MYSQL & POWER BI | Sales Insights

Company Overview

- AtliQ Hardware supplies computer hardware and peripherals to clients across India.

- Headquartered in Delhi, with regional offices nationwide.

Project overview

The project focused on creating a dynamic Power BI dashboard for a computer hardware business, providing real-time sales insights. The Sales Director aimed to use data analysis to navigate market challenges effectively.

The dashboard included key insights, profit analytics, and performance metrics. It offered a comprehensive view of sales data, featuring real-time visualizations, profitability breakdowns, and performance insights. With a user-friendly interface and scalability, the goal was to empower informed decision-making and enhance competitiveness in the evolving market.

Skills Used:

I used **SQL queries** in **MySQL Workbench** to take a look into the data and **Power BI** for *ETL and visualizations* to create the insights.

Process

Step 1 : Utilized SQL for data analysis and gaining insights.

```
1. In order to read the data

            - Select * from customer;
            - Select * from products;

2. In oder to count the no. of record

            - Select count(*) from transaction;

3. In order to analyse the data

            - SELECT distinct product_code FROM transactions where
market_code='Mark001;

            - SELECT transactions.*, date.* FROM transactions INNER JOIN date
ON transactions.order_date=date.date where date.year=2020;

            - SELECT SUM(transactions.sales_amount) FROM transactions INNER
JOIN date ON transactions.order_date=date.date where date.year=2020;

            - SELECT SUM(transactions.sales_amount) FROM transactions INNER
JOIN date ON transactions.order_date=date.date
                    where date.year=2020 and date.month_name="January" and
sales.transaction.market_code='Mark001'
```
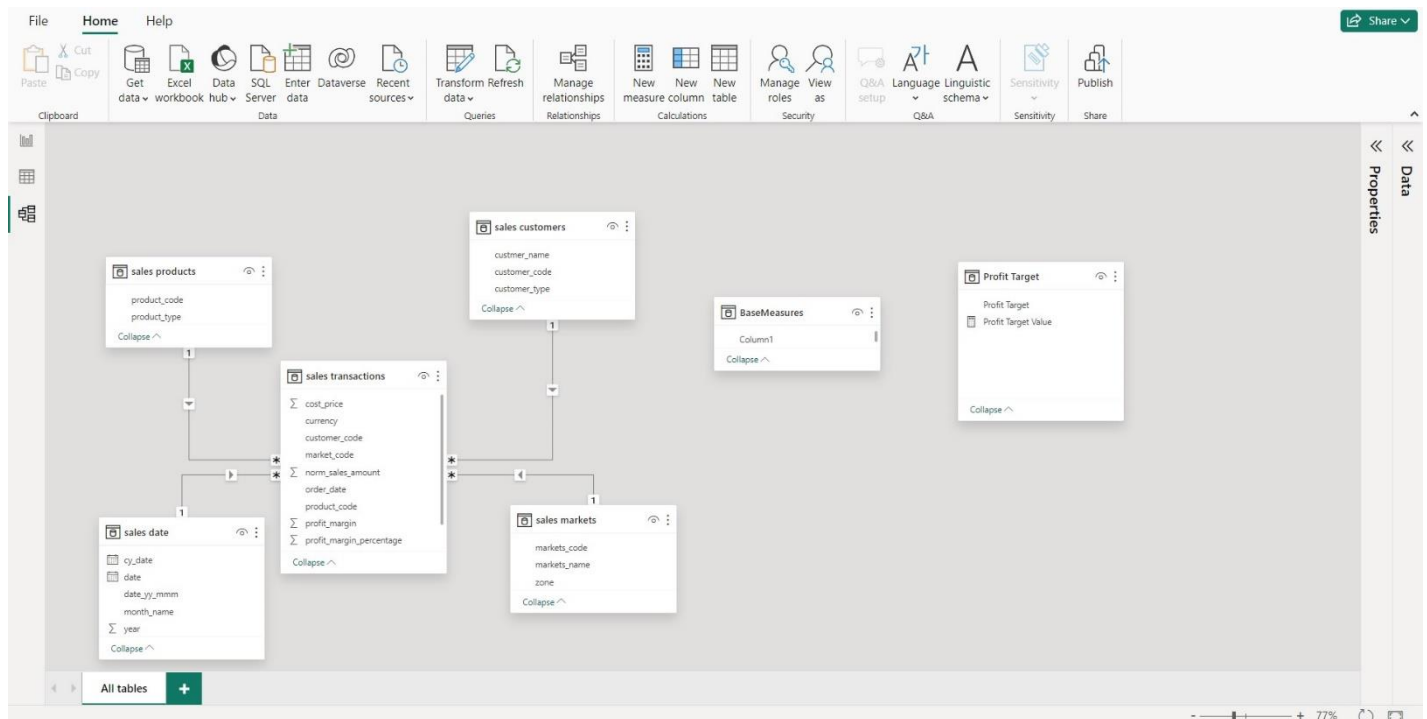
Step 2 : Loaded data into Power BI Desktop from SQL.

