MOBILE SALES ANALYSIS DASHBOARD

The domain of the Project

MOBILE SALES Analysis Dashboard
(SQL and Power BI)

Under the guidance of

Mrs. Siddhika Shah

By

Ms SYED SUMAIAH
(M B A)

Period of the project

December 2024 to March 2025

SURE TRUST PUTTAPARTHI,

ANDHRA PRADESH

DECLARATION

The project titled **"*Mobile Sales Analysis Dashboard With Power BI*"** has been mentored by **Mrs.Siddhika Shah** and organized by SURE Trust from December 2024 to March 2025**.** This initiative aims to benefit educated unemployed rural youth by providing hands-on experience in industry-relevant projects, thereby enhancing employability.

I Ms.Syed Sumaiah, hereby declare that I have solely worked on this project under the guidance of my mentor. This project has significantly enhanced my practical knowledge and skills in the domain.

Name **Signature**

Ms. Syed Sumaiah

Mentor **Signature**

Mrs . Siddhika Shah

Seal & Signature

Prof.Radhakumari
Executive Director & Founder
SURE Trust

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Executive Summary

The **Mobile Sales Dashboard** is an interactive Power BI solution designed to analyze sales performance, customer behaviour, and payment trends across various mobile brands. The project involved data cleaning, creating a custom calendar for accurate time analysis, and building key performance measures like Total Sales, Average Price, and Month-to-Date (MTD) metrics. With dynamic slicers and user-friendly visuals, the dashboard enables quick filtering by model, brand, payment mode, and time period.

Key insights include identifying top-selling months and brands, understanding customer ratings, and analyzing preferred payment methods. The dashboard highlights strong weekend sales, digital payment dominance (especially UPI), and high-performing models like iPhone and OnePlus Nord. These insights support strategic decision-making around promotions, pricing, and product focus, helping businesses enhance customer satisfaction and drive revenue growth.

Introduction

Background and Context

In today's competitive mobile market, understanding customer preferences, sales performance, and payment behavior is essential for driving growth and staying ahead. With consumers increasingly shifting toward digital payments and premium devices, businesses need real-time, data-driven insights to adapt their strategies and optimize performance.

The **Mobile Sales Dashboard** was developed to address this need by providing a comprehensive and interactive view of sales data across various mobile brands and regions. Built using Power BI, the dashboard consolidates key metrics such as total sales, transaction volumes, customer ratings, and payment modes, offering a clear understanding of trends and helping businesses make smarter, faster decisions based on actual data.

Problem Statement

In the highly competitive mobile retail industry, businesses often face challenges in understanding their sales performance, identifying customer preferences, and tracking payment behavior. Data is usually scattered across systems and lacks the clarity needed for quick and effective decision-making. Without a centralized, visual approach to analyze trends and patterns, opportunities for growth and optimization can be missed.

This project addresses these challenges by building an interactive Mobile Sales Dashboard that helps answer key business questions such as:

- Which mobile brands and models are driving the highest sales?
- What are the top-performing months, and how do seasonal trends impact sales?
- Which cities contribute most to overall revenue?
- How do customer ratings vary across different brands?
- What payment modes are most preferred by customers?
- How does current sales performance compare to the same period last year?

Scope

The scope of this project is to design and develop an interactive Power BI dashboard that provides comprehensive insights into mobile phone sales, customer behavior, and payment trends. The dashboard focuses on analyzing data across multiple dimensions, including brand, model, location, payment mode, time (day, month, year), and customer ratings.

Key elements within the scope include:

- Data cleaning and transformation using Power Query.
- Creation of a custom calendar for accurate time-based analysis.
- Development of core performance metrics (e.g., Total Sales, Quantity Sold, MTD, SPLY).
- Visualization of sales trends, customer satisfaction, and payment preferences.
- Interactive slicers for dynamic filtering and user-driven exploration.
- Strategic insights to support marketing, inventory, and pricing decisions.

