

Sales Insights - Data Analysis Project using Power Bi Tableau and SQL

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I am sharing India based Sales Insights - A Data Analysis Project performed on Tableau & SQL in my journey into Data Science

About Project

- Performed India based hardware company sales insights - A Data Analysis project.
- Developed ETL mappings using SQL to extract the data from unstructured data and transformed it to the staging area to conduct data cleaning and design star schema data model on Tableau.
- Developed a Tableau dashboard to perform analysis, producing quantitative visualizations in Tableau to draw valuable insights based on different parameters affecting the company performance year on year and further provide business solutions.

Technologies used



- Advance Excel
- MySQL
- Tableau | Power BI



Problem Statements

Sales director wants to know the performance of the company in various Indian states & accordingly provide some discount.

- Q1. Revenue breakdown by cities.
- Q2. Revenue breakdown by years & months.
- Q3. Top 5 customers by revenue & sales quantity.
- Q4. Top 5 Products by revenue.
- Q5. Net Profit & Profit Margin by Market

Approach - Project Planning & Aims Grid

1. Purpose: What? Why? What do we want to achieve?

To unlock sales insights that are not visible before for sales team for decision support & automate them to reduced manual time spent in data gathering.

2. Stake Holders: Who will be involved?

- Sales Director,
 - I.T. Team,
 - Customer Service Team,
 - Data & Analytics Team.
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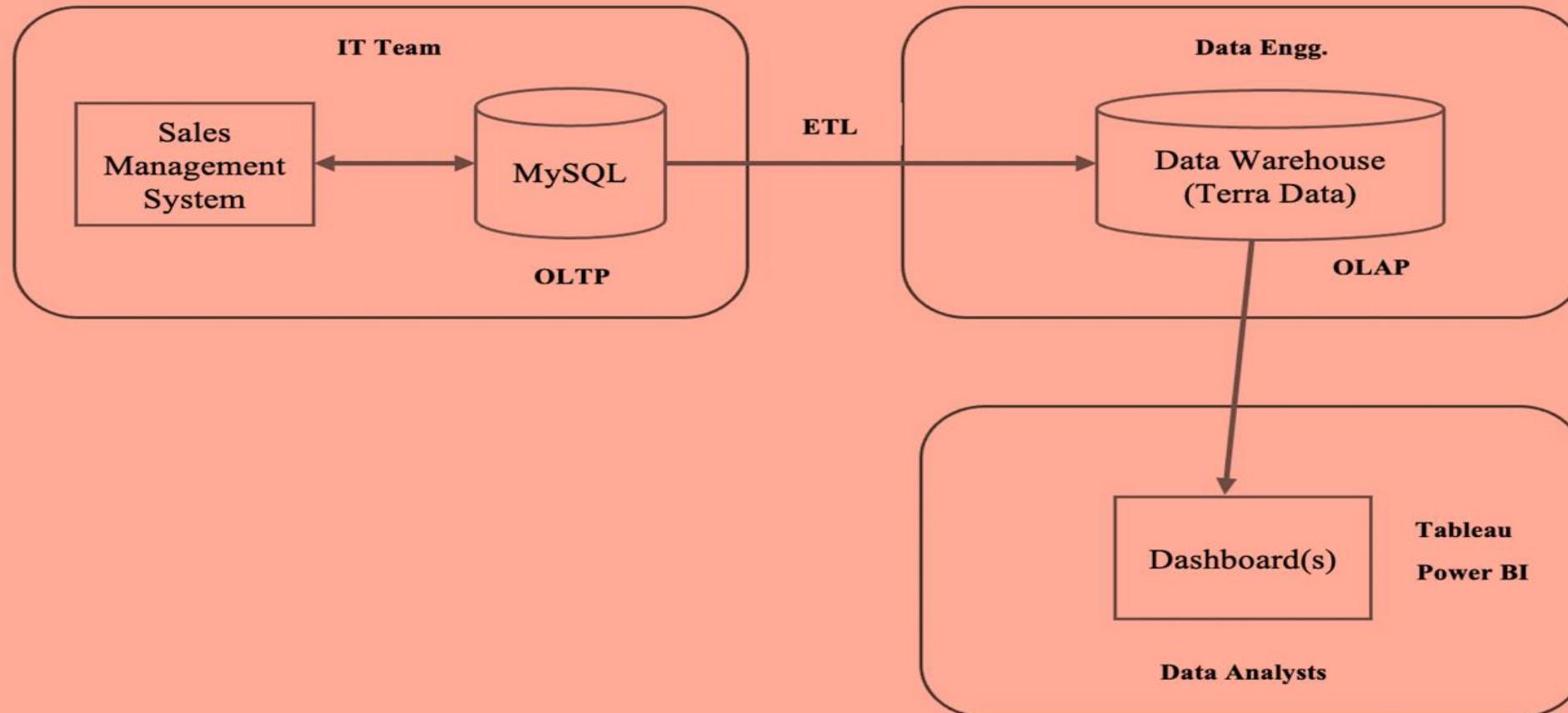
3. End Result: What do we want to achieve?

