

# Supply Chain Data

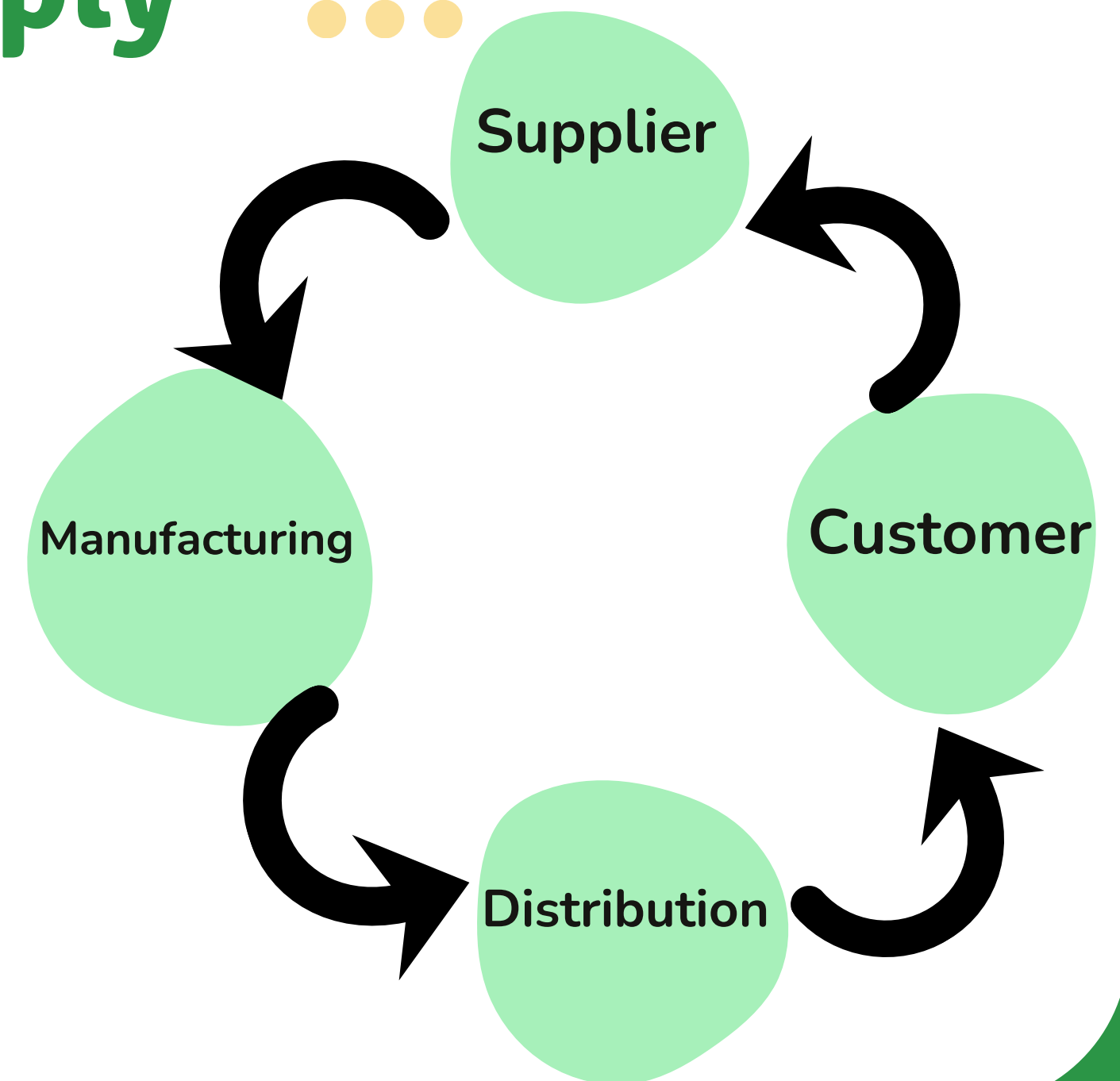


More Information : [https://github.com/ZyadZ0z/Supply\\_chain\\_proj](https://github.com/ZyadZ0z/Supply_chain_proj)

# ... What is a Supply Chain?

The supply chain is the network between a company and its suppliers to produce and distribute a specific product.

