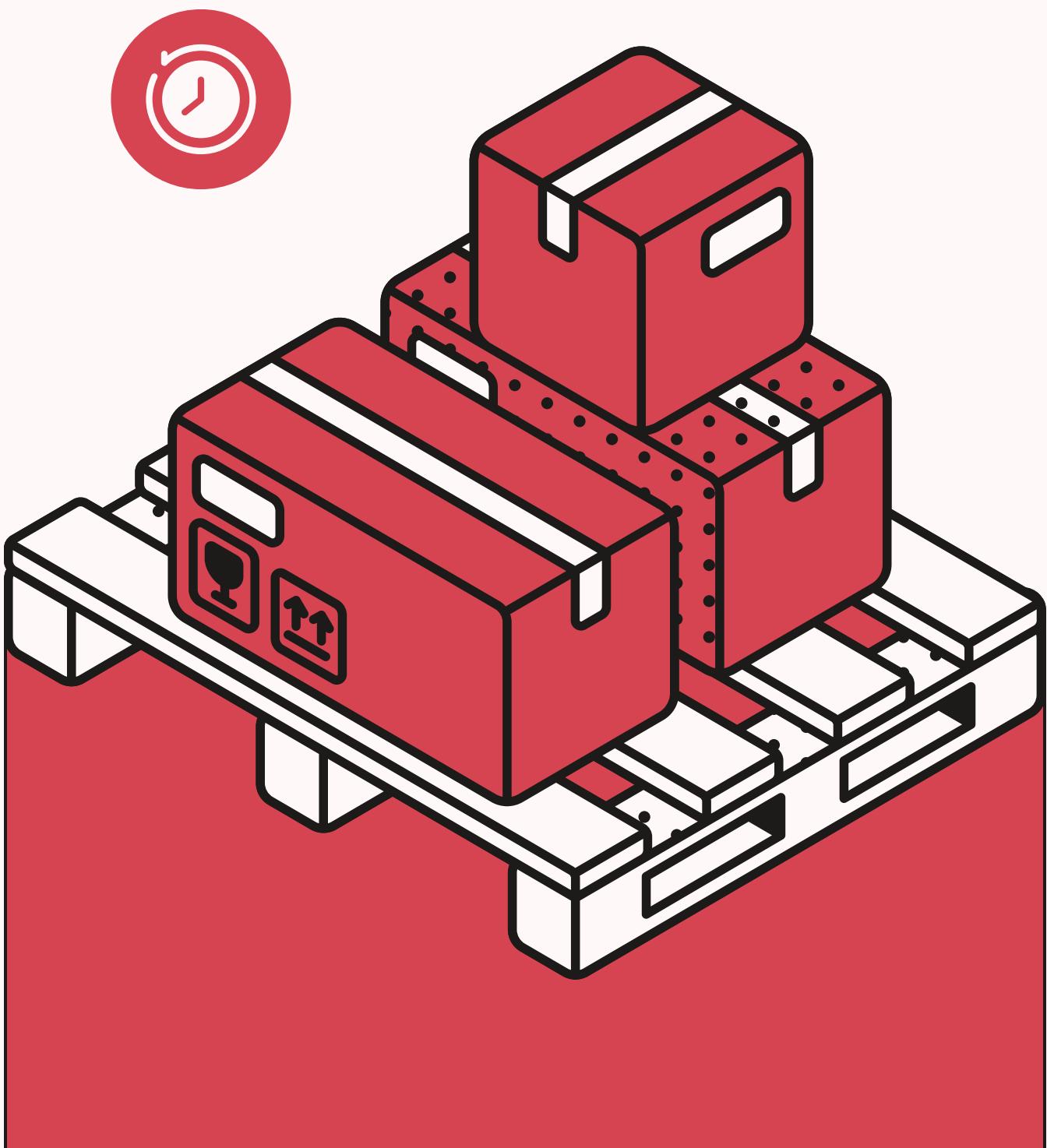


SUPPLY CHAIN MANAGEMENT DASHBOARD OF MAKEUP PRODUCTS



By Somya Agrawal

INTRODUCTION

Supply chain management (SCM) encompasses the oversight and coordination of all activities involved in the flow of goods and services from the procurement of raw materials to the delivery of the finished product to the end customer.

Supply chain analytics is a valuable part of data-driven decision-making in various industries such as manufacturing, retail, healthcare and logistics.



The dataset used in this project is based on the supply chain of makeup products from a **Fashion and Beauty startup**.

INTRODUCTION

What is the current business challenge?

Supply chain faces inefficiencies in lead times, inconsistent supplier performance, high shipping costs and product quality defects.

Why it matters?



Supply chain inefficiencies directly affect customer satisfaction and profitability. Delay in product deliveries and rising costs from underperforming suppliers put pressure on profit margin and the ability to meet market demands on time.



OBJECTIVE AND DATASET CONTENTS

Objective

To analyze product performance and supply chain efficiency of different makeup products according to location, suppliers, customer demographics etc.

