



# SUPPLY CHAIN MANAGEMENT DASHBOARD

TOOLS: POWER BI DESKTOP, EXCEL

TECHNOLOGIES: BUSINESS ANALYST

SUMMER INTERNSHIP PROGRAM:

DATA ANALYTICS

(DURATION: [15<sup>TH</sup> APRIL 2025 & 15<sup>TH</sup> JULY 2025 ])

**ID: UMID05042528011**  
**[UNIFIED MENTOR PVT LTD ]**

SUBMITTED BY  
**SURYAVARDHAN MAGATHALA**  
**CSB22072**





## Introduction

Supply Chain Management (SCM) is a crucial aspect of modern business operations that involves the coordination and oversight of all activities related to sourcing, procurement, production, logistics, and distribution. Efficient management of the supply chain helps organizations reduce costs, improve delivery timelines, optimize inventory, and ultimately enhance customer satisfaction.

The **Supply Chain Management Dashboard** is a data visualization tool designed to provide real-time insights into key performance indicators (KPIs) of the supply chain. This dashboard integrates data from various departments and stages of the supply chain, allowing decision-makers to monitor trends, identify bottlenecks, and take proactive measures to improve operational efficiency.

Through the use of visual tools such as bar charts, maps, and filters, this dashboard helps stakeholders track metrics like inventory levels, on-time delivery rates, supplier performance, transportation efficiency, and overall supply chain costs. It empowers organizations to make informed, data-driven decisions and adapt swiftly to changing market conditions.



TASK:

