Project Report: Market-wise Sales and Revenue Analysis Using SQL & PowerBI

Introduction

This project focuses on analyzing market-wise sales data using Power BI. The dashboard provides a comprehensive overview of revenue, sales quantity, top-performing markets, products, and customers across various timeframes. The data was processed using SQL for backend manipulation and Power BI for interactive visualizations.

Objective

- To analyze revenue and sales quantity by market

- To identify top customers and products

- To understand sales trends over time

- To use SQL for backend data extraction and Power BI for visual insights

Tools Used

- Power BI Desktop: For creating visualizations and dashboards

- SQL Server / MySQL: For querying and transforming raw data

- DAX (Data Analysis Expressions): For measures like revenue, sales quantity

- Excel/CSV: As the source file if used for importing data

Data Source & SQL Manipulation

Data was extracted using SQL with required joins and filters. Below is an example SQL query used to retrieve the dataset:

```sql
SELECT
    Market,
    Product,
    Customer,
    OrderDate,
    SUM(SalesAmount) AS Revenue,
    SUM(SalesQuantity) AS Quantity
FROM
    SalesData
GROUP BY
    Market, Product, Customer, OrderDate;
```

Data Cleaning & Transformation

- Removed null values in market and product columns

- Renamed columns for clarity (e.g., SalesAmount → Revenue)

- Used Power Query to format date fields and add calculated columns

- Applied filters to remove records with zero revenue or quantity

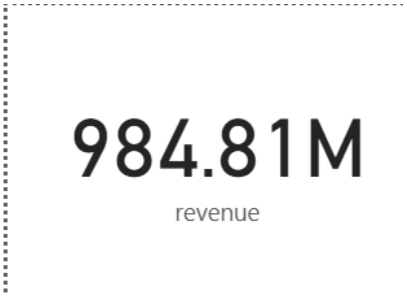
Data Model

A flat table structure was used where all required fields like market, customer, product, order date, revenue, and quantity were present in a single table. Relationships were not complex, so a single-table model sufficed.

Key Visuals and KPIs

Total Revenue:

A KPI card showing total revenue of ₹984.81M across all markets.

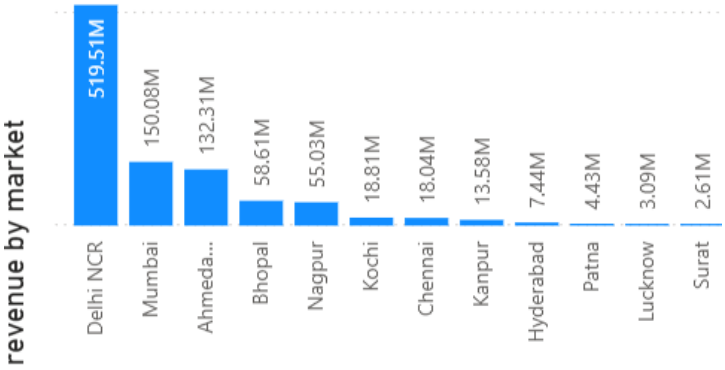


Total Sales Quantity:

A KPI card showing total units sold: 2M units.

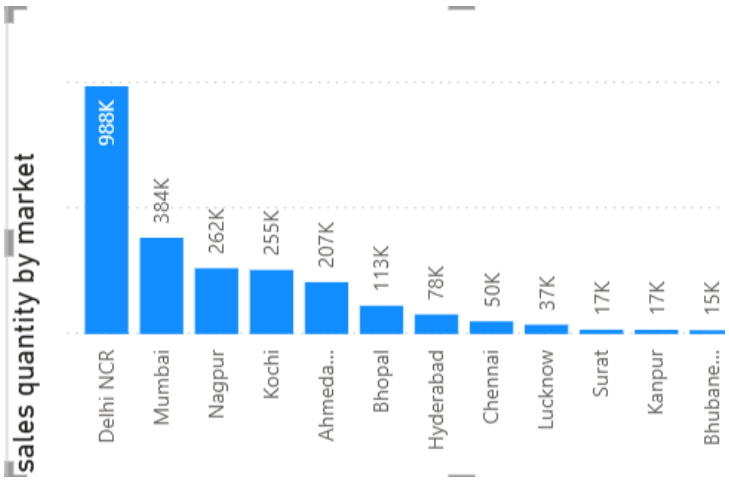
Revenue by Market:

A horizontal bar chart showing Delhi NCR as the highest revenue market (₹519.51M), followed by Mumbai and Ahmedabad.



