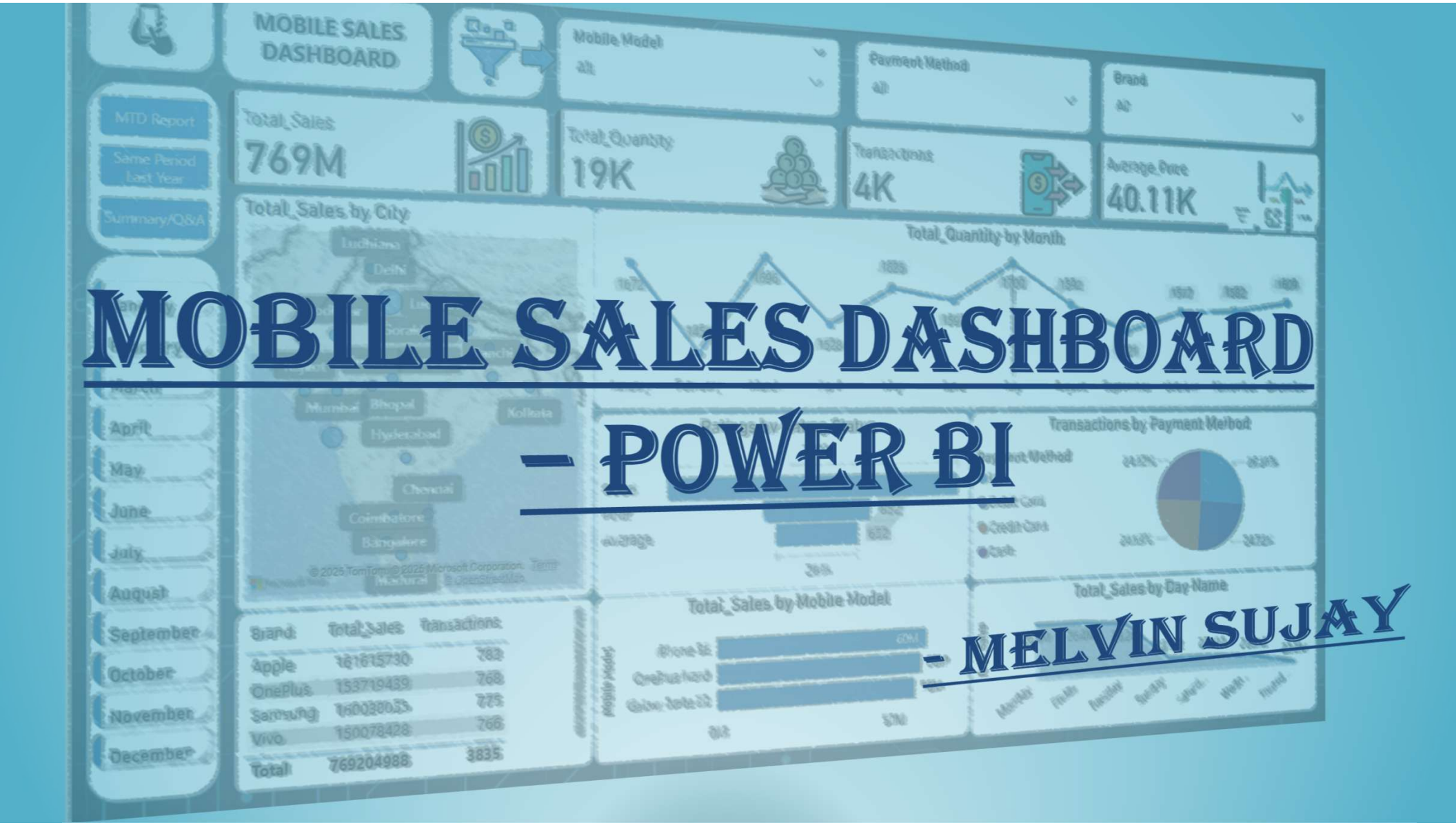


MOBILE SALES DASHBOARD – POWER BI

- MELVIN SUJAY

Introduction

Business Problem / Objective:

- To provide a clear and interactive dashboard for tracking sales, quantity, and performance trends across different time periods.
- To identify top-performing mobile models, cities, brands, and preferred payment methods.
- To support data-driven decision-making through visual analytics.

Business Challenges:

- **Lack of visibility** into sales performance across different time periods
- **Difficulty in identifying** top-performing products and underperforming models
- **Need to understand** customer payment preferences and regional sales patterns
- **Requirement to track** sales trends and compare year-over-year performance
- **Need to analyze** customer satisfaction levels and their impact on business

Data Preparation in Power BI

- **Imported Excel sheet into Power BI and accessed 'Transform Data' to clean and shape data.**
- **Merged Day, Month, and Year columns into a single 'Date' column and set data type to Date.**
- **Removed invalid Day Name column entries and redundant columns to ensure data consistency.**
- **Renamed cleaned dataset to 'Sales_Data'.**
- **Data set data period: 2021 - 2024 (4 years, 1461 days)**