Tool Used: Power BI.



# : Loading Data :

supply\_chain\_data (3).csv

File Origin1252: Western European (Windows)DelimiterCommaData Type DetectionBased on first 200 rows

Product type	SKU	Price	Availability	Number of products sold	Revenue generated	Customer demographics	Stock levels
haircare	SKU0	69.80800554	55	802	8661.996792	Non-binary	58
skincare	SKU1	14.84352328	95	736	7460.900065	Female	53
haircare	SKU2	11.31968329	34	8	9577.749626	Unknown	1
skincare	SKU3	61.16334302	68	83	7766.836426	Non-binary	23
skincare	SKU4	4.805496036	26	871	2686.505152	Non-binary	5
haircare	SKU5	1.699976014	87	147	2828.348746	Non-binary	90
skincare	SKU6	4.078332863	48	65	7823.47656	Male	11
cosmetics	SKU7	42.95838438	59	426	8496.103813	Female	93
cosmetics	SKU8	68.71759675	78	150	7517.363211	Female	5
skincare	SKU9	64.01573294	35	980	4971.145988	Unknown	14
skincare	SKU10	15.70779568	11	996	2330.965802	Non-binary	51
skincare	SKU11	90.63545998	95	960	6099.944116	Female	46
haircare	SKU12	71.21338908	41	336	2873.741446	Unknown	100
skincare	SKU13	16.16039332	5	249	4052.738416	Male	80
skincare	SKU14	99.17132864	26	562	8653.570926	Non-binary	54
skincare	SKU15	36.98924493	94	469	5442.086785	Non-binary	9
skincare	SKU16	7.54717211	74	280	6453.797968	Female	2
cosmetics	SKU17	81.46253437	82	126	2629.396435	Female	45
haircare	SKU18	36.44362777	23	620	9364.673505	Unknown	10
skincare	SKU19	51.12387009	100	187	2553.495585	Unknown	48

