

blinkit



Power BI

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Duration:

3 months 1st April 2025 to 30th June 2025

PROJECT TITLE - BLINKIT SALES DATA ANALYSIS

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COLLEGE : INSTITUTE OF ENGINEERING & MANAGEMENT

DEPARTMENT : BCA

SEMESTER : 4TH SEMESTER

ACKNOWLEDGEMENT

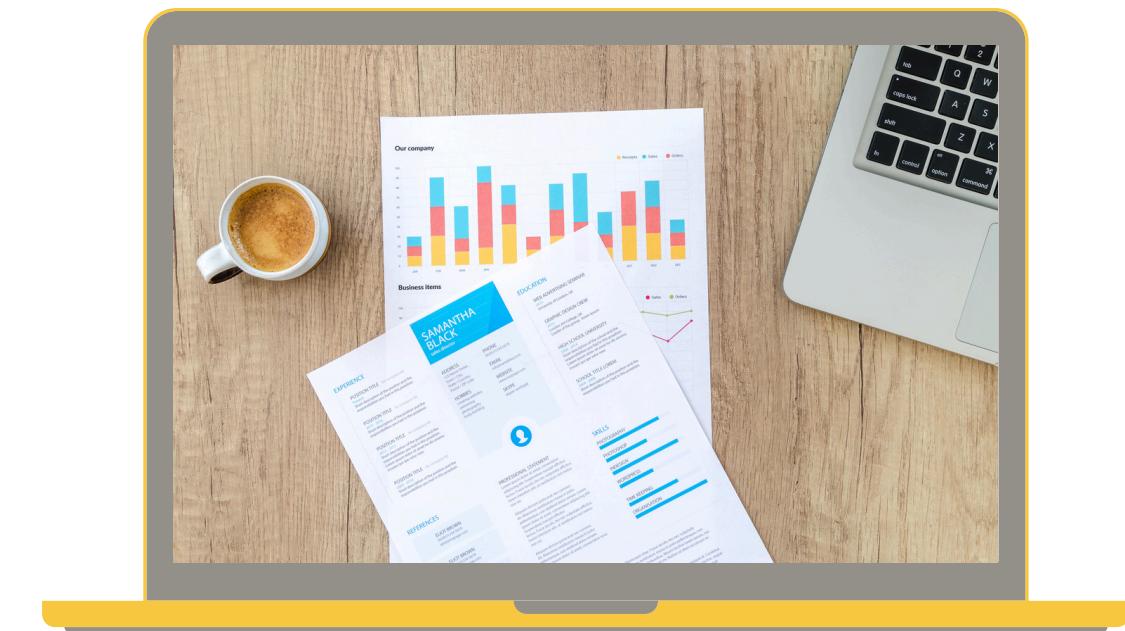
I sincerely express my deep gratitude to all those who supported and guided me throughout the course of this project:

- I am especially thankful to my project guide for their continuous encouragement and insightful suggestions, which were invaluable to the success of this analysis.
- I extend my heartfelt thanks to my institution – IEM, for providing me with the opportunity to undertake this internship project under Classroom.
- I am deeply grateful to my family for their support, patience, and motivation during the entire duration of the project.
- Lastly, I would like to acknowledge the contributions of all my friends and well-wishers, whose help and encouragement played a vital role in the successful completion of this work.



TABLE OF CONTENTS

<u>SECTION TITLE</u>	<u>PAGE NO</u>
OBJECTIVE/PROBLEM STATEMENT	PAGE - 5
DATASET OVERVIEW	PAGE - 6
TOOLS	PAGE - 7
METHODOLOGY	PAGE - 8
DETAILED SLIDE FOR EACH VISUALIZATION	PAGE - (9-38)
KEY FINDINGS	PAGE - 39
CONCLUSION	PAGE - 40
GITHUB REPOSITORY LINK	PAGE - 41
REFERENCES	PAGE - 42



OBJECTIVE/PROBLEM STATEMENT

THE GOAL OF MY PROJECT :

- Identify recurring issues in service, delivery, app performance and product quality
- Understand customer sentiment and satisfaction trends
- Provide actionable insights for improving customer experience

THE QUESTIONS WHICH I AM TRYING TO ANSWER WITH THE DATASET - :

- What aspects of the service are customers most satisfied or dissatisfied with?
- Which feedback categories receive the most attention?
- How do customer ratings correlate with sentiment labels?