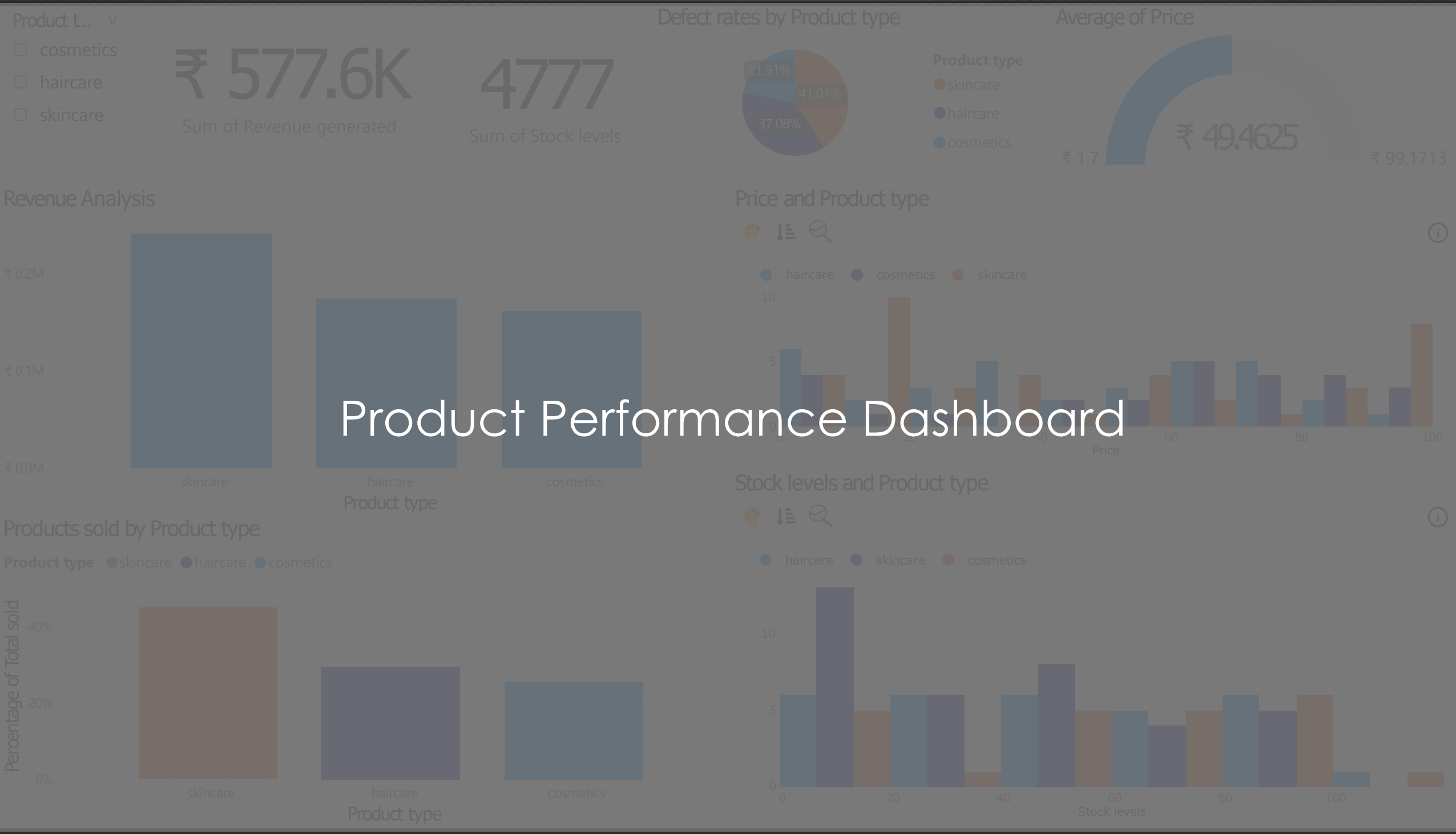
**ANALYZE PRODUCT PERFORMANCE AND SUPPLY  
CHAIN EFFICIENCY**



# 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



Products sold by Product type

Product type

skincare

haircare

cosmetics

Percentage of Total sold

40%

20%

0%

skincare

haircare

cosmetics

Product type

Product Performance Dashboard

Product type

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%

skincare

haircare

cosmetics

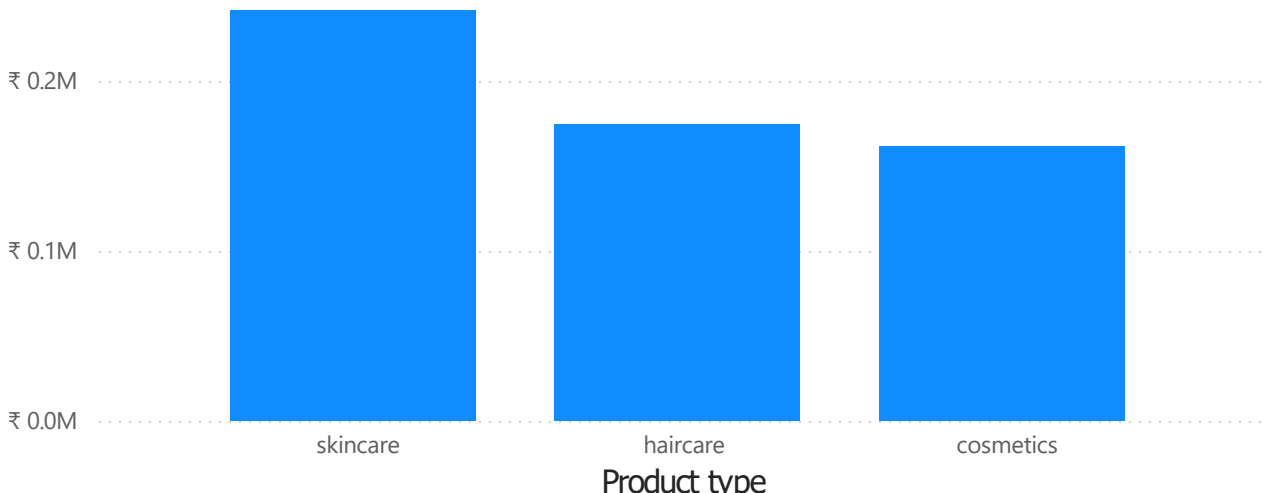
Average of Price

₹ 49.4625

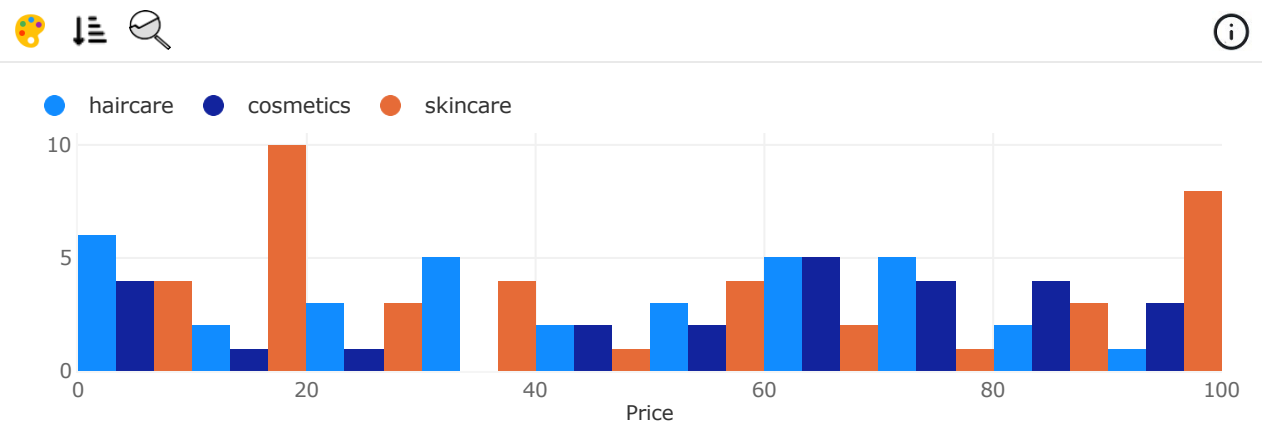
₹ 1.7

₹ 99.1713

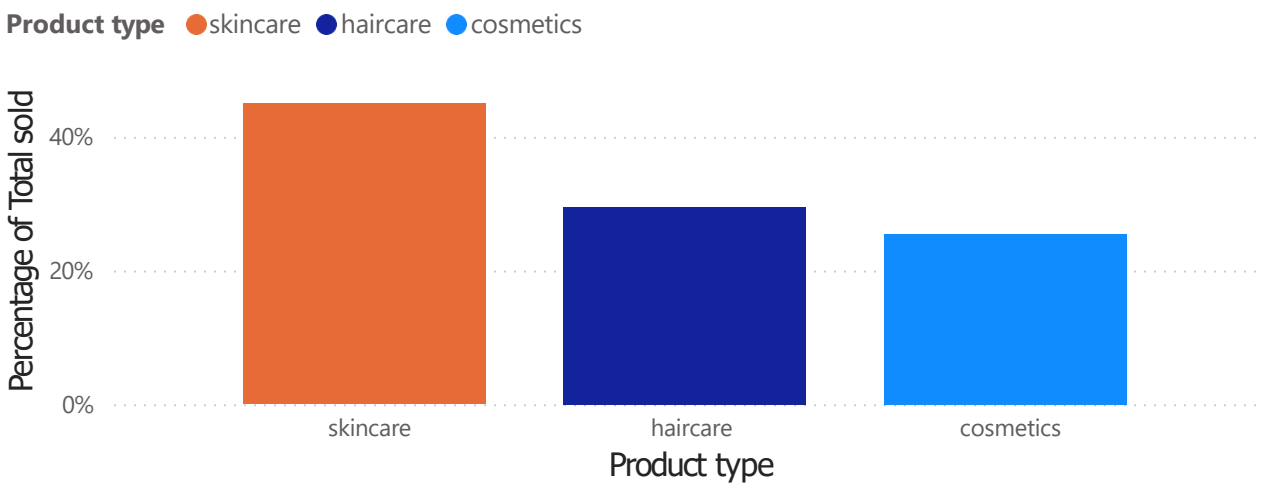
Revenue Analysis



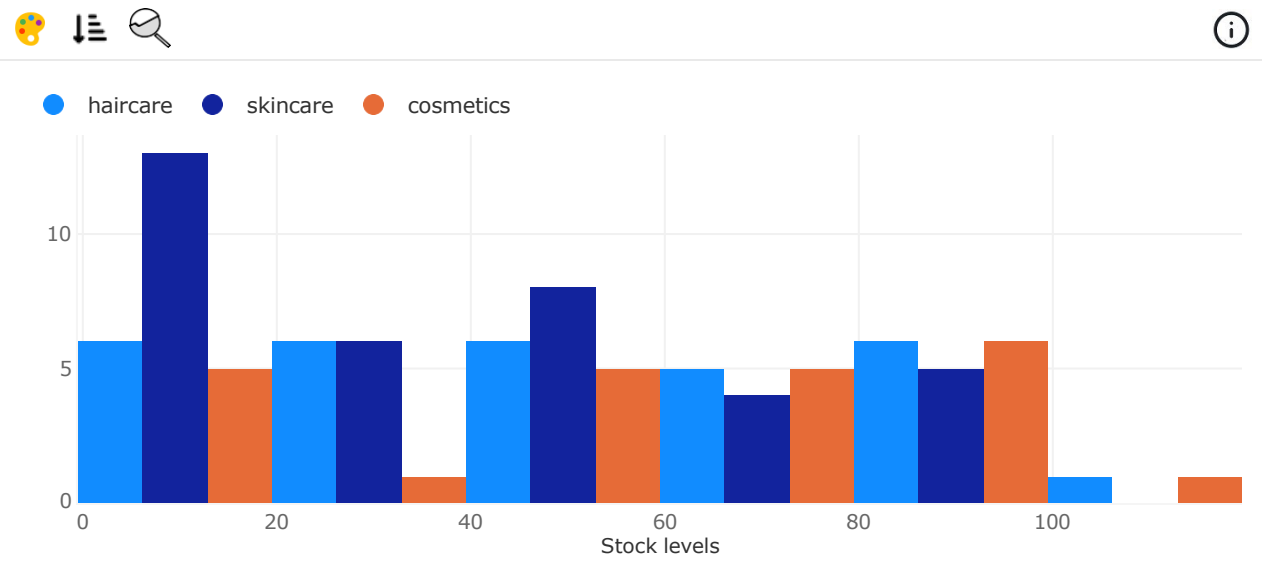
Price and Product type



Products sold by Product type



Stock levels and Product type



Product type

- cosmetics
- haircare
- skincare

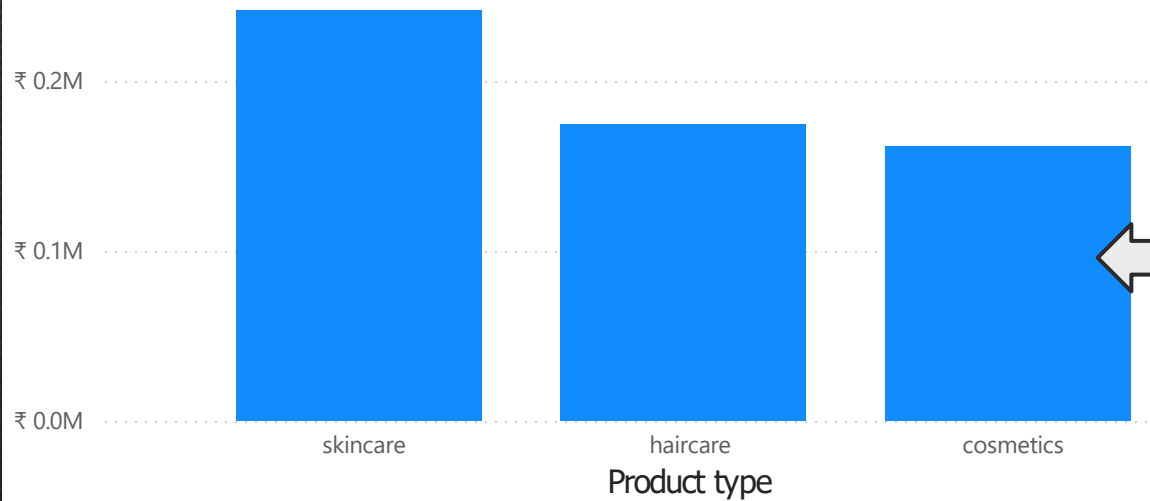
₹ 577.6K

Sum of Revenue generated

4777

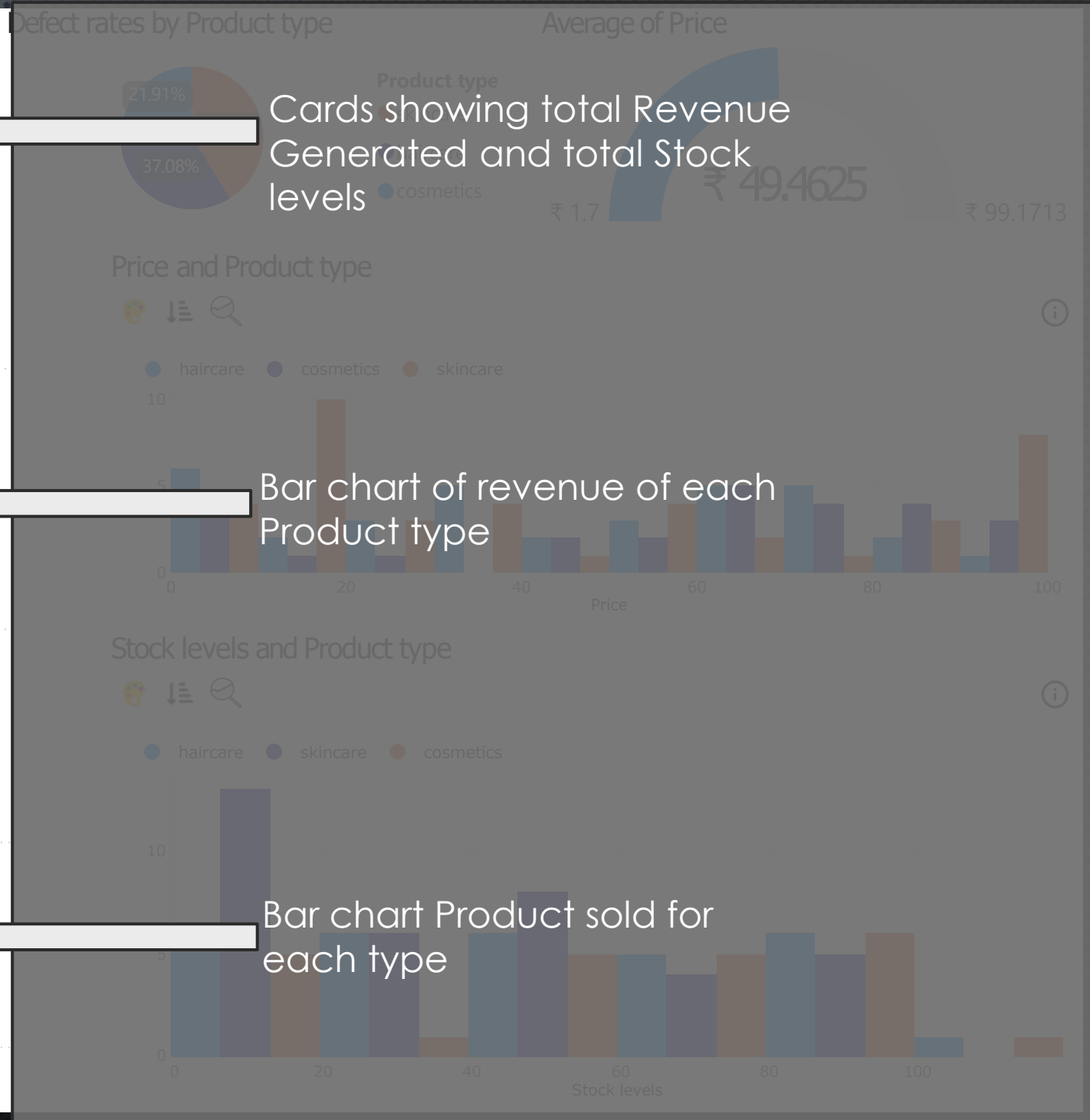
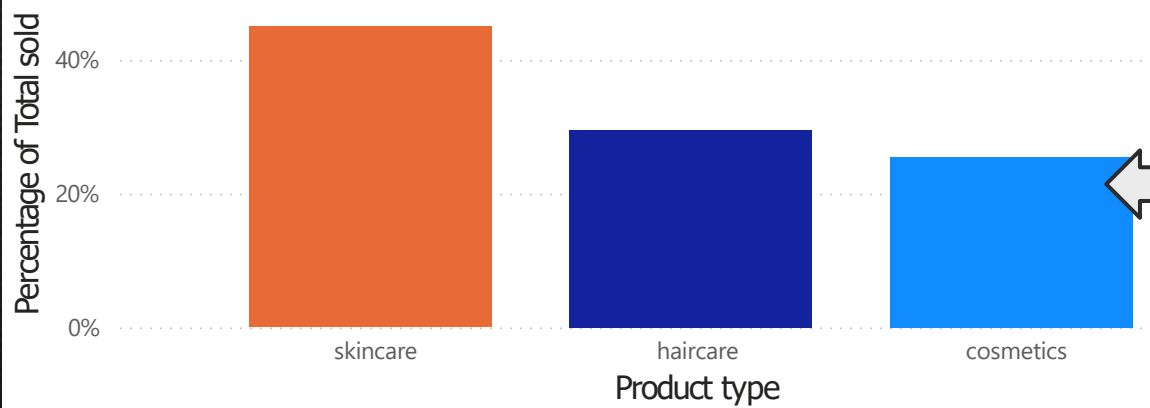
Sum of Stock levels

