**Project : Supply Chain Analysis**

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Problem Statement

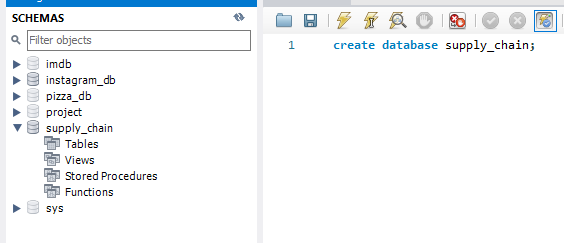
KPI’s REQUIREMENT

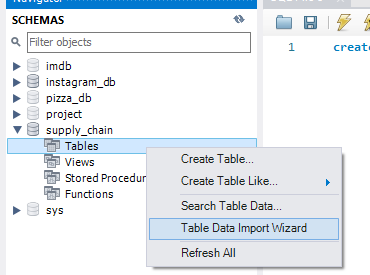
We need to analyse key indicators for our Supply Chain data to gain insights into our business performance. Specifically, we want to calculate the following metrics:

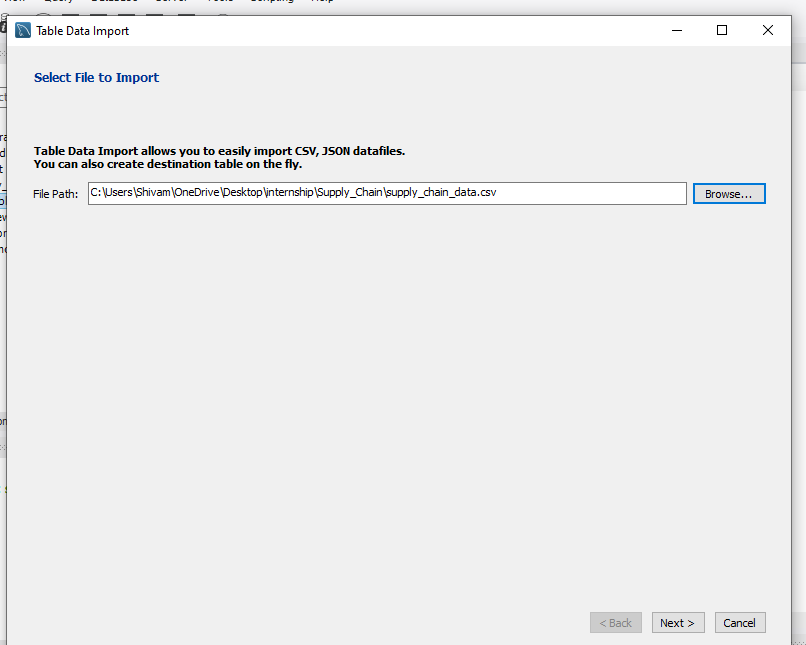
1. Total Revenue generated
2. Total Orders Quantity
3. Total Availability
4. Total Stocks Levels
5. Total Lead Times