An automated dashboard providing quick & latest sales insights in order to support data driven decision making.

4. Success Criteria: What will be our success criteria?

- Dashboards uncovering sales order insights with latest data available.
- Sales team able to take better decision & prove 10% cost savings of total spend.
- Sales analysts stop data gathering manually in order to save 20% of their business time & reinvest it in value added activity.

Data Analysis - Approach



Data Analysis Using SQL

1. Show all customer records

```
SELECT * FROM customers;
```

2. Show total number of customers

```
SELECT count(*) FROM customers;
```

3. Show transactions for Chennai market (market code for chennai is Mark001)

```
SELECT * FROM transactions where market_code='Mark001';
```

4. Show distinct product codes that were sold in chennai.

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

5. Show transactions where currency is US dollars.

```
SELECT * from transactions where currency="USD"
```

6. Show transactions in 2020 join by date table.

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

7. Show total revenue in year 2020.

```
SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON  
transactions.order_date=date.date where date.year=2020 and  
transactions.currency="INR\r" or transactions.currency="USD\r";
```

8. Show total revenue in year 2020, January Month.

```
SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON  
transactions.order_date=date.date where date.year=2020 and and  
date.month_name="January" and (transactions.currency="INR\r" or  
transactions.currency="USD\r");
```

9. Show total revenue in year 2020 in Chennai.

```
SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON  
transactions.order_date=date.date where date.year=2020and  
transactions.market_code="Mark001";
```

Data Analysis Using Tableau

Tableau Public Dashboards: [Revenue & Profit Analysis](#)

