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SUPPLY CHAIN

Angosoul

OPTIMIZING ANGOSOUL'S SUPPLY CHAIN: A
DATA-DRIVEN APPROACH



DATA SCIENCE



INTRODUCTION

OBJECTIVE



Optimize the supply chain by analyzing key factors:

- Product Demand
- Lead Times
- Inventory Management
- Transportation Efficiency

GOALS



- Reduce operational costs
- improve service levels
- Enhance resource allocation
- Ensure demand fulfillment while maintaining quality.

APPROACH



A data driven framework to:

- Identify inefficiencies
- address challenges like overstock, defect rates and shipping cost
- Support Sustainable growth.



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DEMAND AND INVENTORY INSIGHTS

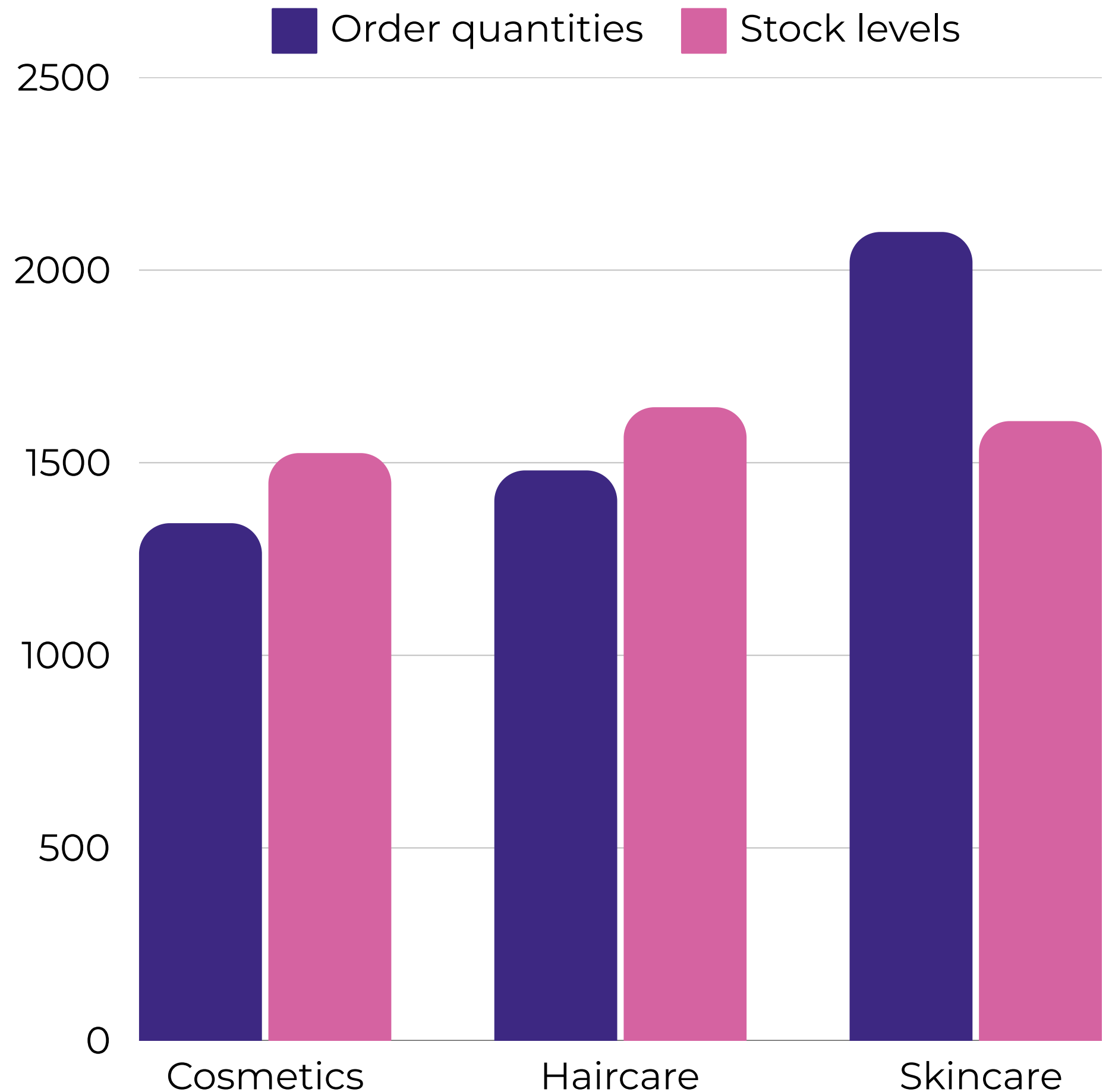


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COMPARISON OF ORDER QUANTITY AND PRODUCT TYPE AVAILABILITY

Skincare products are leaders in order quantities with a total of **2099** but with a stock level difference of **491** units meaning that we are not producing the sufficient product to meet the demand



