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.

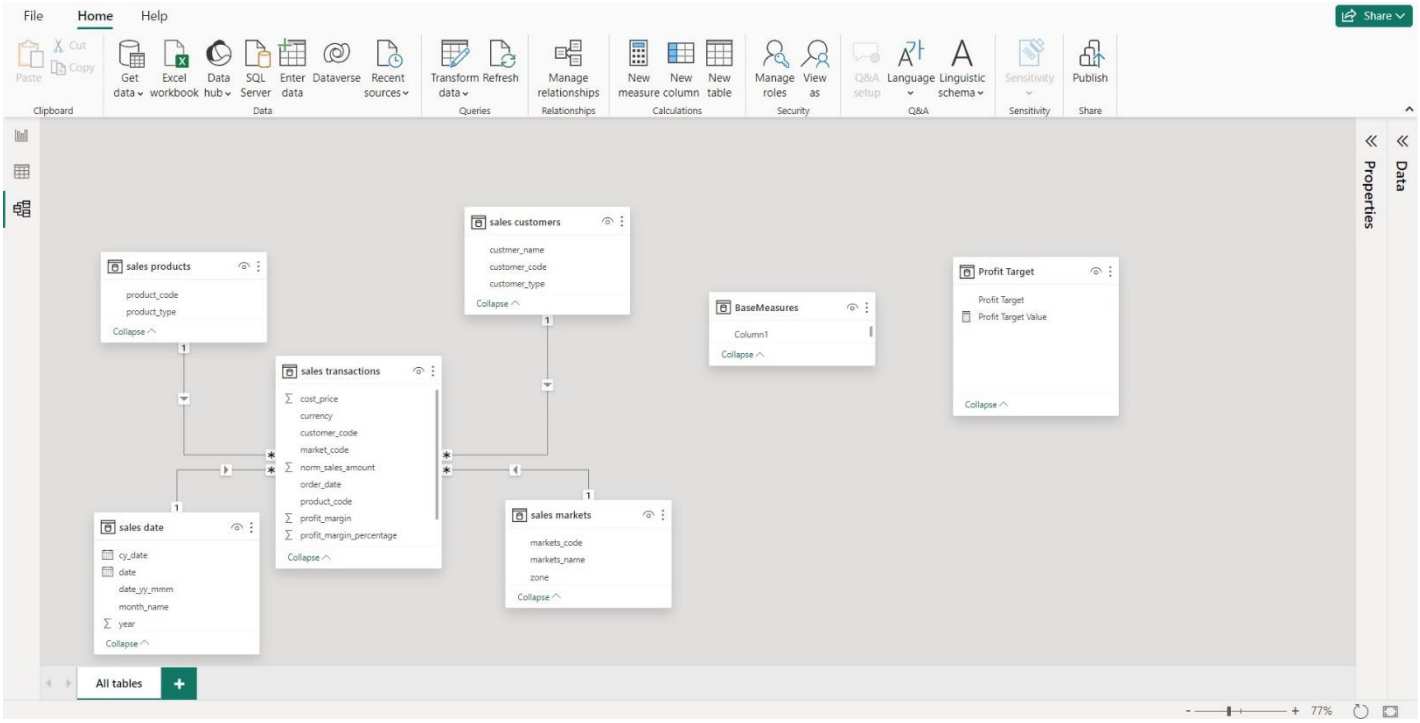
Process

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 :

