SUPPLY CHAIN MANAGEMENT DASHBOARD

Tools: Power BI Desktop , Excel

Technologies: business Analyst

Project no: 5 UNID: UMIP17528

INTRODUCTION

- Supply chain analytics is a valuable part of data-driven decision-making in various industries such as
- manufacturing, retail, healthcare, and logistics. It is the process of collecting, analyzing and interpreting
- data related to the movement of products and services from suppliers to customers.

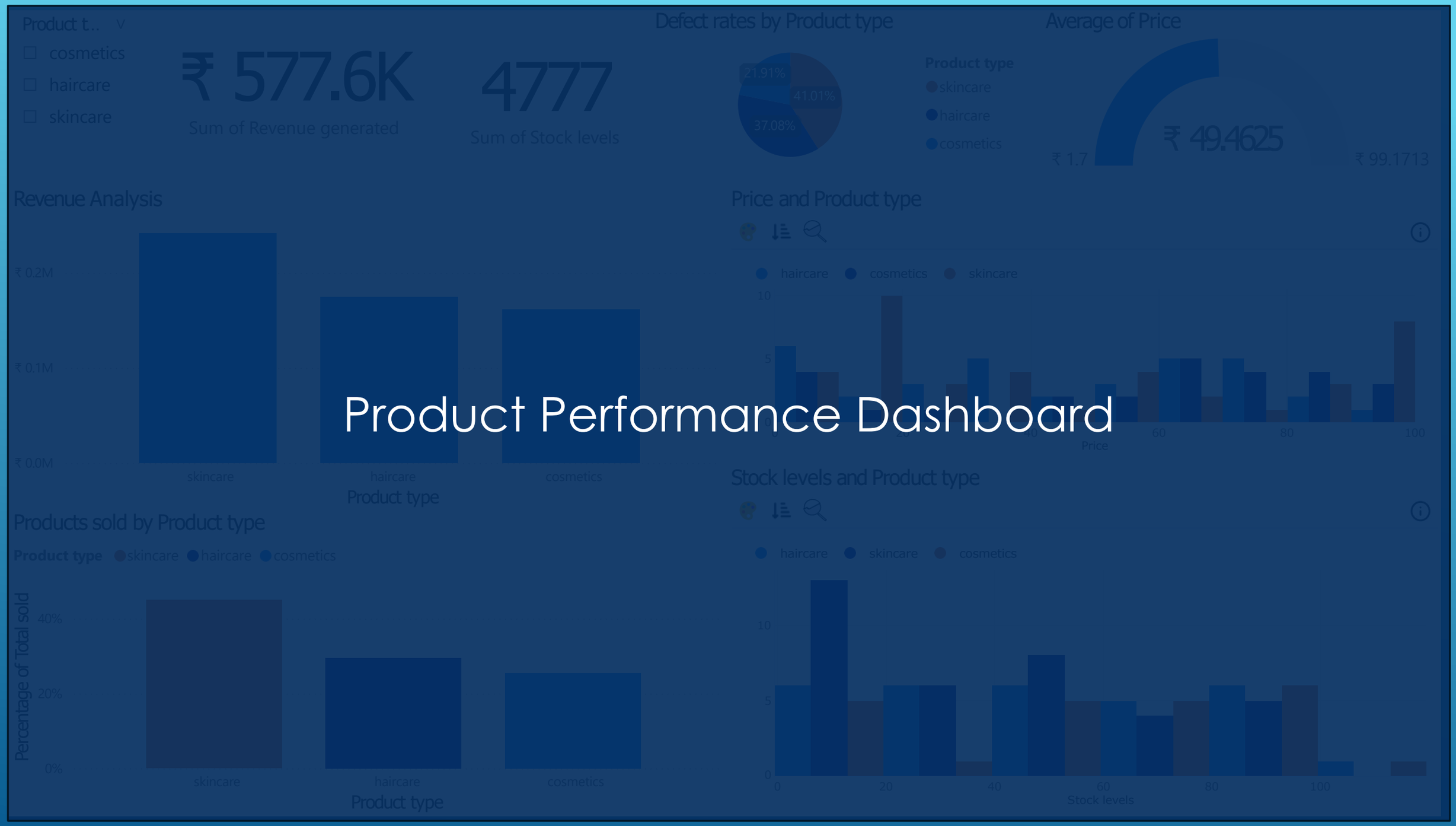
Task: Analyze Product Performance and Supply Chain Efficiency

DATASET OVERVIEW

dataset we collected from a Fashion and Beauty startup. The dataset is based on the supply chain of Makeup products. Below are all the features in the dataset:

- ● Product Type
- ● SKU
- ● Price
- ● Availability
- ● Number of products sold
- ● Revenue generated
- ● Customer demographics
- ● Stock levels
- ● Lead times
- ● Order quantities
- ● Shipping times
- ● Shipping carriers
- ● Shipping costs
- ● Supplier name
- ● Location
- ● Lead time
- ● Production volumes
- ● Manufacturing lead time
- ● Manufacturing costs
- ● Inspection results
- ● Defect rates
- ● Transportation modes
- ● Routes
- ● Costs