LINKING DEFECT RATES TO INVENTORY CHALLENGES

PRODUCT TYPE	DEFECT RATE MEAN	AVAILABILITY PERCENTAGE
COSMETICS	1.9%	76.9%
HAIRCARE	2.5%	73.5%
SKINCARE	2.33%	77.5%

The percentage of the highest average in defect rates is concentrated within **hair products**, however it does not have a significant impact within the availability of the product so we can assume that there are defects within the inspection of the product and poor quality product is being sent to the market



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LEAD TIMES AND PRODUCTION IMPACT

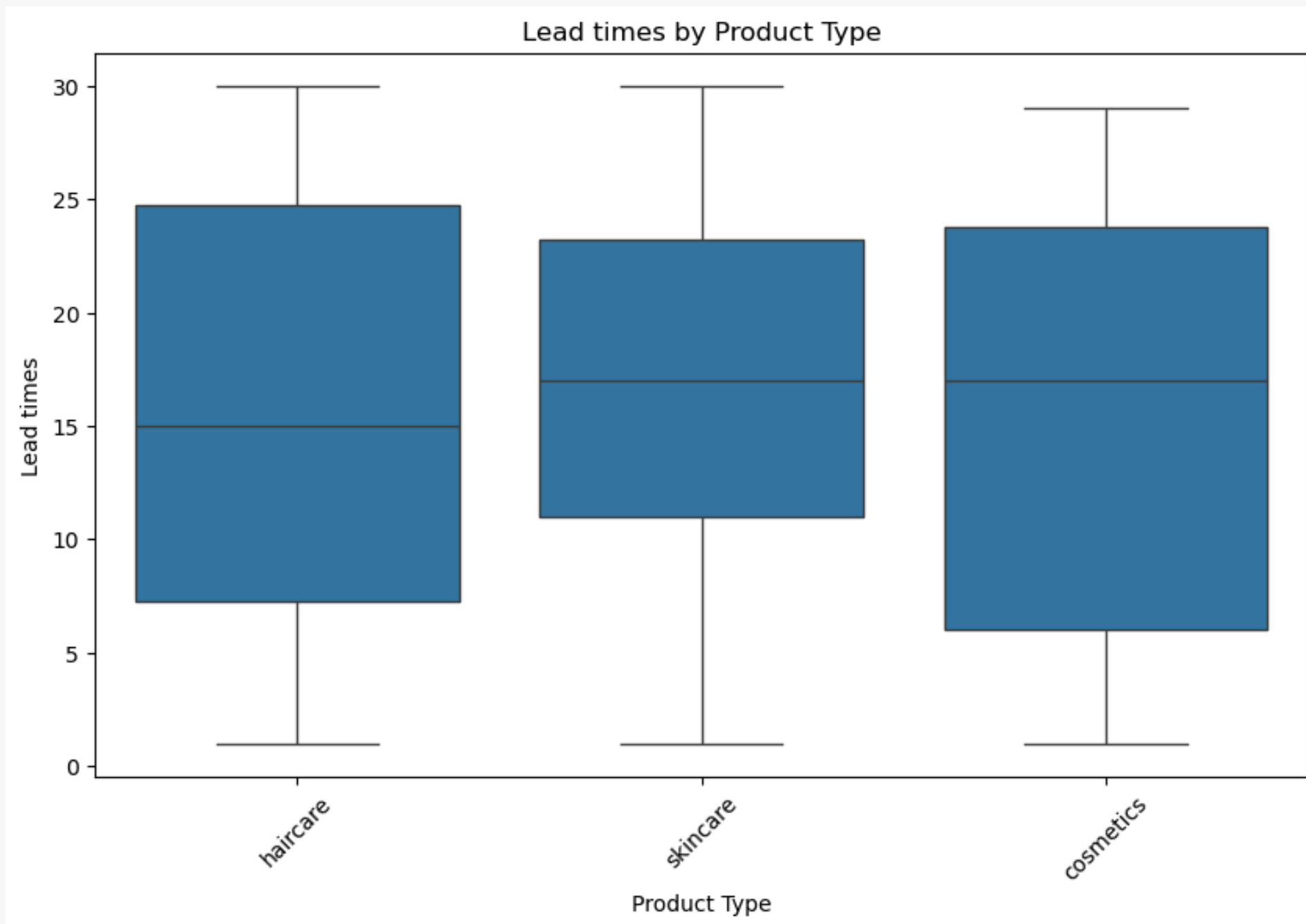


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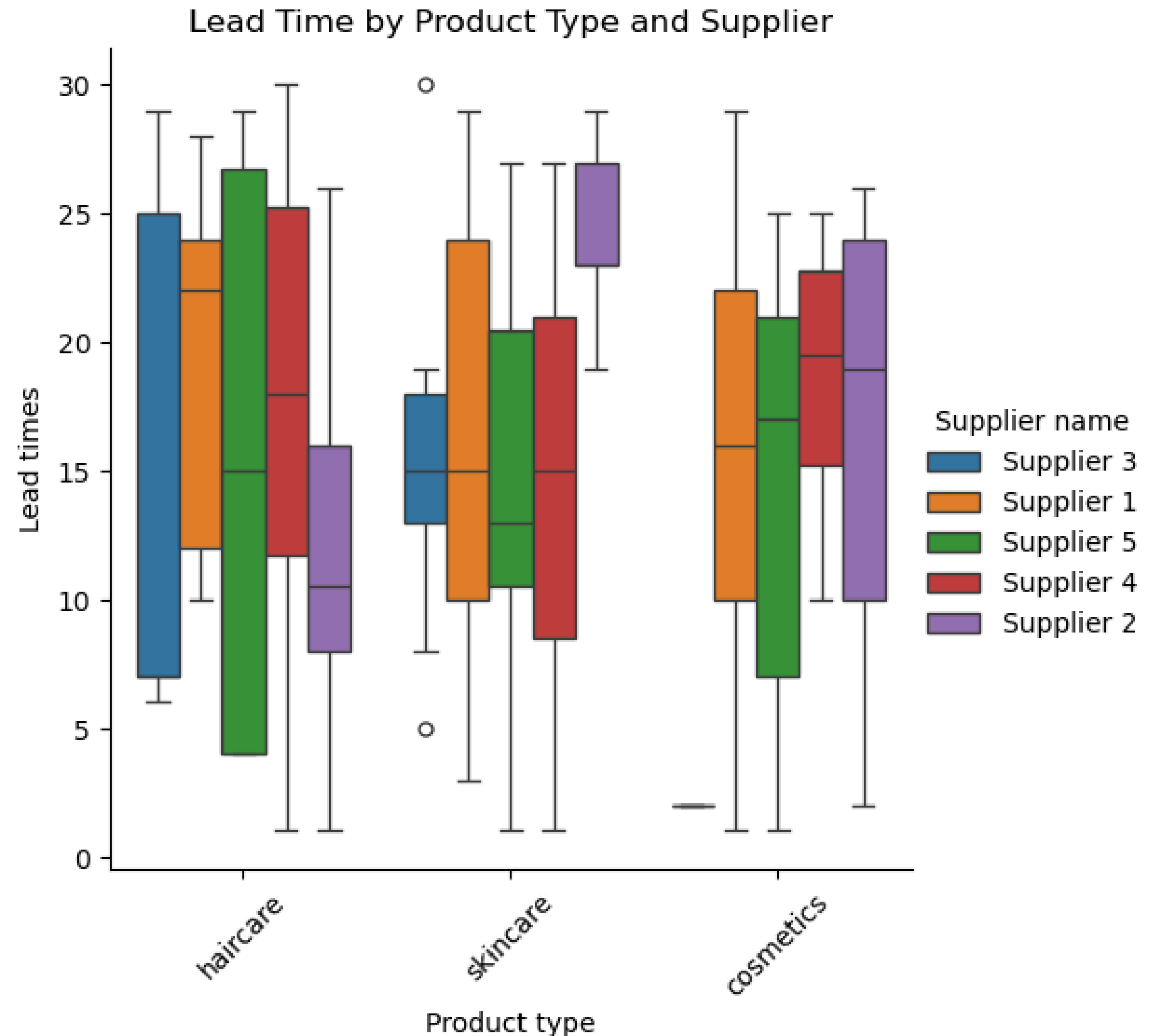
WARIATIONS IN LEAD TIMES AND THEIR IMPLICATIONS

The ideal lead time to deliver products to the store varies from **10-15 days after the order**, in this case the company has high lead times varying **between 15 to 17 business days of delivery which can delay us with the order**, this explains the short product availability.