Step 3: Data Modeling:

Connected five tables to establish relationships:

- **Sales Transactions (Main Table) connected to:**
    - Sales Customers (customer_code).
    - Sales Date (date).
    - Sales Products (product_code).
    - Sales Markets (market_code).

Step 4: Data Cleaning and Transformation

1. Removed invalid values in the `sales_amount` column (-1 and 0) to reflect actual sales data.

2. Standardized currency values in the `currency` column, converting USD to INR and handling hidden characters.

Step 5: DAX Calculations

Profit Margin %:

```
Profit Margin % = DIVIDE([Total Profit Margin], [Revenue], 0)
```

Revenue Contribution %:

```
Revenue Contribution % = DIVIDE([Revenue], CALCULATE([Revenue],
ALL('sales products'), ALL('sales customers'), ALL('sales markets')))
```

Profit Margin Contribution %:

```
Profit Margin Contribution % = DIVIDE([Total Profit
Margin],CALCULATE([Total Profit Margin],ALL('sales
products'),ALL('sales customers'),ALL('sales markets')))
```

Revenue:

```
Revenue = SUM('sales transactions'[new_sales_amount])
```

Revenue LY:

```
Revenue LY = CALCULATE([Revenue],SAMEPERIODLASTYEAR('sales
date'[date]))
```

Sales Qty :

```
Sales Qty = SUM('sales transactions'[sales_qty])
```

Target Diff:

```
Target Diff = [Profit Margin %]-'Profit Target '[Profit Target
Value]
```
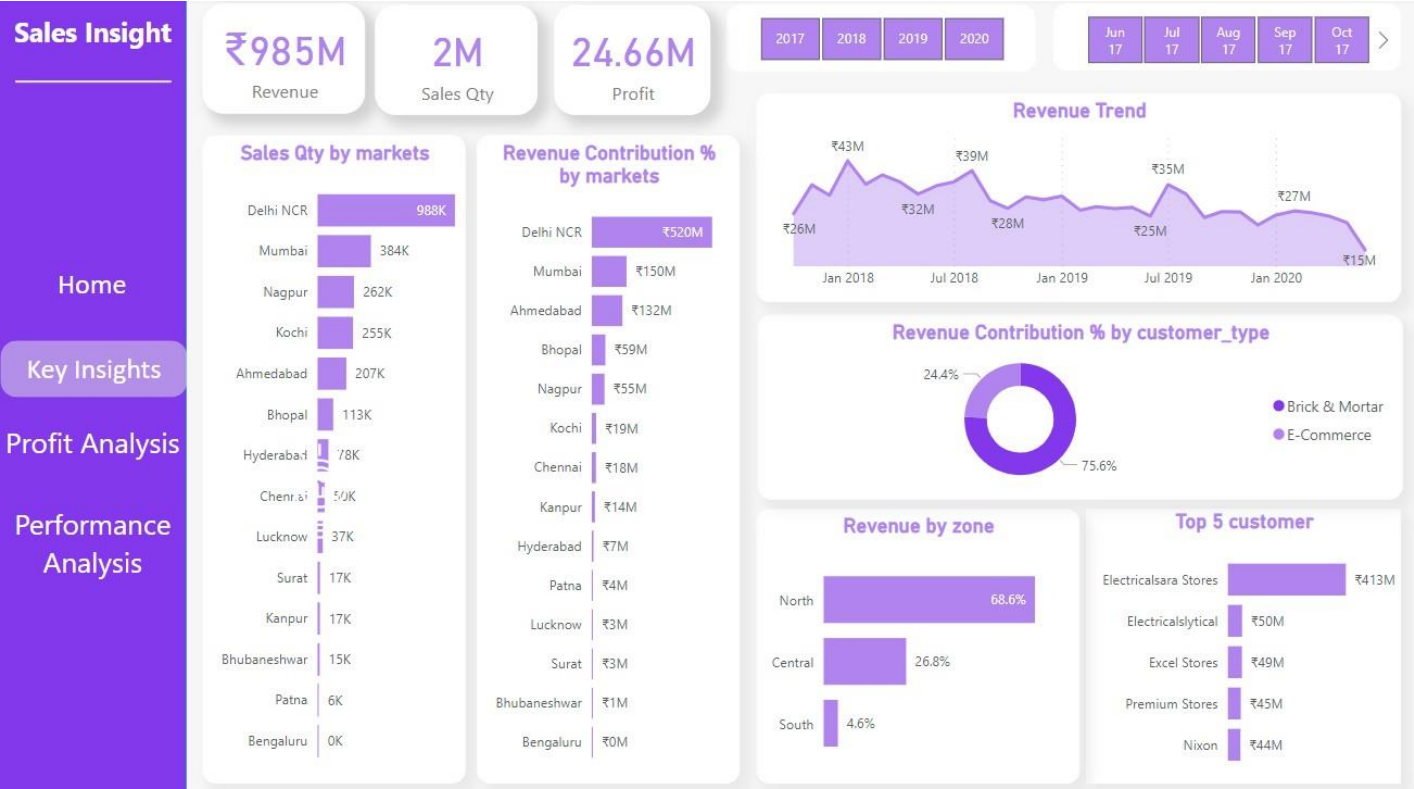
Total Profit Margin :

```
Total Profit Margin = sum('sales transactions'[profit_margin])
```