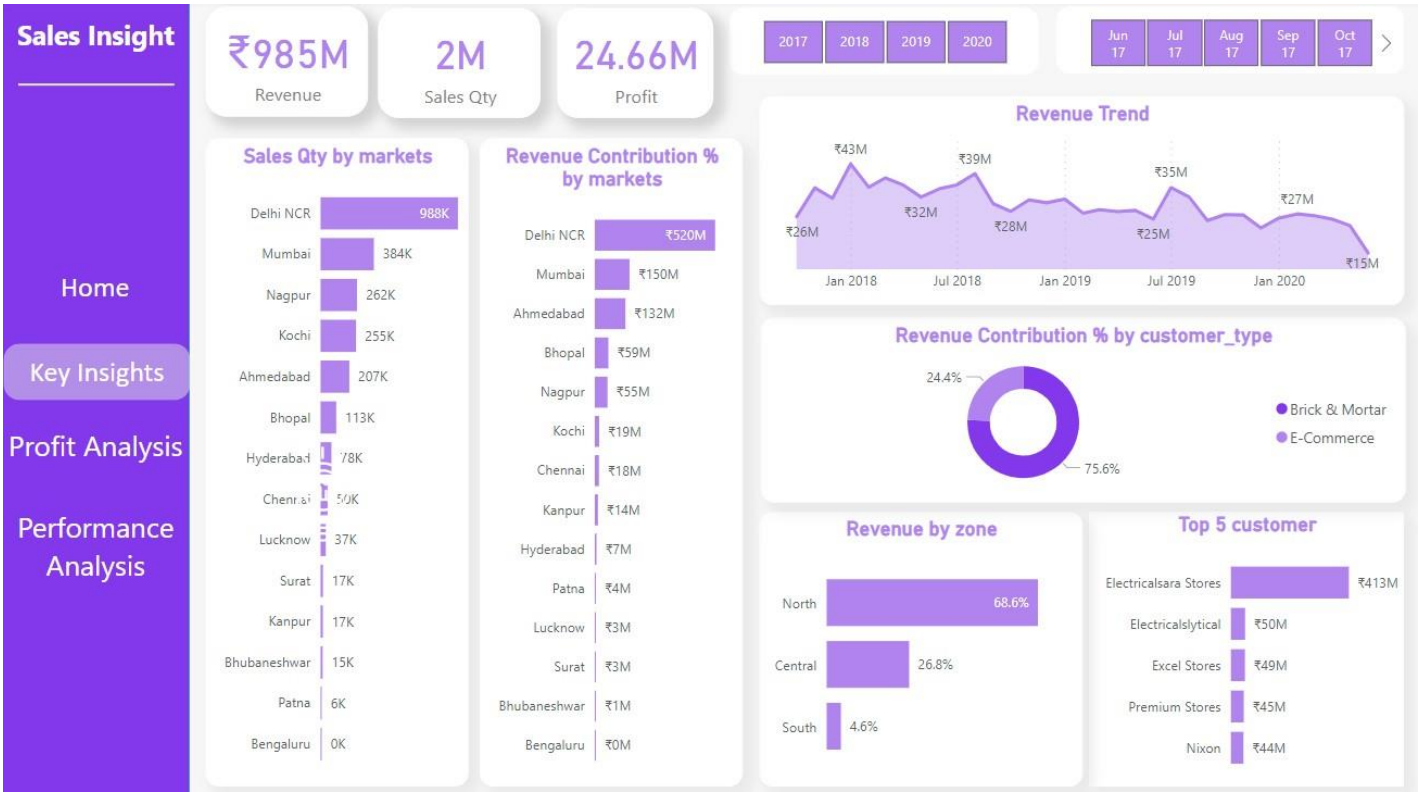
```
  Total Profit Margin = sum('sales transactions'[profit_margin])
```

Step 6: Dashboard Design

Created three key report pages:

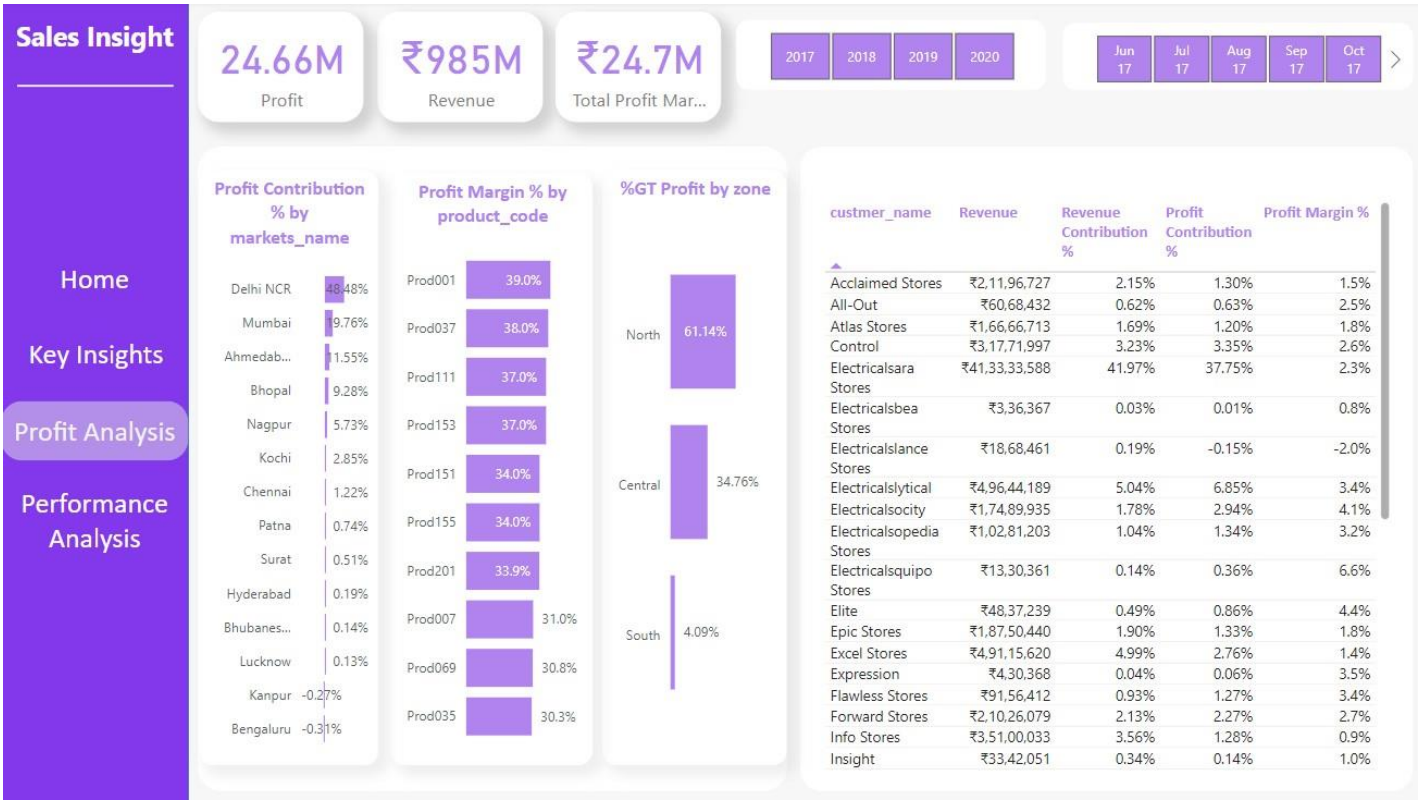
1. Key Insights:

Overview of the most important findings and trends.



2. Profit Analysis :

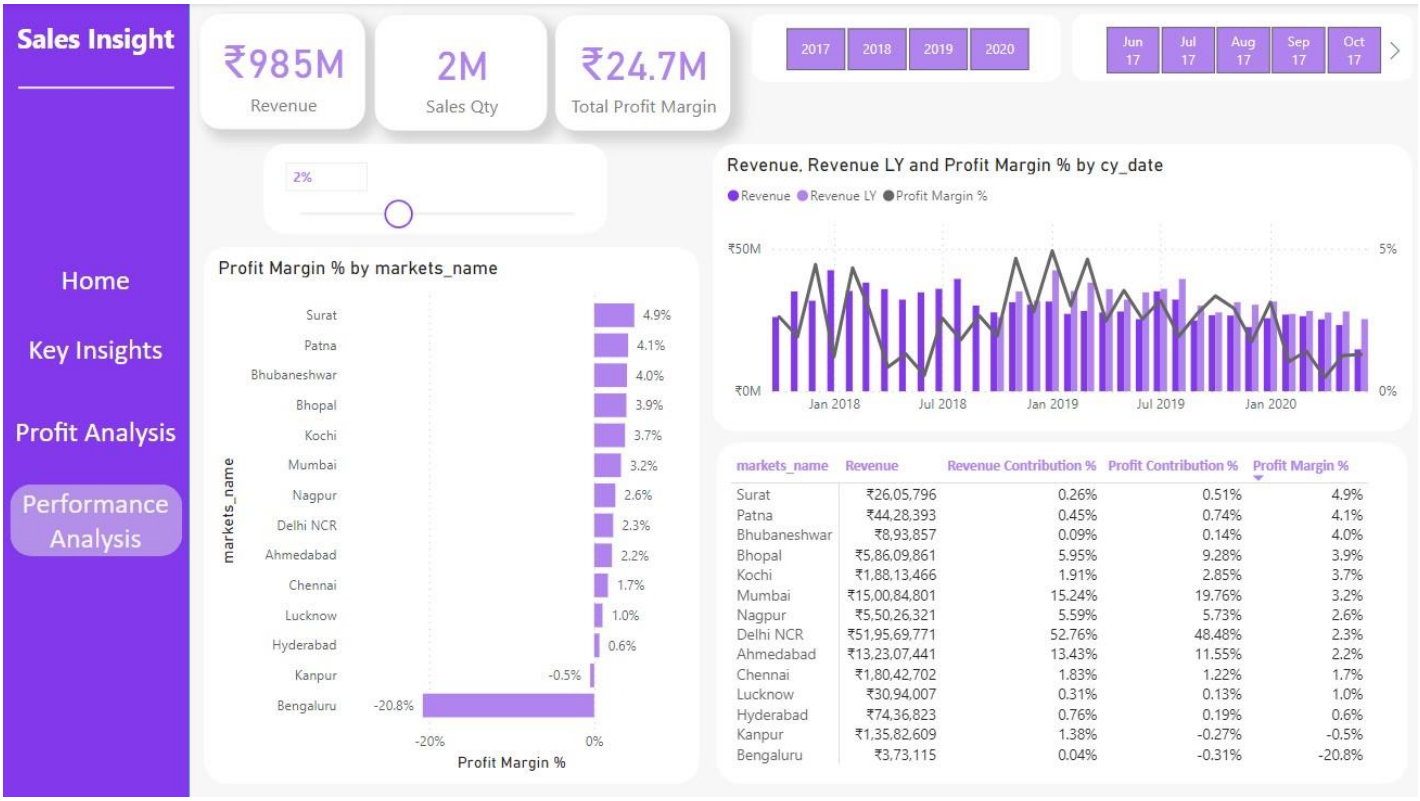
Detailed financial analysis, including profit margins and contributions.