VARIATIONS IN LEAD TIMES AND THEIR IMPLICATIONS

Based on the mean of **supplier the 1** leads on the shorter lead times. 3-5 consistently exceed the ideal range. Cosmetics have the shortest lead times while our most demanded product that is **skincare** has longer lead times.



EXTENDED MANUFACTURING LEAD TIMES AND **OVERALL COSTS**



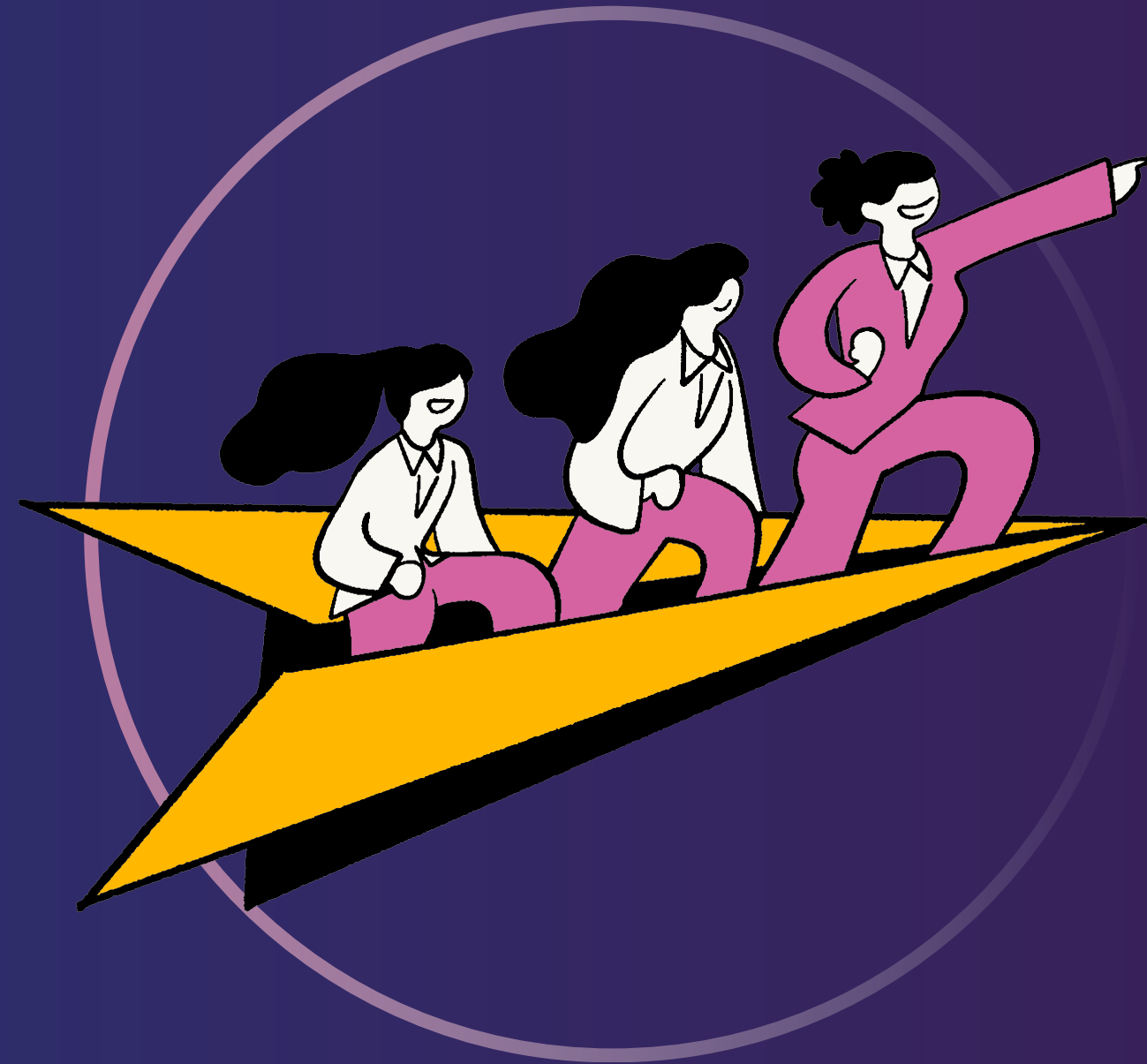
There is **no direct relationship between manufacturing lead times and their impact on the total cost of product production**, so we can take into account factors such as suppliers and the prices they offer us and the defect rate where our cost increases to As we have more customer complaints increasing our **return rate on damaged product**. We may take into account factors such as delivery routes and payment arrangements.