DATASET OVERVIEW

DATASET NAME & SOURCE:

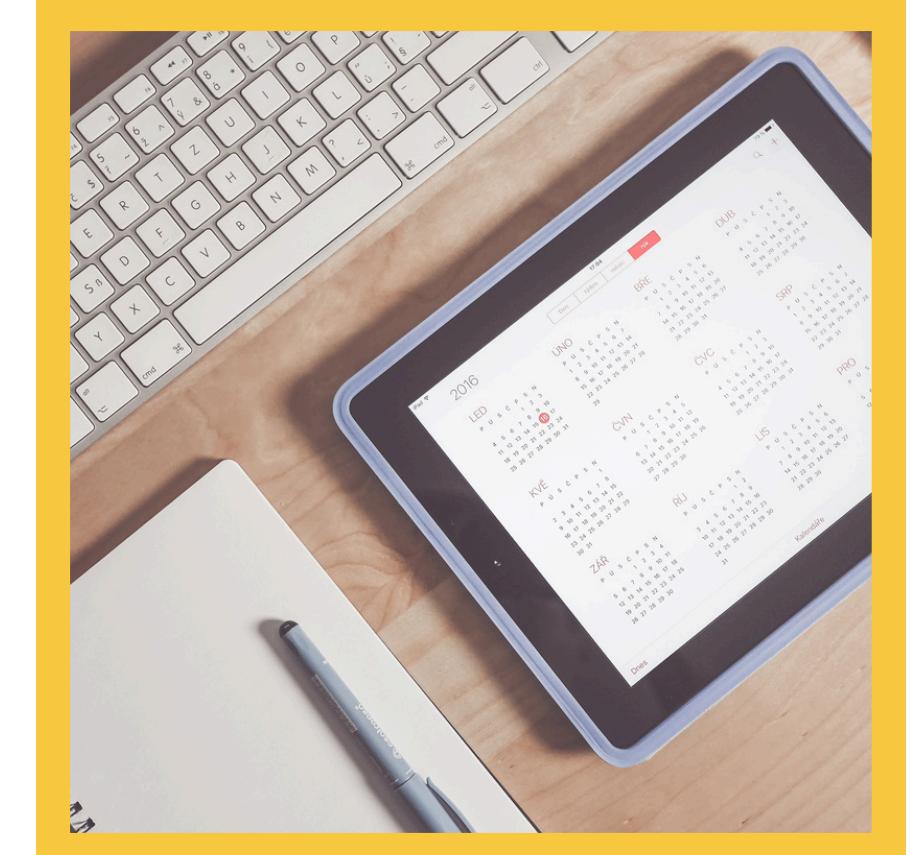
- Name: Blinkit Customer Feedback Dataset
- Source: Provided by Classroom

STRUCTURE OF THE DATASET:

- Total Rows: 5,000
- Total Columns: 8

KEY COLUMNS USED FOR ANALYSIS:

- feedback_id - Unique ID for each customer feedback
- order_id - Associated order number
- customer_id - Identifier for the customer
- feedback_category - Type of feedback (e.g., Delivery, Product Quality)
- feedback_date - Date the feedback was submitted