Extract Table Using Examples

Load

Transform Data

Cancel

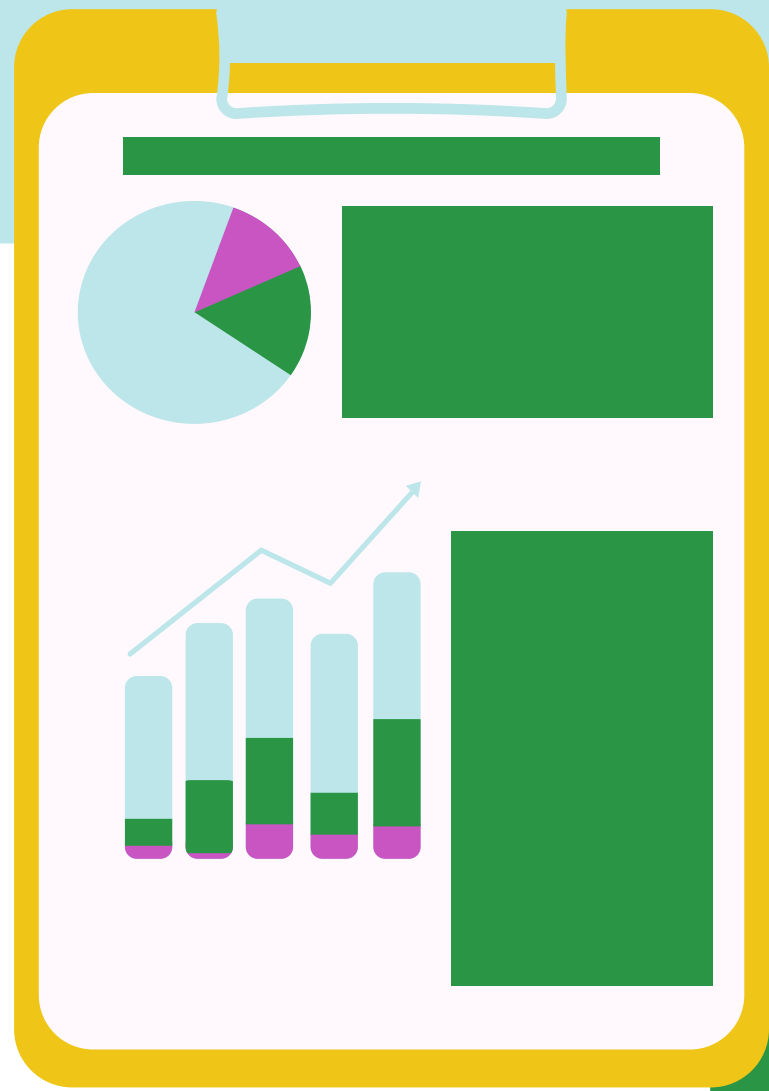
- ☐  $\Sigma$  Availability
- ☐  $\Sigma$  Costs
- ☐ Customer de...
- ☐  $\Sigma$  Defect rates
- ☐ Inspection res...
- ☐ Location
- ☐  $\Sigma$  Manufacturin...
- ☐  $\Sigma$  Manufacturin...
- ☐  $\Sigma$  Material\_leadt...
- ☐ New\_revenue
- ☐  $\Sigma$  Number of pr...
- ☐  $\Sigma$  Order quanti...
- ☐  $\Sigma$  Order\_leadtime
- ☐  $\Sigma$  Price
- ☐ price coasts
- ☐ Product type
- ☐  $\Sigma$  Production vo...
- ☐ Routes
- ☐ Shipping carri...
- ☐  $\Sigma$  Shipping costs
- ☐  $\Sigma$  Shipping times
- ☐ SKU
- ☐  $\Sigma$  Stock levels
- ☐ Supplier name
- ☐ Transportatio...