Transaction ID	Day	Month	Year	Day Name	Brand	Units Sold	Price Per Unit	Customer Name	Customer Age	City	Payment Method	Customer Ratings	Mobile Model
1	9	10	2021	Sat	Xiaomi	6	10174.7	Lalita Ahuja	38	Ludhiana	UPI	5	Redmi Note 10
2	9	10	2021	Saturday	Vivo	6	10565.19	Sneha Sharma	37	Delhi	Credit Card	3	Vivo Y51
3	9	10	2021	Saturday	Vivo	8	58527.58	Radha Srivastava	40	Mumbai	UPI	5	Vivo S1
4	10	10	2021	Sunday	Xiaomi	5	25563.98	Bhavana Arora	21	Mumbai	Credit Card	4	Mi 11
5	10	10	2021	Sunday	OnePlus	3	48168.02	Sneha Mehta	38	Gorakhpur	Cash	5	OnePlus 9
6	10	10	2021	Sunday	Samsung	3	37252.87	Reena Mehta	38	Jodhpur	UPI	3	Galaxy Note 20
7	10	10	2021	Sun	OnePlus	6	61805.8	Pankaj Alva	18	Delhi	Cash	4	OnePlus Nord

Custom Calendar Creation

- Created a custom calendar table using Power Query M language:
- **= List.Dates(#date(2021,1,1), 1461, #duration(1,0,0,0))**
- Added a day name column for reference and renamed it to 'Custom_Calendar'.
- This enables time intelligence functions like MTD, QTD, and YTD.

Date	Day Name
Friday, 22 November, 2024	Friday
Friday, 29 November, 2024	Friday
Friday, 6 December, 2024	Friday
Friday, 13 December, 2024	Friday
Friday, 20 December, 2024	Friday
Friday, 27 December, 2024	Friday
Saturday, 2 January, 2021	Saturday
Saturday, 9 January, 2021	Saturday

Data Modeling

- **Designed a star schema data model with 'Sales_Data' as the Fact table and 'Custom_Calendar' as the Dimension table.**
- **Created a one-to-many relationship between 'Custom_Calendar[Date]' and 'Sales_Data[Date]'.**
- **This setup allows accurate time-based aggregations and dynamic filtering.**

KPI’s Requirement

We need to analyze key indicators for our mobile sales data to gain insights into our business performance.

1. Total Sales (Revenue)

Total_Sales = SUMX(Sales_Data, Sales_Data[Units Sold] * Sales_Data[Price Per Unit])

2. Total Quantity Sold

Total_Quantity = SUM(Sales_Data[Units Sold])

3. Total Transactions

The total number of sales orders/transactions placed by customers.

Transactions = COUNTROWS(Sales_Data)

4. Average Price Per Unit

Average_Price = AVERAGE(Sales_Data[Price Per Unit])

5. Month-to-Date Sales (MTD)

Cumulative sales from the beginning of the current month to the present date, enabling real-time performance tracking.

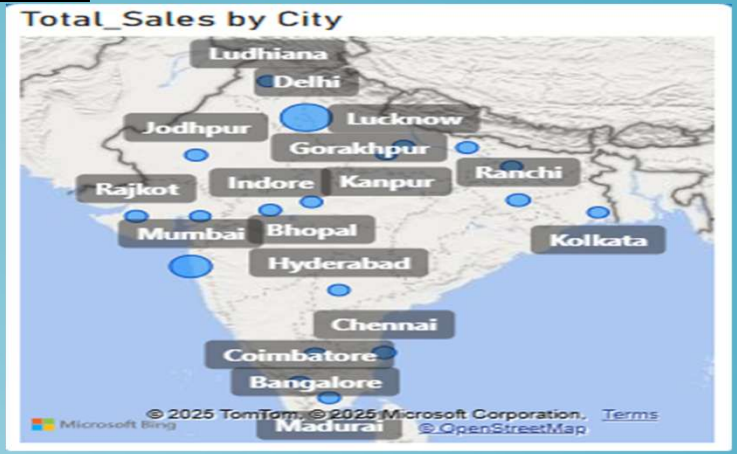
MTD = TOTALMTD([Total_Sales], Custom_Calendar[Date].[Date])

6. Same Period Last Year (SPLY)

Sales from the equivalent period in the previous year, enabling year-over-year comparison.

Same Period Last Year = CALCULATE([Total_Sales], SAMEPERIODLASTYEAR(Custom_Calendar[Date]))