Product Performance Dashboard



Product t.. ∨

- ☐ cosmetics
- ☐ haircare
- ☐ skincare

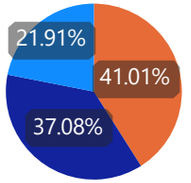
₹ 577.6K

Sum of Revenue generated

4777

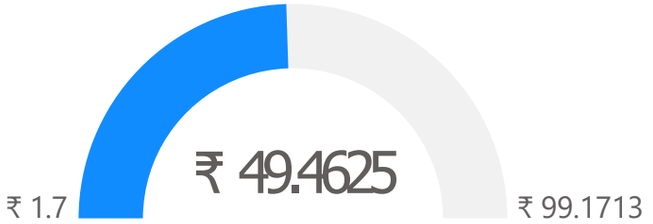
Sum of Stock levels

Defect rates by Product type

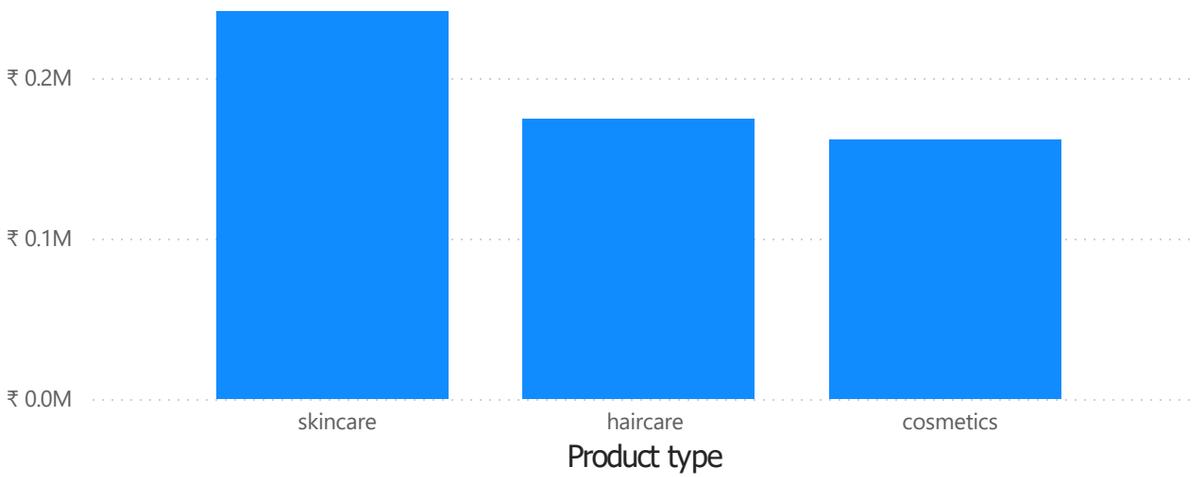


Product type
- skincare
- haircare
- cosmetics

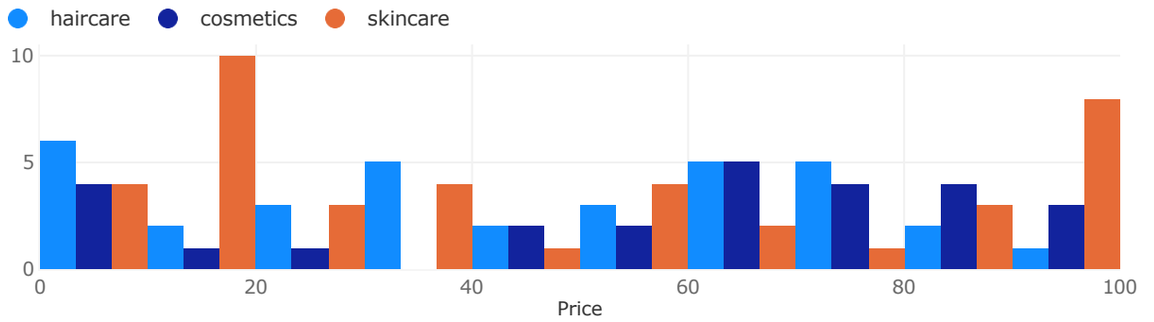
Average of Price



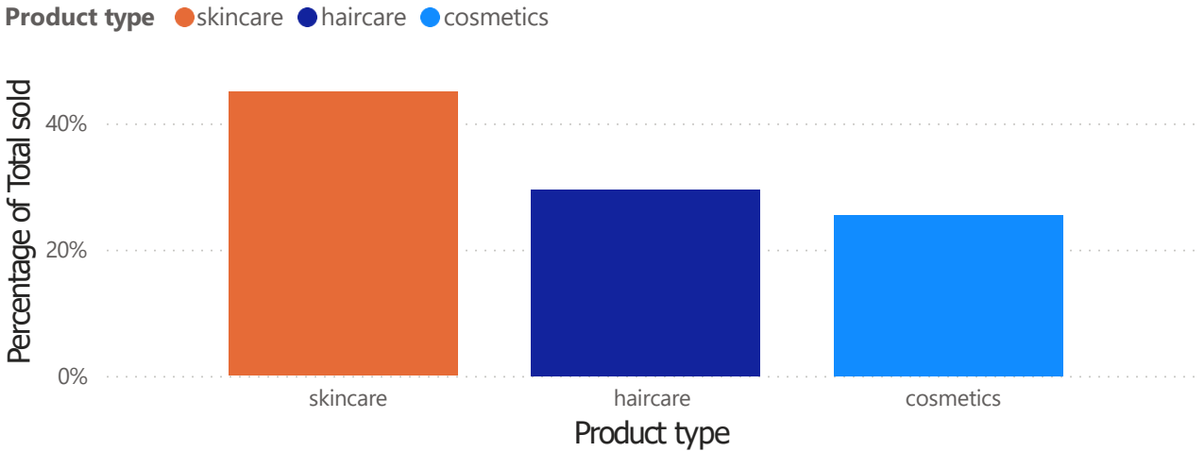
Revenue Analysis



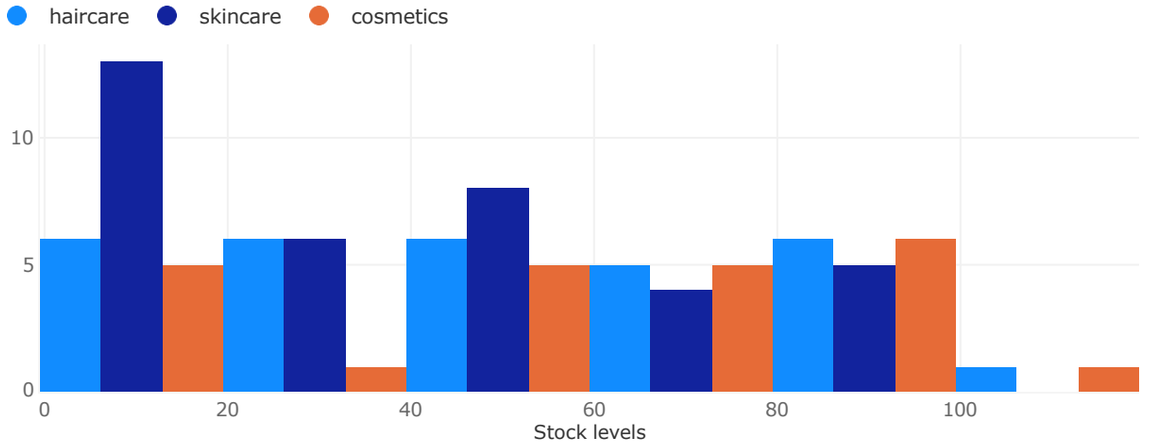
Price and Product type



Products sold by Product type



Stock levels and Product type



Product t.. ∨

- ☐ cosmetics
- ☐ haircare
- ☐ skincare

₹ 577.6K

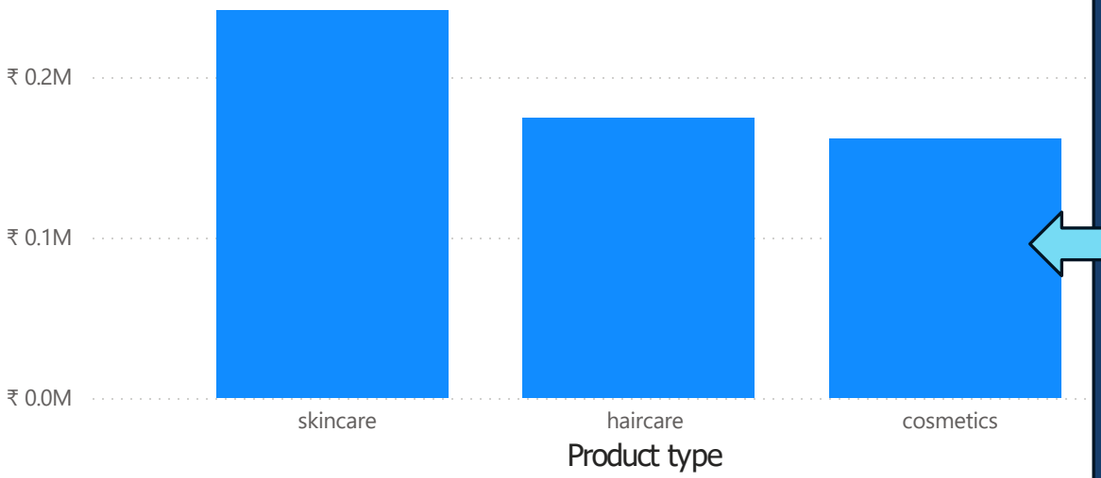
Sum of Revenue generated

4777

Sum of Stock levels

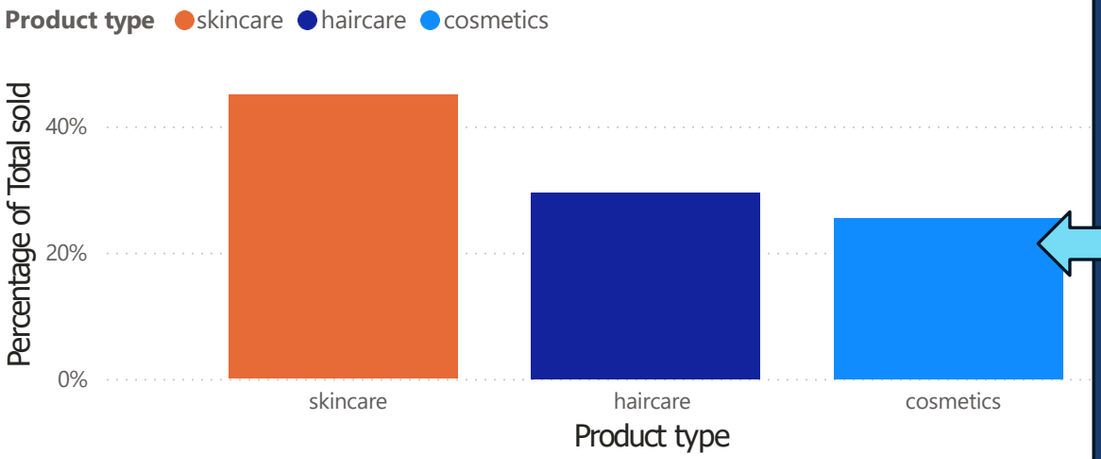
Cards showing total Revenue Generated and total Stock levels