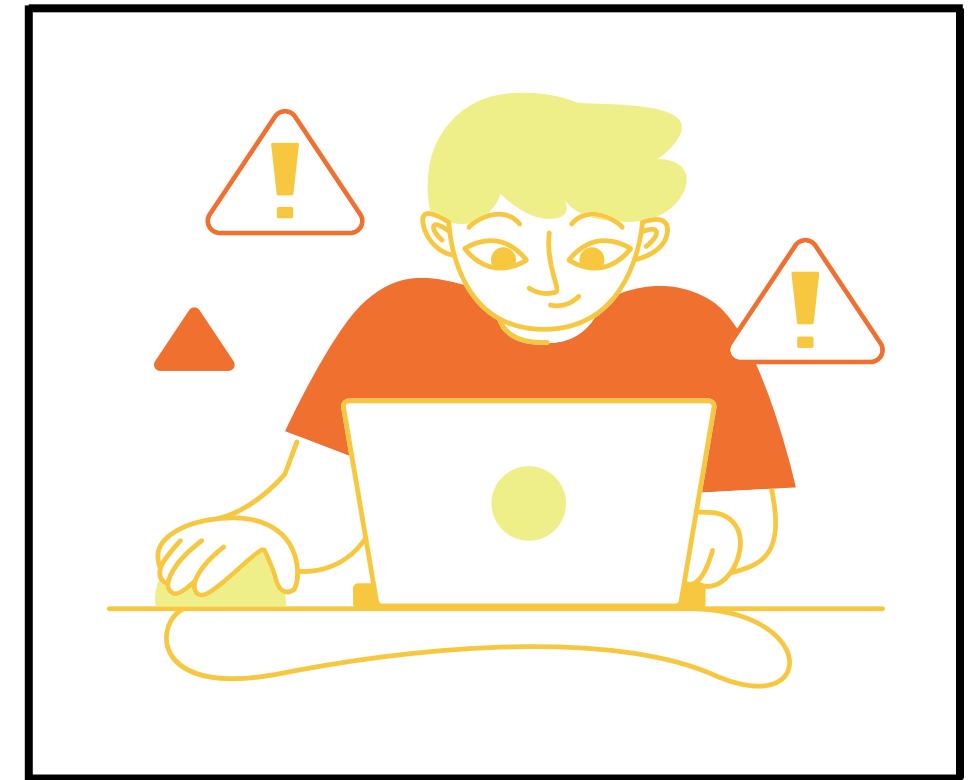
TOOLS

Power BI :

- Used for data visualization, dashboard creation, and insight generation
- Enabled dynamic visuals such as bar charts, pie charts, and sentiment breakdowns
- Helped in building interactive reports to explore customer feedback trends and correlations

GitHub :

- Used for repository management and version control
- Stored cleaned datasets, and visual exports
- Ensured organized, collaborative, and traceable project development



METHODOLOGY

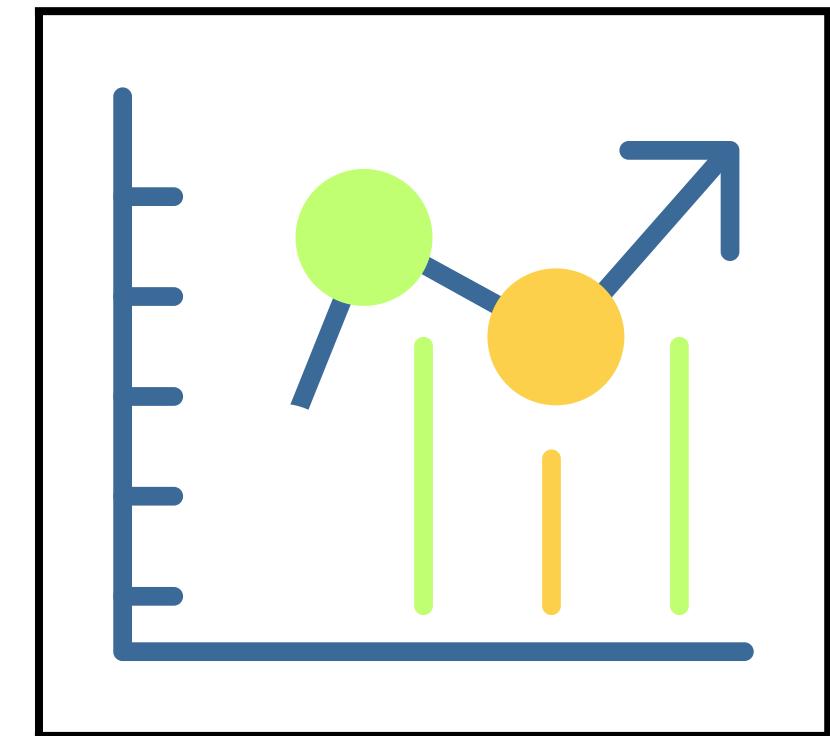
DATA CLEANING :

- Checked for missing values and ensured completeness of key columns
- Removed irrelevant or duplicate entries, if any
- Verified and cleaned outliers in rating values to maintain analysis accuracy

VISUALIZATION :

Created charts using Power BI to identify trends and insights:

- Bar Charts → To show sentiment distribution across feedback categories
- Pie Charts → To visualize overall sentiment share
- Line Charts → To track feedback patterns over time
- Stacked Column Charts → For comparing sentiment across different service areas