# Data Cleaning Process

## Data Preparation

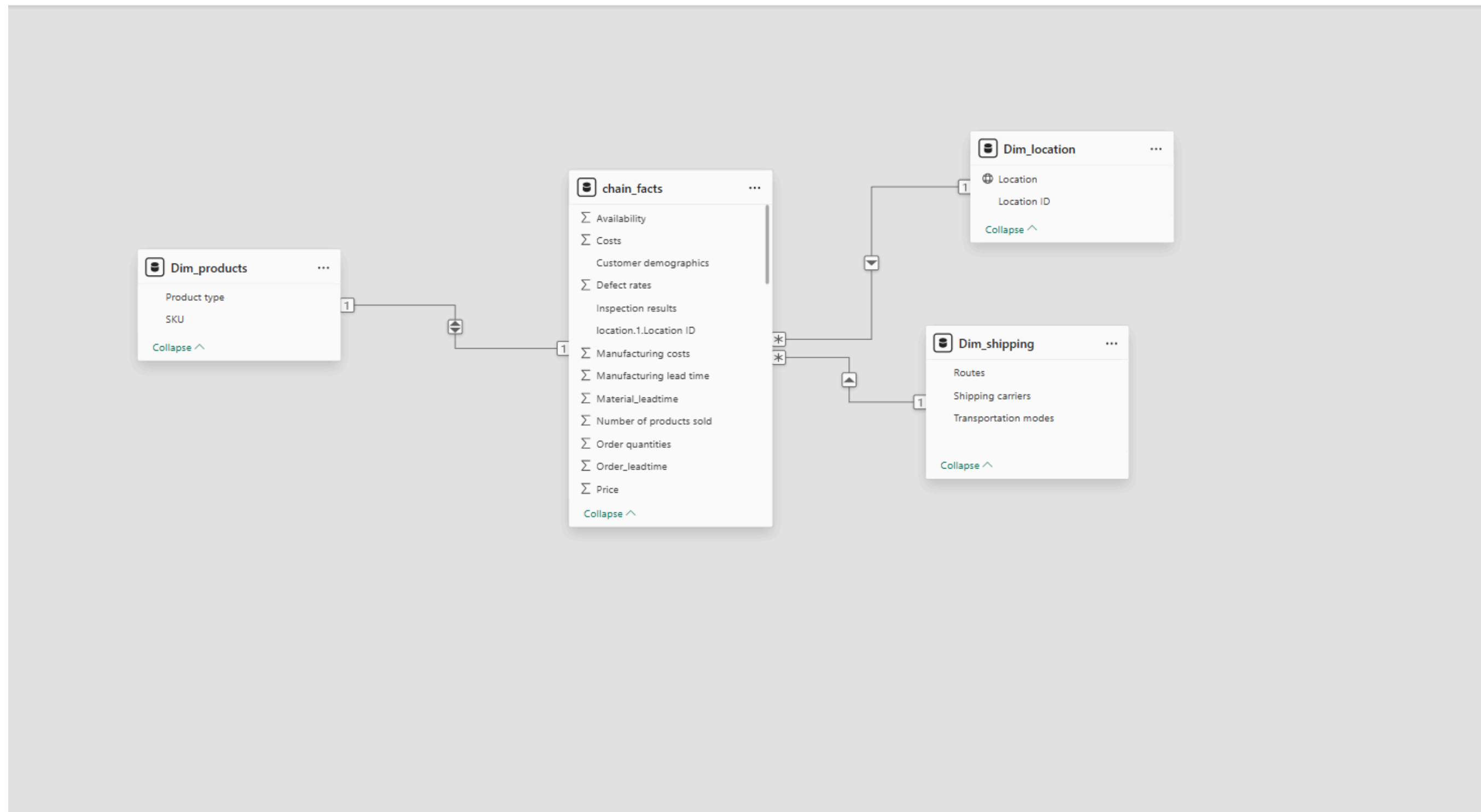
- **Tasks:**  
Removing duplicates, Outliers  
Handling missing values.  
Standardizing formats (dates, categories, etc.).
- **Issue Fixed:** Corrected revenue calculation (Revenue = Number of Products Sold × Price per Unit).