### Revenue Analysis



### Products sold by Product type

Product type: skincare (orange), haircare (dark blue), cosmetics (light blue)





Product type

- cosmetics
- haircare
- skincare

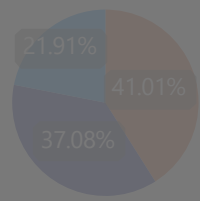
₹ 577.6K

Sum of Revenue generated

4777

Sum of Stock levels

Defect rates by Product type



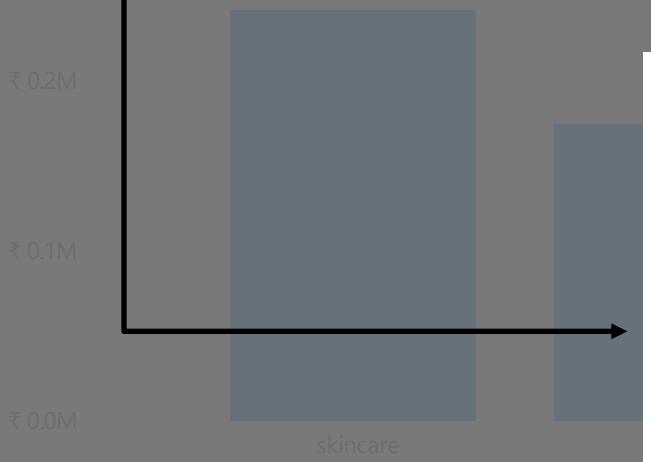
Product type

- skincare
- haircare
- cosmetics

Average of Price



Revenue Analysis



Price and Product type



haircare cosmetics skincare



Products sold by Product type

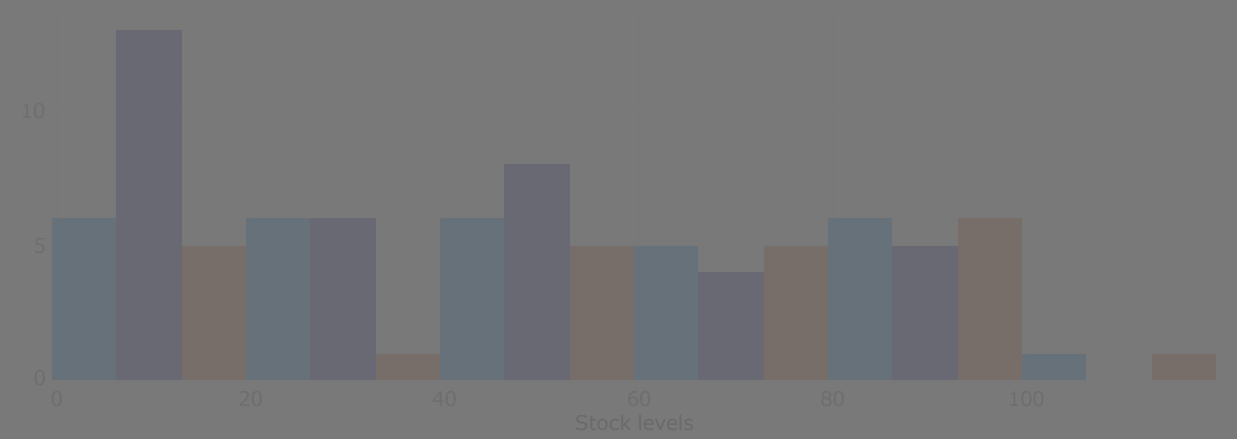
Product type skincare haircare cosmetics



Stock levels and Product type



haircare skincare cosmetics



Product type

- cosmetics
- haircare
- skincare

Slicer to filter dashboard on Product types



Product type

- cosmetics
- haircare
- skincare

Revenue Analysis

₹ 0.2M

₹ 0.1M

₹ 0.0M

Products sold by Product type

Product type

Percentage of Total sold

40%

20%

0%

₹ 577.6K

4777

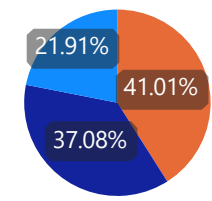
Sum of Stock levels

A pie chart which shows defect rates 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

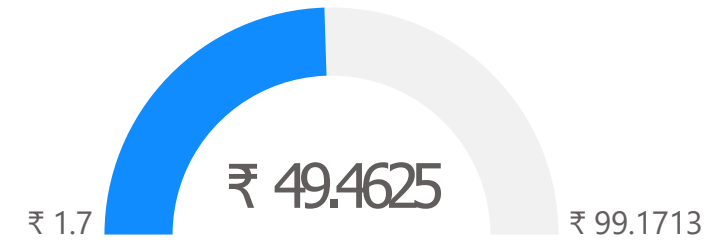
Defect rates by Product type



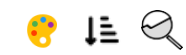
Product type

- skincare
- haircare
- cosmetics

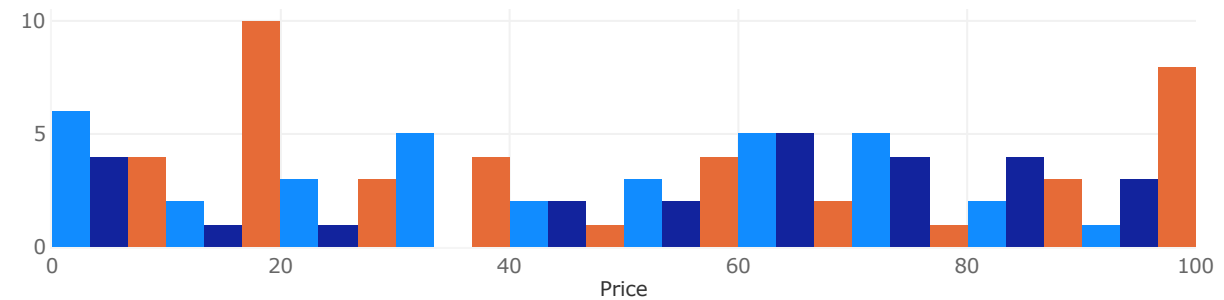
Average of Price



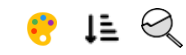
Price and Product type



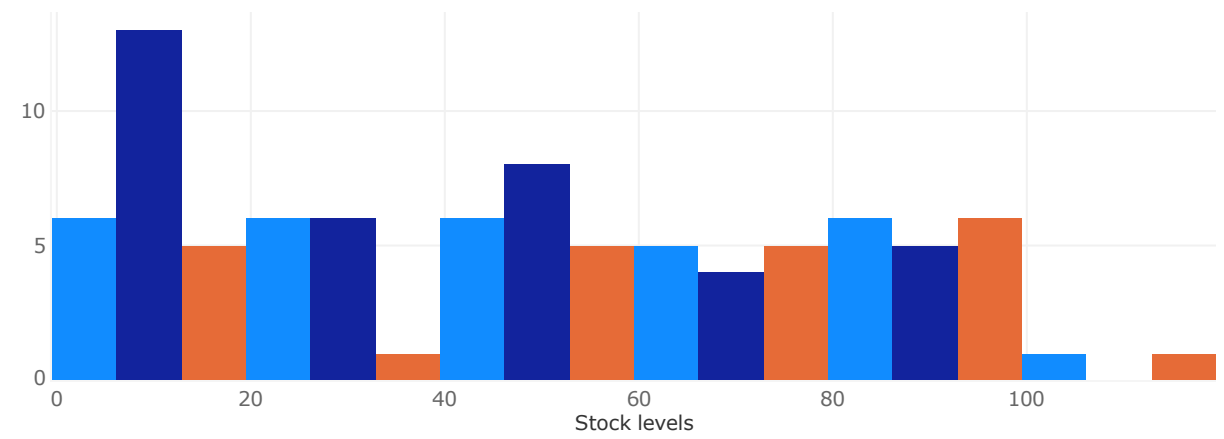
haircare cosmetics skincare



Stock levels and Product type



haircare skincare cosmetics



2.28

Average of Defect rates

567.84

Average of Production volumes

14.77

Average of Manufacturing lead time

Location

V

Supplier name

V

All

V

All

V

Defect rates by Location

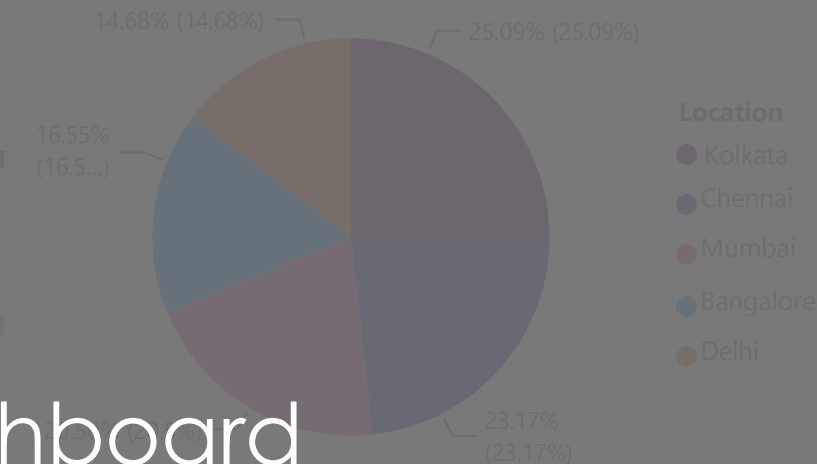
Average Shipping costs by Shipping carriers and Location