Features of Dataset

Product Type

Stock levels

SKU

Price

Availability

Location

Costs

Routes

Shipping Costs

Supplier Name

Production Volume

Inspection Result

Defect Rates

Shipping carriers

Lead Times

Shipping Time

Order Quantities

Manufacturing Cost

Transportation modes

Revenue Generated

No. of Products Sold

Manufacturing Lead Time

Customer demographics

SUPPLY CHAIN DATASET

Supply Chain Dataset Overview																									
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	Transport modes	Routes	Costs	
				E	F	G	H																		
SKU0	69.808	55	802	8661.997	Non-binary		58	7	96	4	Carrier B	2.95657	Supplier 3	Mumbai		29	215		29	46.27987924	Pending	0.226	Road	Route B	187.752
SKU1	14.8435	95	736	7460.9	Female		53	30	37	2	Carrier A	9.71657	Supplier 3	Mumbai		23	517		30	33.61676895	Pending	4.854	Road	Route B	503.066
SKU2	11.3197	34	8	9577.75	Unknown		1	10	88	2	Carrier B	8.05448	Supplier 1	Mumbai		12	971		27	30.68801935	Pending	4.581	Air	Route C	141.92
SKU3	61.1633	68	83	7766.836	Non-binary		23	13	59	6	Carrier C	1.72957	Supplier 5	Kolkata		24	937		18	35.6247414	Fail	4.747	Rail	Route A	254.776
SKU4	4.8055	26	871	2686.505	Non-binary		5	3	56	8	Carrier A	3.89055	Supplier 1	Delhi		5	414		3	92.0651606	Fail	3.146	Air	Route A	923.441
SKU5	1.69998	87	147	2828.349	Non-binary		90	27	66	3	Carrier B	4.4441	Supplier 4	Bangalore		10	104		17	56.76647556	Fail	2.779	Road	Route A	235.461
SKU6	4.07833	48	65	7823.477	Male		11	15	58	8	Carrier C	3.88076	Supplier 3	Kolkata		14	314		24	1.08506857	Pending	1.001	Sea	Route A	134.369
SKU7	42.9584	59	426	8496.104	Female		93	17	11	1	Carrier B	2.34834	Supplier 4	Bangalore		22	564		1	99.4661086	Fail	0.398	Road	Route C	802.056
SKU8	68.7176	78	150	7517.363	Female		5	10	15	7	Carrier C	3.40473	Supplier 4	Mumbai		13	769		8	11.42302714	Pending	2.71	Sea	Route B	505.557
SKU9	64.0157	35	980	4971.146	Unknown		14	27	83	1	Carrier A	7.16665	Supplier 2	Chennai		29	963		23	47.95760163	Pending	3.845	Rail	Route B	995.929
SKU10	15.7078	11	996	2330.966	Non-binary		51	13	80	2	Carrier C	8.67321	Supplier 5	Kolkata		18	830		5	96.52735279	Pass	1.727	Road	Route B	806.103
SKU11	90.6355	95	960	6099.944	Female		46	23	60	1	Carrier A	4.52394	Supplier 2	Kolkata		28	362		11	27.59236309	Pending	0.021	Air	Route A	126.723
SKU12	71.2134	41	336	2873.741	Unknown		100	30	85	4	Carrier A	1.32527	Supplier 4	Kolkata		3	563		3	32.32128621	Fail	2.161	Road	Route B	402.969
SKU13	16.1604	5	249	4052.738	Male		80	8	48	9	Carrier A	9.53728	Supplier 5	Bangalore		23	173		10	97.82905011	Pending	1.631	Road	Route B	547.241
SKU14	99.1713	26	562	8653.571	Non-binary		54	29	78	5	Carrier B	2.03977	Supplier 1	Kolkata		25	558		14	5.79143663	Pending	0.101	Air	Route B	929.235
SKU15	36.9892	94	469	5442.087	Non-binary		9	8	69	7	Carrier B	2.42204	Supplier 1	Bangalore		14	580		7	97.12128175	Pass	2.264	Sea	Route B	127.862
SKU16	7.54717	74	280	6453.798	Female		2	5	78	1	Carrier B	4.19132	Supplier 1	Bangalore		3	399		21	77.1063425	Pass	1.013	Air	Route A	865.526
SKU17	81.4625	82	126	2629.396	Female		45	17	85	9	Carrier C	3.58542	Supplier 1	Chennai		7	453		16	47.67968037	Fail	0.102	Air	Route C	670.934
SKU18	36.4436	23	620	9364.674	Unknown		10	10	46	8	Carrier C	4.33922	Supplier 2	Kolkata		18	374		17	27.10798085	Pending	2.232	Sea	Route A	593.48
SKU19	51.1239	100	187	2553.496	Unknown		48	11	94	3	Carrier A	4.74264	Supplier 4	Chennai		20	694		16	82.37332059	Fail	3.646	Road	Route C	477.308
SKU20	96.3411	22	320	8128.028	Unknown		27	12	68	6	Carrier A	8.87833	Supplier 1	Chennai		29	309		6	65.68625961	Pass	4.231	Air	Route B	493.871
SKU21	84.8939	60	601	7087.053	Unknown		69	25	7	6	Carrier B	6.03788	Supplier 5	Chennai		19	791		4	61.73572895	Pending	0.019	Air	Route C	523.361
SKU22	27.6798	55	884	2390.808	Unknown		71	1	63	10	Carrier A	9.56765	Supplier 4	Kolkata		22	780		28	50.12083961	Fail	2.591	Rail	Route C	205.572
SKU23	4.32434	30	391	8858.368	Unknown		84	5	29	7	Carrier A	2.92486	Supplier 5	Kolkata		11	568		29	98.60995724	Pending	1.342	Rail	Route A	196.329
SKU24	4.15631	32	209	9049.078	Male		4	26	2	8	Carrier C	9.74129	Supplier 2	Bangalore		28	447		3	40.3823597	Pending	3.691	Air	Route A	758.725
SKU25	22.5202	72	142	3174.777	Male		82	11	52	2	Carrier C	2.22167	Supplier 4	Kolkata		16	624		22	78.32026212	Pending	2.707	Rail	Route B	458.526

ANALYSIS QUESTIONS

- Which Product Type generates the highest revenue?
- Are there any significant correlation 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 volume?
- What demographic group contributes the most to sales?





Supply Chain Efficiency Dashboard Of Makeup Products

Location

All

Supplier Name

All

567.84

Avg. Production Volumes

₹ 47.30

Avg. Manufacturing Co...

14.77

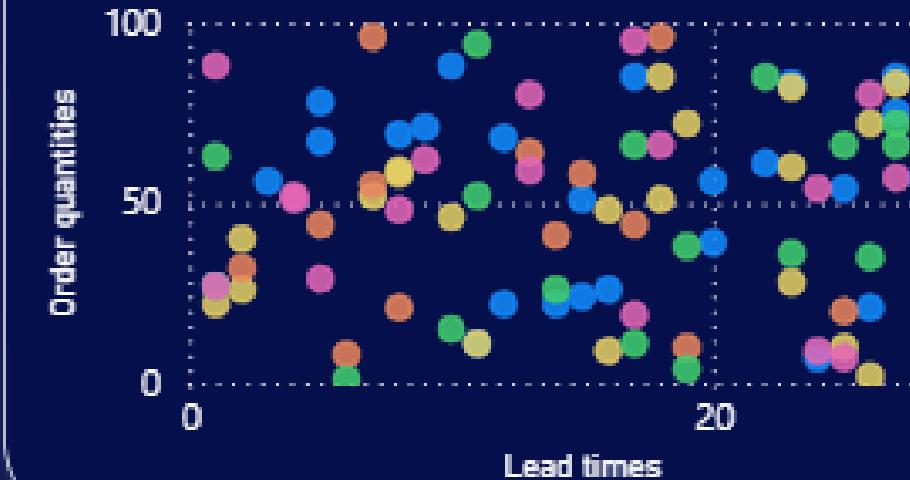
Avg. Manufacturing lea...