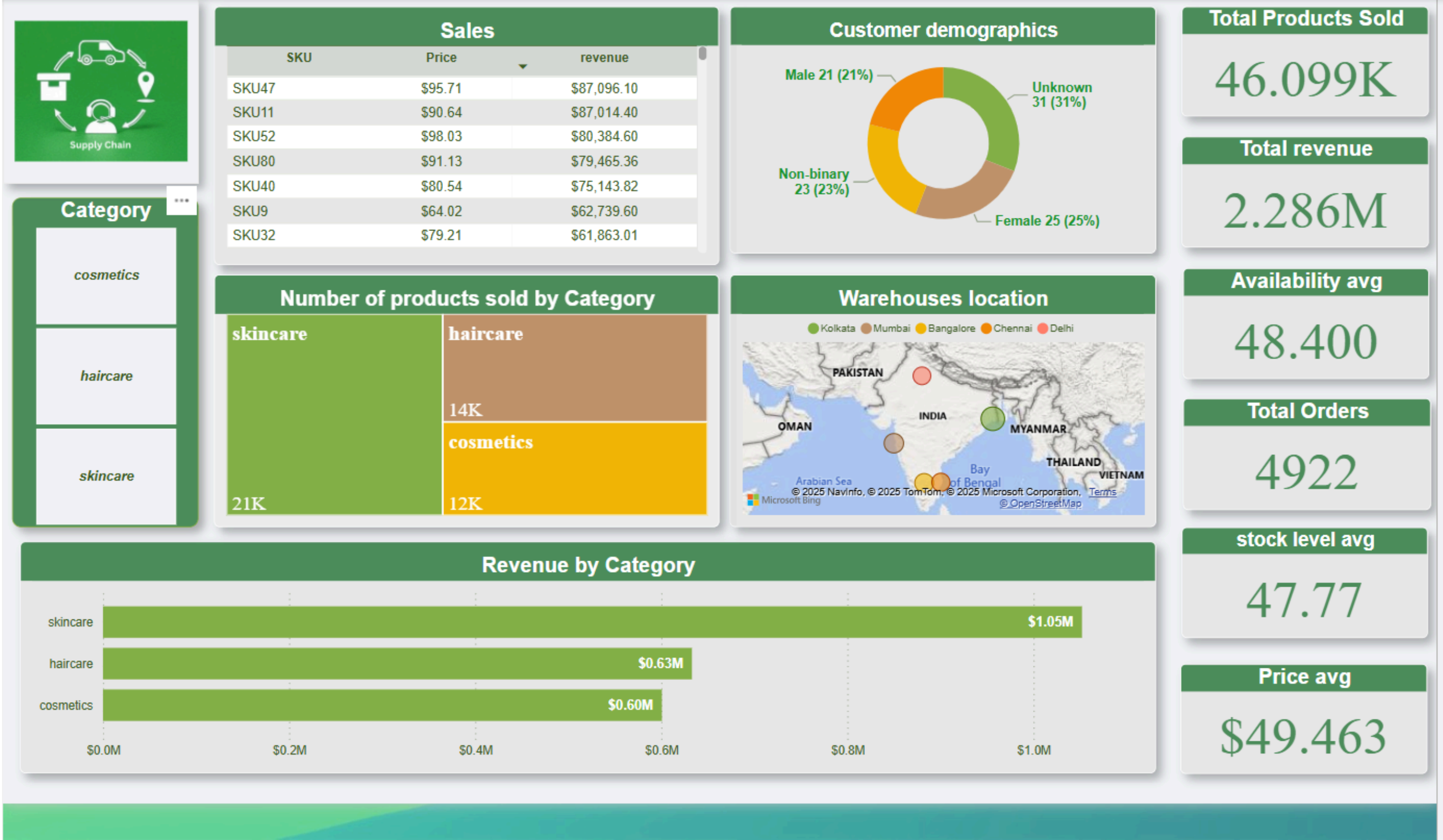
# ... Data Model Overview ...

- **Fact Table (chain\_facts):** Core performance data (Revenue, Costs, Availability, etc.).
- **Dimension Tables:**
  - Dim\_location: Geographic locations.
  - Dim\_products: Product types and SKUs.
  - Dim\_shipping: Shipping modes and routes.