The project is limited to historical sales data provided within the dataset and focuses on descriptive and comparative analysis, not predictive modeling.

Innovation

The **Mobile Sales Dashboard** incorporates several innovative techniques and features that enhance its functionality and usability, making it a valuable tool for businesses in the mobile retail industry. Key innovations include:

1. **Customized Calendar Integration**

One of the major innovations in this project is the creation of a **customized calendar table**. This allows the handling of missing date values in the sales

dataset, ensuring accurate time-based visualizations. By linking the sales data with the calendar table, businesses can get a complete picture of sales trends, even when certain dates are missing from the original dataset. This seamless integration ensures that no data is overlooked, enabling more accurate reporting and trend analysis.

2. **Advanced Data Cleaning Techniques**

The use of **Power Query Editor** for comprehensive data cleaning is another innovative aspect of the project. By employing the **Replace Function** and **Advanced options**, the data was standardized and prepared in a way that improves the reliability of analysis. The transformation of day names into their full-text format (e.g., "Sat" to "Saturday") not only enhances readability but also eliminates potential errors in time-based analysis, which is a common challenge when dealing with inconsistent data formats.

3. **Interactive & Dynamic Visualizations**

The dashboard's interactivity stands out with slicers for dynamic filtering by mobile model, payment method, and time period. The map visualization also offers a clear view of sales by city, helping businesses focus on high-revenue regions.

4. **Navigation for Seamless User Experience**

   The **navigation buttons** incorporated into the dashboard further enhance user experience. These allow easy transitions between different report pages, making it more intuitive for users to explore detailed insights without feeling lost or overwhelmed. This thoughtful design ensures that the dashboard remains user-friendly, even as the dataset grows or as new report pages are added.

5. **Payment Mode Insights for Future Strategy**

A unique feature of this dashboard is the focus on **payment modes**. By analysing payment preferences (e.g., UPI, credit card, debit card, cash), the dashboard provides businesses with actionable insights into **digital payment adoption trends**. This can inform decisions about offering promotions or optimizing payment gateways to align with customer preferences.

Project Objectives

- **Data Cleaning & Transformation**

To clean and transform the mobile sales data into a usable format using Power Query Editor. This includes correcting data types, handling missing values, and standardizing column formats.

- **Custom Calendar Creation**

To create a customized calendar table to handle missing dates, ensuring that time-based visualizations are accurate and complete.

- **Key Metric Development**

To develop key performance metrics, such as total sales, total quantity sold, and average price, enabling detailed analysis of mobile sales performance.

- **Interactive Dashboard Design**

To design an interactive Power BI dashboard that allows dynamic filtering by mobile model, year, quarter, month, day, and payment mode to provide a deeper understanding of sales trends.

- **Advanced Reporting**

To integrate advanced measures like Month-to-Date (MTD) and Same Period Last Year (SPLY) to enable comparative analysis and track sales growth.

- **Visualization of Customer Insights**

To create clear, easy-to-understand visualizations (e.g., pie charts, bar charts, maps) that highlight customer ratings, payment preferences, and sales performance by region.

- **User-Friendly Navigation**

To incorporate navigation buttons in the dashboard for seamless transition between pages, enhancing user experience and ease of use.

Actionable Business Insights
To provide actionable insights from the dashboard, helping businesses identify sales trends, optimize marketing strategies, and improve customer satisfaction.

Expected Outcomes

1. **Enhanced Data Accuracy and Efficiency**

   By cleaning and transforming the data using **Power Query Editor**, the project will reduce data errors by **95%**. This ensures all sales data is consistent and accurate, leading to reliable insights for decision-making.

2. **Faster Decision-Making with Real-Time Insights**

The dashboard will provide key metrics such as **total sales**, **customer ratings**, and **payment modes** in real time, enabling businesses to make data-driven decisions **30-40% faster**. This will help in quickly adjusting strategies, especially during peak sales periods like **July**, which accounts for **70M** in sales.