227.72%

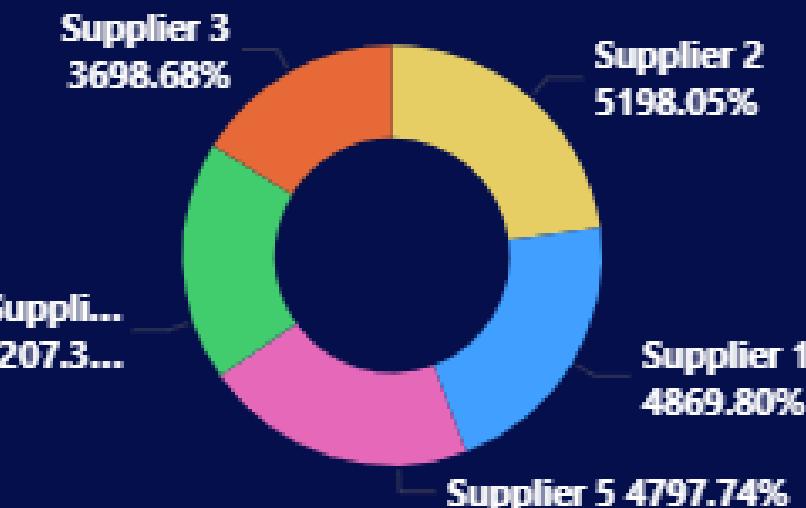
Avg. Defect Rates

Lead Time Vs Order Quantities by Supplier

Supplier 1 Supplier 2 Supplier 3 Supplier 4



Sum of Defect rates by Supplier name

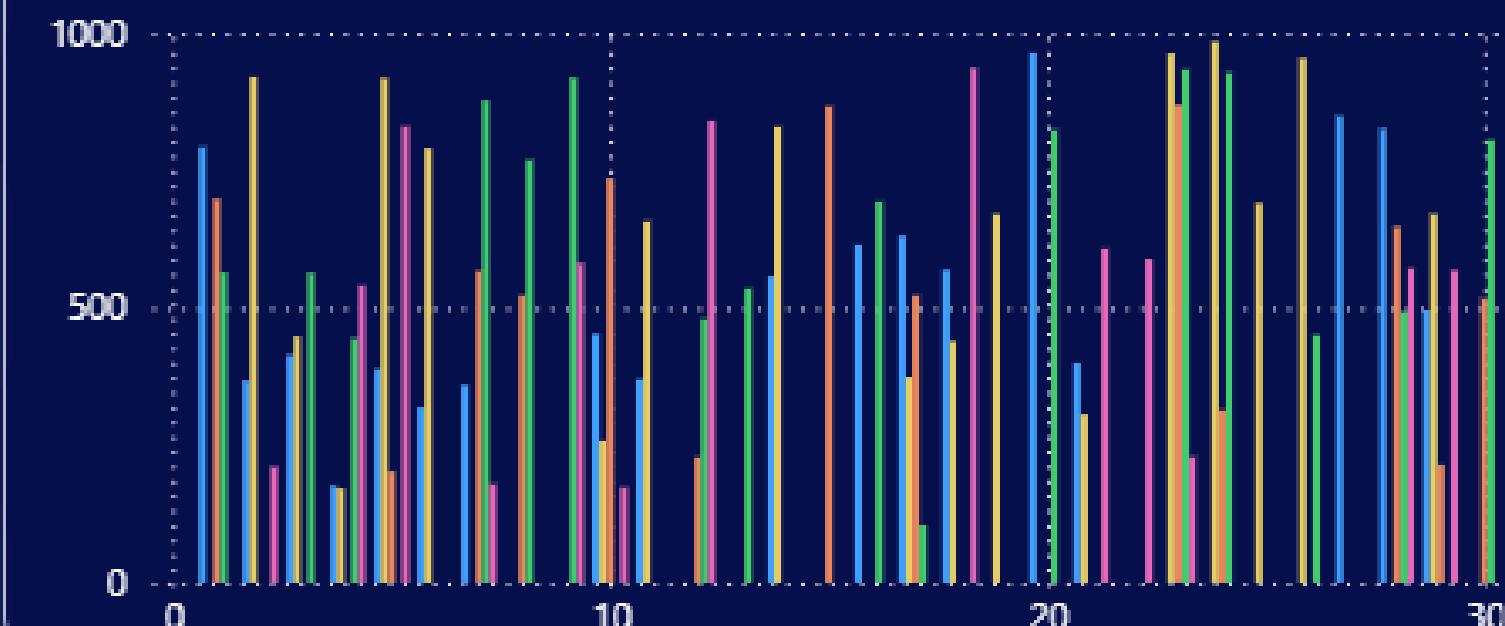


Shipping Costs by Transportation Modes



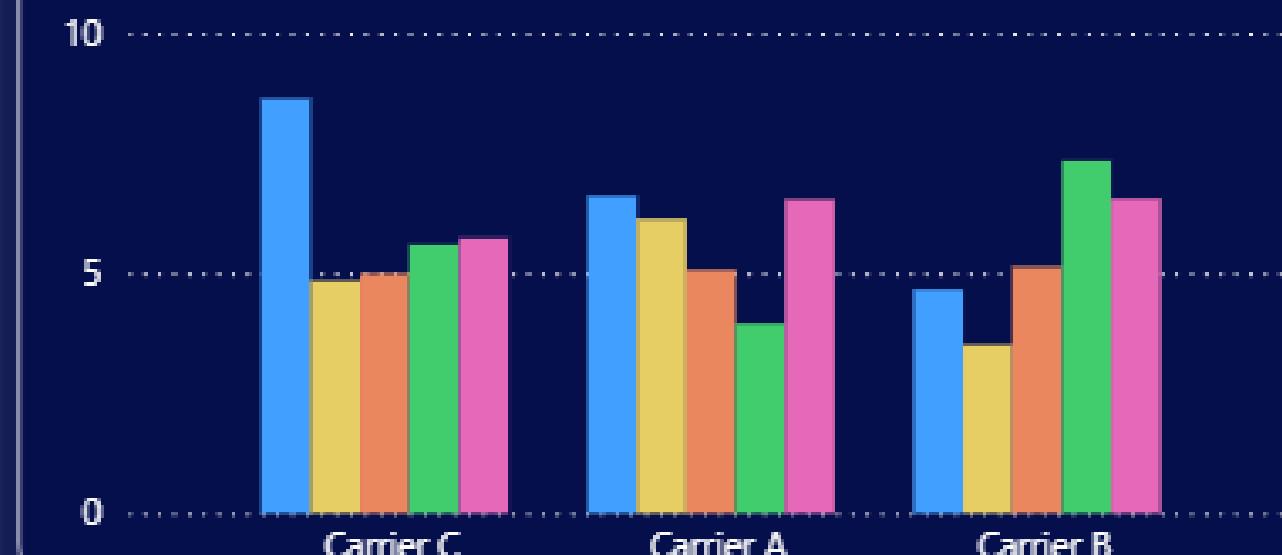
Manufacturing Efficiency

Supplier 1 Supplier 2 Supplier 3 Supplier 4 Supplier 5



Avg. Shipping Costs by Shipping Carriers and Location

Location Bangalore Chennai Delhi Kolkata Mumbai





Product Performance Dashboard Of Makeup Products