Charts Requirement



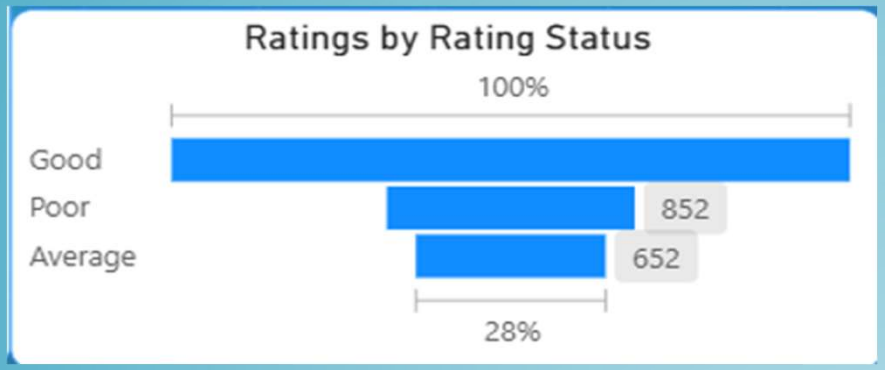
1. Geographic Sales Distribution
Chart Type: Filled Map with Bubble Size
Purpose: Display total sales across different cities in India
Fields: Location: City , Bubble Size: Total_Sales
Insight: Identifies high-performing and underperforming geographic markets, helps in regional marketing strategy and inventory distribution decisions.

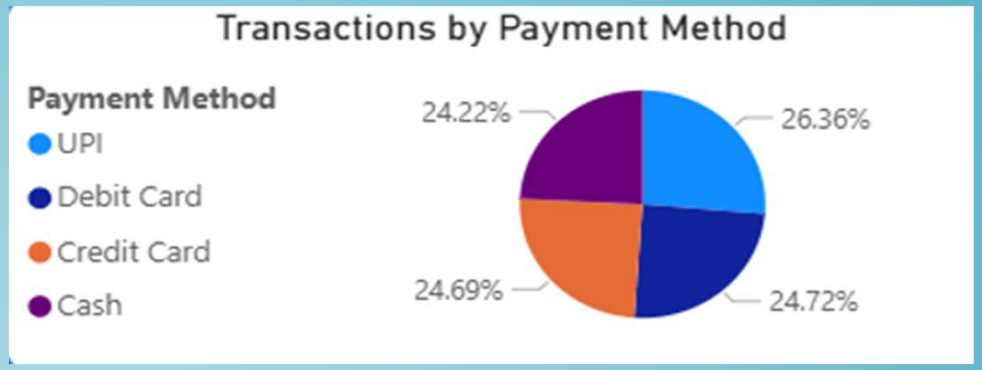
2. Monthly Quantity Trend Analysis
Chart Type: Line Chart
Purpose: Track the trend of total quantity sold month-over-month throughout the year
Fields: X-axis: Date (Month from Custom_Calendar), Y-axis: Total_Quantity
Insight: Reveals seasonal patterns, peak sales months, and inventory planning opportunities. Shows whether sales volume is growing or declining over time.

3. Customer Satisfaction by Rating Status
Chart Type: Funnel Chart
Purpose: Show distribution of customer ratings categorized as Good (≥4), Average (>2 and <4), and Poor (≤2)
Fields: Category: Rating_Status, Values: Count of Customer Ratings
Calculated Column:

```
Rating_Status = IF(Sales_Data[Customer Ratings]>=4, "Good",
                IF(Sales_Data[Customer Ratings]>2, "Average", "Poor"))
```

Insight: Measures customer satisfaction levels and identifies areas for service improvement. High percentage of "Poor" ratings signals quality or service issues.

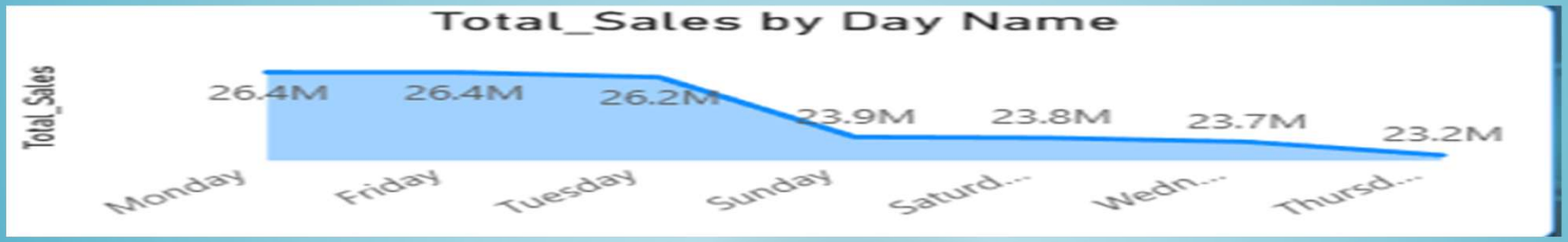




4. Payment Method Preference Distribution
Chart Type: Pie Chart
Purpose: Show percentage distribution of transactions across different payment methods
Fields: Legend: Payment Method, Values: Transactions (displayed as percentages)
Insight: Understands customer payment preferences (UPI, Debit Card, Credit Card, Cash), helps optimize payment gateway partnerships and promotional strategies.

5. Top 3 Mobile Models by Revenue
Chart Type: Horizontal Clustered Bar Chart
Purpose: Highlight the best-selling mobile models based on total sales revenue
Fields: Y-axis: Mobile Model, X-axis: Total_Sales, Filter: Top 3 by Total_Sales
Insight: Identifies star products that drive maximum revenue, guides inventory stocking decisions and promotional focus.