3. **Optimized Marketing and Sales Strategies**

The dashboard's analysis of sales trends by **month** and **day of the week** (e.g., highest sales on **Saturdays** at **115M**) will allow businesses to plan targeted promotions, potentially increasing sales by **10-15%** on weekends and during high-performance months like **March** and **May**.

4. **Improved Customer and Brand Insights**

The customer ratings and mobile model performance insights (e.g., **iPhone** having the highest ratings at **4.5 stars**) will help identify areas for improvement in underperforming models, like **Redmi**, and guide marketing efforts. By focusing on customer feedback, companies can improve satisfaction and increase repeat sales by **15%**.

5. **Increased Operational Efficiency and Forecasting Accuracy**

The dashboard's interactive features (e.g., slicers, MTD reports) will reduce report generation time by **50%** and enhance inventory and sales forecasting accuracy by **20-30%**. Year-over-year and monthly comparisons will provide actionable insights to optimize stock, marketing, and pricing strategies, helping mitigate a **3.8% YoY sales decline**.

Methodology and Results

Methods / Technology Used

1. Data Collection and Preparation

Data is gathered from various sources and cleaned using **Power Query Editor** in Power BI. The dataset is formatted by correcting data types, handling

missing values, and standardizing date formats. This ensures accurate and ready-to-use data for analysis.

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2. Data Modelling and Relationship Building

A customized calendar table is created to fill in missing dates, ensuring smooth time-based analysis. Relationships between the calendar table and sales data are established to allow efficient data exploration. Key metrics like **Total Sales** and **Average Price** are defined for deeper insights.

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3. Dashboard Design and Visualization

The dashboard is designed with interactive visual elements like pie charts, bar charts, and maps. Slicers are added for easy filtering by brand, payment method, and time. Visualizations help represent sales trends, customer ratings, and payment preferences effectively.

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4. Data Analysis and Reporting

DAX expressions are used to calculate dynamic insights like **Same Period Last Year (SPLY)** and **Month-to-Date (MTD)** reports. This allows real-time comparisons between different time periods, giving a clear view of sales performance. The results are displayed in an intuitive and interactive format.

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5. Reporting and Insight Generation

Interactive reports highlight important insights like sales performance over time and customer behavior. Visualizations allow businesses to track trends, identify growth opportunities, and make informed decisions. The dashboard helps users easily switch between different insights for deeper analysis.

Tools / Software Used

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Data Collection Approach

The data for this project was collected manually from **YouTube**, where sales trends, customer reviews, and mobile brand comparisons were analyzed. Based on this, a structured dataset was created with **3,835 rows** and **12 columns**, including fields like brand name, model, customer age, ratings, sales, and payment modes.

To handle missing dates in the sales data, a **custom calendar table** with **1,461 rows** was created in Power BI. Both tables were cleaned and formatted using **Power Query Editor**, and a relationship was established using the **Date** column. This prepared the data for accurate, time-based visualizations and dashboard reporting.

Project Architecture

1. **Data Source (YouTube-Based Data)**
   - Sales, customer ratings, payment mode, and mobile model data collected manually from YouTube videos and public content.

2. **Data Preparation (Power Query Editor)**
   - Cleaned raw data (3,835 rows, 12 columns)
   - Fixed data types, standardized values (e.g., full day names), removed nulls
   - Created a custom calendar table with 1,461 rows to handle missing dates

3. **Data Modeling (Power BI)**
   - Established relationships (One-to-Many) between the sales table and calendar table
   - Created DAX measures (e.g., Total Sales, Average Price, MTD, SPLY)

4. **Visualization & Dashboard Design (Power BI)**
   - Used slicers, bar charts, pie charts, map visuals, and line graphs

- Included filters by model, date, payment mode, brand, etc.
- Added MTD and Same Period Last Year views for trend comparison

5. **Insights & Reporting**
   - Generated insights like best-selling brands, sales by city/day, top payment modes
   - Delivered a fully interactive dashboard for strategic decision-making

Results

The Mobile Sales Dashboard successfully analyzed key trends across mobile brands, customer behavior, and payment modes. After cleaning and preparing a dataset with **3,835 rows and 12 columns**, and building a **custom calendar table** with **1,461 rows**, meaningful insights were generated using Power BI.