Product Type

- cosmetics
- haircare
- skincare

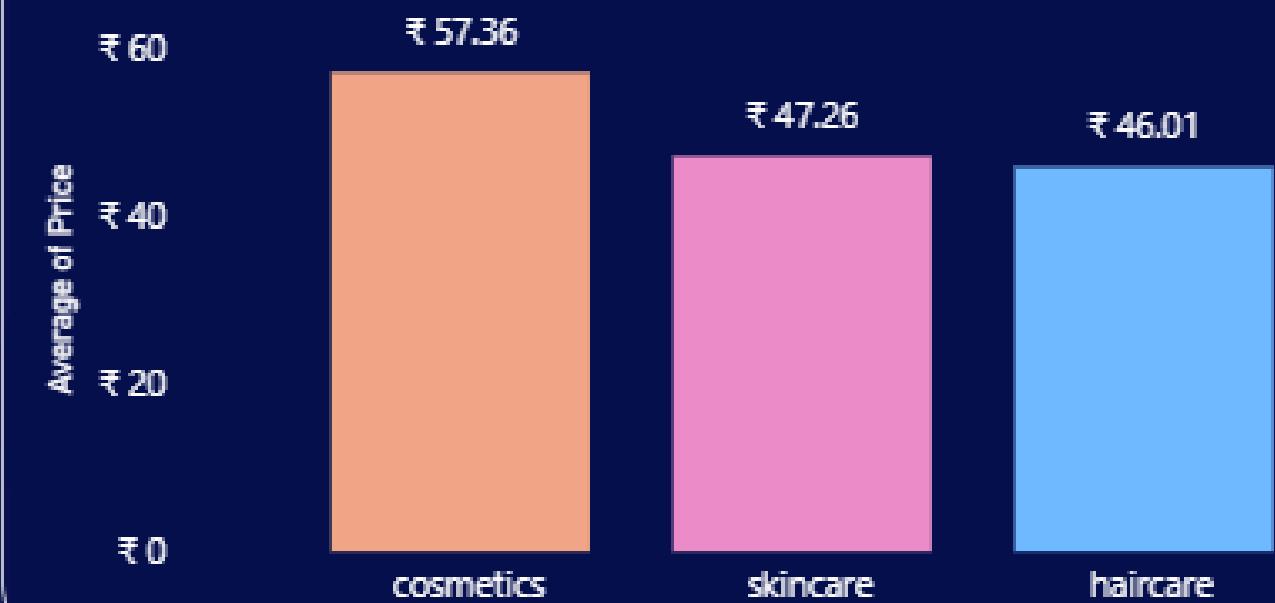
4922
Total Ordered Quantities

₹ 577.60K
Total Revenue Generated

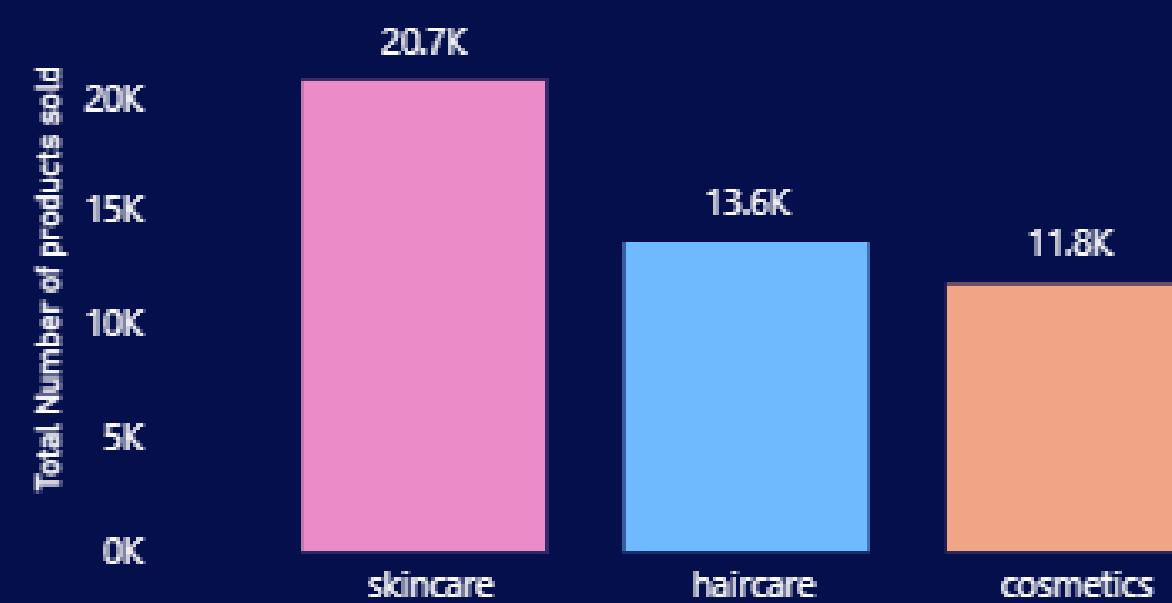
4777
Total Stock levels

4840
Total Availability

Price Distribution



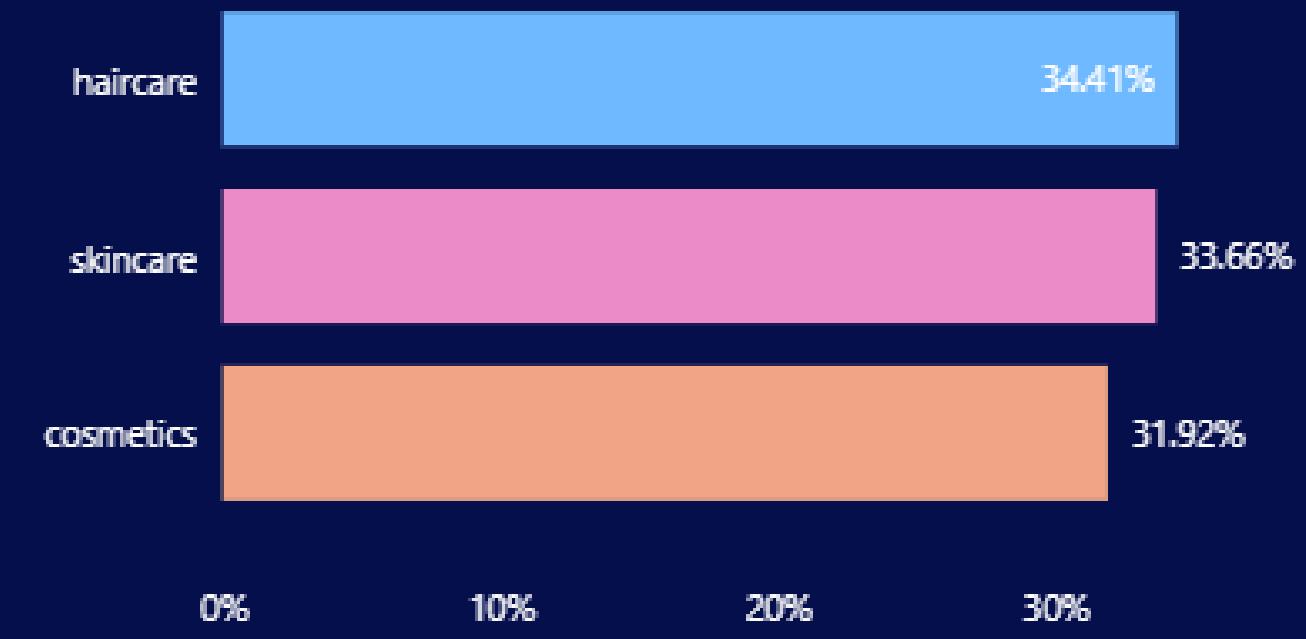
Products Sold by Product Type



Revenue Analysis



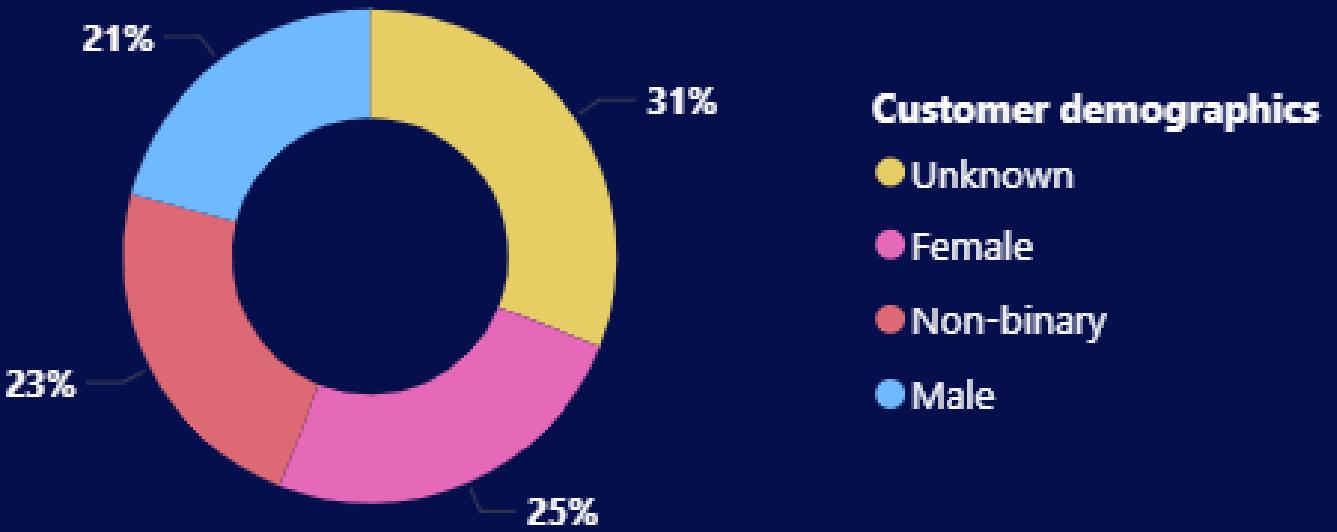
Stock Levels by Product Type



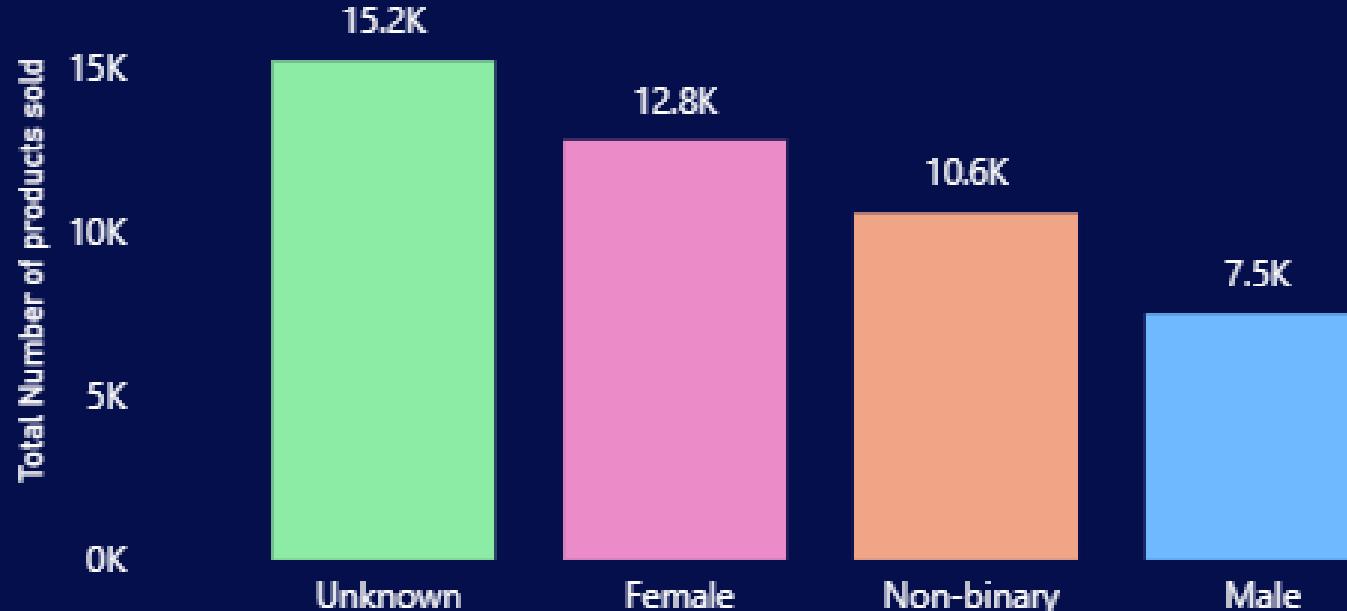


Customer Demographics Dashboard

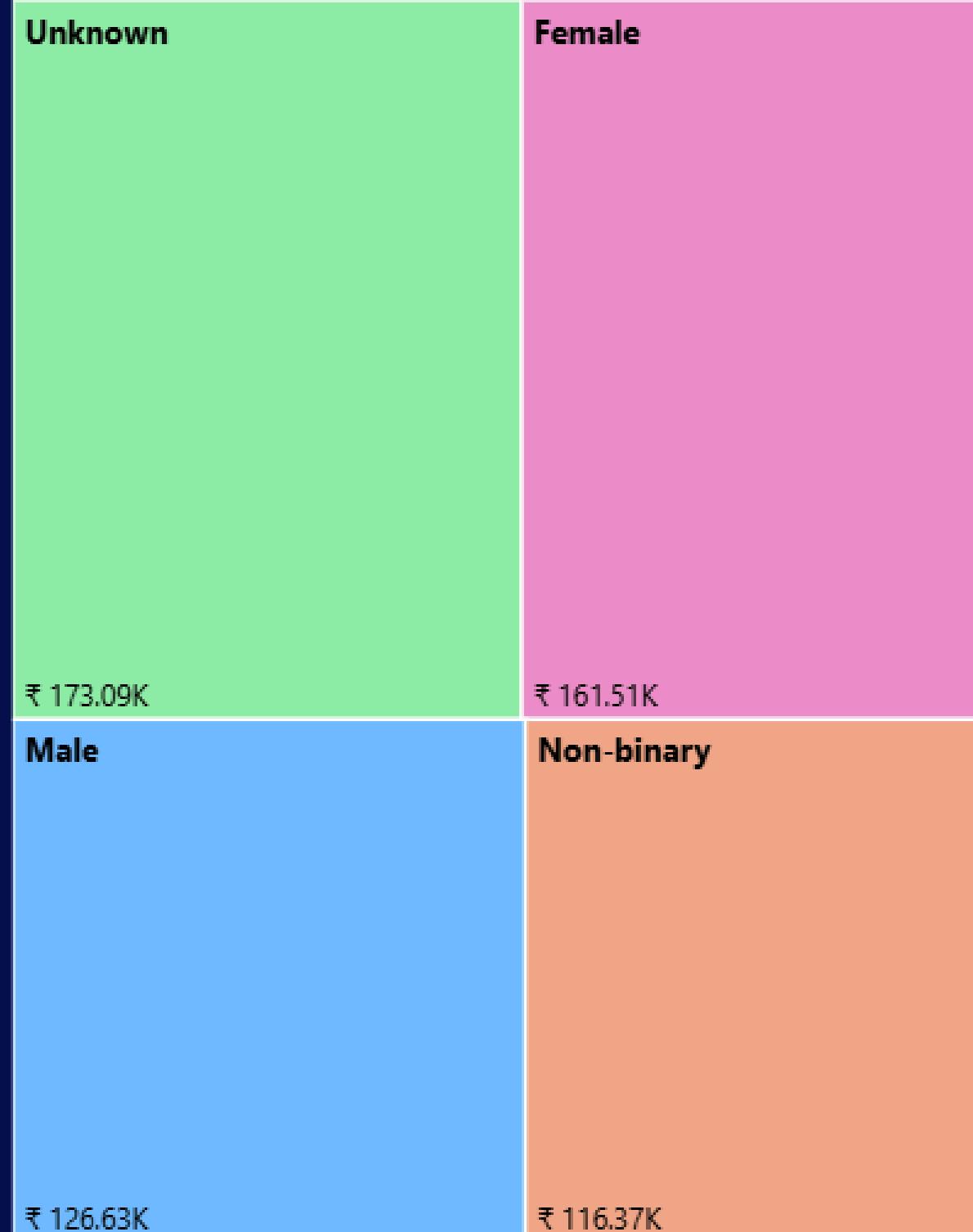