Revenue Analysis

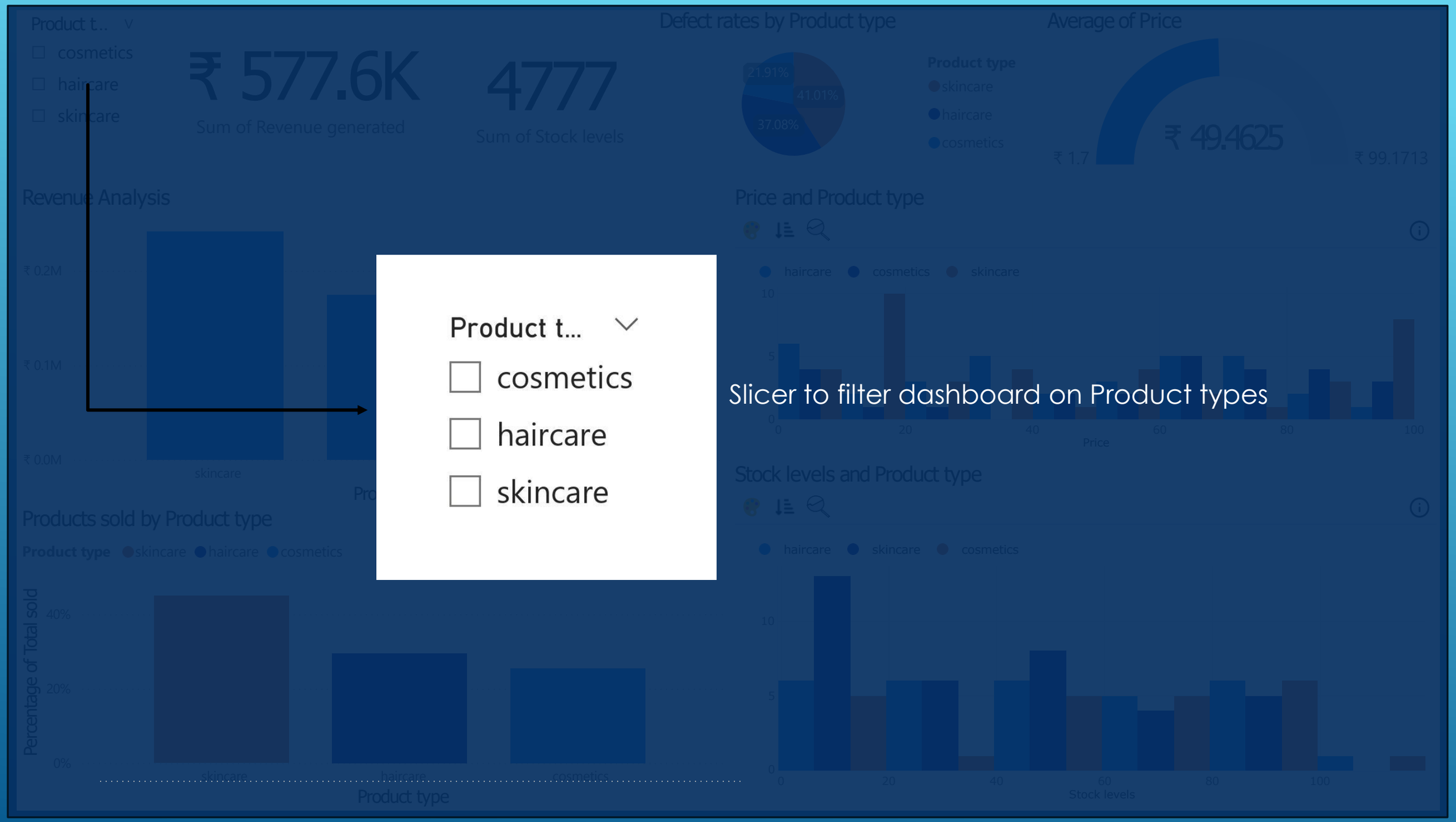


Bar chart of revenue of each Product type

Products sold by Product type



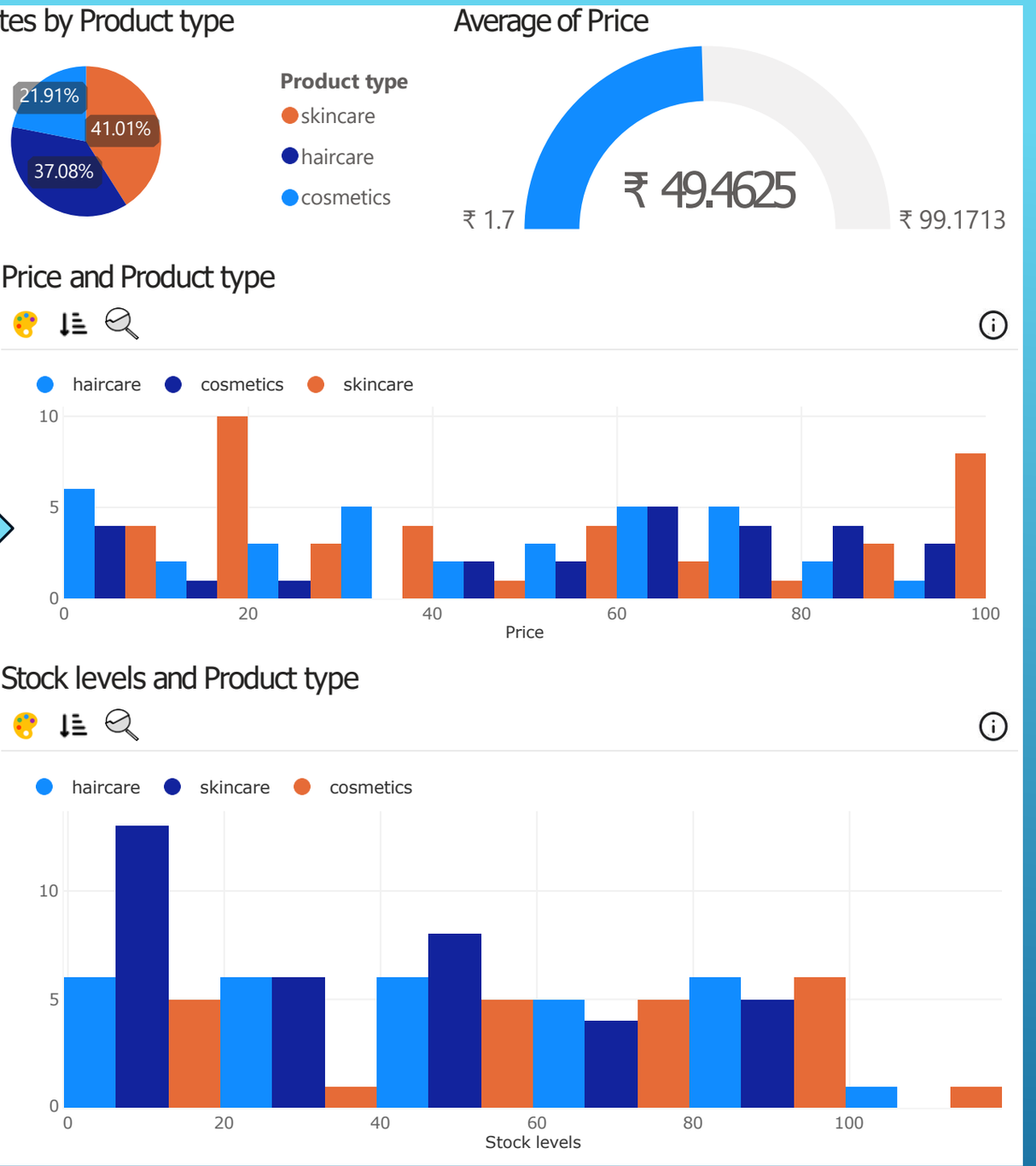
Bar chart Product sold for each type


Product t...
cosmetics
haircare
skincare
₹ 577.6K
Sum of Revenue generated
4777
Sum of Stock levels
Defect rates by Product type
21.91%
41.01%
37.08%
Product type
skincare
haircare
cosmetics
Average of Price
₹ 1.7
₹ 49.4625
₹ 99.1713
Revenue Analysis
₹ 0.2M
₹ 0.1M
₹ 0.0M
skincare
Price and Product type
haircare
cosmetics
skincare
Price
Product t...
cosmetics
haircare
skincare
Slicer to filter dashboard on Product types
Products sold by Product type
Product type
skincare
haircare
cosmetics
Percentage of Total sold
40%
20%
0%
Product type
Stock levels and Product type
haircare
skincare
cosmetics
Stock levels

A pie chart which shows defeat raids of prototypes and Gauge Indicator showing average price with minimum and maximum

Chart of Price Distribution of each product type

Histogram of Stock Levels with each Product type



Supply Chain Efficiency Dashboard

Location
All

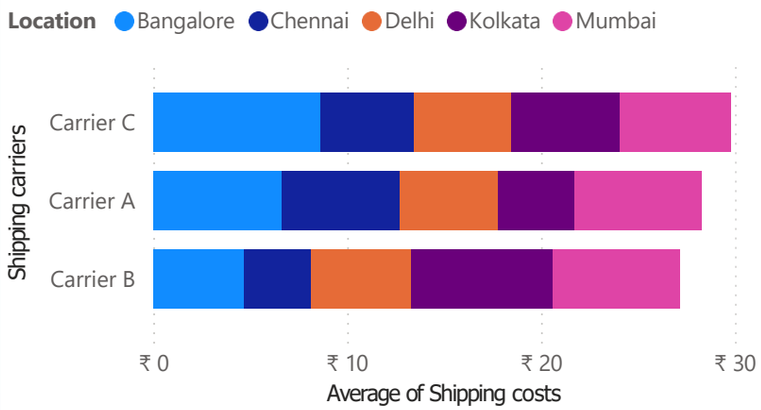
Supplier name
All

2.28
Average of Defect rates

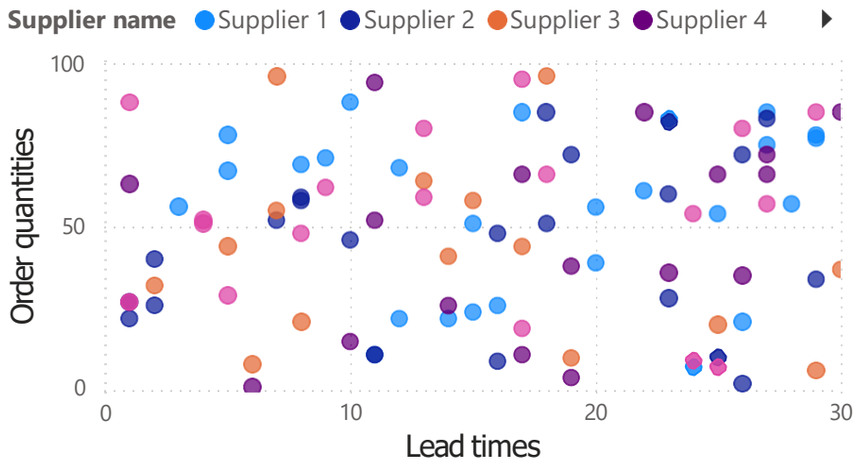
567.84
Average of Production volumes

14.77
Average of Manufacturing lead time

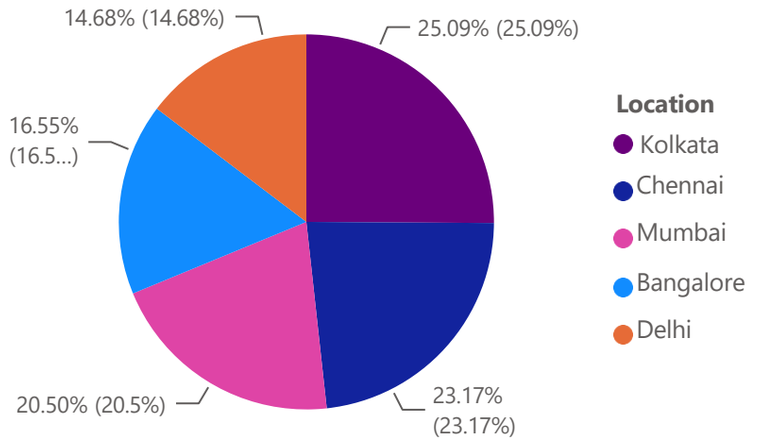
Average Shipping costs by Shipping carriers and Location



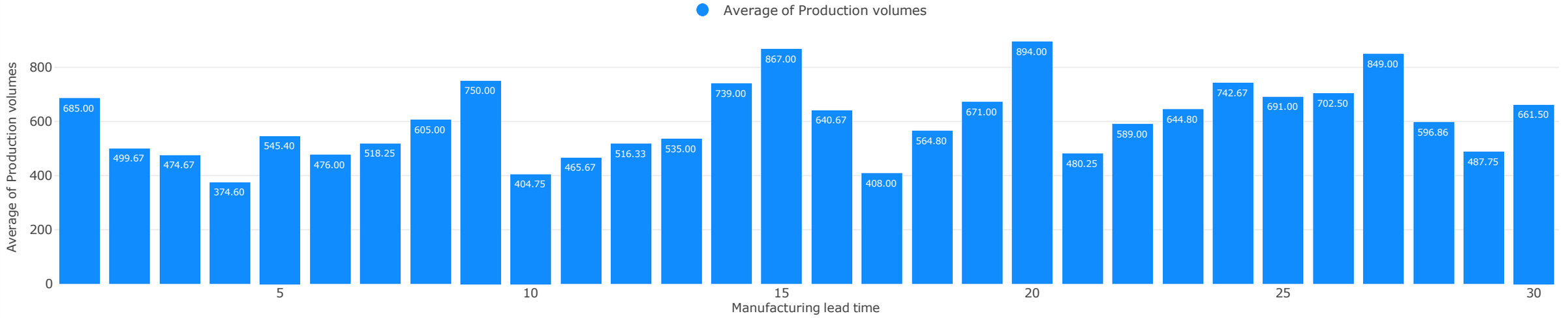
Lead Times vs. Order Quantities:



Defect rates by Location



Manufacturing Efficiency:



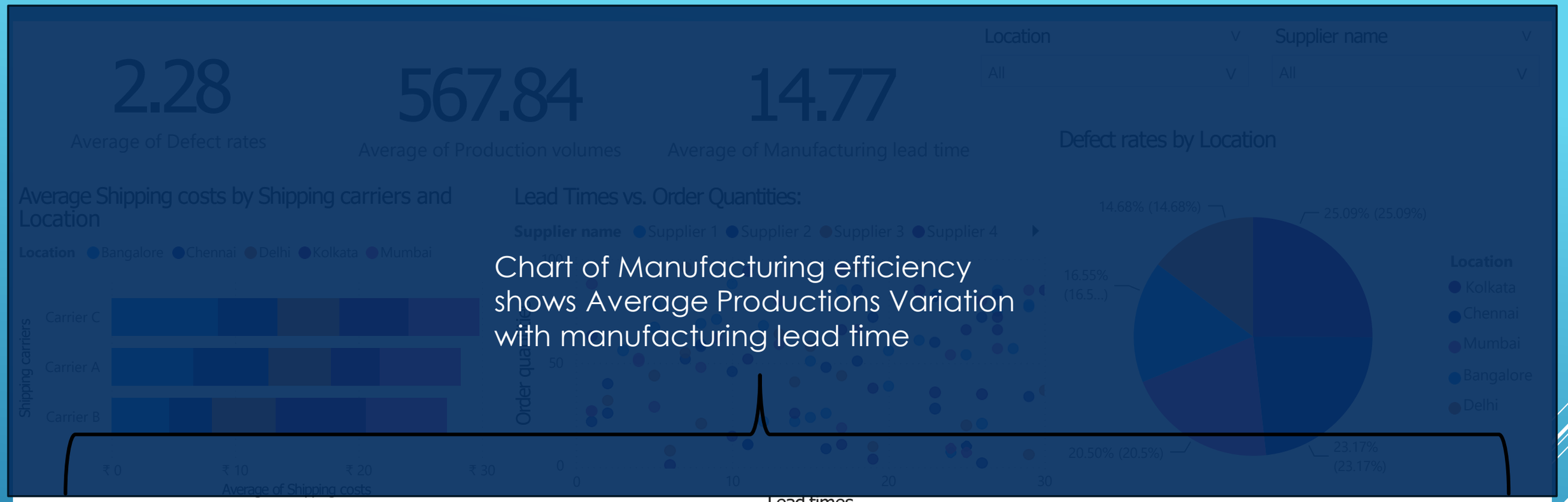
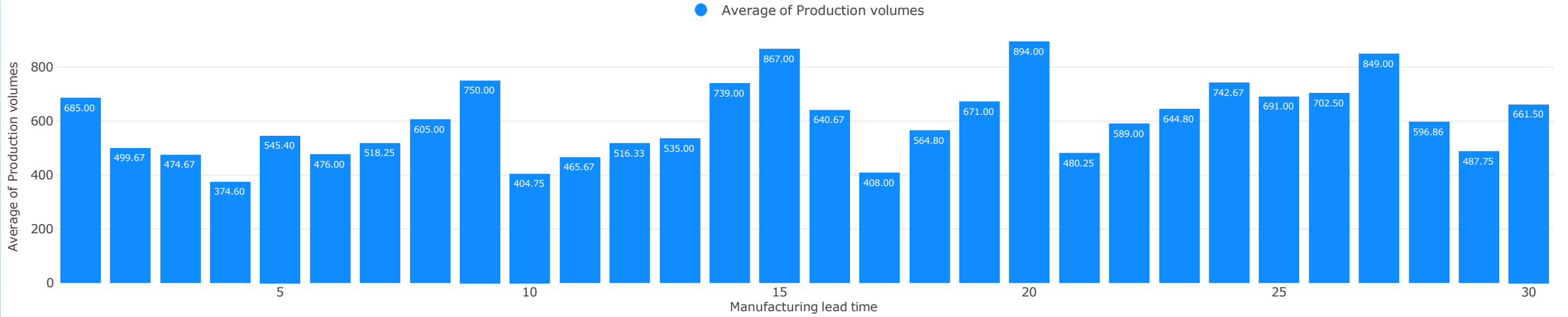
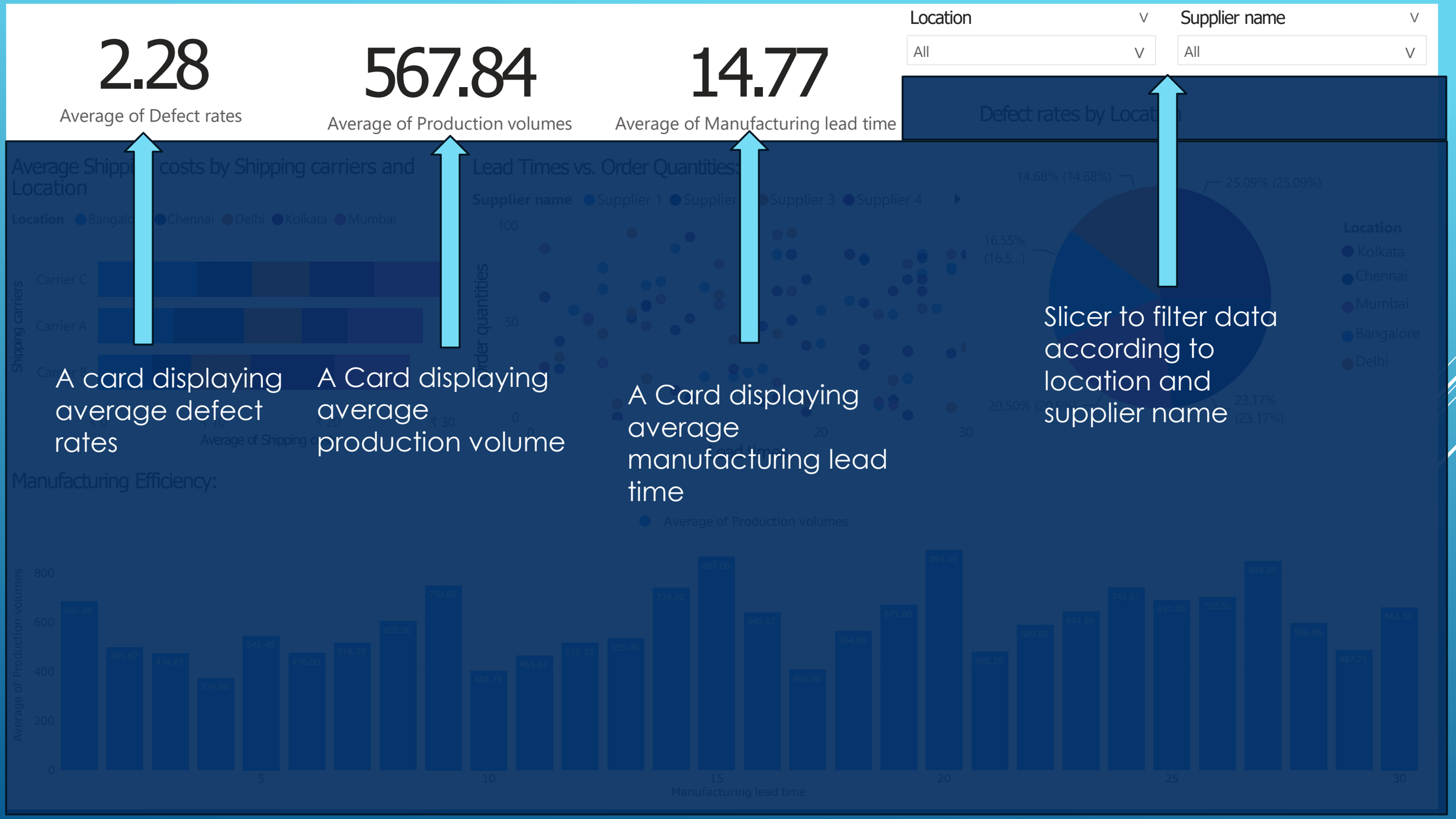
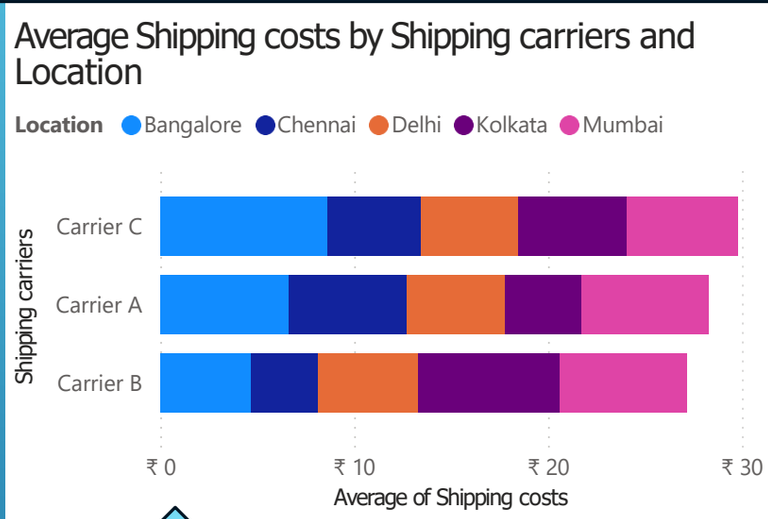