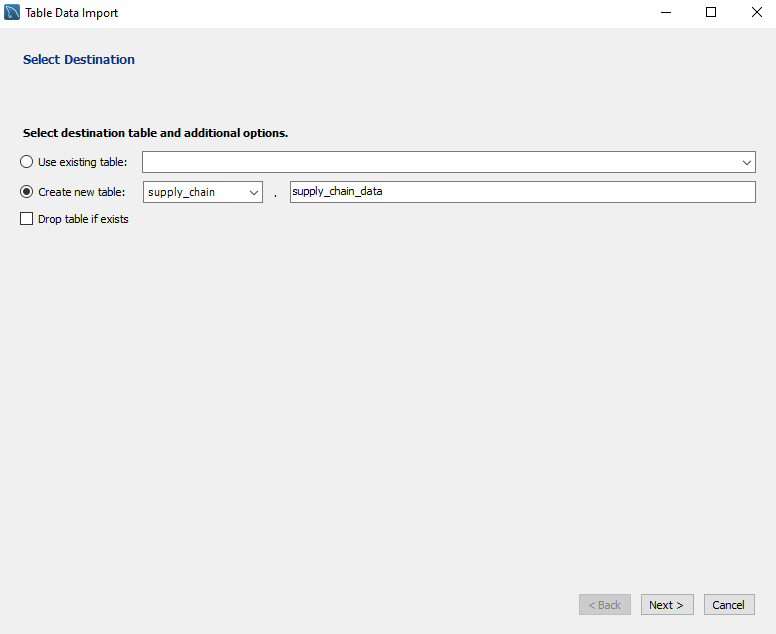
**Data Analysis using MySQL**

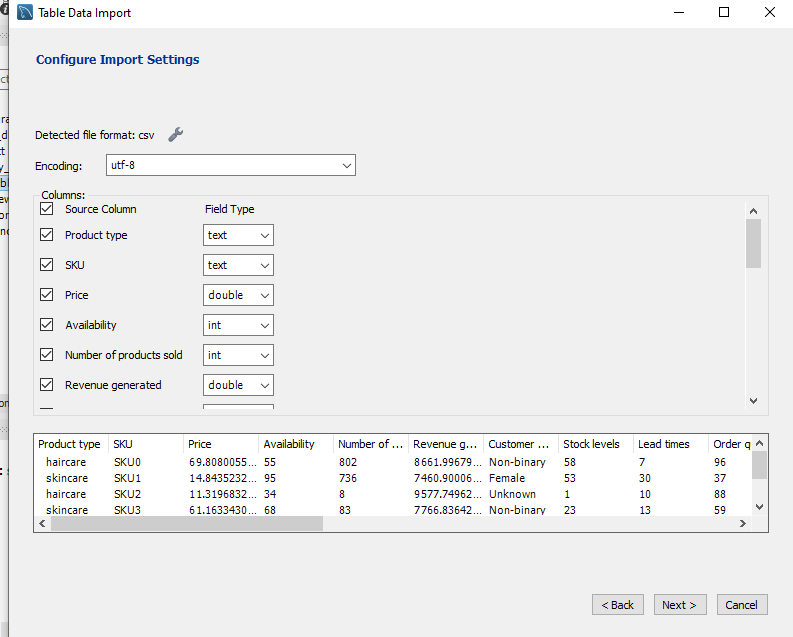
Utilized MySQL for data extraction and calculation of key metrics such as Total Revenue Generated, Total Orders Quantity, Total Availability, Total Stocks Levels, Total Lead Times.