Location ● Bangalore ● Chennai ● Delhi ● Kolkata ● Mumbai



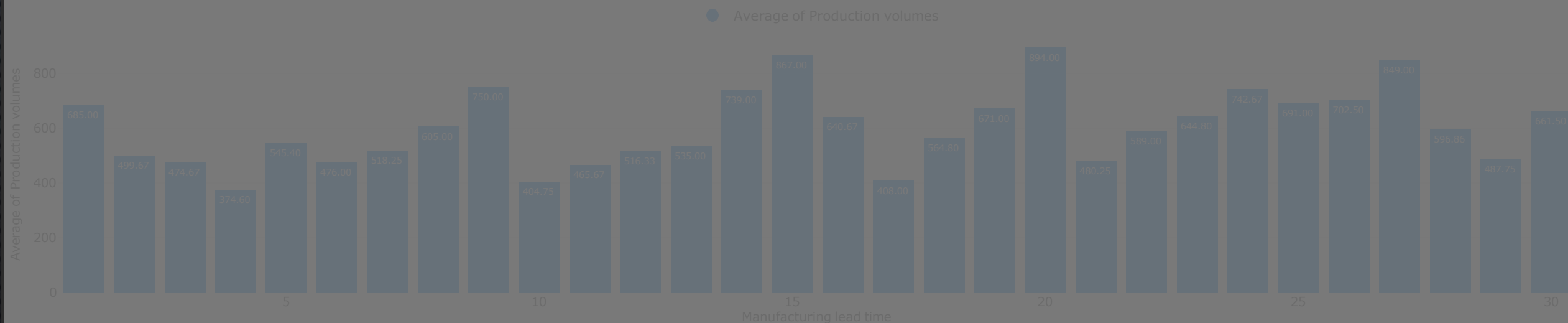
Lead Times vs. Order Quantities:

Supplier name ● Supplier 1 ● Supplier 2 ● Supplier 3 ● Supplier 4



# Supply Chain Efficiency Dashboard

Manufacturing Efficiency:





2.28

Average of Defect rates

567.84

Average of Production volumes

14.77

Average of Manufacturing lead time

Location

V

Supplier name

V

All

V

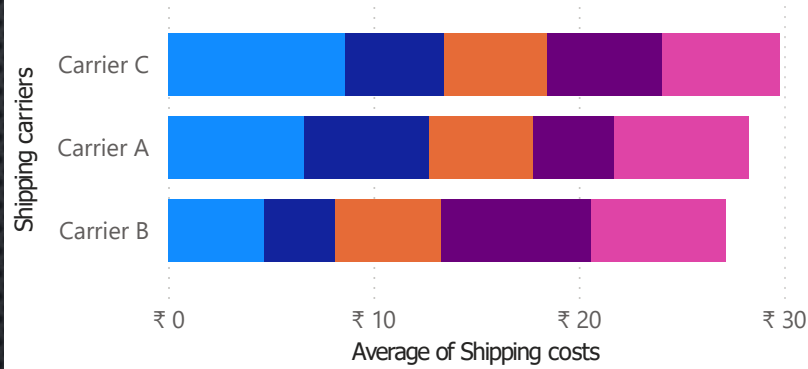
All

V

Defect rates by Location

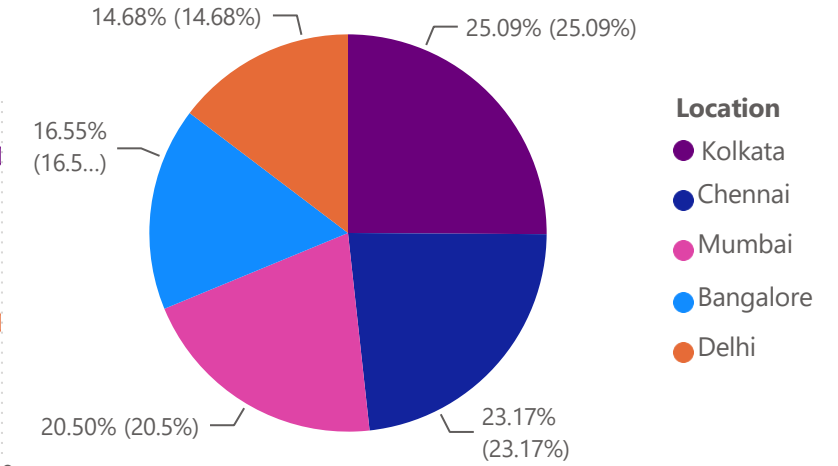
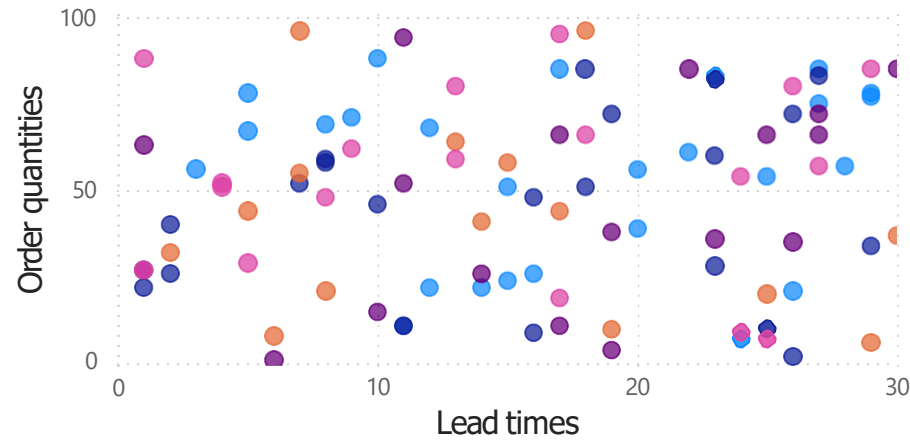
Average Shipping costs by Shipping carriers and Location

Location ● Bangalore ● Chennai ● Delhi ● Kolkata ● Mumbai



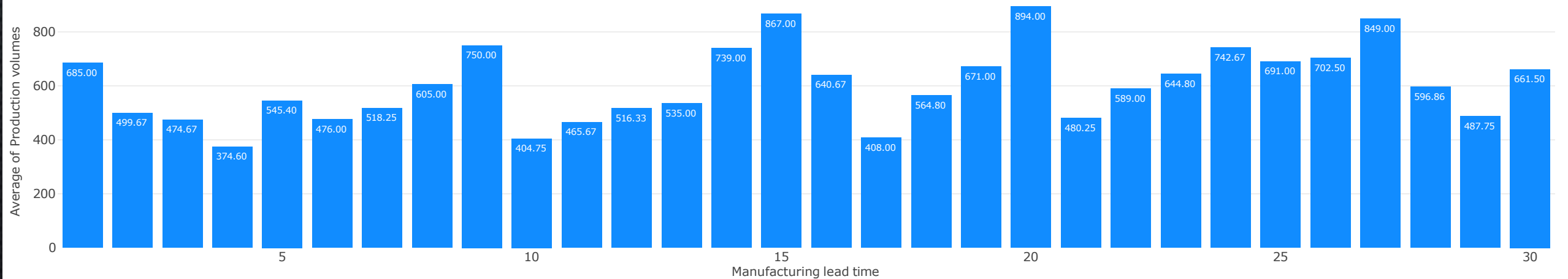
Lead Times vs. Order Quantities:

Supplier name ● Supplier 1 ● Supplier 2 ● Supplier 3 ● Supplier 4 ▶



Manufacturing Efficiency:

● Average of Production volumes



2.28

Average of Defect rates

567.84

Average of Production volumes

14.77

Average of Manufacturing lead time

Location

All

V

V

Supplier name

All

V

V

Defect rates by Location

Average Shipping costs by Shipping carriers and Location

Location ● Bangalore ● Chennai ● Delhi ● Kolkata ● Mumbai



Average of Shipping costs

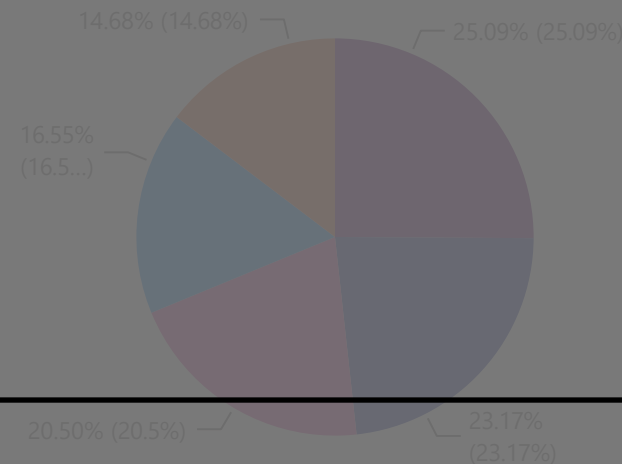
Lead Times vs. Order Quantities:

Supplier name ● Supplier 1 ● Supplier 2 ● Supplier 3 ● Supplier 4

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



Lead times



Location

● Kolkata

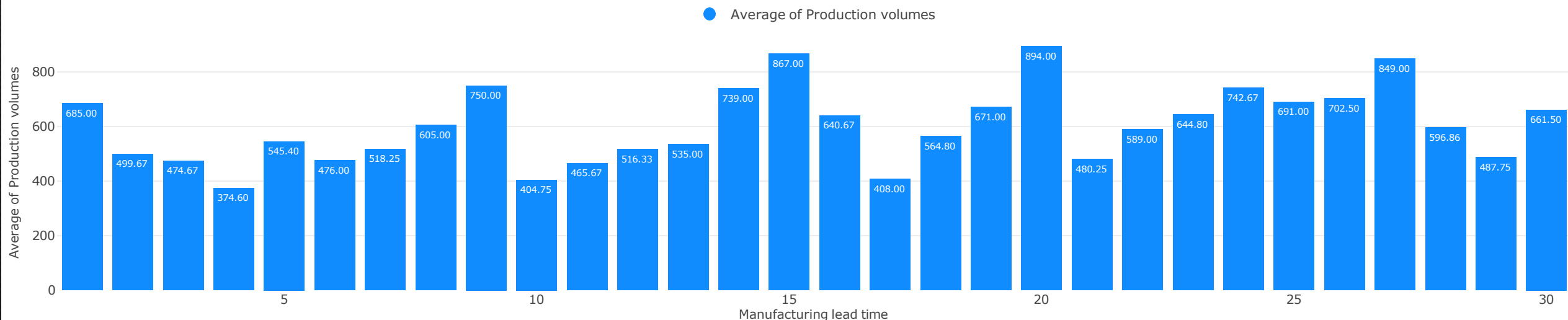
● Chennai

● Mumbai

● Bangalore

● Delhi

Manufacturing Efficiency:





2.28

Average of Defect rates

567.84

Average of Production volumes

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Average of Manufacturing lead time

Location

V

Supplier name

V

All

V

All

V

Defect rates by Location

Average Shipping costs by Shipping carriers and Location

Location ● Bangalore ● Chennai ● Delhi ● Kolkata ● Mumbai

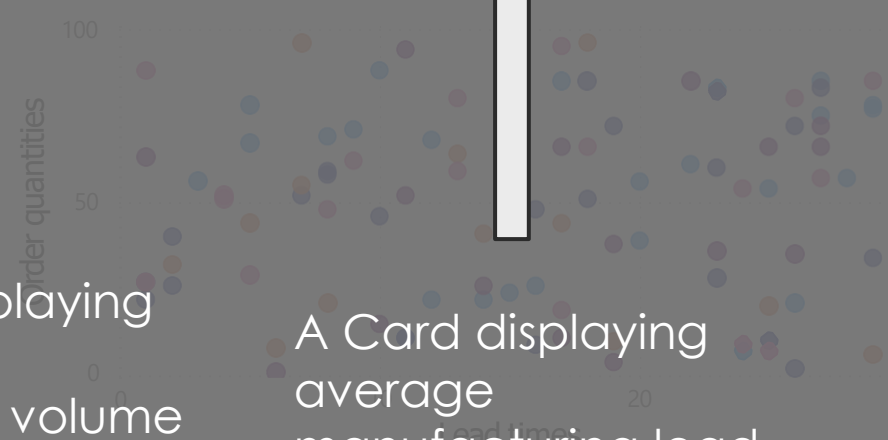


A card displaying average defect rates

A Card displaying average production volume

Lead Times vs. Order Quantities

Supplier name ● Supplier 1 ● Supplier 2 ● Supplier 3 ● Supplier 4

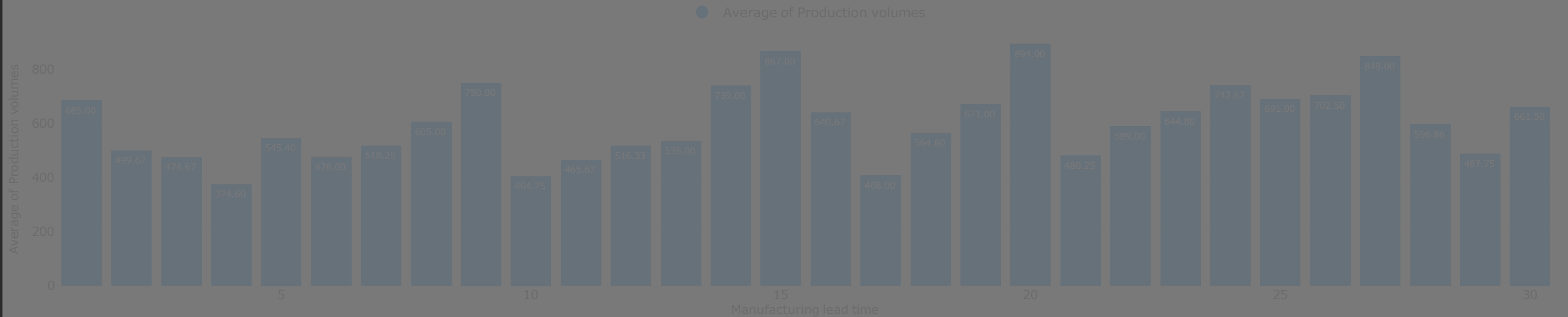


A Card displaying average manufacturing lead time



Slicer to filter data according to location and supplier name

Manufacturing Efficiency:



2.28

Average of Defect rates

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Average of Production volumes

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Average of Manufacturing lead time

Location

All

V

V

Supplier name

All

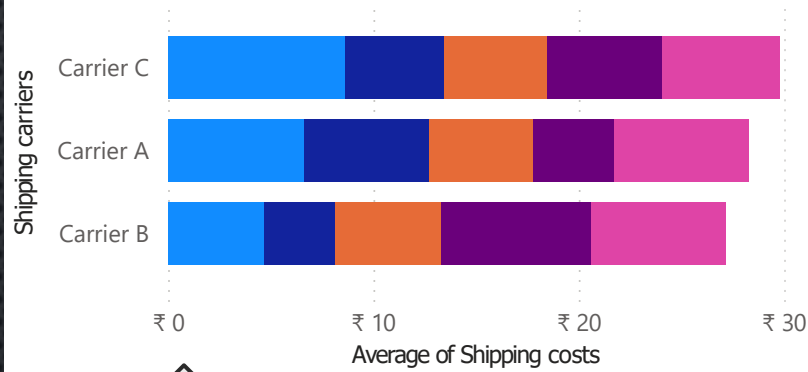
V

V

Defect rates by Location

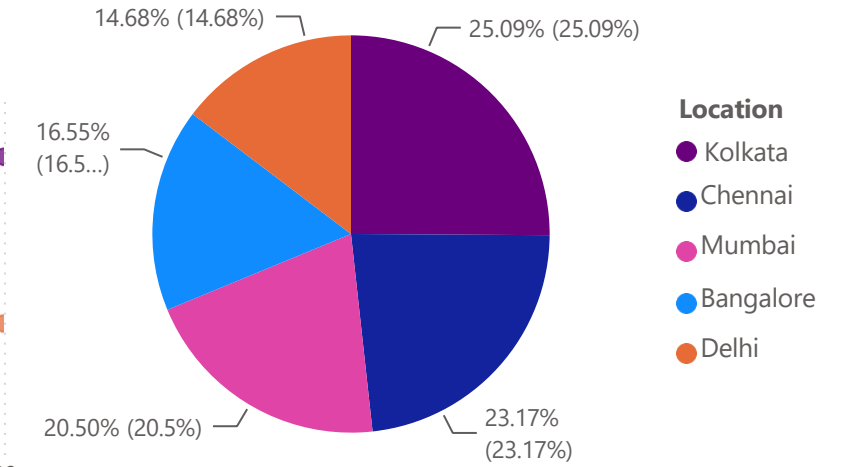
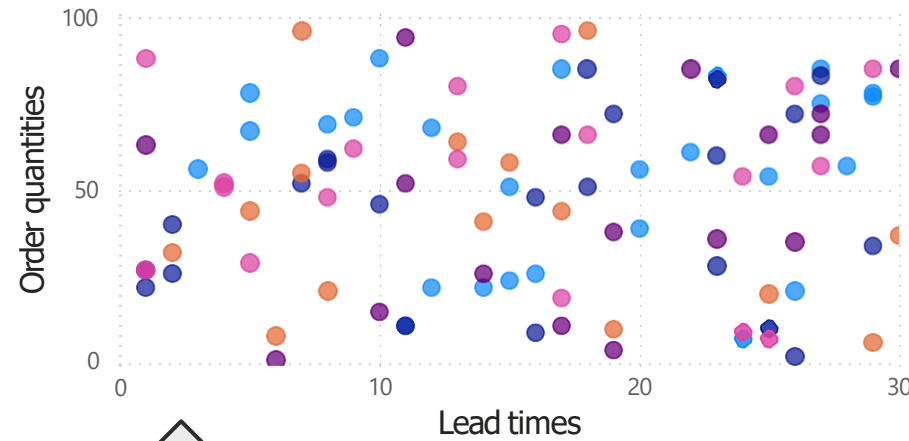
### Average Shipping costs by Shipping carriers and Location

Location ● Bangalore ● Chennai ● Delhi ● Kolkata ● Mumbai



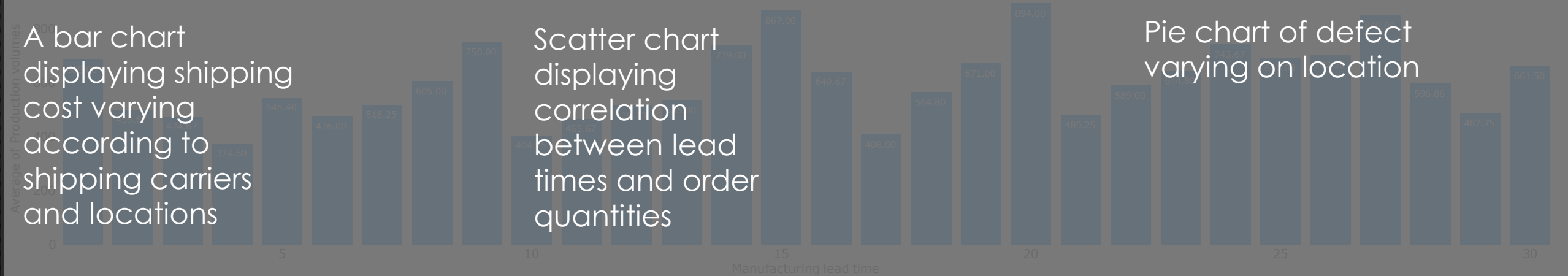
### Lead Times vs. Order Quantities:

Supplier name ● Supplier 1 ● Supplier 2 ● Supplier 3 ● Supplier 4



### Manufacturing Efficiency:

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



Scatter chart displaying correlation between lead times and order quantities

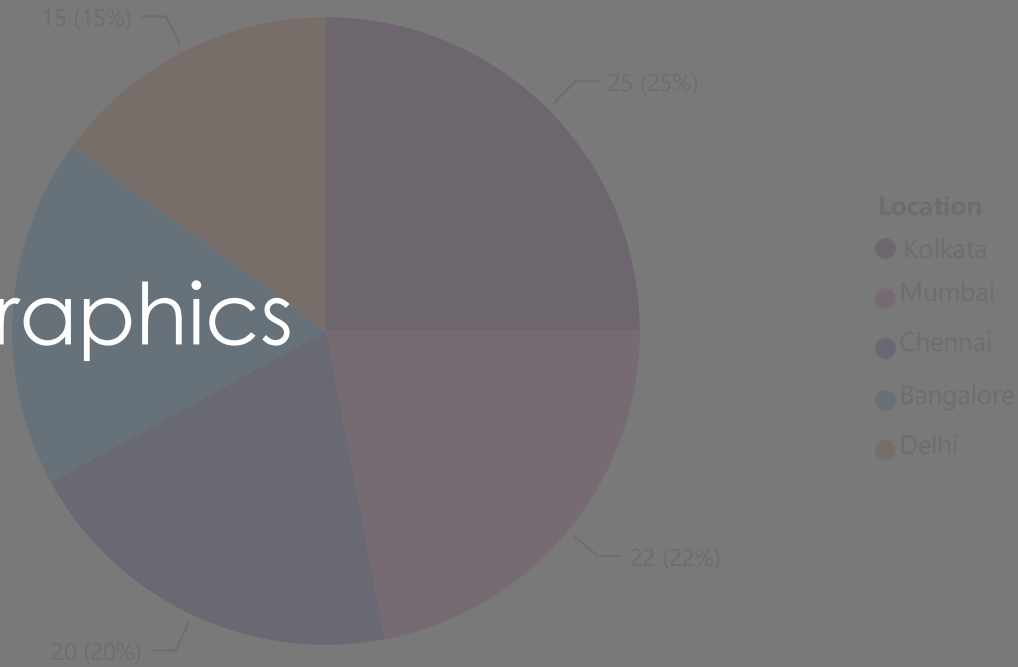
Pie chart of defect varying on location



Average of Revenue generated by Customer

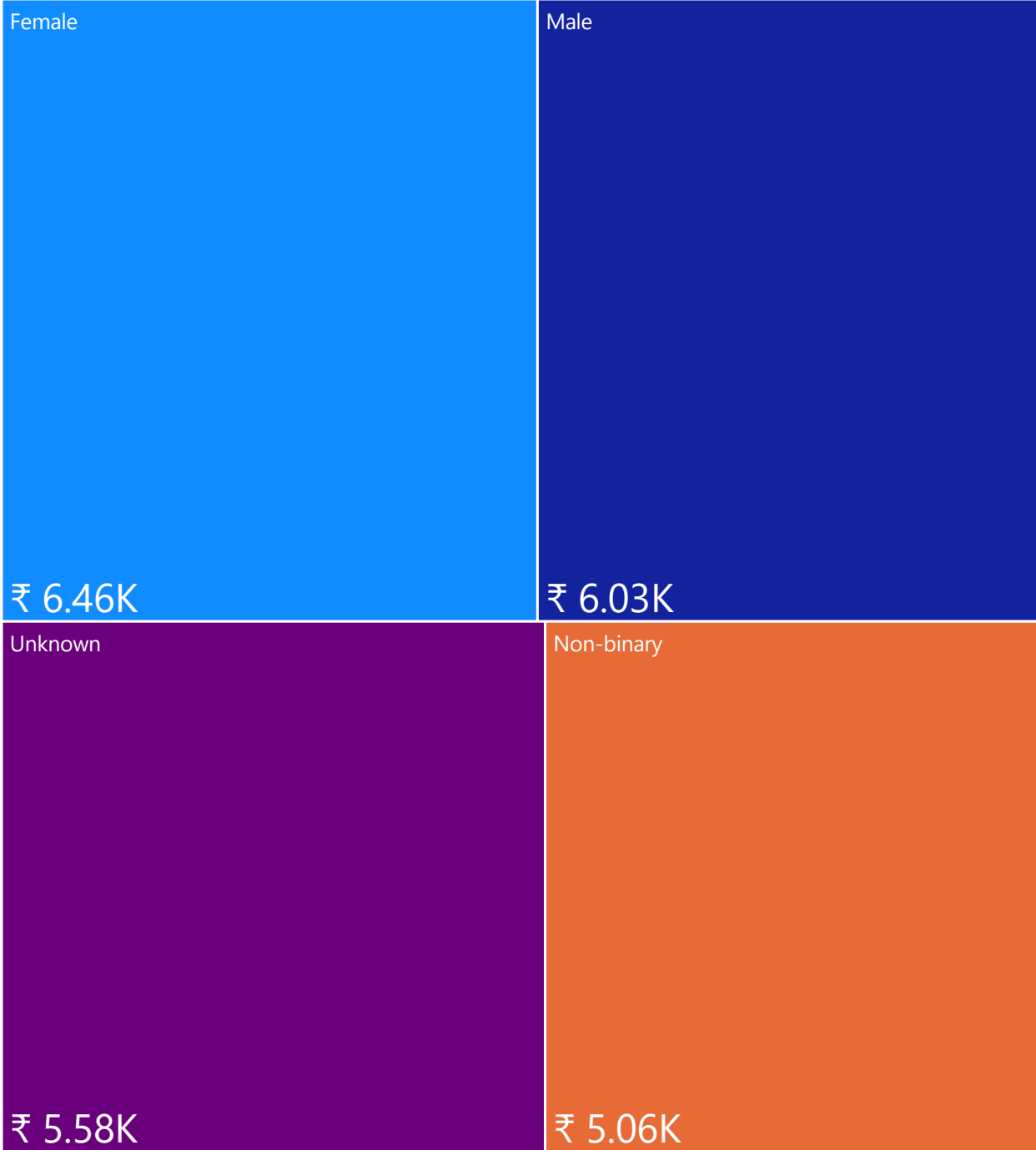


Customer demographics by Location

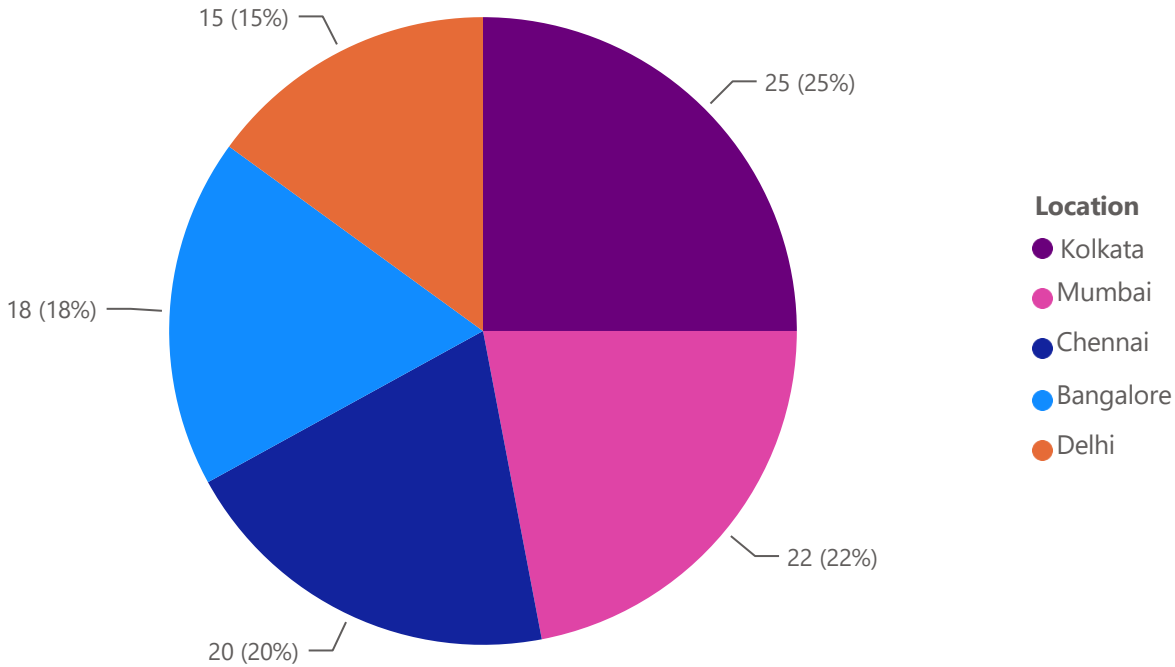


# Customer Demographics

Average of Revenue generated by Customer