Creating Star Schema in Tableau

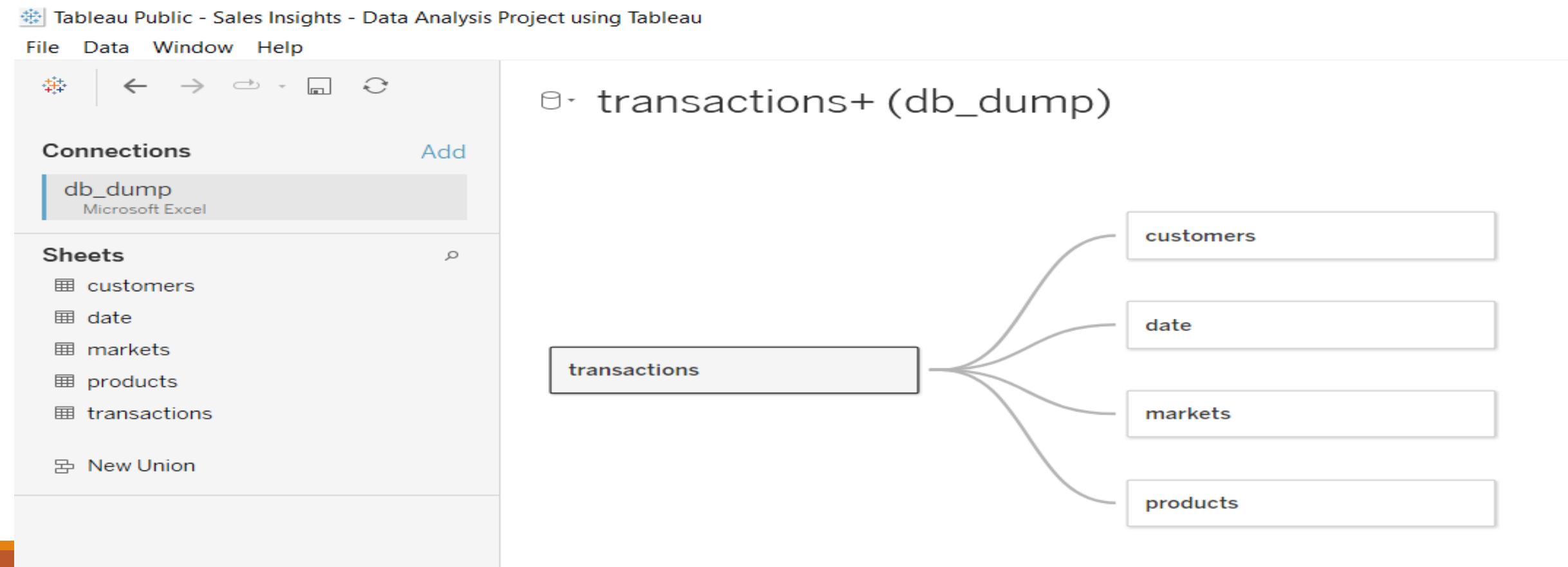


Tableau Dashboard - Revenue Analysis

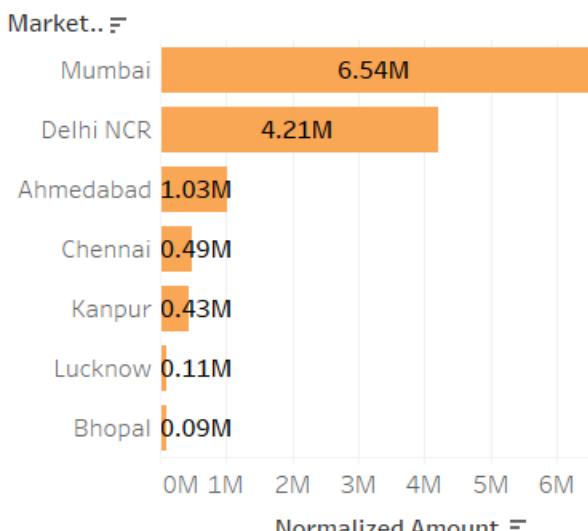


Janu.. Febr.. March April May June July Augu.. Sept.. Octo.. Nove.. Dece..