custmer_name	Revenue	Revenue Contribution %	Profit Contribution %	Profit Margin %
Acclaimed Stores	₹2,11,96,727	2.15%	1.30%	1.5%
All-Out	₹60,68,432	0.62%	0.63%	2.5%
Atlas Stores	₹1,66,66,713	1.69%	1.20%	1.8%
Control	₹3,17,71,997	3.23%	3.35%	2.6%
Electricalsara Stores	₹41,33,33,588	41.97%	37.75%	2.3%
Electricalsbea Stores	₹3,36,367	0.03%	0.01%	0.8%
Electricalslance Stores	₹18,68,461	0.19%	-0.15%	-2.0%
Electricalslytical	₹4,96,44,189	5.04%	6.85%	3.4%
Electricalsocity	₹1,74,89,935	1.78%	2.94%	4.1%
Electricalsopedia Stores	₹1,02,81,203	1.04%	1.34%	3.2%
Electricalsquipo Stores	₹13,30,361	0.14%	0.36%	6.6%
Elite	₹48,37,239	0.49%	0.86%	4.4%
Epic Stores	₹1,87,50,440	1.90%	1.33%	1.8%
Excel Stores	₹4,91,15,620	4.99%	2.76%	1.4%
Expression	₹4,30,368	0.04%	0.06%	3.5%
Flawless Stores	₹91,56,412	0.93%	1.27%	3.4%
Forward Stores	₹2,10,26,079	2.13%	2.27%	2.7%
Info Stores	₹3,51,00,033	3.56%	1.28%	0.9%
Insight	₹33,42,051	0.34%	0.14%	1.0%

3. Performance Analysis:

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



markets_name	Revenue	Revenue Contribution %	Profit Contribution %	Profit Margin %
Surat	₹26,05,796	0.26%	0.51%	4.9%
Patna	₹44,28,393	0.45%	0.74%	4.1%
Bhubaneshwar	₹8,93,857	0.09%	0.14%	4.0%
Bhopal	₹5,86,09,861	5.95%	9.28%	3.9%
Kochi	₹1,88,13,466	1.91%	2.85%	3.7%
Mumbai	₹15,00,84,801	15.24%	19.76%	3.2%
Nagpur	₹5,50,26,321	5.59%	5.73%	2.6%
Delhi NCR	₹51,95,69,771	52.76%	48.48%	2.3%
Ahmedabad	₹13,23,07,441	13.43%	11.55%	2.2%
Chennai	₹1,80,42,702	1.83%	1.22%	1.7%
Lucknow	₹30,94,007	0.31%	0.13%	1.0%
Hyderabad	₹74,36,823	0.76%	0.19%	0.6%
Kanpur	₹1,35,82,609	1.38%	-0.27%	-0.5%
Bengaluru	₹3,73,115	0.04%	-0.31%	-20.8%

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.