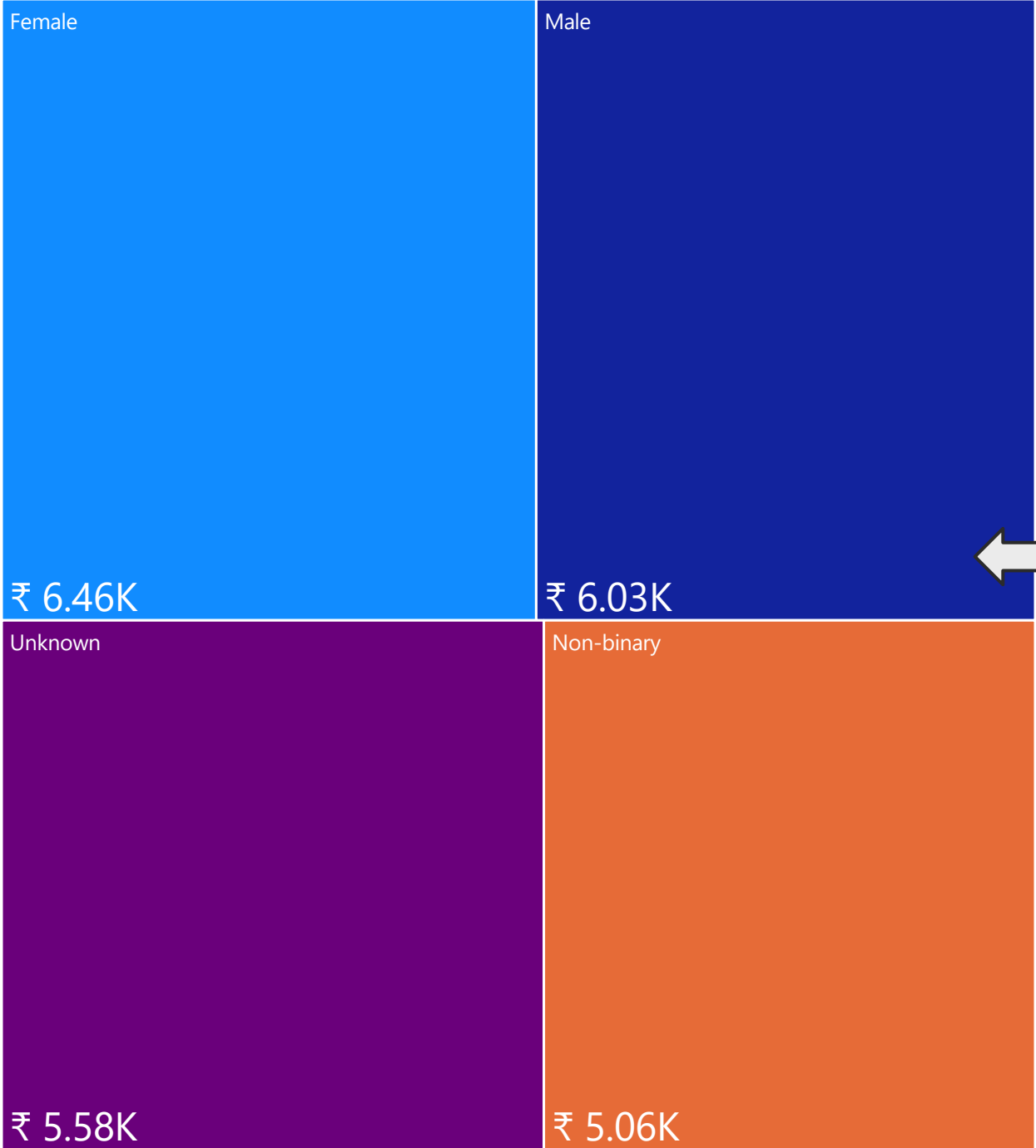


Customer demographics by Location

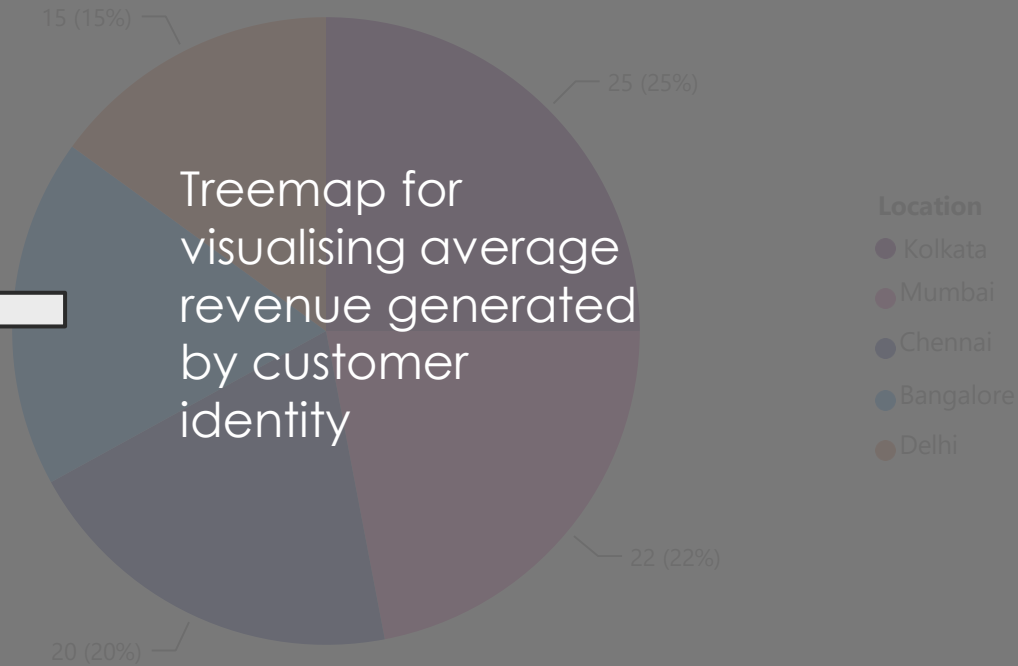




Average of Revenue generated by Customer



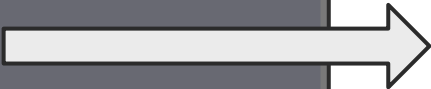
Customer demographics by Location



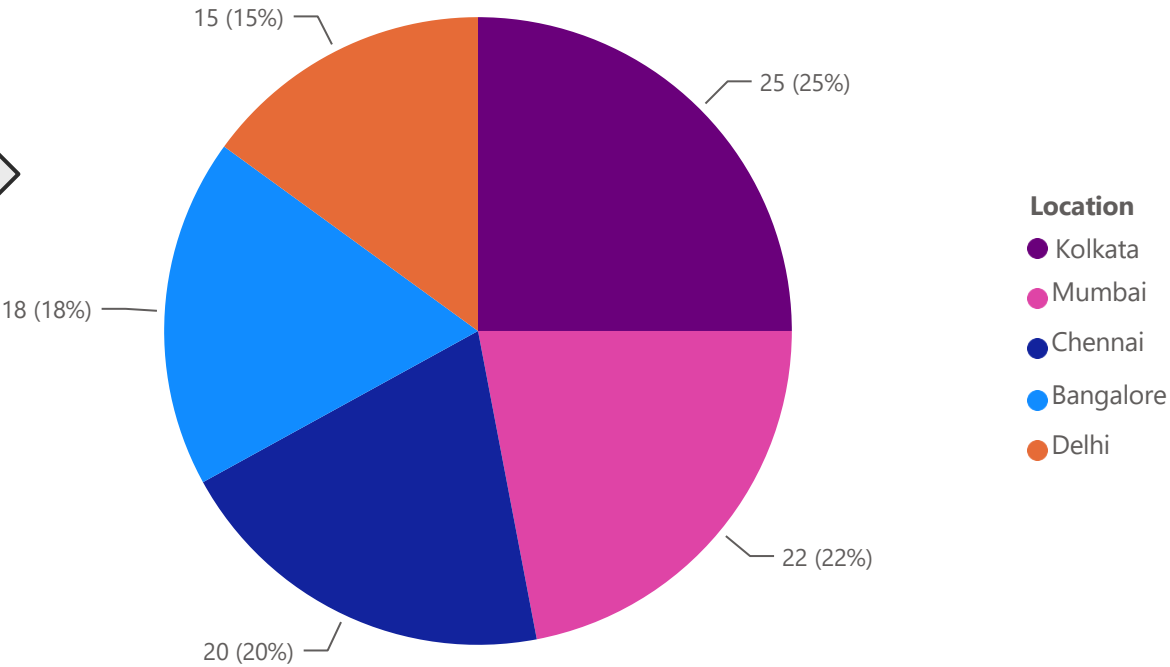
Average of Revenue generated by Customer



A pie chart  
visualising custom  
demographics by  
location



Customer demographics by Location



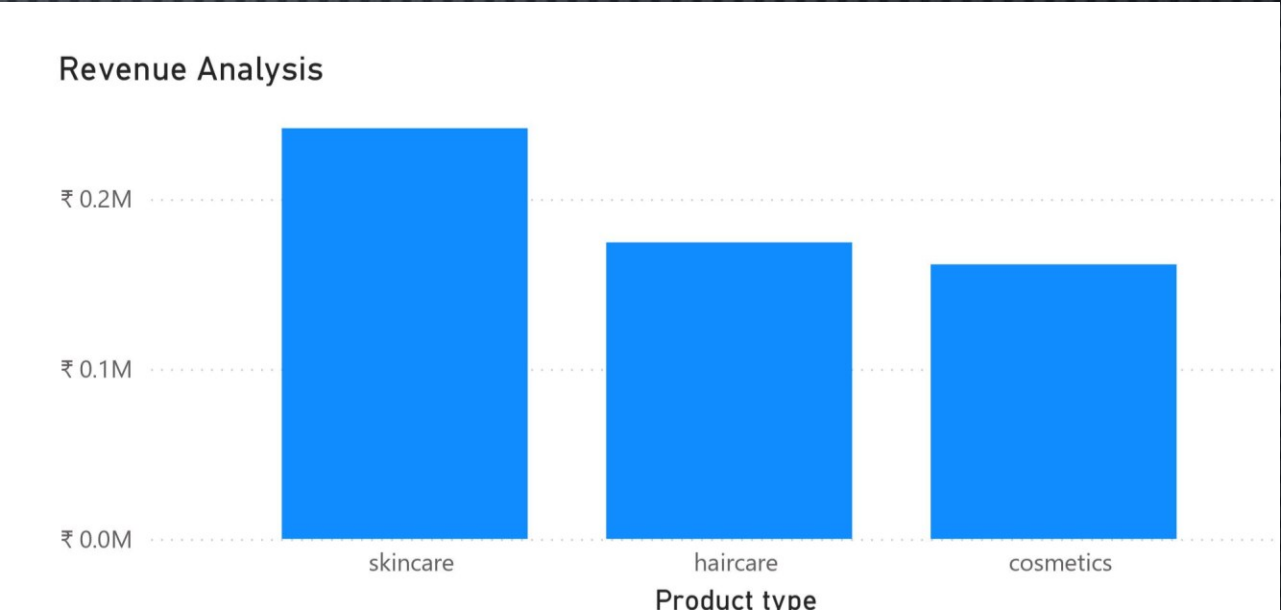
# ANALYSIS QUESTIONS:

- 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?