COUNT OF ORDERS BY CUSTOMER

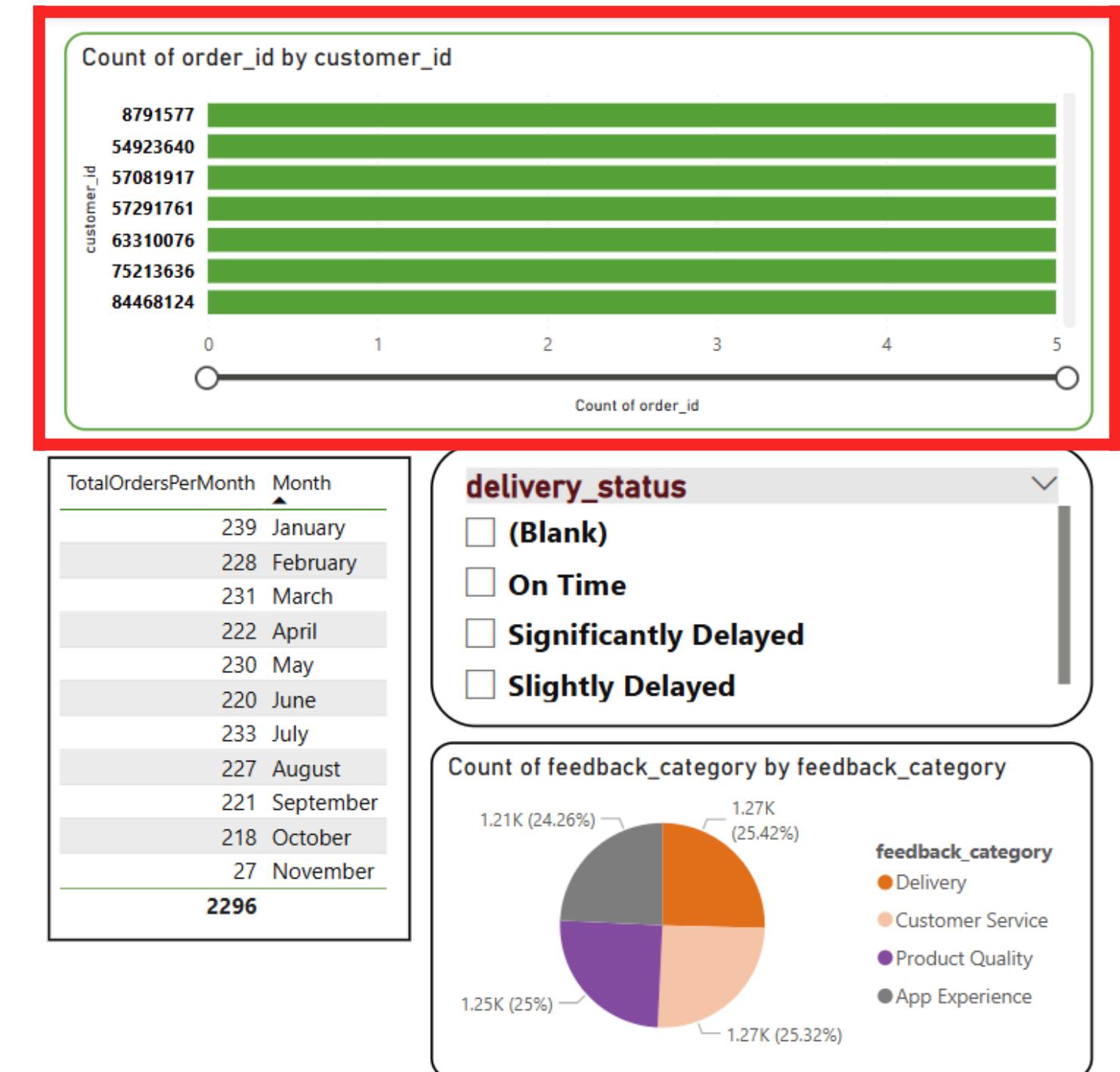
Q.Create a bar chart showing the number of orders placed per customer.

Purpose:

To identify how many orders each customer has placed and highlight patterns of repeat usage among the customer base.

Insights:

- The chart helps identify top returning customers — valuable for loyalty strategies.
- The data shows a small segment of users contributes to multiple orders, emphasizing the importance of retaining high-value customers.