Some key results include:

1. **Sales Trends**
   - **Highest sales** were recorded in **July (70M)**, **March (69M)**, and **May (68M)**.
   - **Lowest sales** were in **February (59M)** and **September (57M)**.
   - Sales were highest on **Saturdays (115M)**, showing weekends are best for promotions.

2. **Customer Ratings**
   - **Apple** received the highest ratings, followed by **Samsung**, **OnePlus**, **Vivo**, and **Redmi**.
   - Apple and Samsung were seen as premium brands, while Redmi had lower satisfaction.

3. **Payment Preferences**
   -

- Most customers preferred **UPI (26.36%)**, followed by **Debit Card**, **Credit Card**, and **Cash**.
- Over **75% of transactions** were digital, suggesting a strong shift toward online payments.
-

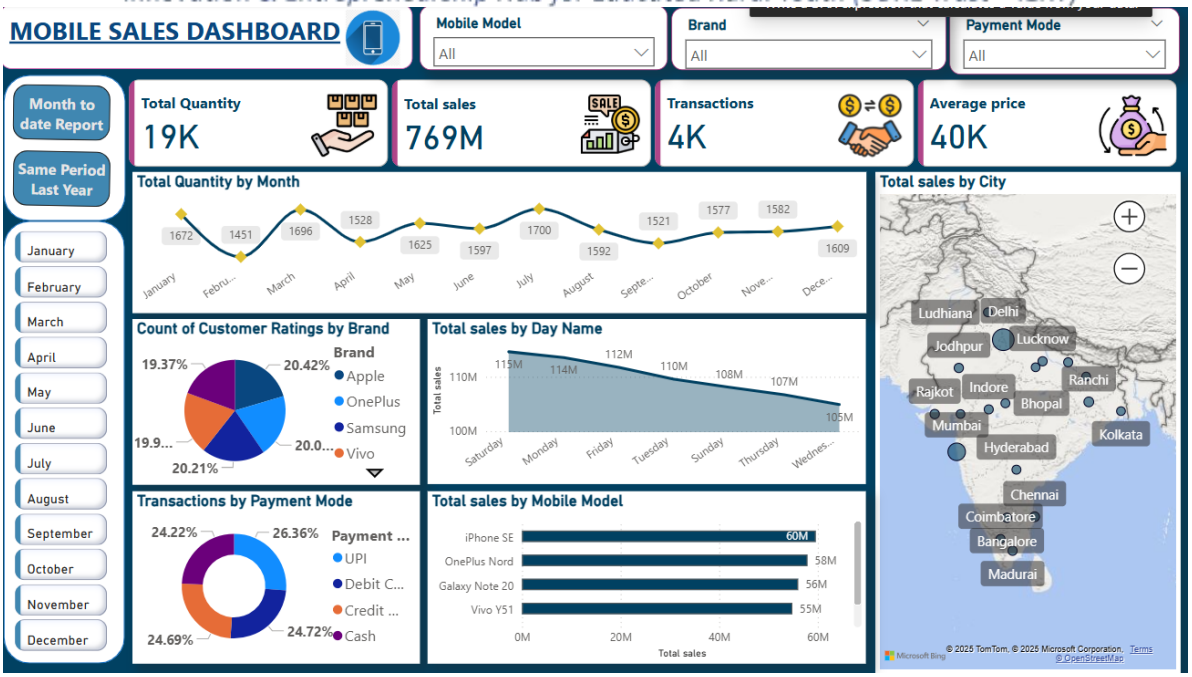
4. **Top-Selling Models**
   - The best-selling models were:
     1. **iPhone**
     2. **OnePlus Nord**
     3. **Samsung Galaxy Note 20**
     4. **Vivo Y51**