Inspection Results by Demographic



Total Quantity of Product Sold to Customer Types



Total Revenue generated by Customer demographics



Location

All

Defect Rates

All

Customer Demographics

Female

Male

Non-binary

Unknown

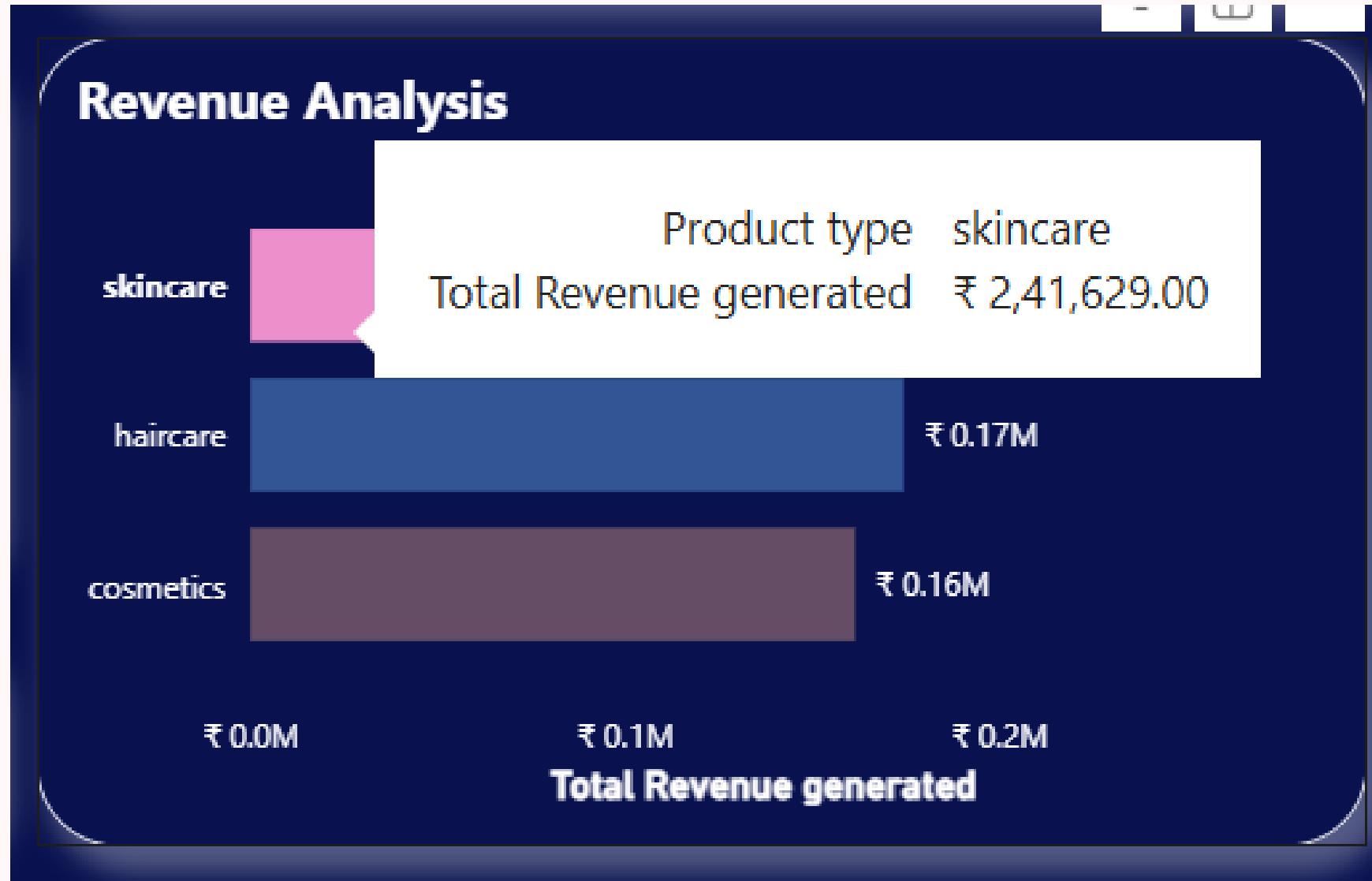
Inspection Results

Fail

Pass

Pending

KEY INSIGHTS



Product Performance Dashboard - Revenue Insights

- **Skincare generates the highest revenue**, amounting to INR 2,41,629 which makes up the largest share among all product categories.