6. Weekly Sales Pattern Analysis
Chart Type: Area Chart
Purpose: Display sales performance across different days of the week
Fields: X-axis: Day Name (from Custom_Calendar), Y-axis: Total_Sales
Insight: Reveals which days of the week generate the most sales, helps optimize staffing, promotions, and marketing campaigns timing.

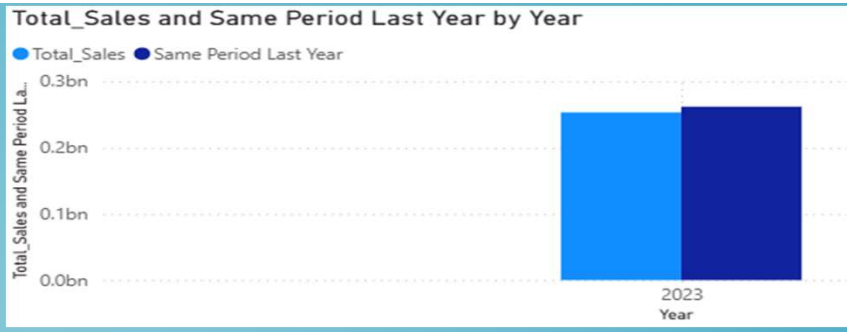


7. Brand Performance Summary
Chart Type: Table
Purpose: Provide detailed breakdown of sales and transaction metrics by brand
Fields: Columns: Brand, Total_Sales, Transactions
Insight: Compares performance across different mobile brands (Apple, Samsung, OnePlus, Vivo), identifies which brands are most popular with customers.

Brand	Total_Sales	Transactions
Apple	161615730	783
OnePlus	153719439	768
Samsung	160038055	775
Vivo	150078428	766
Total	**769204988**	**3835**

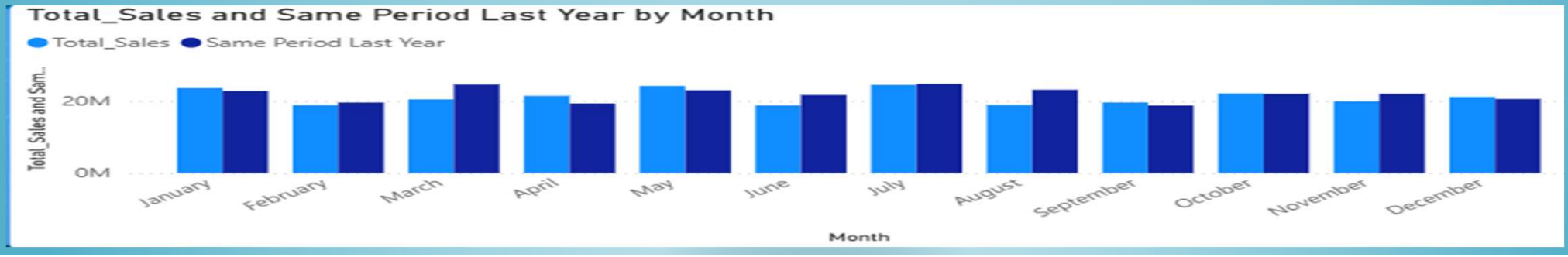
8. Month-to-Date Cumulative Trend
Chart Type: Line Chart
Purpose: Show progressive accumulation of sales throughout the selected month/quarter/year
Fields: X-axis: Date (from Custom_Calendar), Y-axis: MTD measure, Additional: Total_Sales for comparison
Insight: Tracks real-time performance against targets, enables quick identification if sales are falling behind projections.

9. Year-over-Year Comparison - Annual View
Chart Type: Clustered Column Chart
Purpose: Compare current year sales with same period last year by year
Fields: X-axis: Year, Y-axis: Total_Sales and Same Period Last Year
Insight: Measures business growth year-over-year, identifies if the business is expanding or contracting.



10. Year-over-Year Comparison - Quarterly View
Chart Type: Clustered Column Chart
Purpose: Compare current year sales with same period last year by quarter
Fields: X-axis: Quarter, Y-axis: Total_Sales and Same Period Last Year
Insight: Identifies which quarters show improvement or decline compared to previous year, helps understand seasonal business cycles.

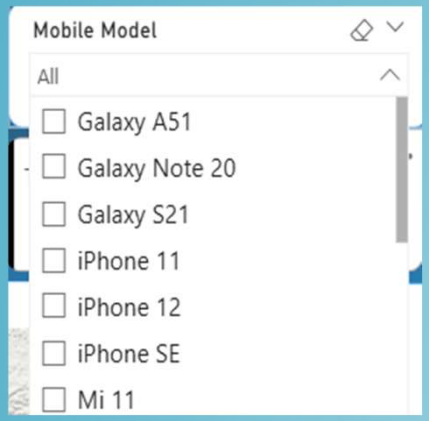
11. Year-over-Year Comparison - Monthly View
Chart Type: Clustered Column Chart
Purpose: Compare current year sales with same period last year by month
Fields: X-axis: Month, Y-axis: Total_Sales and Same Period Last Year
Insight: Provides granular month-by-month comparison to identify specific months with growth opportunities or concerns.