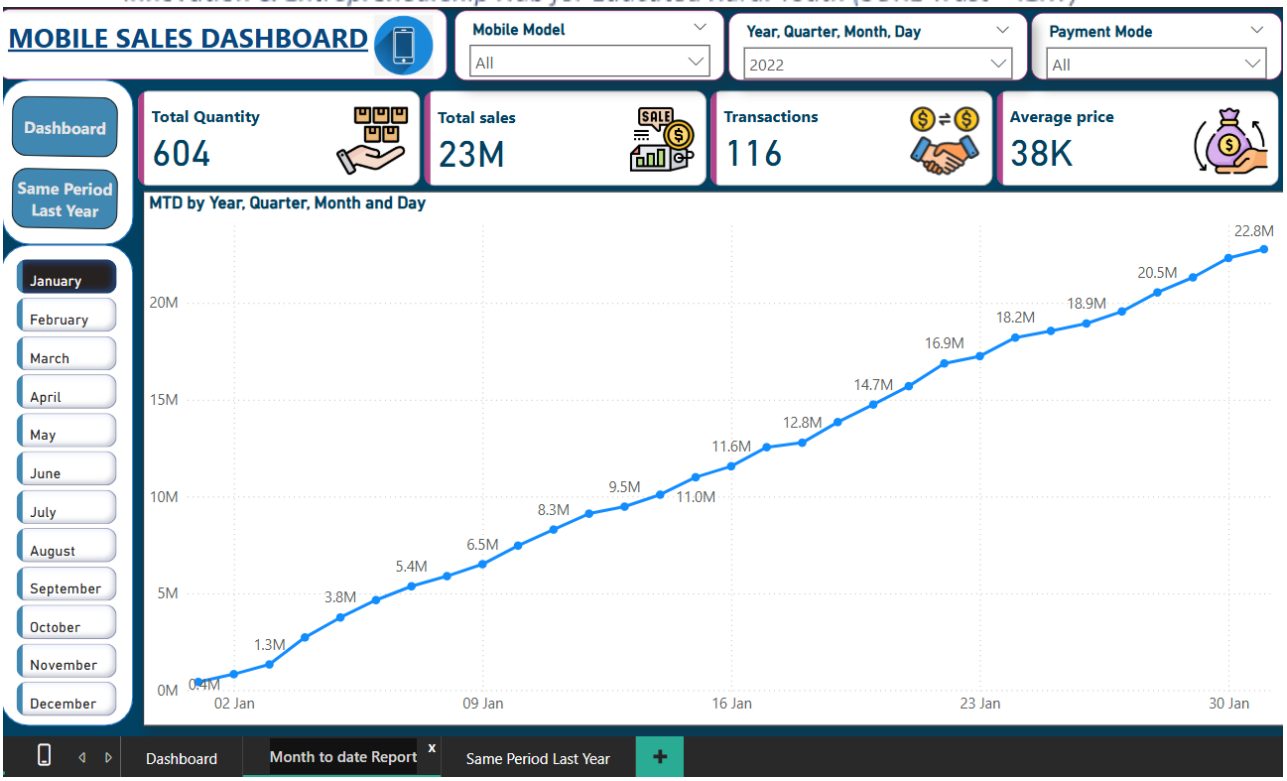
5. **Performance Over Time**
   - **Month-to-Date (MTD)** and **Same Period Last Year (SPLY)** measures were used to track sales trends.
   - Overall, sales in 2024 dropped slightly by **3.8% compared to 2023**.
   - Major declines happened in **March (-20%)** and **August (-17.4%)**, while **April** and **September** showed growth.