- High Revenue from skincare products suggests strong demand and could indicate a profitable area for strategic focus or marketing efforts.

KEY INSIGHTS

Supply Chain Efficiency Dashboard - Lead Times and Order Quantities

There is a clear positive correlation between Lead Times and Order Quantities for Suppliers 1, 2, 4, and 5, indicating that as order quantities increase, lead times also tend to rise. Supplier 3, however, is an exception, showing no clear pattern or correlation between lead times and order quantities.



KEY INSIGHTS

Supply Chain Efficiency Dashboard - Shipping Cost Analysis

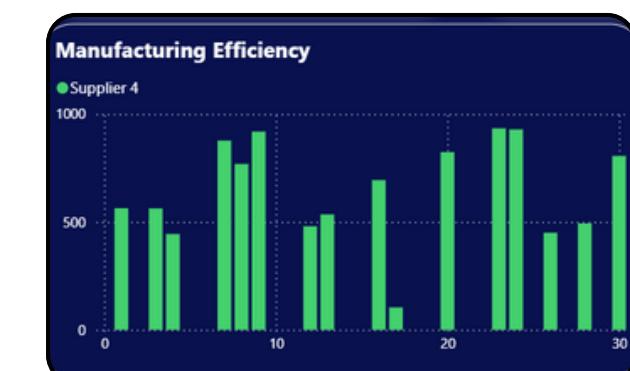
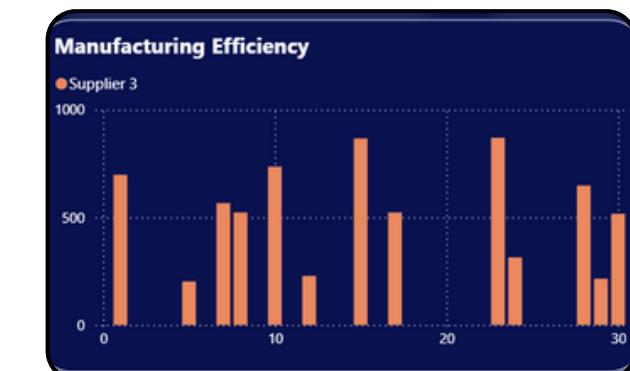
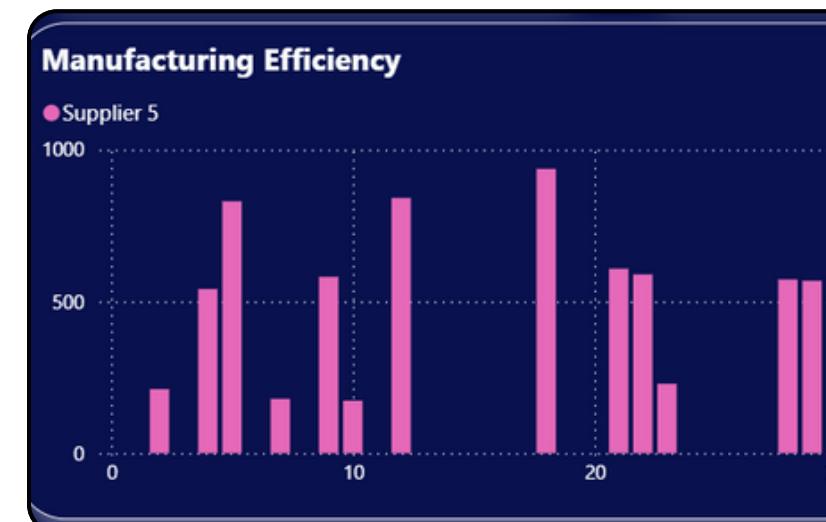
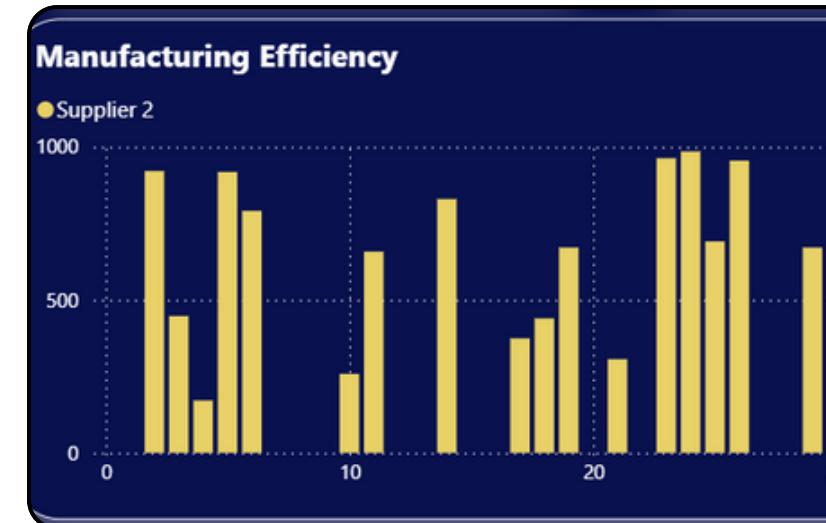
- Carrier C consistently has the lowest shipping costs across all locations except Bangalore.
- Carrier A shows moderate costs, with higher expenses in Mumbai and Bangalore.
- Carrier B has the highest average costs, especially in Kolkata and Mumbai.
- If your goal is minimizing shipping expenses, Carrier C might be ideal for cities other than Bangalore, whereas Carrier B could be smart for Bangalore specifically.