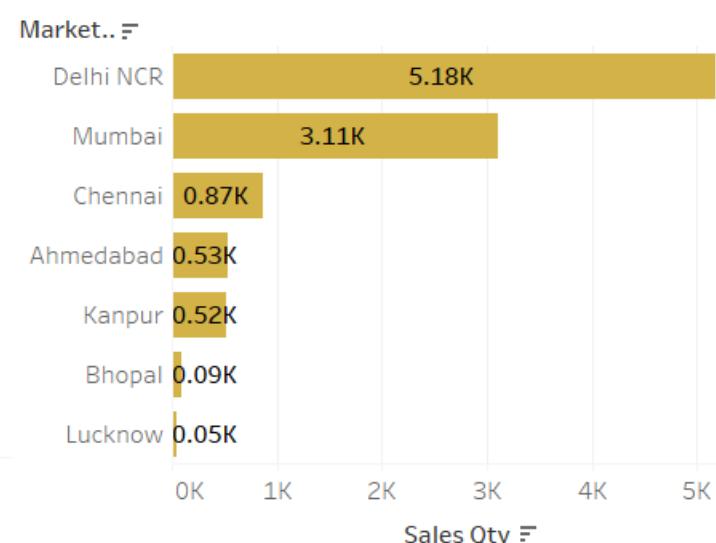
Total Revenue
12.89M

Sales Quantity
10,339

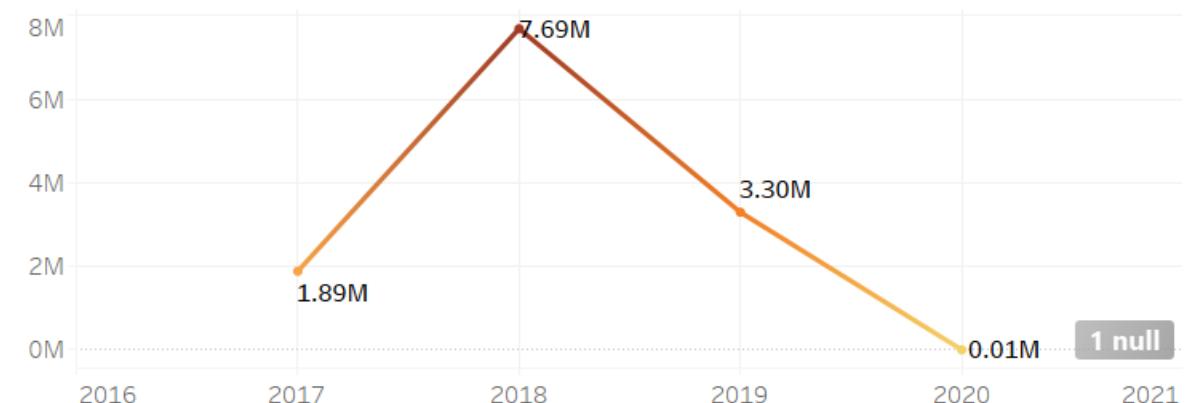
Revenue by Markets



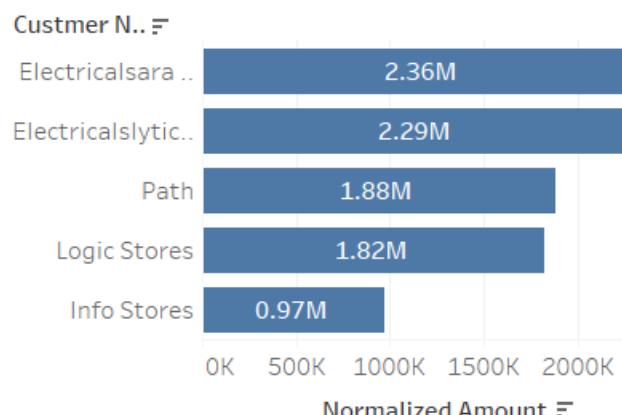
Sales Quantity by Markets



Revenue by Year



Top 5 Customers



Top 5 Products

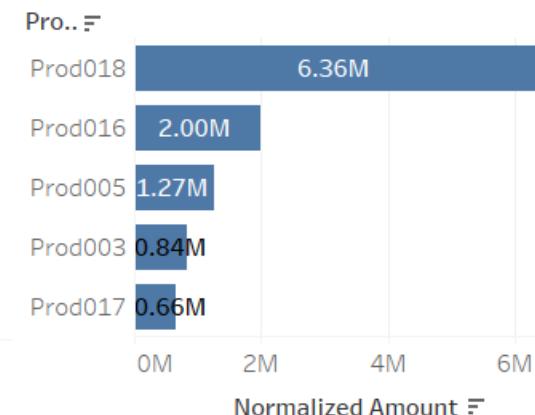