# Data Modeling

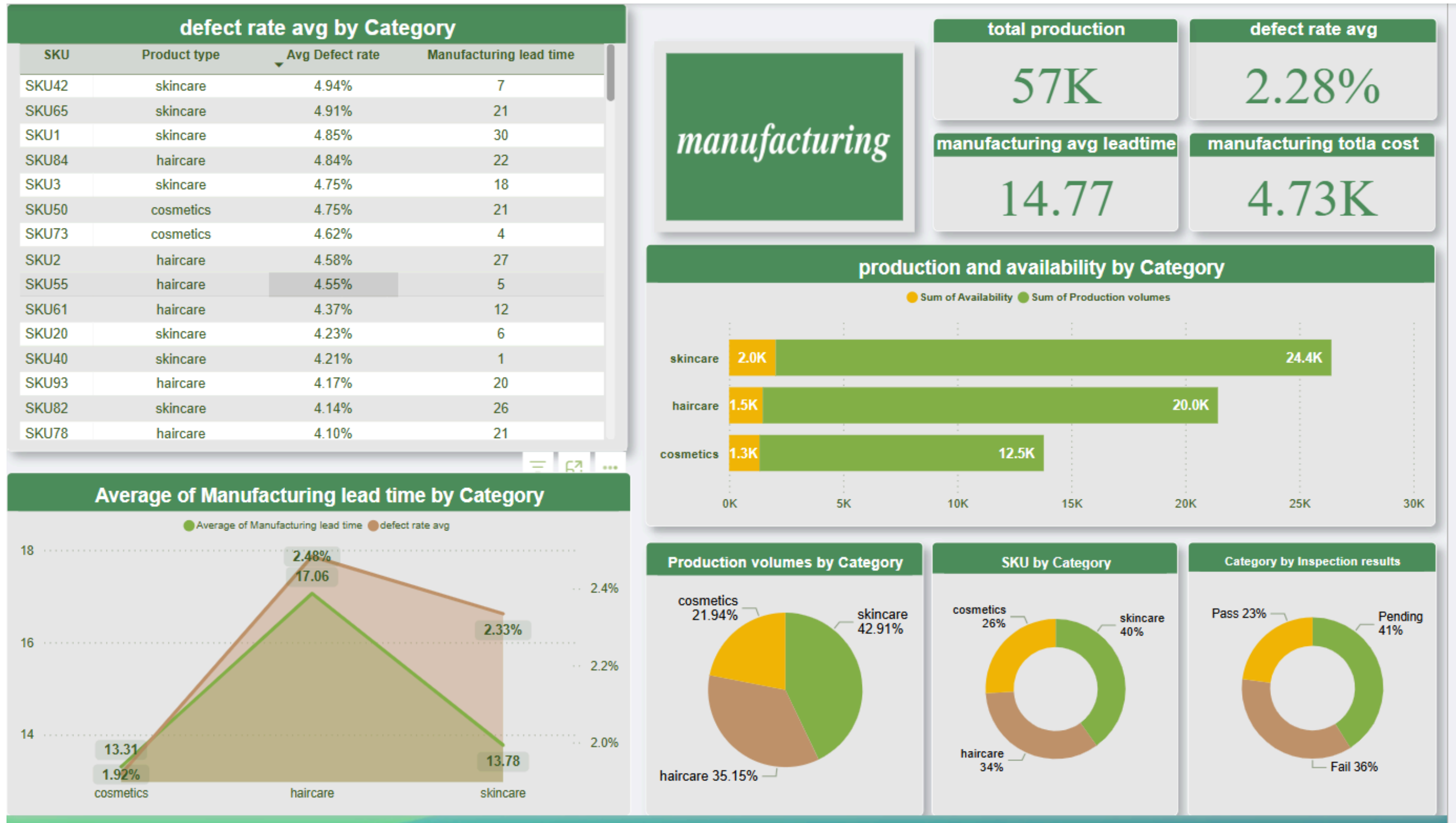


# Dashboard





# Dashboard





# Dashboard

## Suppliers

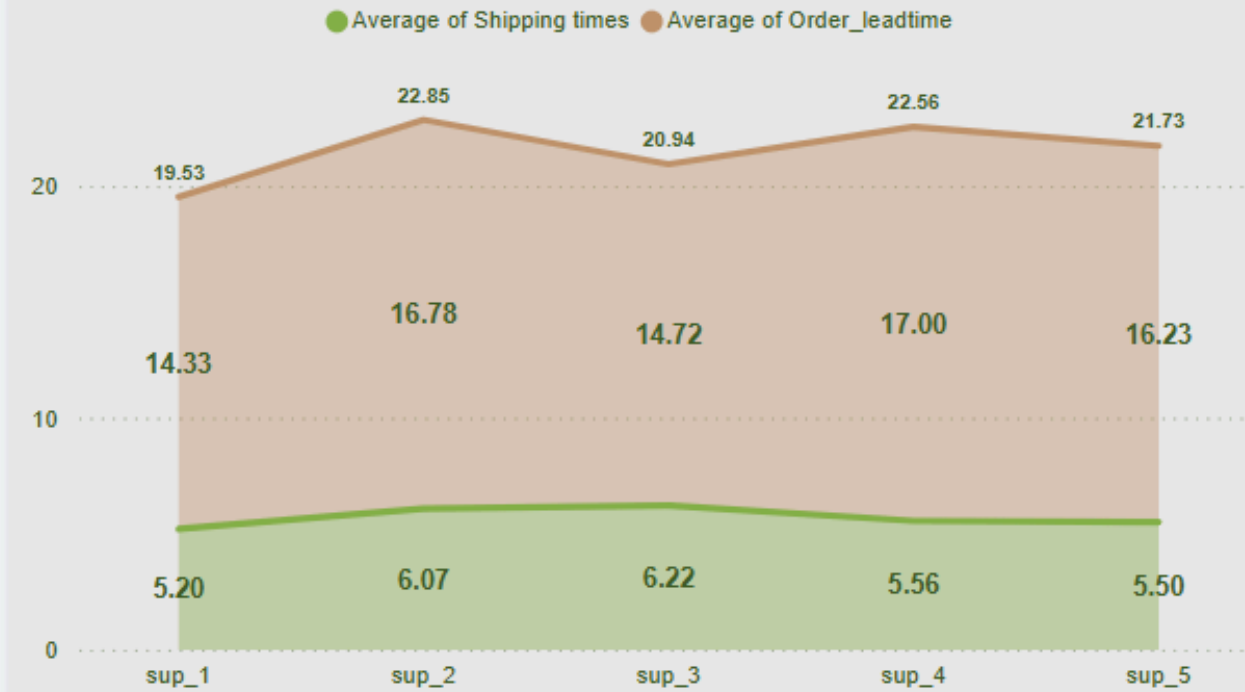
order lead time avg