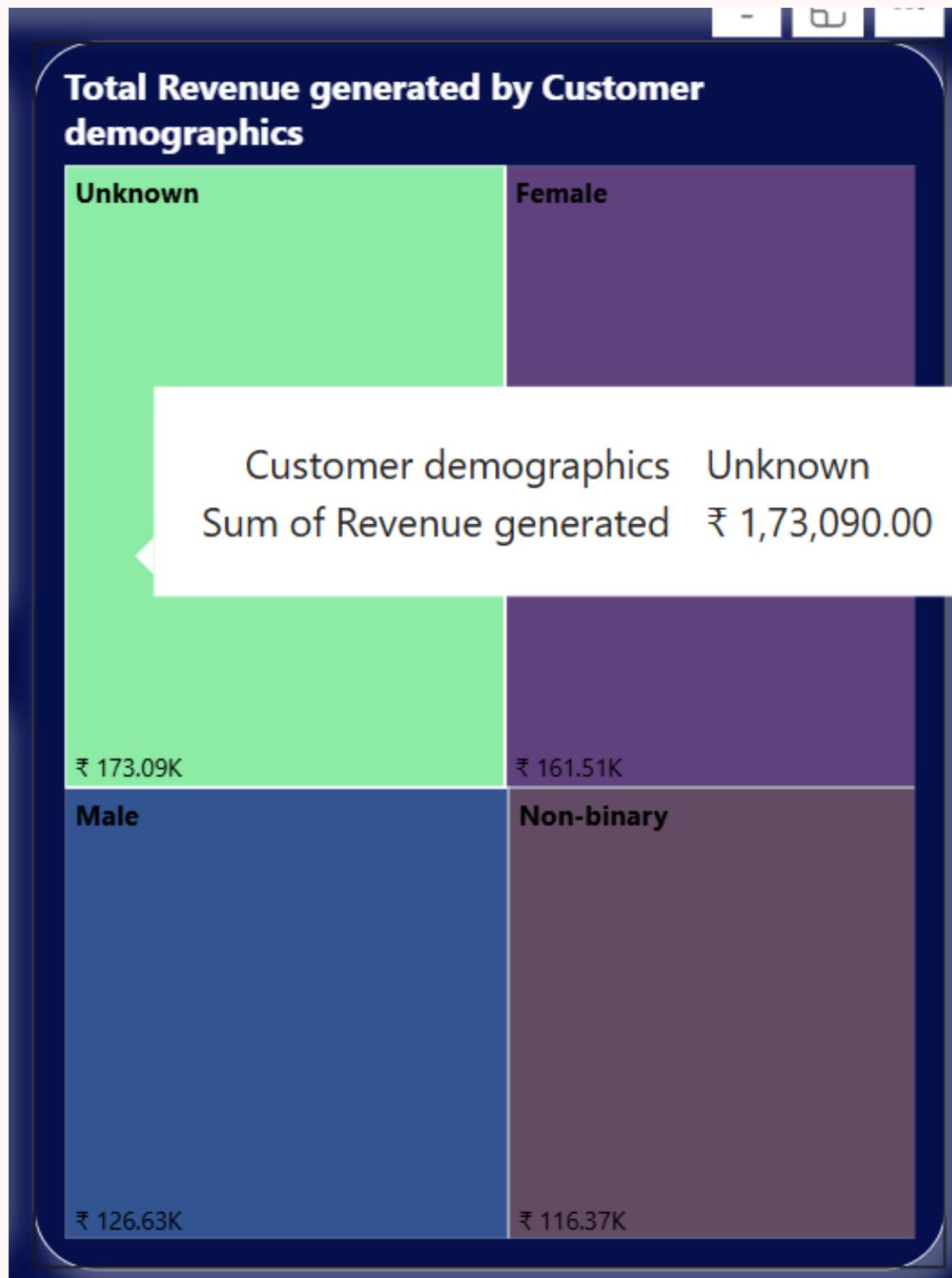
KEY INSIGHTS

Supply Chain Efficiency Dashboard - Manufacturing Efficiency

- The **most efficient** supplier is **Supplier 2** and the **least efficient** is **Supplier 5**.
- Supplier 2 is the most efficient because it consistently delivers high production volumes, frequently reaching close to 1000 units, while maintaining a relatively low lead time.
- Conversely, Supplier 5 is the least efficient as it has several periods with very low production volumes and widely varying lead times, demonstrating inconsistency and lower output compared to the other suppliers.



KEY INSIGHTS



Customer Demographic Dashboard - Revenue Insights

- This treemap reveals that the highest revenue comes from customers with unknown demographics, totaling ₹1,73,090.
- Female customers are the second-largest revenue source at ₹1,61,513, followed by male customers at ₹1,26,633.
- Non-binary customers generated the least revenue, at ₹1,16,366.

SUGGESTIONS



Revise Marketing
and Sales
Strategies

Increase
Production
Efficiency

Switch to better
data collection
methods

Diversify
carrier usage



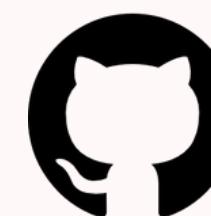
[HTTPS://NEON.ZAPFOLIO.IN/SOMYA_AGRAWAL936](https://neon.zapfolio.in/somya_agrawal936)



[SOMYA.AGRAWAL936@GMAIL.COM](mailto:somya.agrawal936@gmail.com)



[HTTPS://WWW.LINKEDIN.COM/IN/SOMY-A-AGRAWAL-ANALYST/](https://www.linkedin.com/in/somya-agrawal-analyst/)



[HTTPS://GITHUB.COM/SOMYA-AGRAWAL-9/](https://github.com/somya-agrawal-9/)