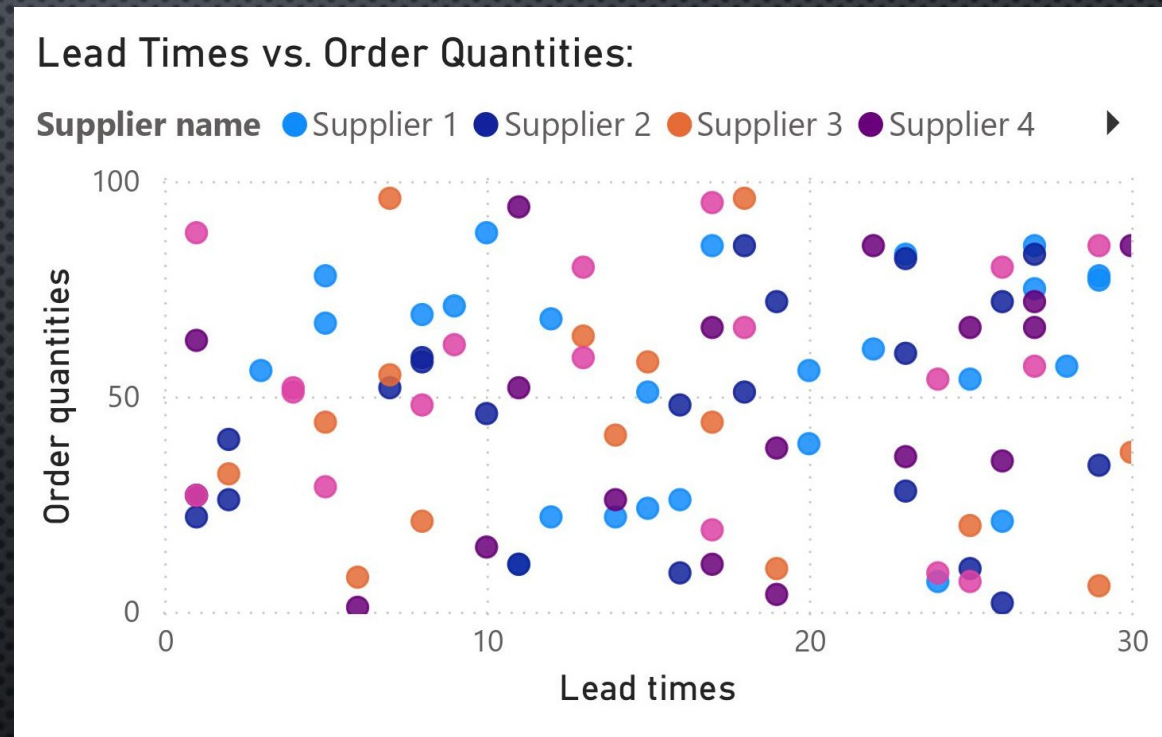
The product type skin care generated over 200K revenue





# 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?

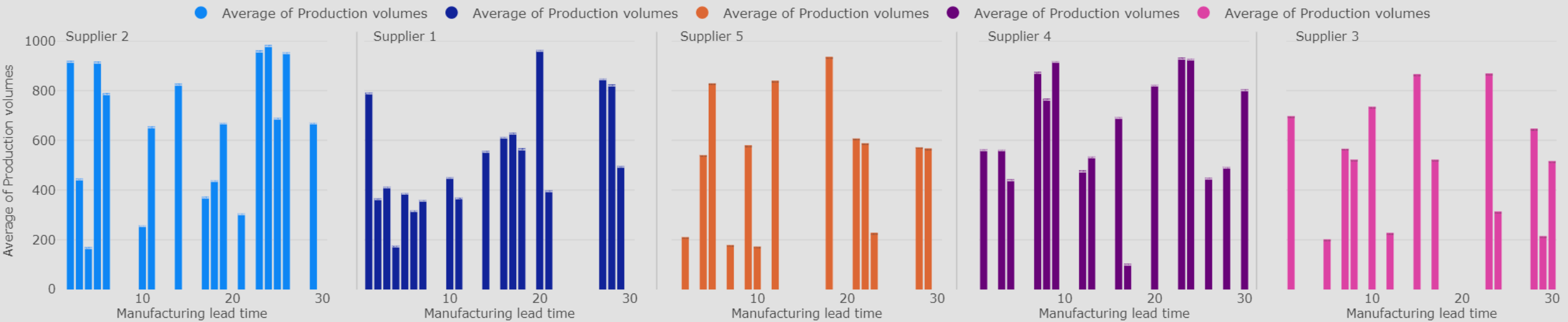
We can see on horizontal bar graph carrier C have highest average shipping cost in Bangalore And carrier B have second high average shipping cost in Kolkata And in location Mumbai all three carriers have maintained average of ₹6





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

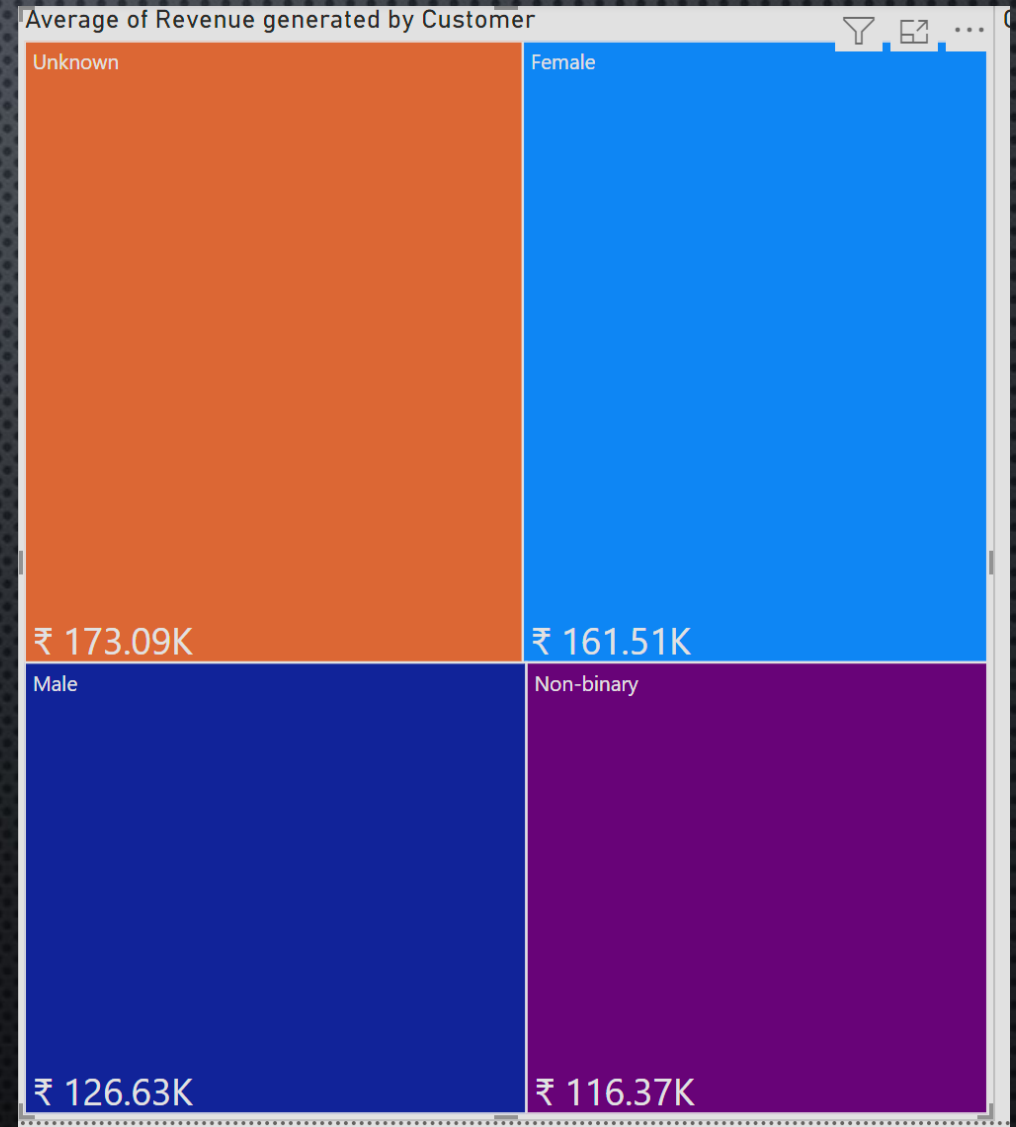
Manufacturing Efficiency:



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





## Conclusion

The **Supply Chain Management Dashboard** serves as a powerful tool for enhancing visibility, tracking performance, and identifying inefficiencies across the entire supply chain. By leveraging data analytics and visualizations, it allows organizations to monitor critical metrics such as inventory levels, delivery performance, supplier reliability, and logistics efficiency in real time.

This dashboard not only supports proactive decision-making but also helps reduce operational costs and improve service levels. It simplifies complex data into actionable insights, enabling businesses to respond quickly to disruptions and streamline their supply chain processes.

Overall, the implementation of this dashboard leads to more agile, data-driven supply chain management and supports continuous improvement in organizational performance.