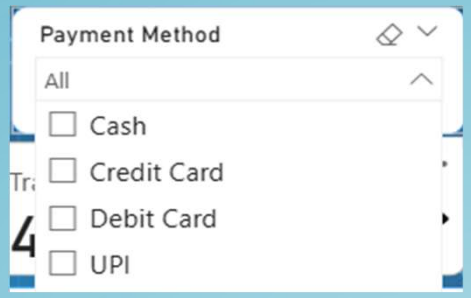
INTERACTIVE FEATURES

1. Filter Slicers:

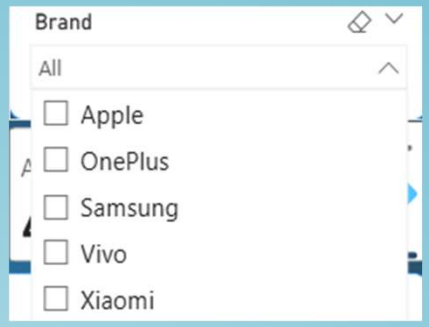
- **Mobile Model Dropdown:** Filter entire dashboard by specific phone models



- **Payment Method Dropdown:** Analyze sales by payment type

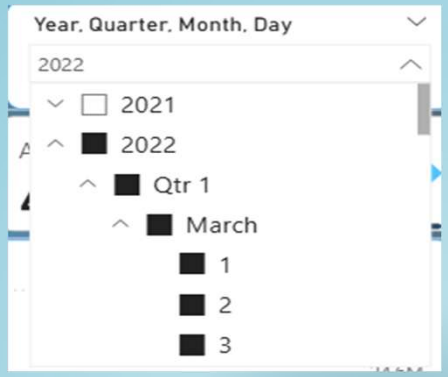


- **Brand Dropdown:** Focus on specific brand performance



- **Month Button Slicer:** Navigate through different months with button-style interface

- **Year/Quarter/Month/Day Slicer:** Drill down to specific time periods in MTD and SPLY reports



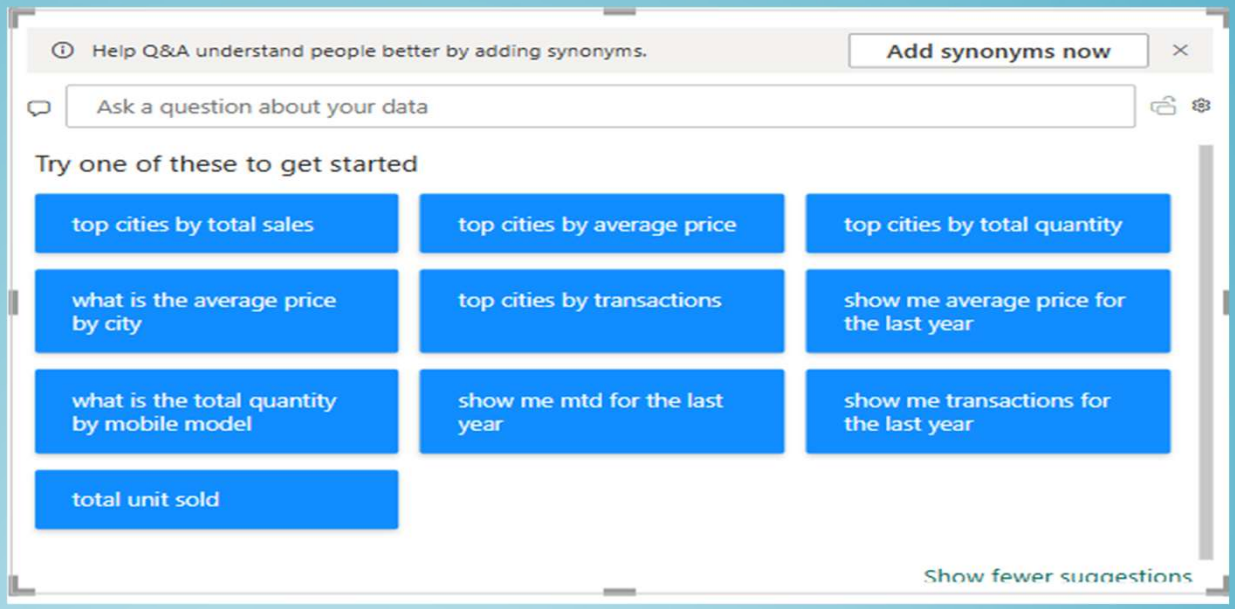
2. Page Navigation:

- **Home Dashboard:** Main overview with all key metrics and visuals
- **MTD Report:** Month-to-date performance tracking
- **Same Period Last Year:** Year-over-year comparison analysis
- **Summary/Q&A:** Natural language query interface for ad-hoc analysis

3. Q&A Natural Language Interface:

Enables users to ask questions like:

- "Top cities by average price"
- "What is the total sales by city“
- "Show me total sales for the last year"
- "Top mobile models by MTD"