15.96

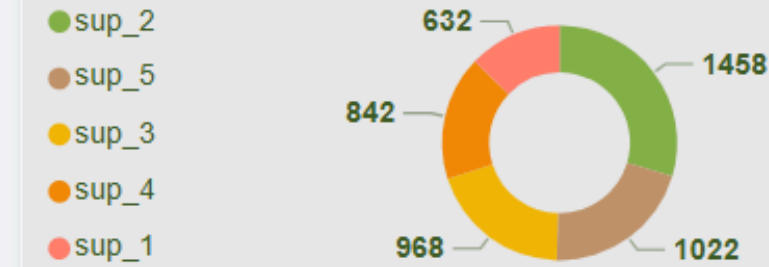
Material lead time avg

17.08

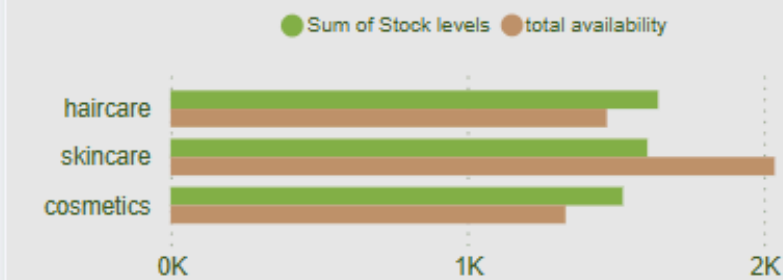
## Shipping times and Category by Supplier ID