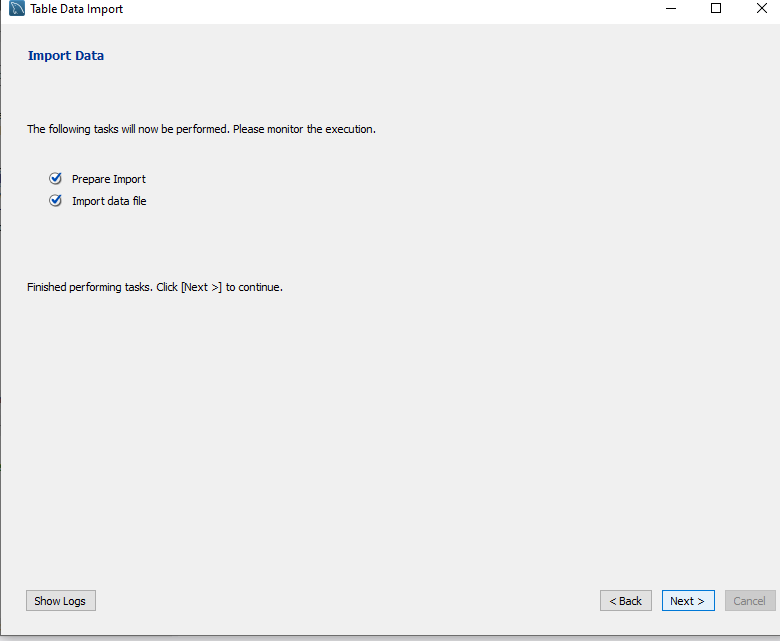


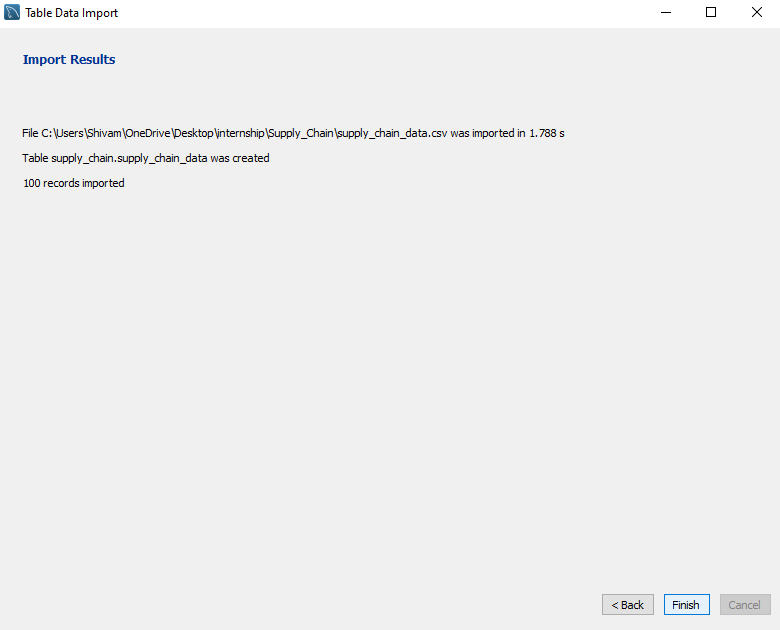


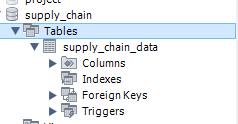








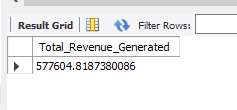




**SUPPLY CHAIN MANAGEMENT SQL QUERIES**

1. KPI’s
2. Total Revenue Generated:

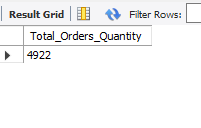
select sum(Revenue\_generated) as Total\_Revenue\_Generated from supply\_chain\_data;



1. Total Orders Quantity:

select sum(Order\_quantities) as Total\_Orders\_Quantity from supply\_chain\_data;

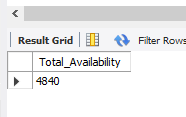
Output



1. Total Availability:

select sum(Availability) as Total\_Availability from supply\_chain\_data;

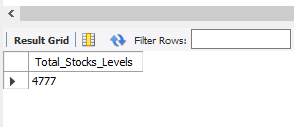
Output:



1. Total Stocks Levels :

select sum(Stock\_levels) as Total\_Stocks\_Levels from supply\_chain\_data;

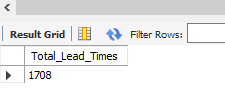
Output:



1. Total Lead Times:

select sum(Lead\_time) as Total\_Lead\_Times from supply\_chain\_data;

Output:

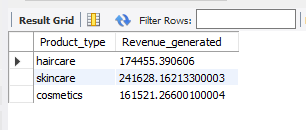


1. Revenue Distribution
2. Revenue Generated by Product Type:

select Product\_type, sum(Revenue\_generated) as Revenue\_generated

from supply\_chain\_data

group by Product\_type;

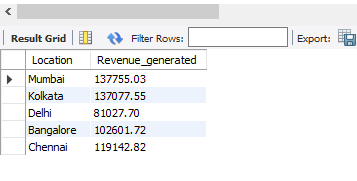


1. Revenue Generated by Location

select Location, cast(sum(Revenue\_generated) as decimal(10,2)) as Revenue\_generated

from supply\_chain\_data

group by Location;



1. Revenue Generated by Price Range

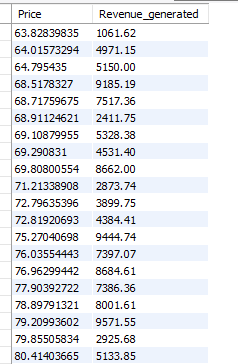
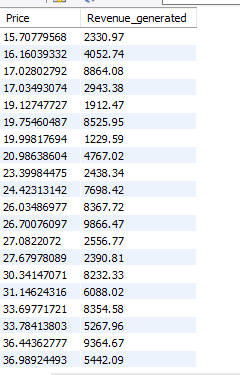
select Price, cast(sum(Revenue\_generated) as decimal(10,2)) as Revenue\_generated

from supply\_chain\_data

group by Price

order by Price;

Output



1. Distribution Manufacturing Cost
2. Relationship between Manufacturing Cost and Revenue Generated

select Product\_type ,

cast(sum(Manufacturing\_costs) as Decimal(10,2)) as Manufacturing\_Cost,

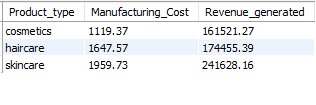
cast(sum(Revenue\_generated) as decimal(10,2)) as Revenue\_generated

from supply\_chain\_data

group by Product\_type

order by Product\_type;