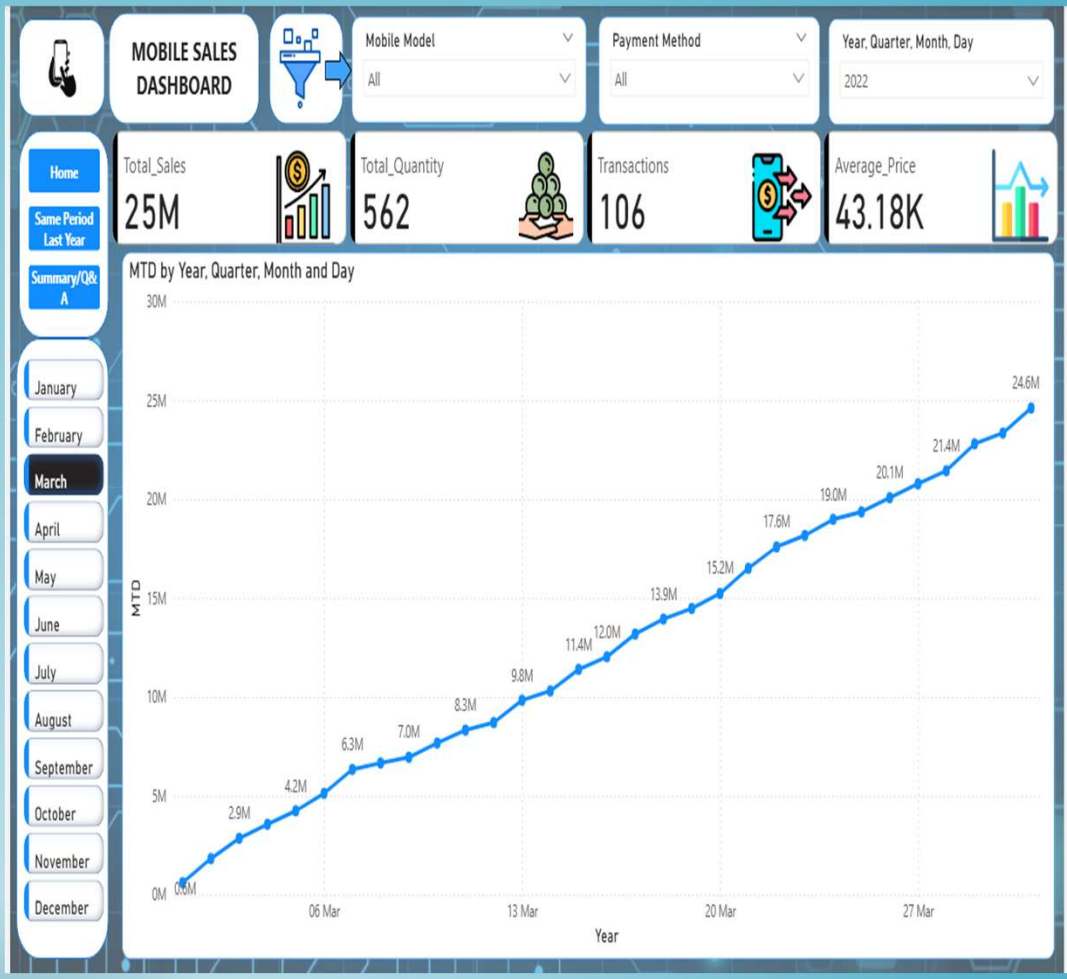
- Cross-Filtering Control:

Edit Interactions configured to prevent Month slicer from affecting the Total Quantity by Month line chart. Ensures proper visual independence where needed.