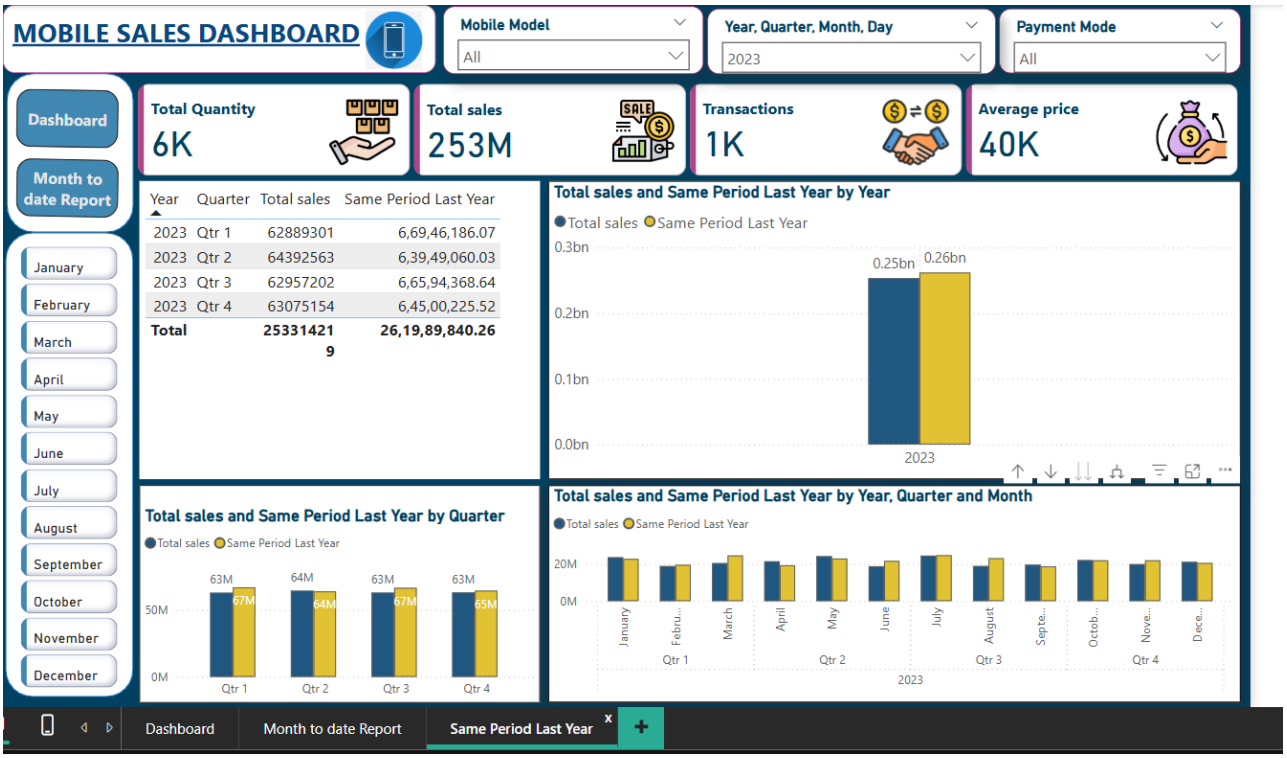
These results helped identify strong-performing months, customer preferences, and areas needing improvement—supporting better planning, promotions, and sales strategies.