Tableau Dashboard - Profit Analysis

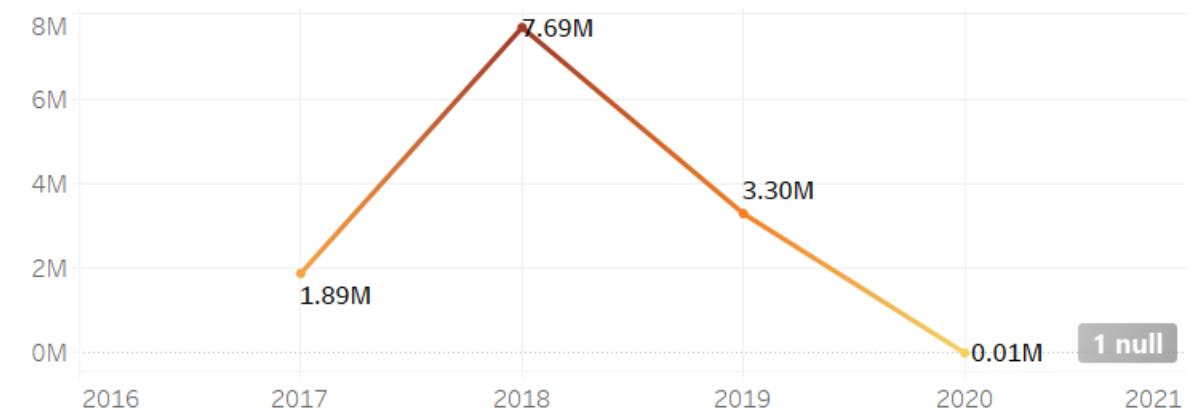


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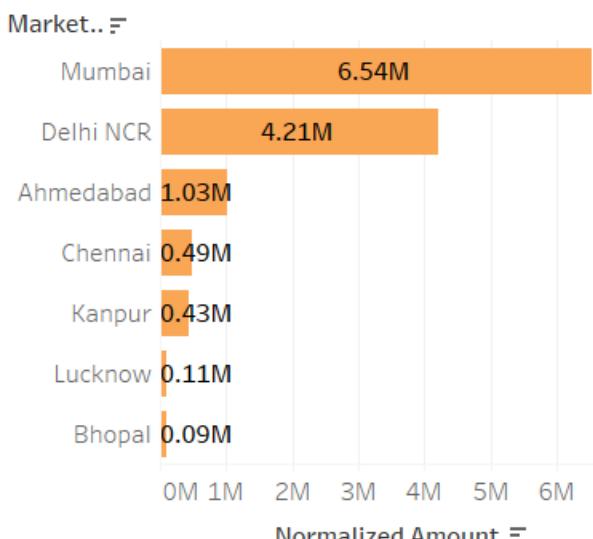
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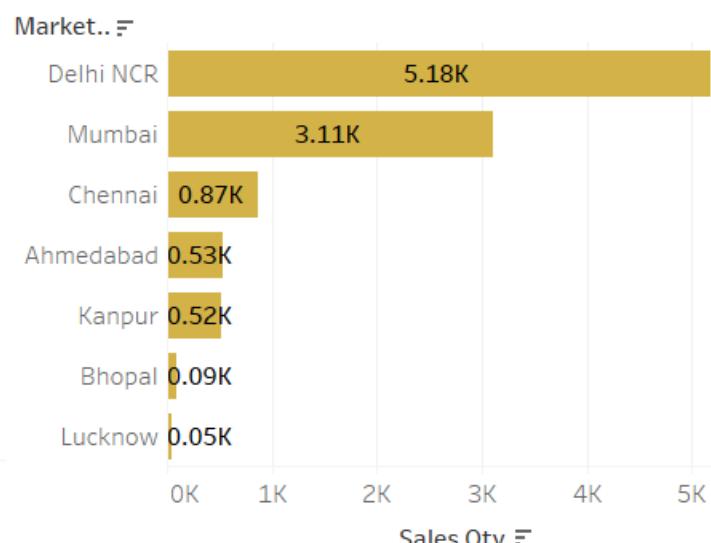
Revenue by Year