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PRODUCT TYPE	LEAD TIMES
COSMETICS	61 DAYS
HAIRCARE	52 DAYS
SKINCARE	50 DAYS



TRANSPORTATION AND SHIPPING COSTS



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TRANSPORTATION MODES AND COST IMPACT

OVERALL COST

Shipping costs represent among the 1.5% of the total costs of the final products

ROAD TRANSPORT

Road transport is the most expensive for delivering our products, likely due to its high usage or higher unit cost. To optimize costs, other transportation methods within India should be reconsidered.

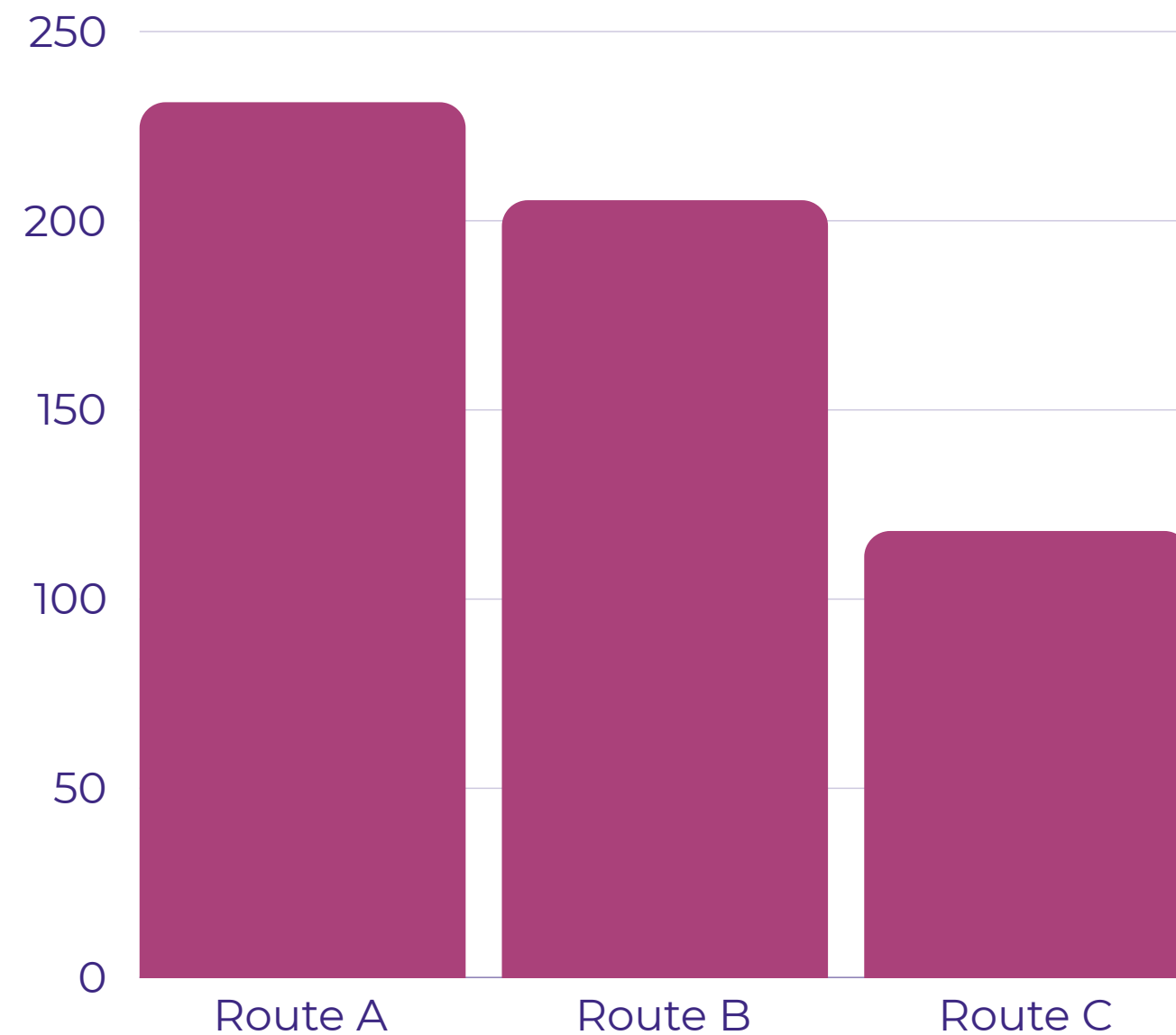
AIR TRANSPORT

Air shipping contributes to substantial portion of shipping costs.



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ROUTES AND TRANSPORTATION COST