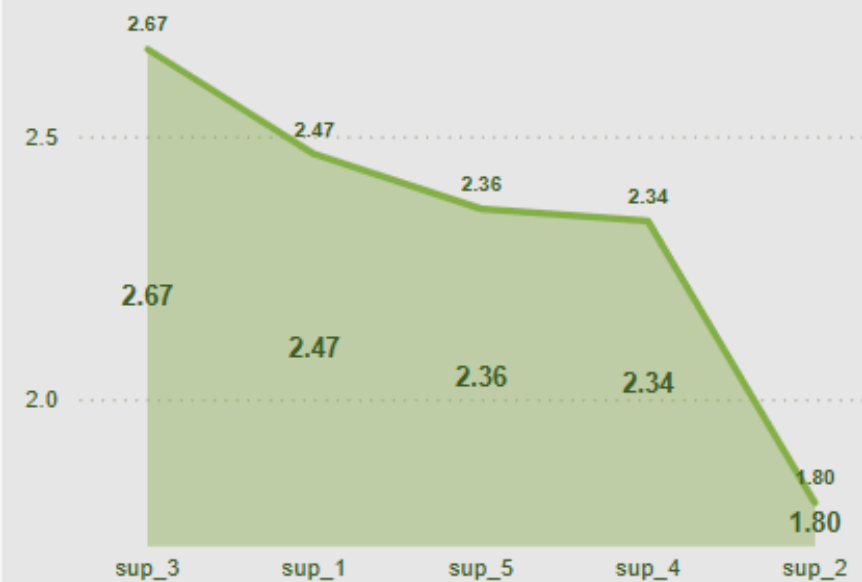
## Order quantities by Supplier ID



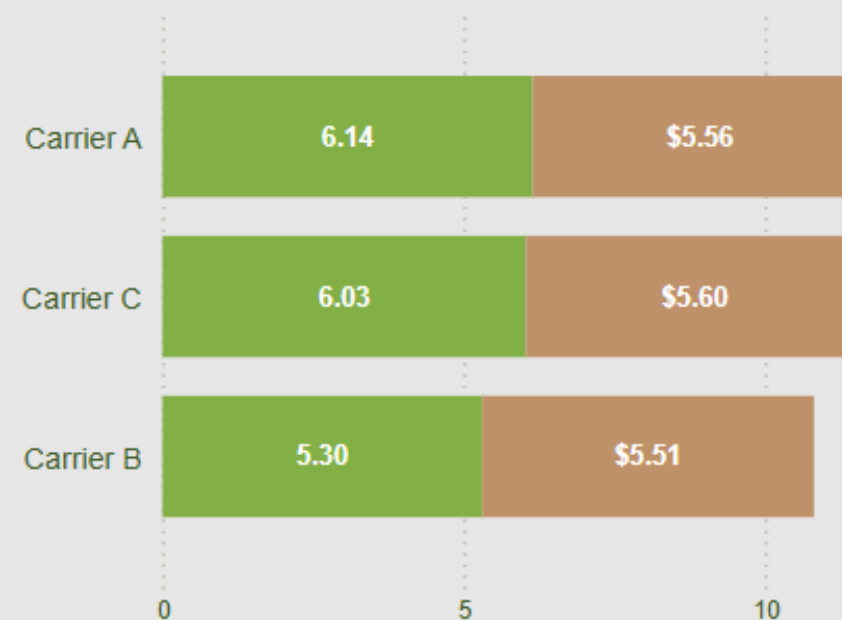
## Availability & Stock level



## defect rate by supplier ID



## Shipping costs & times by Transportation modes



## Stock Alert by Category

SKU	Product type	Stock Alert	Sum of Stock levels
SKU33	cosmetics	Low stock	4
SKU44	cosmetics	Low stock	13
SKU73	cosmetics	Low stock	17
SKU8	cosmetics	Low stock	5
SKU85	cosmetics	Low stock	15
SKU18	haircare	Low stock	10
SKU2	haircare	Low stock	1
SKU24	haircare	Low stock	4
SKU48	haircare	Low stock	30
SKU57	haircare	Low stock	5
SKU68	haircare	Low stock	0

# Problems & Suggestions

## Improve Customer Data Collection

**Issue:** 31% of customer demographics are unknown.

**Recommendation:** Require account creation or offer incentives (e.g., discounts, loyalty points) for data sharing.

## Balance Product Portfolio

**Issue:** Skincare dominates sales, while Cosmetics and Haircare underperform.

**Recommendation:** Invest in marketing and product development for weaker categories.

# Problems & Suggestions

## Improve Supplier Efficiency

Issue: sup\_2 has the longest delivery time; sup\_3 has the highest defect rate.

Recommendation: Audit performance and consider switching suppliers if needed.

## Reduce Shipping Cost & Time

Issue: Carrier A is the most expensive and slowest.

Recommendation: Shift to Carrier B or C after reliability check and negotiate better rates.

# Problems & Suggestions

## Enhance Quality Control

**Issue:** Skincare has a high failure rate ; other categories face inspection delays.

**Recommendation:** Improve testing procedures and adopt automated quality checks.

# Team

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**Thank You**