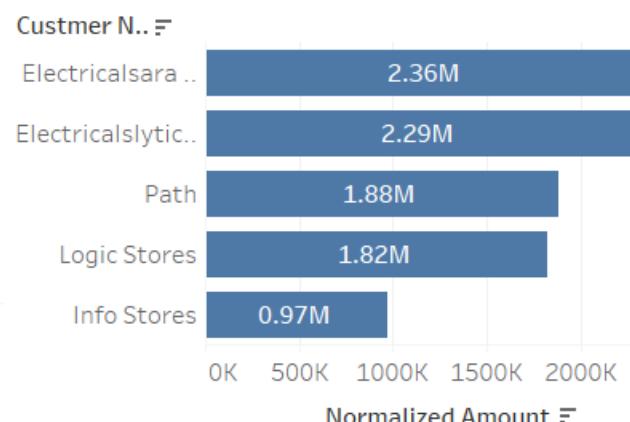
Revenue by Markets



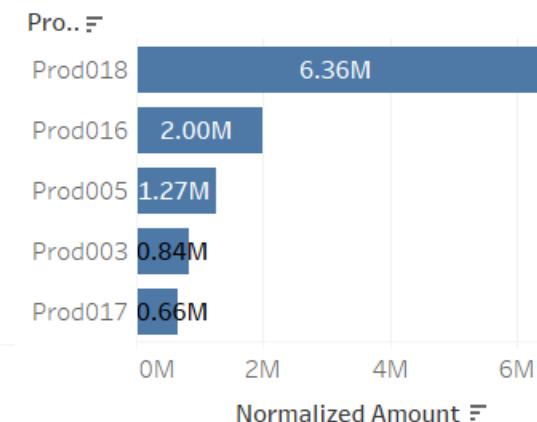
Sales Quantity by Markets



Top 5 Customers

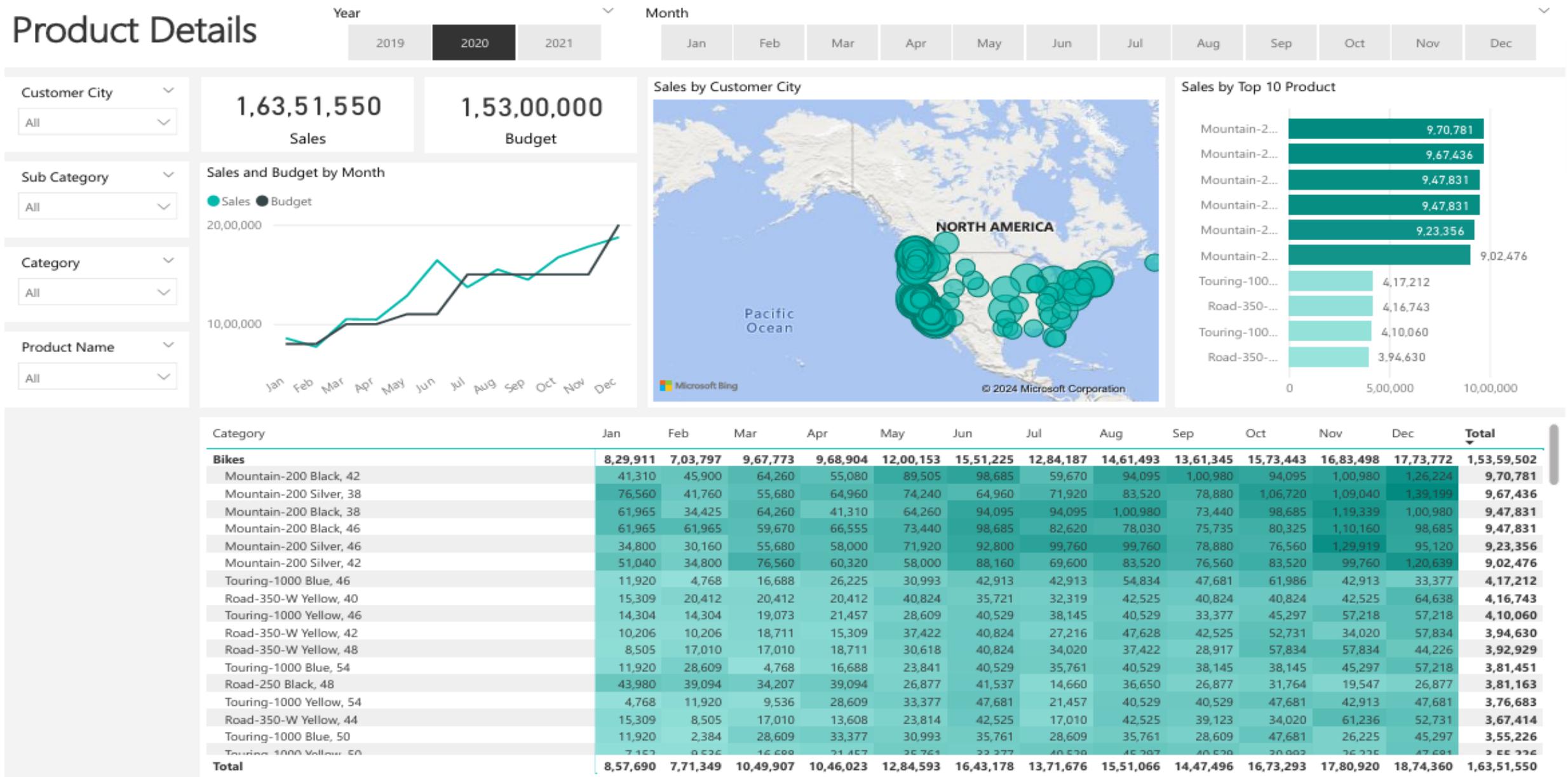


Top 5 Products



Data Analysis Using Power Bi

Product Details



Customer Details

Year

2019 2020 2021

Month

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Customer City

All

1,63,51,550

Sales

1,53,00,000

Budget

Sub Category

All

Sales and Budget by Month

Sales • Budget

20,00,000

10,00,000

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Category

All

Product Name

All

Sales by Customer City



Sales by Top 10 Customers

Jordan Turner	11,484
Maurice Shan	10,861
Janet Munoz	10,418
Nichole Nara	9,717
Margaret He	9,691
Randall Do...	9,688
Adriana Gon...	9,664
Rosa Hu	9,637
Brad She	9,595
Francisco Sara	9,586

0 5,000 10,000

Customer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Jordan Turner	2,377				2,355		540	2,433	540		3,239		11,484
Maurice Shan	4,885		2,322				1,269		2,384				10,861
Janet Munoz	4,876		3,122							2,419			10,418
Nichole Nara	2,482			2,494	2,322						2,419		9,717
Margaret He	2,500			2,423	2,340						2,428		9,691
Randall Dominguez	4,864			2,355						2,469			9,688
Adriana Gonzalez	2,498		2,393		2,320					2,453			9,664
Rosa Hu			2,492		4,747						2,398		9,637
Brad She	2,443			2,423	2,345						2,384		9,595
Francisco Sara	2,451		2,433		2,295					2,407			9,586