Output



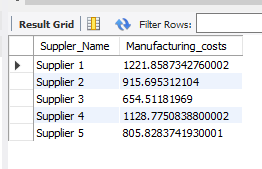
1. Distribution of manufacturing Costs by Supplier Name

select Supplier\_name as Suppler\_Name, sum(Manufacturing\_costs) AS Manufacturing\_costs

from supply\_chain\_data

group by Supplier\_Name

order by Supplier\_Name;



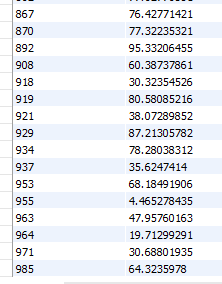
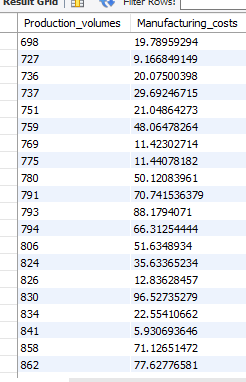
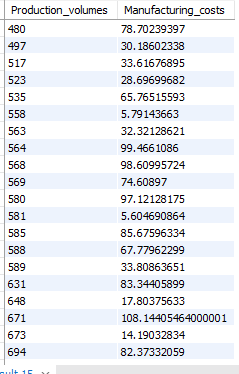
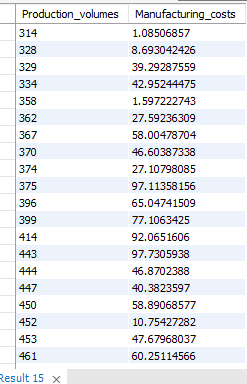
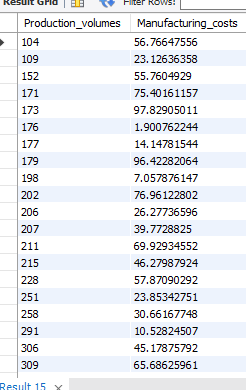
1. Distribution of manufacturing Costs by Production Volumes

select Production\_volumes, sum(Manufacturing\_costs) AS Manufacturing\_costs

from supply\_chain\_data

group by Production\_volumes

order by Production\_volumes;



1. Manufacturing Cost by Inspection Results

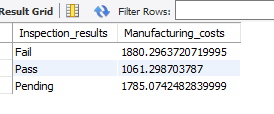
select Inspection\_results, sum(Manufacturing\_costs) AS Manufacturing\_costs

from supply\_chain\_data

group by Inspection\_results

order by Inspection\_results;

Output



1. Comparison of Manufacturing Costs and Price by Product Type

select Product\_type,

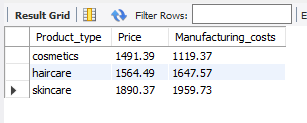
cast(sum(Price) as decimal(10,2)) as Price,

cast(sum(Manufacturing\_costs) as decimal(10,2)) AS Manufacturing\_costs

from supply\_chain\_data

group by Product\_type

order by Product\_type;



1. Manufacturing Cost by Product Type

select Product\_type,

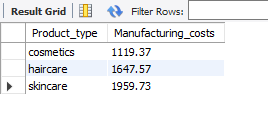
cast(sum(Manufacturing\_costs) as decimal(10,2)) AS Manufacturing\_costs

from supply\_chain\_data

group by Product\_type

order by Product\_type;

Output



1. Orders & Shipping Cost
2. Order Quantity by Location

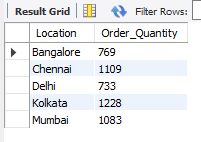
select Location, sum(Order\_quantities) as Order\_Quantity

from supply\_chain\_data

group by Location

order by Location;