Step 6: Dashboard Design

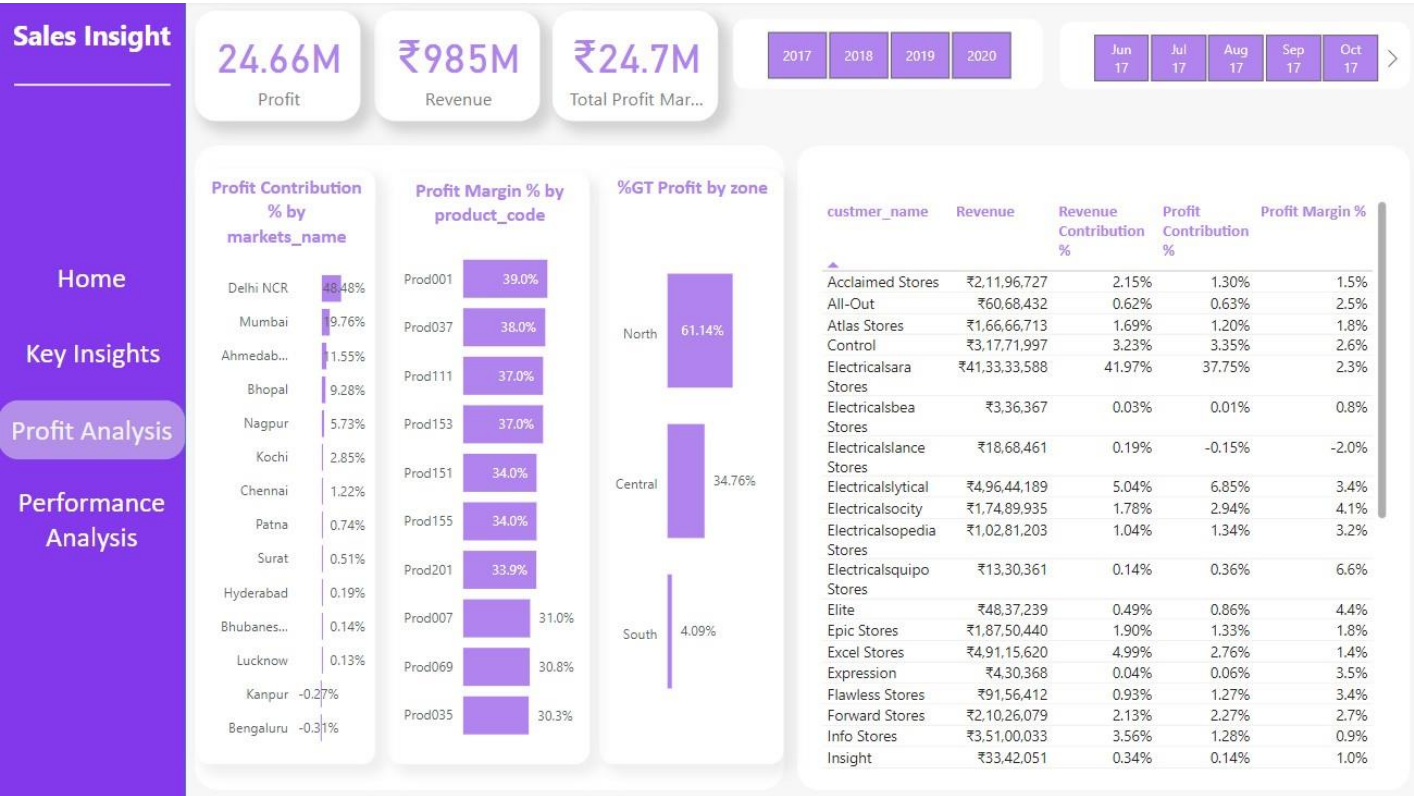Created three key report pages:

1. Key Insights:

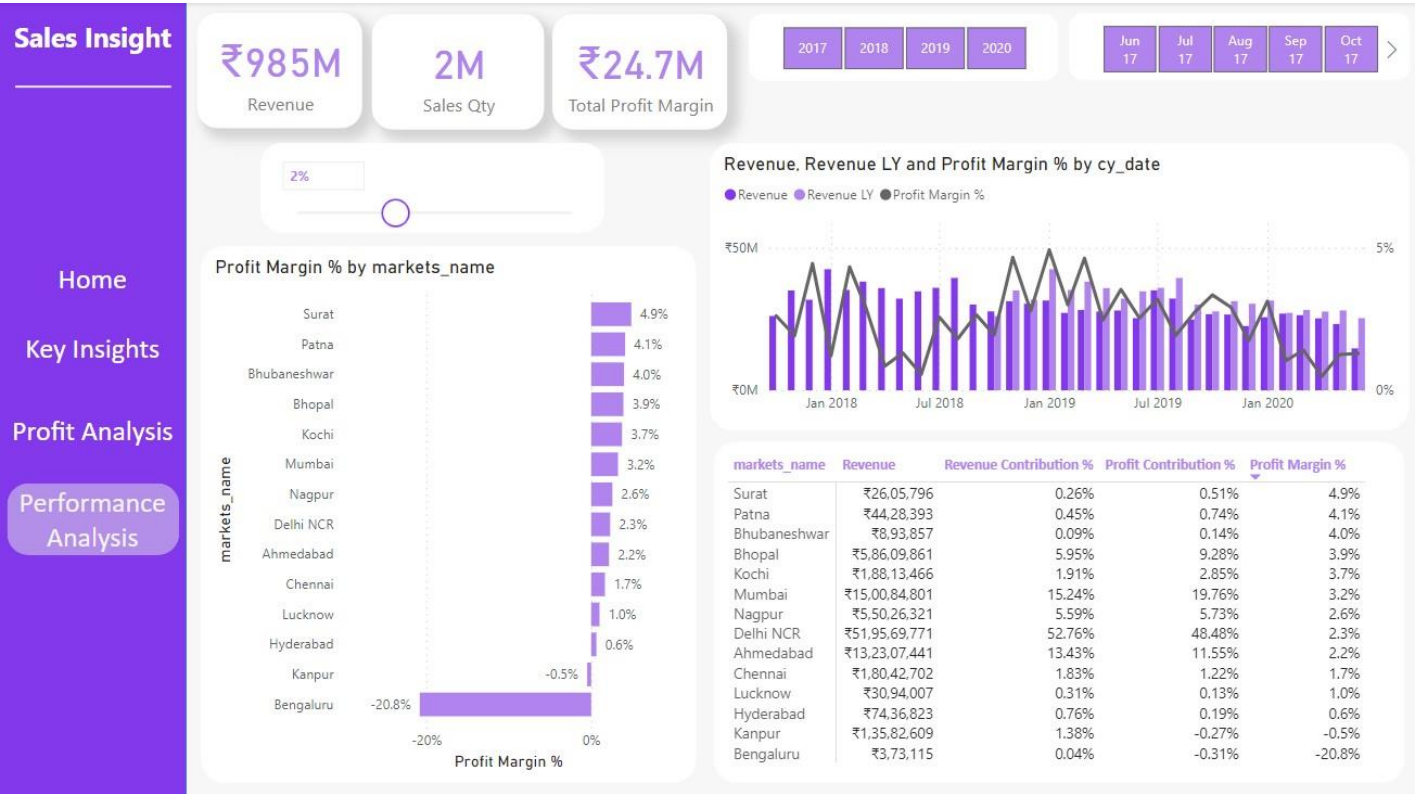 Overview of the most important findings and trends.

2. Profit Analysis :

 Detailed financial analysis, including profit margins and contributions.

3. Performance Analysis:

Operational performance metrics, covering sales quantity, revenue, and year-over-year performance.

Step 7: Insights Gained from the Project

- Learned how to clean and transform data effectively.

- Gained insights into using Power Query for better data manipulation.

- Improved understanding and use of DAX functions for analysis.

- Successfully applied SQL queries to extract useful information.