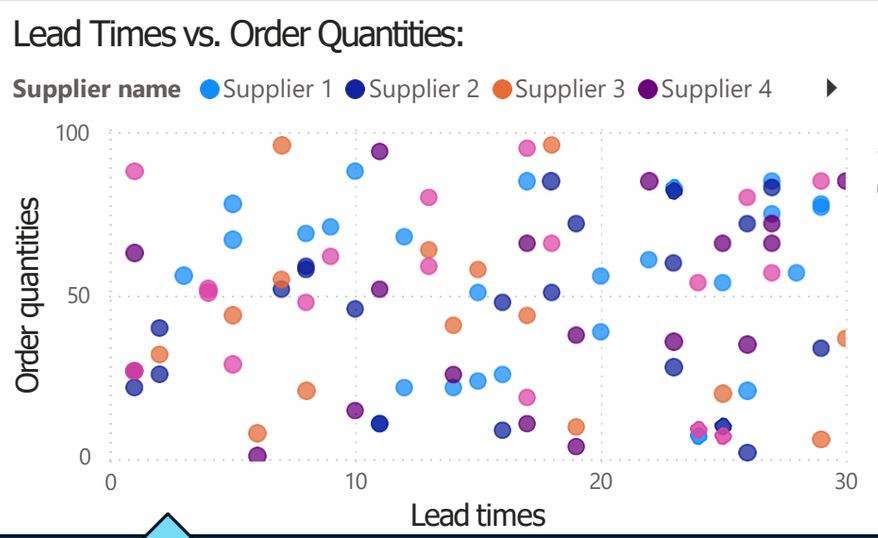
Chart of Manufacturing efficiency shows Average Productions Variation with manufacturing lead time

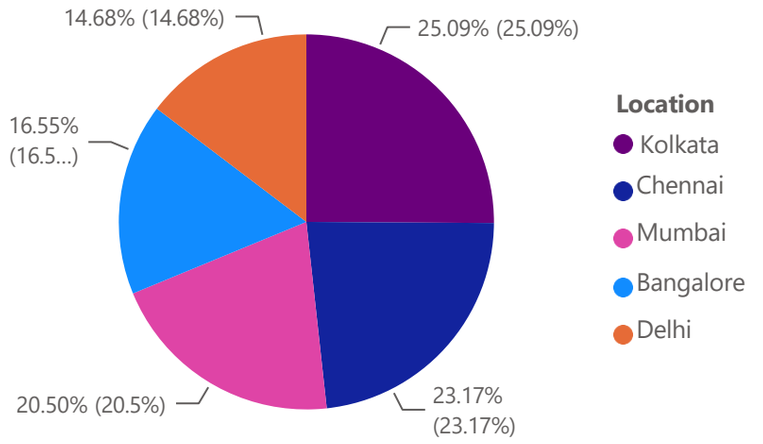
Manufacturing Efficiency:




2.28
Average of Defect rates
567.84
Average of Production volumes
14.77
Average of Manufacturing lead time
Location
All
Supplier name
All
Defect rates by Location
Average Shipping costs by Shipping carriers and Location
Location Bangalore Chennai Delhi Kolkata Mumbai
Shipping carriers
Carrier C
Carrier A
Average of Shipping costs
Lead Times vs. Order Quantities
Supplier name Supplier 1 Supplier 2 Supplier 3 Supplier 4
Order quantities
Lead time
14.68% (14.68%)
25.09% (25.09%)
16.55% (16.5...)
20.50% (20.50%)
23.17% (23.17%)
Location
Kolkata
Chennai
Mumbai
Bangalore
Delhi
Manufacturing Efficiency:
Average of Production volumes
Average of Production volumes
Manufacturing lead time
A card displaying average defect rates
A Card displaying average production volume
A Card displaying average manufacturing lead time
Slicer to filter data according to location and supplier name





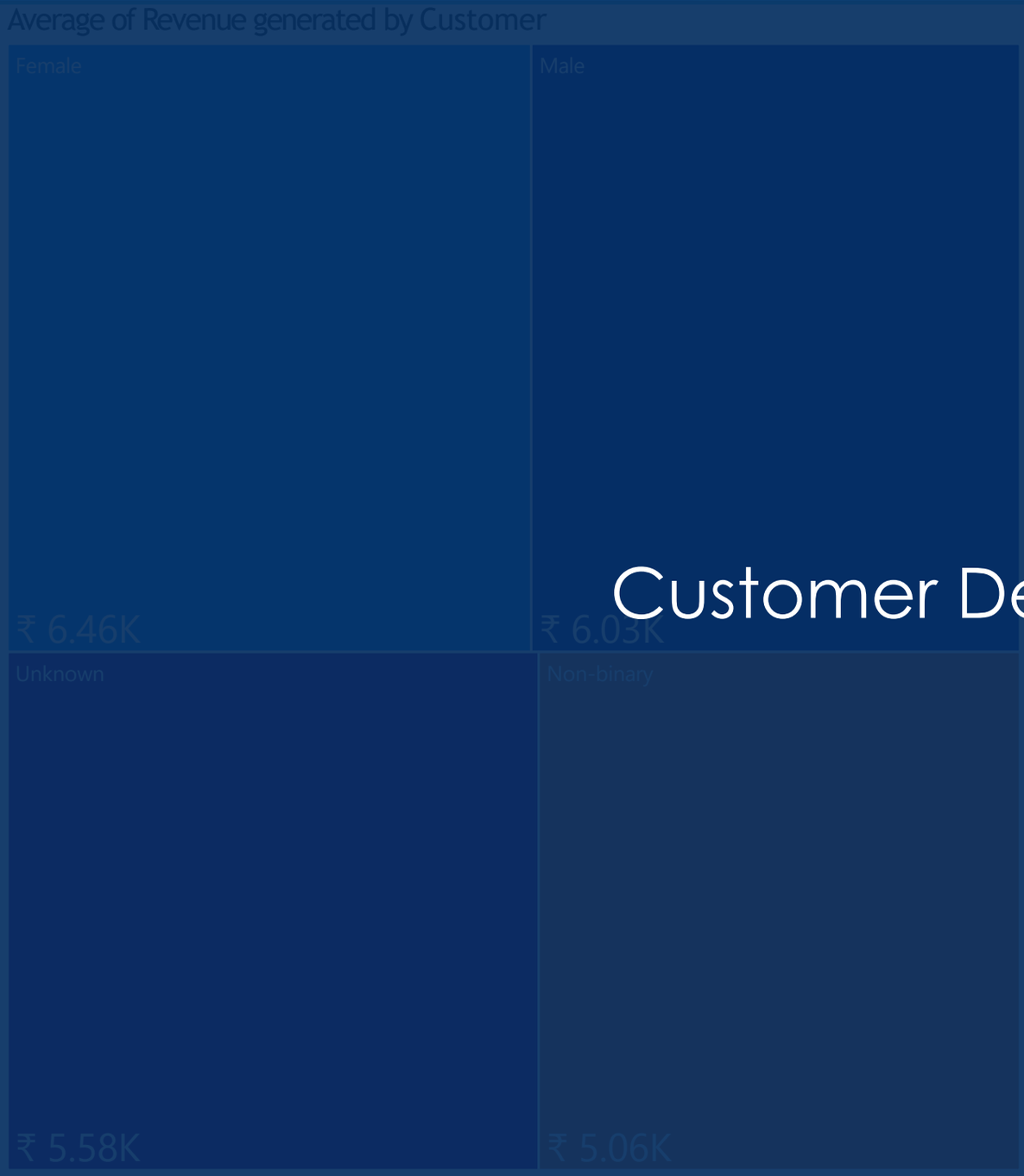


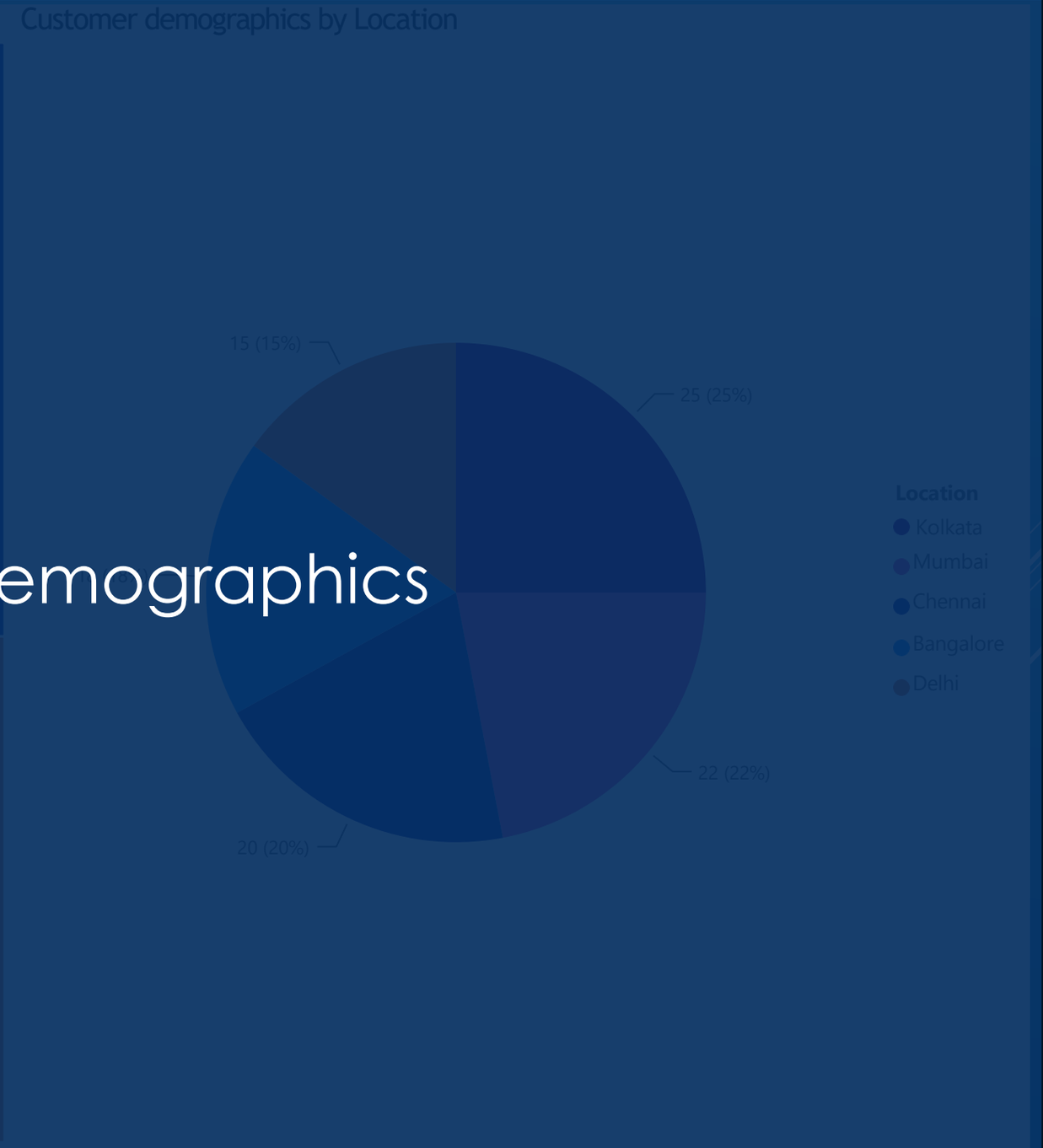
A bar chart displaying shipping cost varying according to shipping carriers and locations