Output



1. Average Order Quantity by Shipping Cost

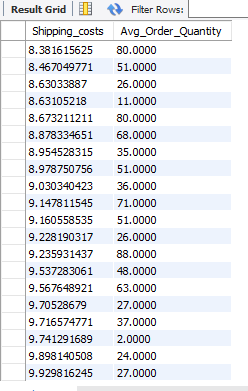
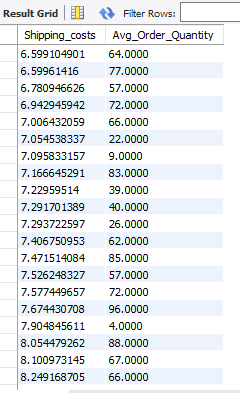
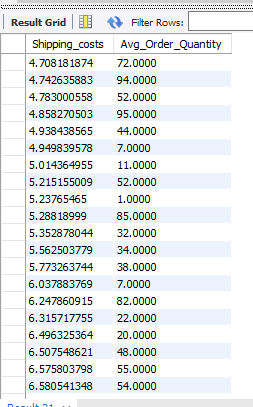
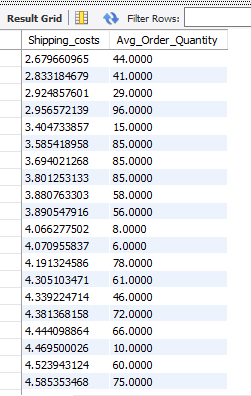
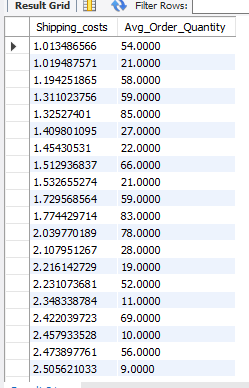
select Shipping\_costs,

avg(Order\_quantities) as Avg\_Order\_Quantity

from supply\_chain\_data

group by Shipping\_costs

order by Shipping\_costs;



1. Relationship between Total Sipping Costs and Number of Product Sold

select Customer\_demographics,

sum(Number\_of\_products\_sold) as Number\_of\_products\_sold,

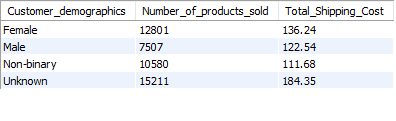
cast(sum(Shipping\_costs) as decimal(10,2)) as Total\_Shipping\_Cost

from supply\_chain\_data

group by Customer\_demographics

order by Customer\_demographics;

Output



1. Shipping Costs by Shipping Carriers

select Shipping\_carriers,

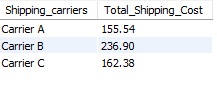
cast(sum(Shipping\_costs) as decimal(10,2)) as Total\_Shipping\_Cost

from supply\_chain\_data

group by Shipping\_carriers

order by Shipping\_carriers;

Output



1. Shipping Costs by Transportation Mode

select Transportation\_modes,

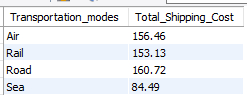
cast(sum(Shipping\_costs) as decimal(10,2)) as Total\_Shipping\_Cost

from supply\_chain\_data

group by Transportation\_modes

order by Transportation\_modes;

Output



1. Avg. Lead Time by Product Type

select Product\_type,

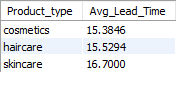
avg(Lead\_times) as Avg\_Lead\_Time

from supply\_chain\_data

group by Product\_type

order by Product\_type;

Output



1. Avg. Defect Rate by Product Type

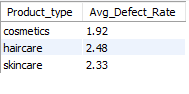
select Product\_type,

cast(avg(Defect\_rates) as decimal(10,2)) as Avg\_Defect\_Rate

from supply\_chain\_data

group by Product\_type

order by Product\_type;



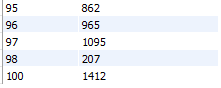
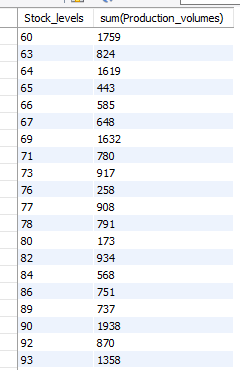
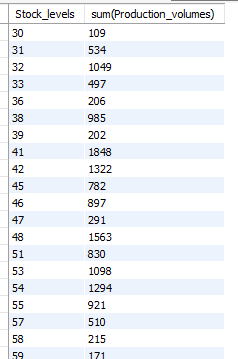
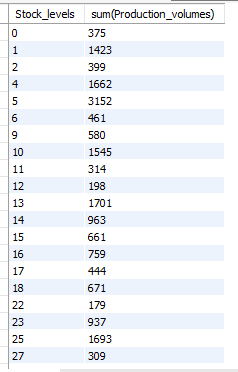
1. Relationship between Production Volumes and Stocks

select Stock\_levels, sum(Production\_volumes)

from supply\_chain\_data

group by Stock\_levels

order by Stock\_levels;