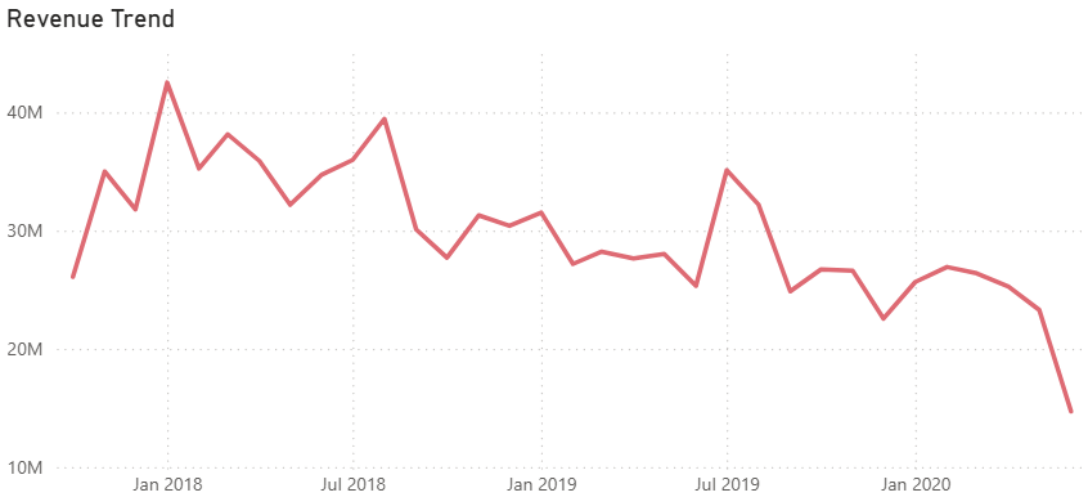
Sales Quantity by Market:

Shows unit sales by market. Again, Delhi NCR leads with 988K units sold.



Revenue Trend Over Time:

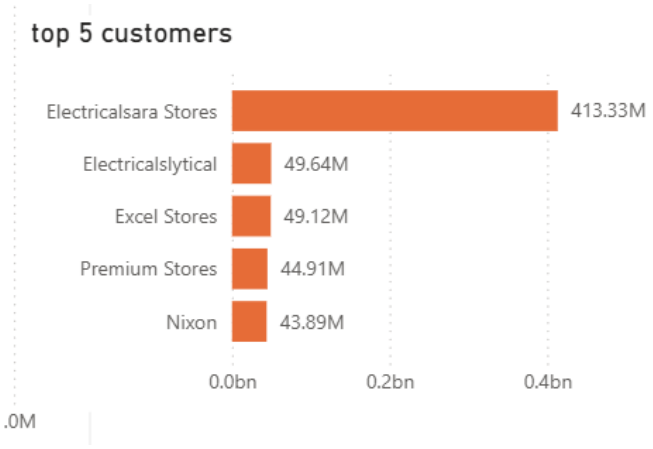
A line chart from 2017 to 2020 shows periodic fluctuations. Peaks can be seen in early 2018 and mid-2019, followed by a gradual decline.



Top 5 Customers:

- Electricalsara Stores: ₹413.33M

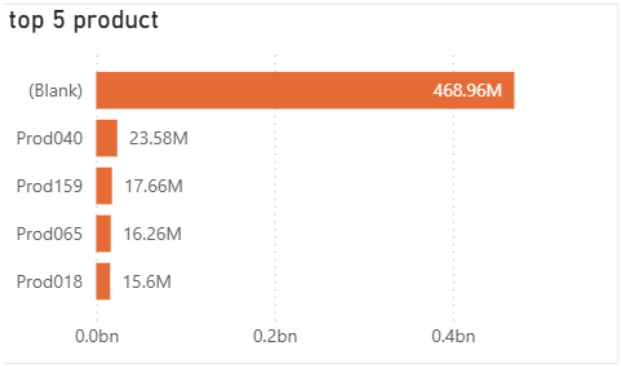
- Electricalsytical, Excel Stores, Premium Stores, Nixon



Top 5 Products:

- "Blank" product: ₹468.96M (possible data quality issue)

- Prod040, Prod159, Prod065, Prod018



Key Insights

- Delhi NCR contributes over 50% of total revenue and sales, indicating a strong regional market.

- Electricalsara Stores is the top customer by far; marketing and retention efforts should focus here.

- A "blank" product is generating major revenue — this suggests missing or incorrect product data.

- Revenue peaked in early 2018 and mid-2019, suggesting seasonal demand or successful campaigns.

Recommendations

- Fix Data Quality: Investigate and fix missing product names to avoid "Blank" values in key visuals.

- Market Strategy: Focus marketing and inventory on high-performing markets like Delhi NCR and Mumbai.

- Customer Retention: Build loyalty programs for top customers like Electricalsara and Excel Stores.

- Sales Forecasting: Use historical trends to forecast and prepare for high-demand seasons.

Conclusion

The dashboard provides a clear, interactive analysis of revenue and sales trends across markets and customers. SQL was used to prepare the data efficiently, while Power BI offered dynamic and insightful visualization capabilities. The findings can support strategic sales and marketing planning.

Appendix

Sample DAX Measures:

Total Revenue = SUM(SalesData[Revenue])

Total Quantity = SUM(SalesData[Quantity])

Visual Types Used:

- KPI Cards

- Bar Charts

- Line Chart

- Slicers (by year and month)