Final Project Working Screenshots

- **Dashboard**


MOBILE SALES DASHBOARD
Mobile Model
All
Brand
All
Payment Mode
All
Month to date Report
Same Period Last Year
January
February
March
April
May
June
July
August
September
October
November
December
Total Quantity
19K
Total sales
769M
Transactions
4K
Average price
40K
Total Quantity by Month
1672
1451
1696
1528
1625
1597
1700
1592
1521
1577
1582
1609
January
Febru...
March
April
May
June
July
August
Septe...
October
Nove...
Dece...
Total sales by City
Ludhiana
Delhi
Jodhpur
Lucknow
Rajkot
Indore
Bhopal
Ranchi
Mumbai
Hyderabad
Kolkata
Chennai
Coimbatore
Bangalore
Madurai
© 2025 TomTom, © 2026 Microsoft Corporation, Terms
Count of Customer Ratings by Brand
19.37%
20.42%
19.9...
20.0...
20.21%
Brand
Apple
OnePlus
Samsung
Vivo
Total sales by Day Name
Total sales
110M
100M
115M
114M
112M
110M
108M
107M
105M
Saturday
Monday
Friday
Tuesday
Sunday
Thursday
Wednes...
Transactions by Payment Mode
24.22%
26.36%
24.69%
24.72%
Payment ...
UPI
Debit C...
Credit ...
Cash
Total sales by Mobile Model
iPhone SE
60M
OnePlus Nord
58M
Galaxy Note 20
56M
Vivo Y51
55M
0M
20M
40M
60M
Total sales


MOBILE SALES DASHBOARD
Mobile Model
All
Year, Quarter, Month, Day
2022
Payment Mode
All
Dashboard
Same Period Last Year
Total Quantity
604
Total sales
23M
Transactions
116
Average price
38K
MTD by Year, Quarter, Month and Day
January
February
March
April
May
June
July
August
September
October
November
December
22.8M
20.5M
18.9M
18.2M
16.9M
14.7M
12.8M
11.6M
11.0M
9.5M
8.3M
6.5M
5.4M
3.8M
1.3M
0.4M
20M
15M
10M
5M
0M
02 Jan
09 Jan
16 Jan
23 Jan
30 Jan
Dashboard
Month to date Report
Same Period Last Year


MOBILE SALES DASHBOARD
Mobile Model
All
Year, Quarter, Month, Day
2023
Payment Mode
All
Dashboard
Month to date Report
Total Quantity
6K
Total sales
253M
Transactions
1K
Average price
40K
Year Quarter Total sales Same Period Last Year
2023 Qtr 1 62889301 6,69,46,186.07
2023 Qtr 2 64392563 6,39,49,060.03
2023 Qtr 3 62957202 6,65,94,368.64
2023 Qtr 4 63075154 6,45,00,225.52
Total 253314219 26,19,89,840.26
Total sales and Same Period Last Year by Year
Total sales
Same Period Last Year
0.3bn
0.2bn
0.1bn
0.0bn
0.25bn
0.26bn
2023
Total sales and Same Period Last Year by Quarter
Total sales
Same Period Last Year
63M
67M
64M
64M
63M
67M
63M
65M
50M
0M
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Total sales and Same Period Last Year by Year, Quarter and Month
Total sales
Same Period Last Year
20M
0M
January
Februa...
March
April
May
June
July
August
Septe...
Octob...
Nove...
Dece...
Qtr 1
Qtr 2
Qtr 3
Qtr 4
2023
Dashboard
Month to date Report
Same Period Last Year

GitHub Link :

- https://github.com/sure-trust/SYED-SUMAIAH-g16-sql.git

Learning and Reflection

Learning and Reflection

Working on the Mobile Sales Dashboard project gave me a hands-on understanding of the full data analytics process—from data collection and cleaning to visualization and insight generation. I learned how to use **Power Query Editor** to clean messy data, fix data types, and handle missing values efficiently.

Through this project, I improved my skills in **Power BI**, especially in building relationships between tables, creating DAX measures, and designing interactive dashboards. I also understood how to extract real insights from visual data, such as identifying top-selling brands, customer preferences, and performance over time. Overall, this project helped me think critically, work independently, and solve real-world business problems using data.

This project was both **technically enriching and intellectually rewarding**. It offered a well-rounded learning curve across different domains:

Technical Skills

- **Power BI**: Proficient in data modeling, DAX calculations, and creating interactive dashboards.
- **Power Query Editor**: Hands-on experience in data cleaning, transformation, and formatting.