The **Route A** represents the highest cost on shipping representing among **41.7%** of total shipping expenses, but in comparison of the one that **uses the most expensive mode is route B**, and transports **hairecare** products .



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DEFECT RATES AND PROBLEMATIC CATEGORIES

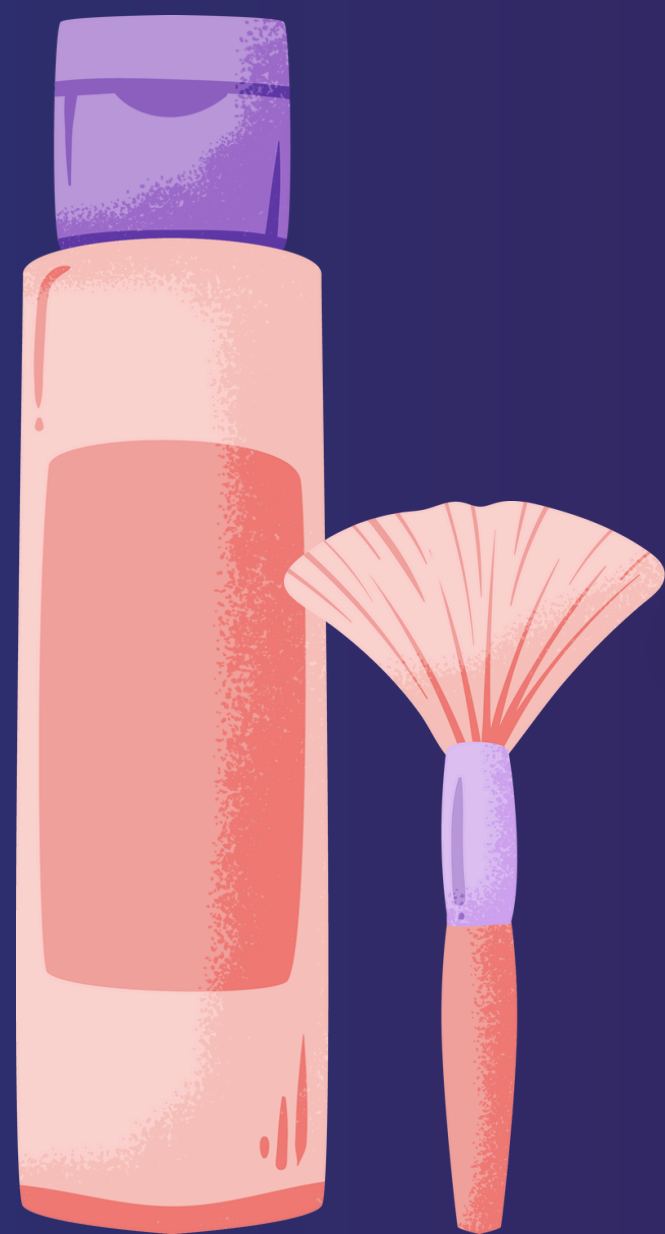


The products with average defect rates are in haircare type, regards of the inspection results haircare and skincare have most of the pending ones before sending them to the customer, and cosmetics has the higher fail results,



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THANK YOU!
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