Build Dashboard or a Report using Tableau

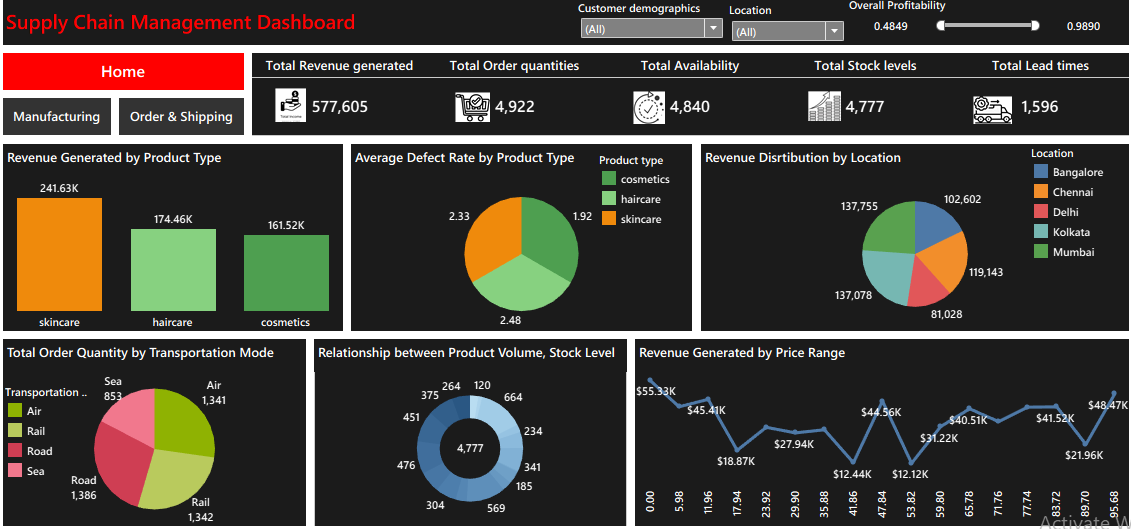
Created a comprehensive dashboard in Tableau featuring key metrics and charts,

KPI’S

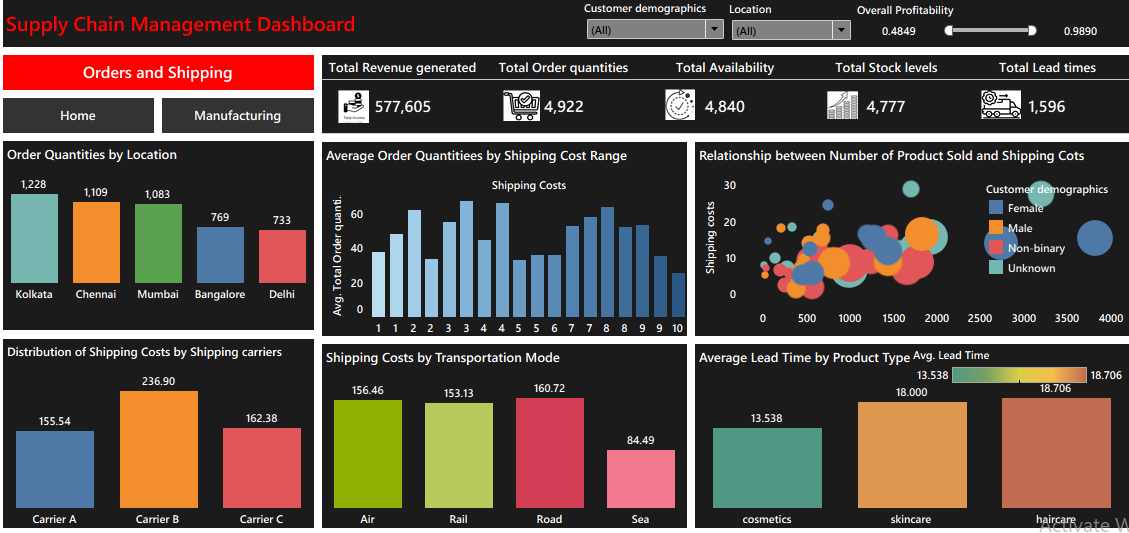
* Total Revenue generated Sum([Revenue\_generated])
* Total Orders Quantity Sum([Orders\_quantity])
* Total Availability Sum([Availability])
* Total Stocks Levels Sum([Stocks\_levels])
* Total Lead Times Sum([Lead\_times])



DASHBOARD







Tools, Software, and Libraries

**· MySQL Workbench 8.0 CE**

for data analysis and storage

**· Tableau Public 2025.2.0**

for dashboard creation and visualization

**· Excel version 2024**

for initial data exploration and manipulation