Euros (Card)
* Top Product (Multi-card)
* Top Region (Multi-card)
* Top Customer (Multi-card)

Page 2 – Top 10s

* Top 10 Products by Sales – Horizontal bar chart
* Top 10 Customers – Bar chart
* Top 10 Regions – Pie chart
* Category Wise Sales – Donut chart

Page 3 – Customer Trends

* Customer\_Lifetime\_Value by Customer\_ID
* Customer\_Frequency\_Month trend – Stacked bar chart

Page 4 – RFM & Returns

* Table: Customer\_ID, Recency, Lifetime Value, Returns, Label
* Donut chart: Count of Customers by Type Label
* Bar chart: Recency distribution

Page 5 – Product & Category KPIs

* Table: Product + Popularity
* Category Sales bar chart
* Revenue per Unit by Category
* Highlight: Top Category (Big Text)

Page 6 – Map

* Region-wise Sales using filled map
* Location = Region, Value = Sales\_per\_Region
* Visual cues for geography with bubble size and legends

# 5. Features Implemented

* Dynamic Top N Selection using What-If Parameter
* Time Intelligence: MonthYear navigation, YoY and MoM metrics
* Customer Segmentation using RFM logic
* Visual Filters and Slicers for dynamic analysis
* Geospatial Mapping of sales by German regions

# 6. Suggestions for Improvement

* Integrate forecasting using built-in Power BI analytics
* Add tooltips with drill-down for customers/products
* Incorporate data refresh automation via Power BI Service
* Include trendline or goal line benchmarks in charts
* Introduce a theme for visual consistency

# 7. Final Output

* .pbix file with 6 interactive pages.
* Complete with KPIs, visuals, and business insights.
* Ready for deployment or sharing.