Scatter chart displaying correlation between lead times and order quantities

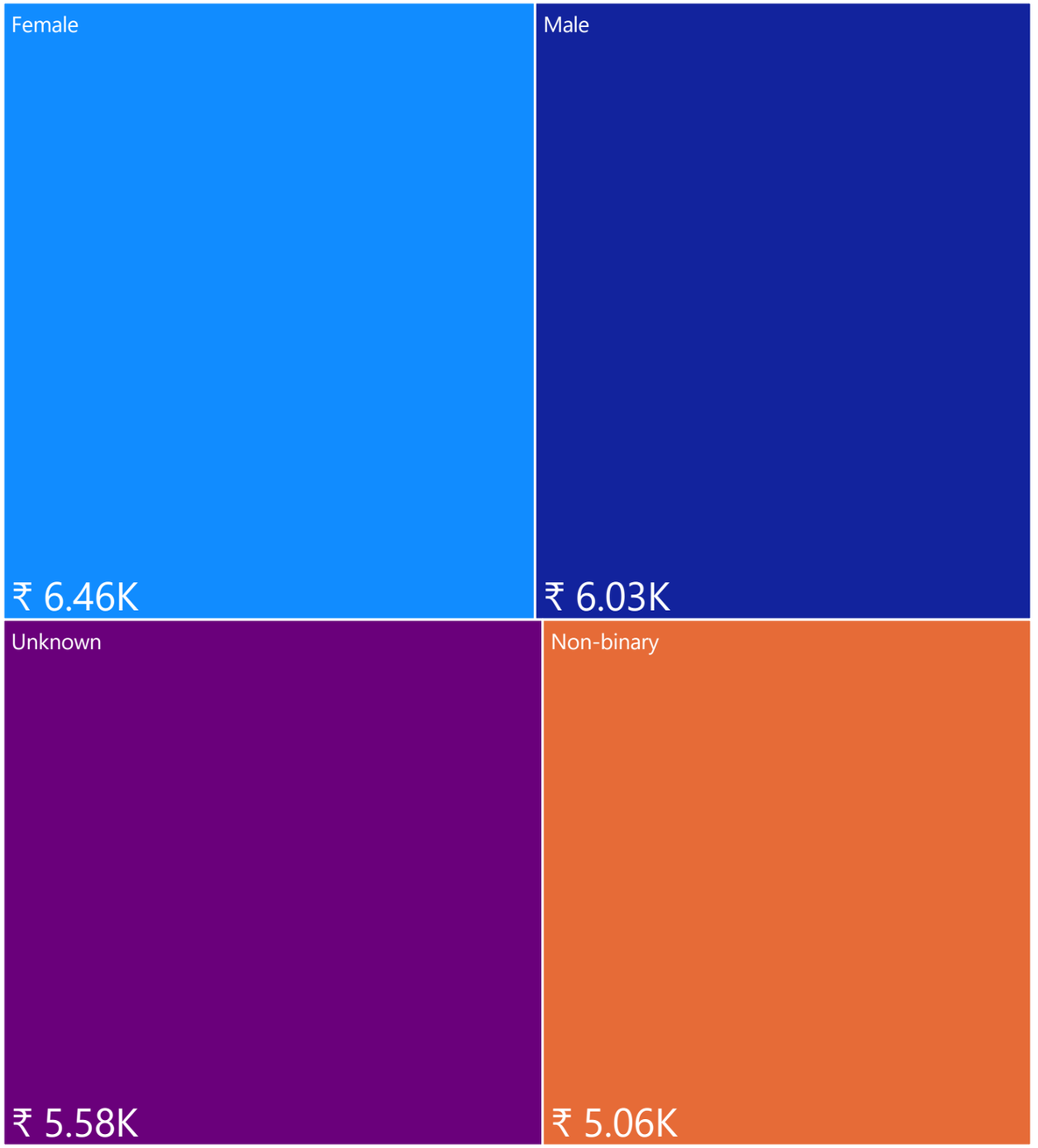
Pie chart of defect varying on location

Customer Demographics

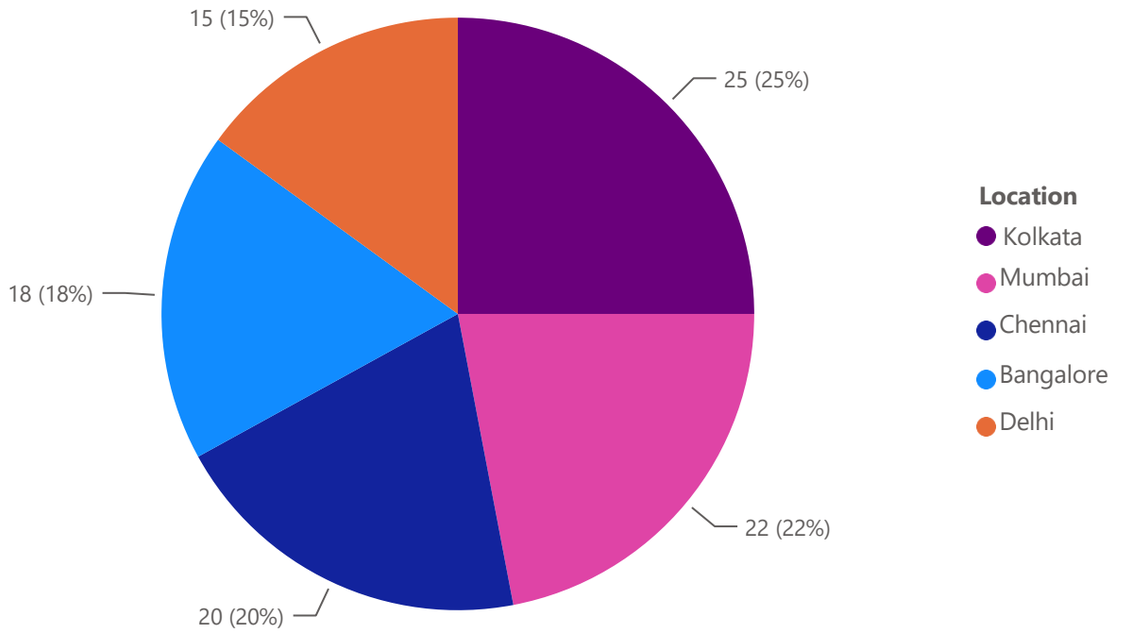


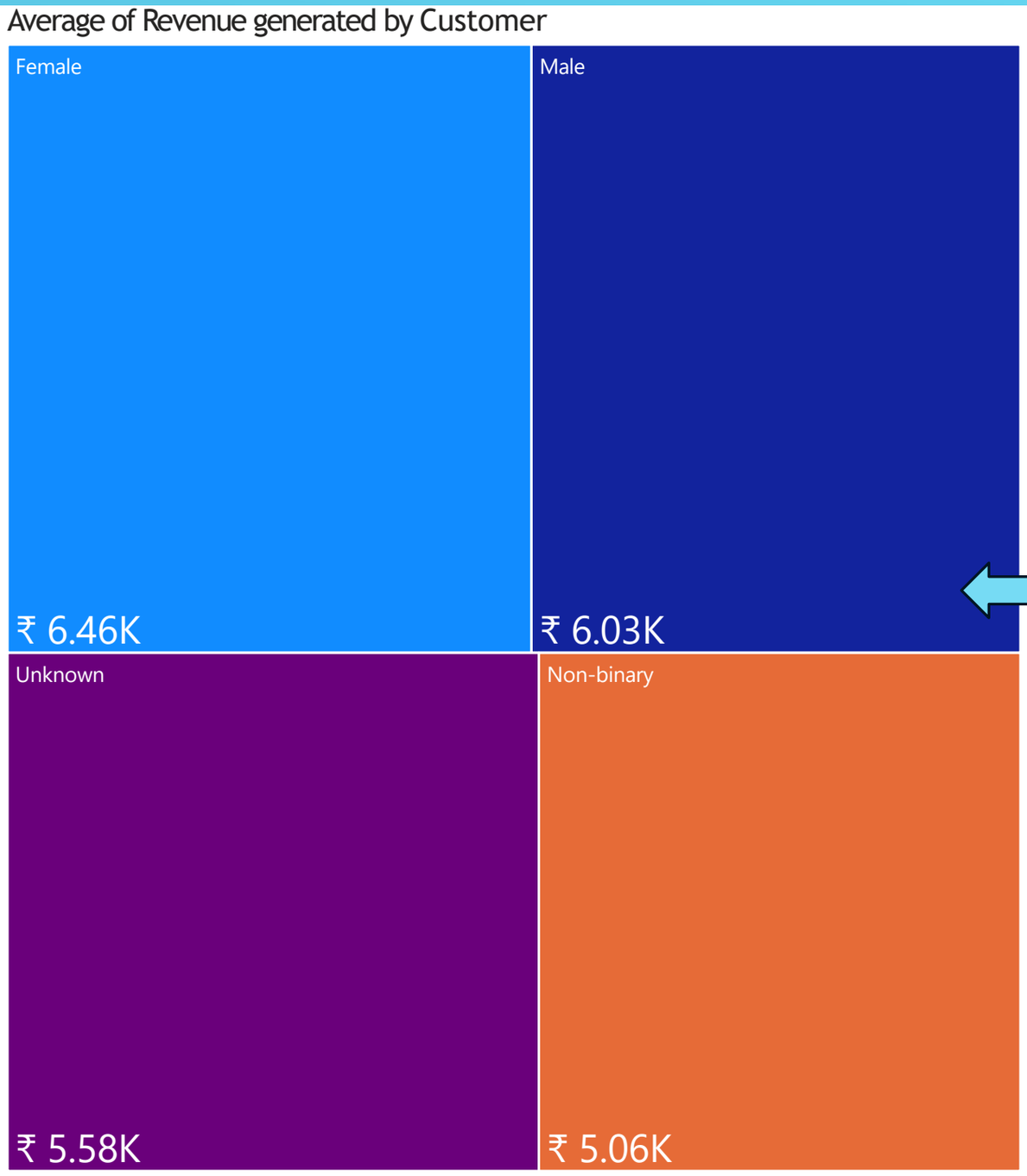


Average of Revenue generated by Customer

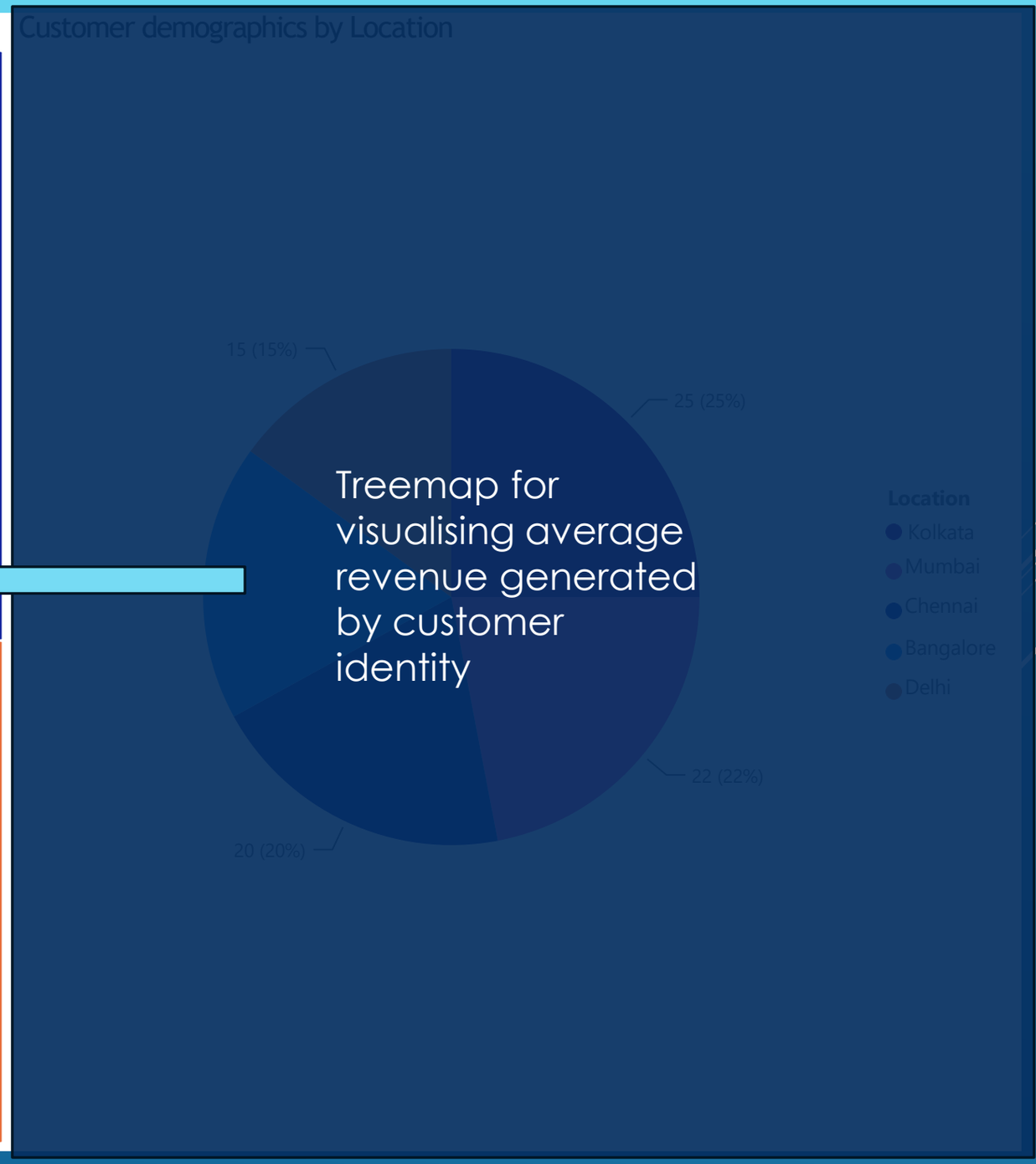


Customer demographics by Location

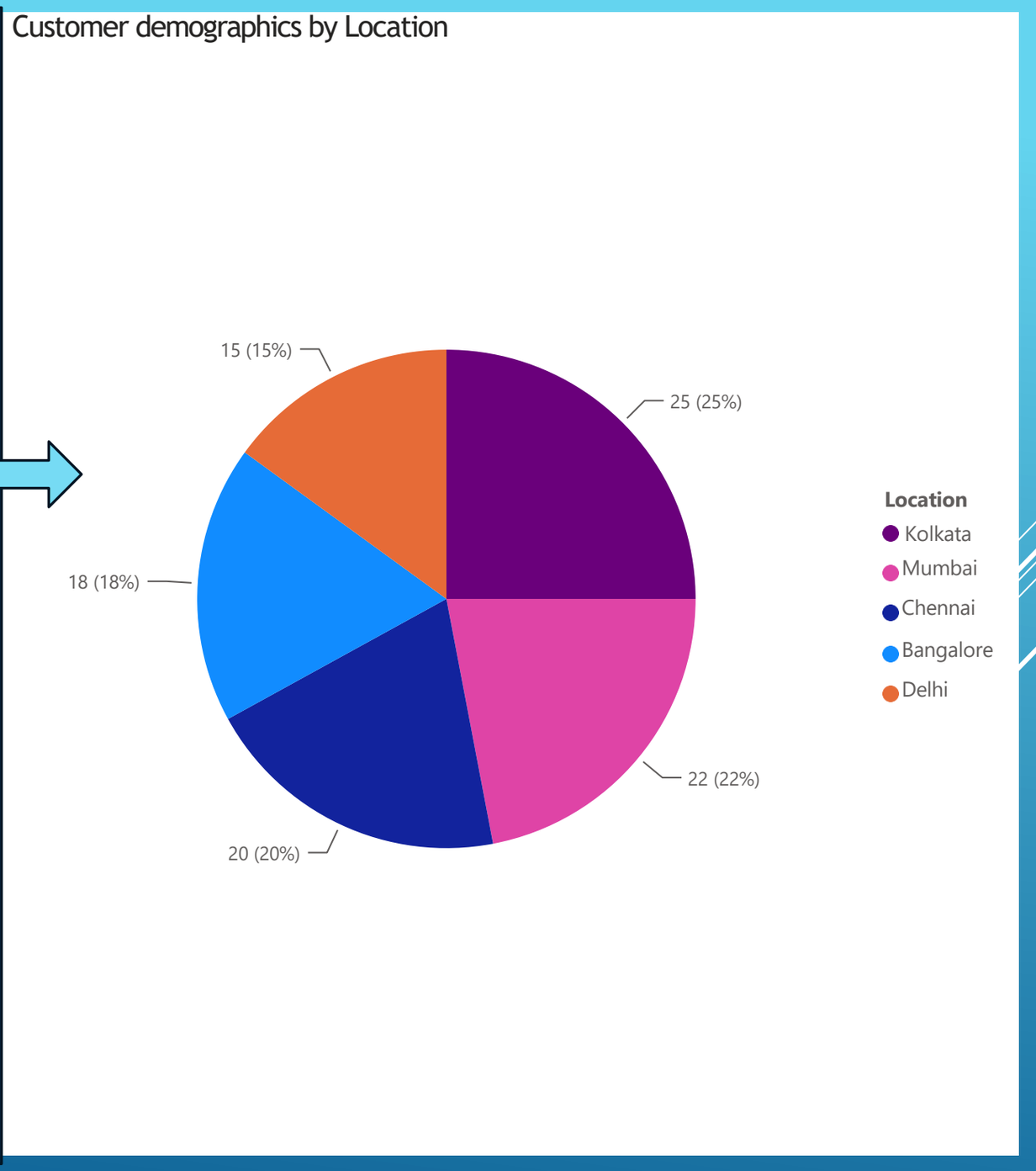




Treemap for visualising average revenue generated by customer identity



A pie chart visualising custom demographics by location

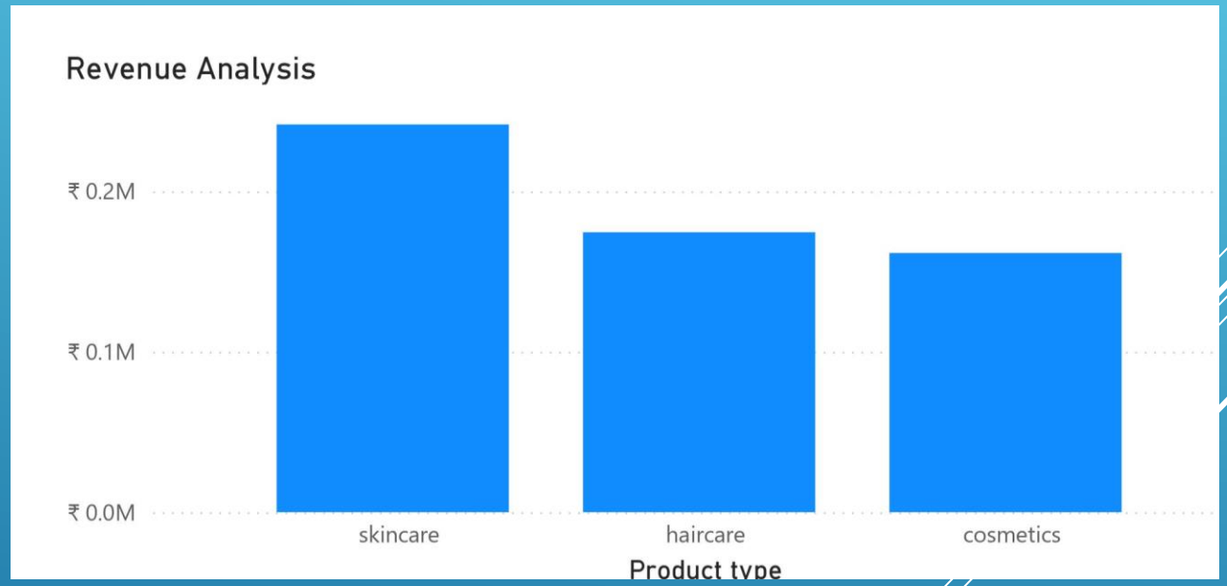


ANALYSIS QUESTIONS:

- **Which Product Type generates the highest revenue?**
- **Are there any significant correlations between Lead times and Order quantities?**