Lacey Zheng	2,462					594	549	2,419			756	2,419	9,199
Larry Munoz	2,320					575	540	2,384			781	2,419	9,019
Ariana Gray		2,502					575		2,413		570	2,419	8,480
Franklin Xu								2,334	1,274	2,419	2,377		8,404
Marco Lopez		2,330						2,433				3,634	8,397
Willie Xu			777					2,375		2,295	2,393		7,840
Katrina Tang					2,440	2,433	2,480						7,353
Franklin Xu					2,345	1,000							7,241
Total	8,57,690	7,71,349	10,49,907	10,46,023	12,84,593	16,43,178	13,71,676	15,51,066	14,47,496	16,73,293	17,80,920	18,74,360	1,63,51,550

Sales Overview

Year

2019

2020

2021

Month

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Customer City

All

Sub Category

All

Category

All

Product Name

All

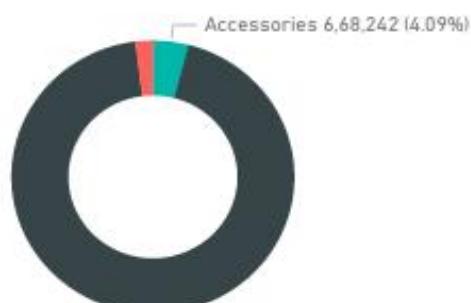
Sales vs Budget

16,351,550

15,300,000.00

1,051,550 ↑

Sales by Product Category



Sales and Budget by Month

● Sales ● Budget

20,00,000

10,00,000

15,00,000

20,000

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sales by Top 10 Customers

Jordan Turner	11,484
Maurice Shan	10,861
Janet Munoz	10,418
Nichole Nara	9,717
Margaret He	9,691
Randall Do...	9,688
Adriana Gon...	9,664
Rosa Hu	9,637
Brad She	9,595
Francisco Sara	9,586

Sales by Top 10 Products

Mountain-2...	9,70,781
Mountain-2...	9,67,436
Mountain-2...	9,47,831
Mountain-2...	9,47,831
Mountain-2...	9,23,356
Mountain-2...	9,02,476
Touring-100...	4,17,212
Road-350-W...	4,16,743
Touring-100...	4,10,060
Road-350-W...	3,94,630

Sales by Customer City