Dashboard Overview

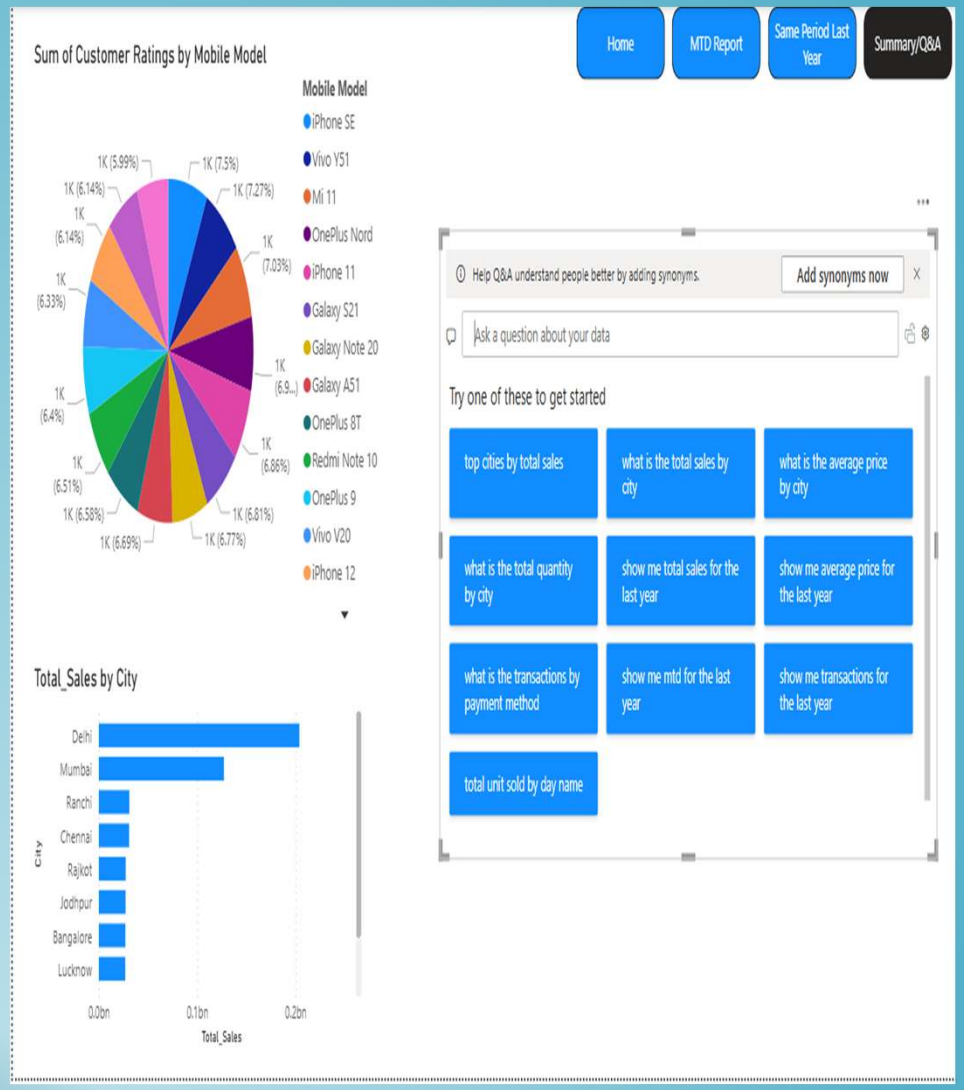
- **HOME DASHBOARD:**

- **MTD REPORT DASHBOARD:**



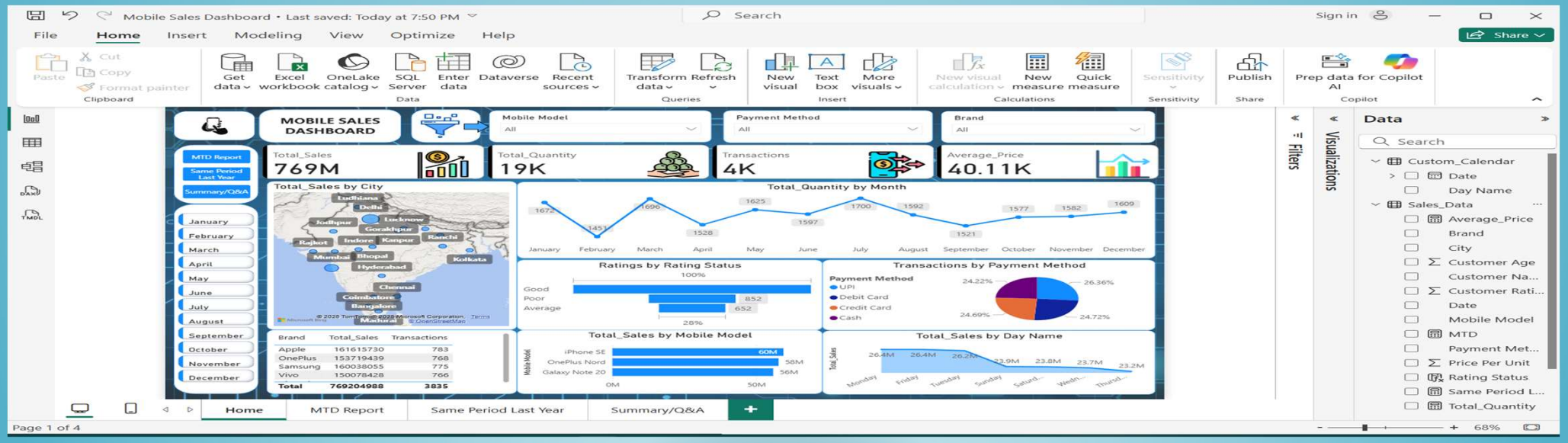
- **SAME PERIOD LAST YEAR:**

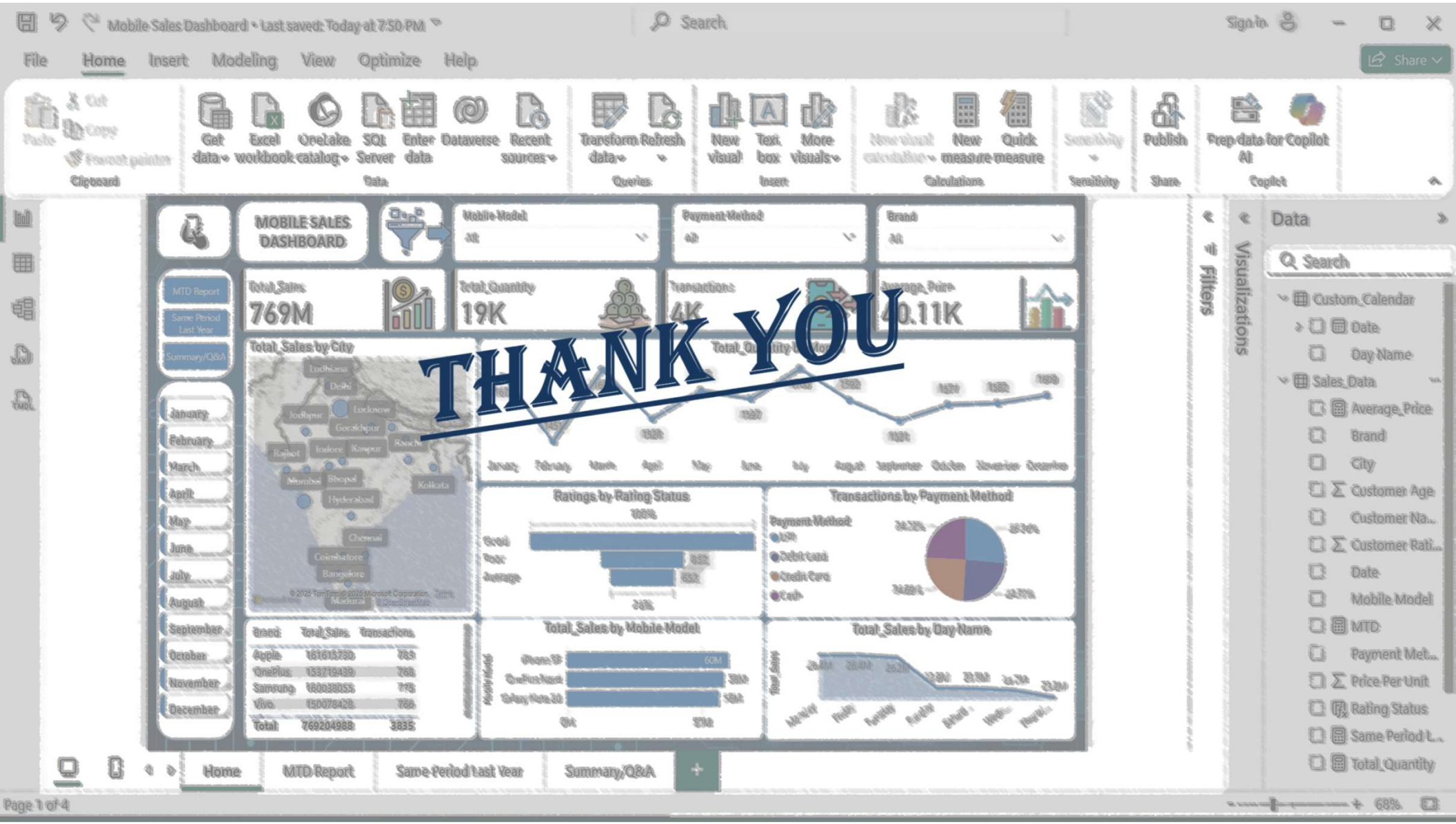
- **SUMMARY / Q&A:**



Conclusion

- Built an interactive Power BI dashboard analyzing mobile sales across 4 years with 11+ visualizations including geographic maps, trend charts, and customer satisfaction funnels.
- Created 8+ DAX measures for KPI tracking (MTD, SPLY) and implemented star schema data model with custom calendar table for time intelligence calculations.
- Designed multi-page reporting system with dynamic filters, cross-filtering controls, and Q&A interface, enabling real-time performance monitoring and year-over-year comparison analysis.
- **Technologies**: Power BI, DAX, Power Query, Data Modeling, ETL, Business Intelligence, Data Visualization.

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Sign in
File
Home
Insert
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View
Optimize
Help
Share
MOBILE SALES DASHBOARD
Mobile Model
Payment Method
Brand
Total_Sales
769M
Total_Quantity
19K
Transactions
4K
Average_Price
40.11K
MTD Report
Same Period Last Year
Summary/Q&A
Total_Sales by City
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Delhi
Jodhpur
Lucknow
Gorakhpur
Rajkot
Indore
Kanpur
Ranchi
Mumbai
Bhopal
Kolkata
Hyderabad
Chennai
Coimbatore
Bangalore
Madurai
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March
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June
July
August
September
October
November
December
Ratings by Rating Status
Transactions by Payment Method
Payment Method
UPI
Debit Card
Credit Card
Cash
Brand
Total_Sales
Transactions
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OnePlus
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768
Samsung
160038055
775
Vivo
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766
Total
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3835
Total_Sales by Mobile Model
Total_Sales by Day Name
THANK YOU
Filters
Visualizations
Data
Search
Custom_Calendar
Date
Day Name
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Brand
City
Customer Age
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Page 1 of 4
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