- **How do Shipping costs vary by Shipping carrier and Location?**
- **Which suppliers have the most efficient manufacturing processes based on Manufacturing lead time and Production volumes?**
- **What demographic group contributes the most to sales?**

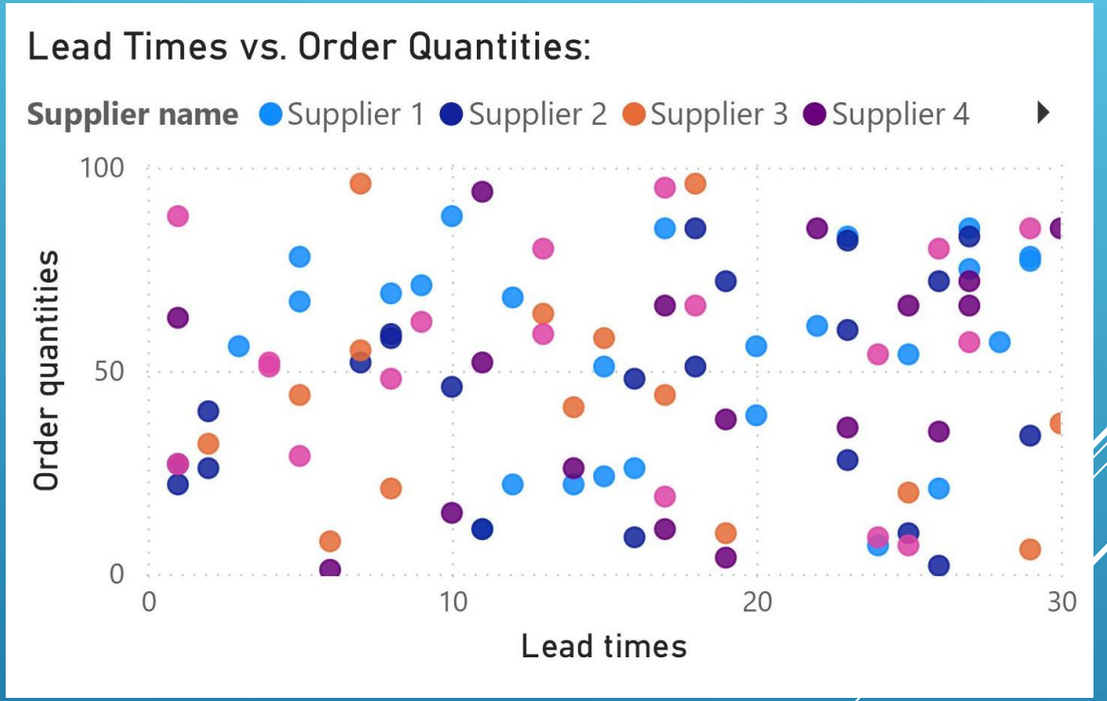
WHICH PRODUCT TYPE GENERATES THE HIGHEST REVENUE?

The product type skin care generated over 200K revenue



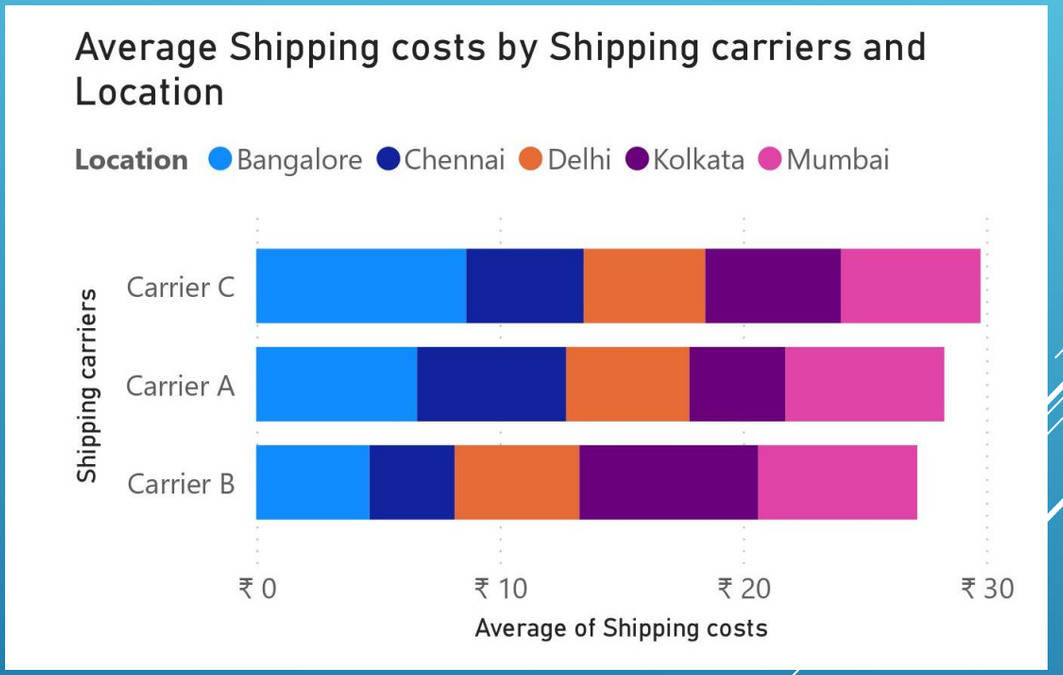
ARE THERE ANY SIGNIFICANT CORRELATIONS BETWEEN LEAD TIMES AND ORDER QUANTITIES ?

After visualising scattered graph of lead times and order quantities result shows there is no effective correlations between them but as we can see there is small correlation when order quantities are above 50

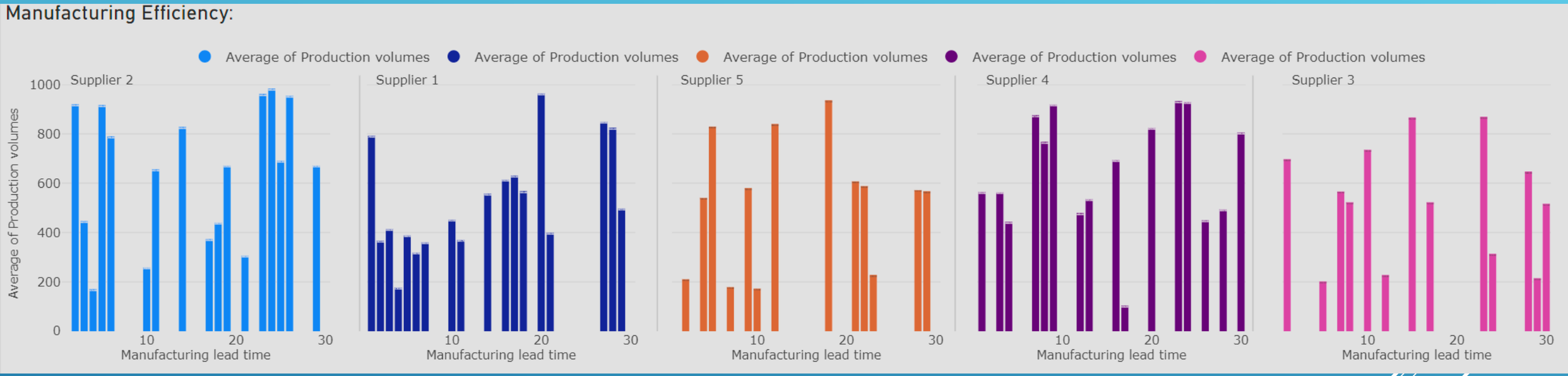


HOW DO SHIPPING COSTS VARY BY SHIPPING CARRIER AND LOCATION?

We can see on horizontal bar graph carrier C have highest average shipping cost in Bangalore And carrier B have second high average shipping cost in Kolkata And in location Mumbai all three carriers have maintained average of ₹6



WHICH SUPPLIERS HAVE THE MOST EFFICIENT MANUFACTURING PROCESSES BASED ON MANUFACTURING LEAD TIME AND PRODUCTION VOLUMES?



From above visual we can see the supply 5 have worst manufacturing process and All others supplier have maintained efficient manufacturing process

WHAT DEMOGRAPHIC GROUP CONTRIBUTES THE MOST TO SALES?

According to data the unknown identity customers have generated over 170K Revenue followed by female customers which have generated 160K