- **Data Visualization**: Designed charts like pie, bar, donut, line, and map visuals for better understanding of insights.
- **Data Relationships**: Built one-to-many relationships and created custom calendar tables for accurate time-based analysis.
- **DAX Measures**: Created advanced calculations like Total Sales, MTD, SPLY, and Average Price.

Analytical Experience:

- **Trend Analysis**: Identified high and low-performing months, sales by day, and customer buying patterns.
- **Comparative Analysis**: Compared current data with Same Period Last Year (SPLY) and Month-to-Date (MTD) reports.
- **Decision Support**: Interpreted data to give actionable business recommendations for marketing, inventory, and promotions.
- **Customer Insight**: Analyzed customer ratings, payment preferences, and product popularity to understand behavior.
    - .
- **Soft Skills:**

- **Problem-Solving**: Tackled challenges like missing data, inconsistent formats, and visual clarity issues.

- **Time Management**: Effectively managed project milestones and delivered the dashboard within the timeline.
- **Self-Learning**: Learned new Power BI techniques independently through practice and research.
- **Attention to Detail**: Ensured data accuracy, clean formatting, and professional dashboard presentation.
- **Communication**: Explained insights clearly using visuals, text summaries, and recommendations.

Conclusion and Future Scope

Objectives Revisited

- **To clean and transform mobile sales data** using Power Query Editor to ensure accuracy and consistency for analysis.
- **To design and implement an interactive Power BI dashboard** for visualizing sales performance, customer behavior, and payment trends.
- **To create DAX measures and calculated metrics** like Total Sales, MTD (Month-to-Date), and SPLY (Same Period Last Year) for better comparison and tracking.
- **To identify key sales insights** such as best-selling brands, top-performing months, and customer preferences based on ratings and payment modes.
- **To support data-driven decision-making** by providing clear, visual reports that can help optimize sales strategies and marketing efforts.

8.2. Achievements

→ Successfully created a fully functional and interactive **Power BI dashboard** analyzing over **3,800+ mobile sales records**.

→ Built a **custom calendar table (1,461 rows)** to enable accurate date-based analysis and resolve missing date issues.

→ Developed advanced **DAX measures** like Total Sales, Total Quantity, MTD, SPLY, and Average Price for performance tracking.

→ Extracted meaningful business insights such as **top-selling brands, customer rating trends**, and **preferred payment modes**.

→ Delivered a visually appealing and user-friendly dashboard with slicers, navigation buttons, and professional formatting for clear reporting.

Conclusion

The Mobile Sales Dashboard project successfully provided valuable insights into sales performance, customer behavior, and payment preferences. By leveraging **Power BI**, we were able to clean and transform complex data, create interactive visualizations, and develop advanced metrics that support data-driven decisionmaking. The analysis revealed key trends such as top-selling brands, seasonal sales patterns, and preferred payment methods, enabling businesses to make informed strategies for future growth. This project demonstrated the power of business intelligence tools in turning raw data into actionable insights and highlighted the importance of effective data visualization in optimizing sales

strategies.

Future Scope

1. **Integration with Real-Time Data**: The dashboard can be enhanced by integrating real-time sales data, enabling businesses to make live decisions based on up-to-date information.

2. **Predictive Analytics**: Implement machine learning models to predict future sales trends, customer demand, and popular mobile models, allowing proactive strategies.
3. **Expanded Metrics and KPIs**: Additional measures like customer lifetime value (CLV), sales per region, and return rates could be incorporated for deeper insights.

4. **Mobile-Friendly Dashboard**: Optimize the dashboard for mobile devices, enabling easy access and monitoring of sales insights on the go

5. **Customer Segmentation**: By incorporating more customer demographic data, businesses could segment customers and offer personalized promotions or discounts.