TOTAL ORDERS PLACED PER MONTH

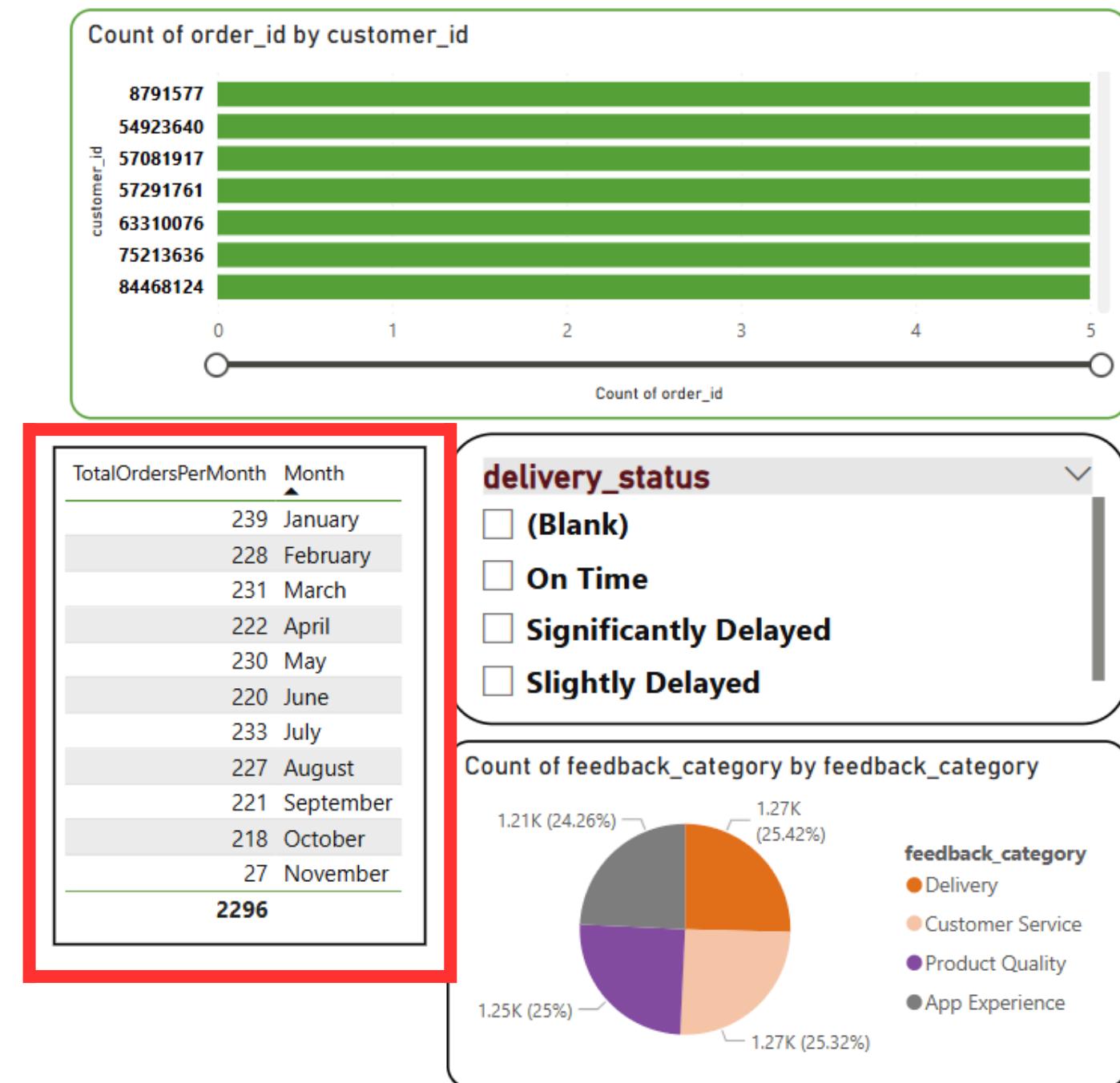
Q. How do you calculate the total number of orders placed in a given month?

Purpose:

To calculate and display the number of orders placed each month to understand seasonal trends and operational load.

Insights:

- Orders are fairly consistent month-over-month, with January (239) being the highest.
- Slight dip in April and October suggests potential seasonality or operational variance.
- Total order volume over 11 months = 2296 orders.



DISTRIBUTION OF FEEDBACK CATEGORIES

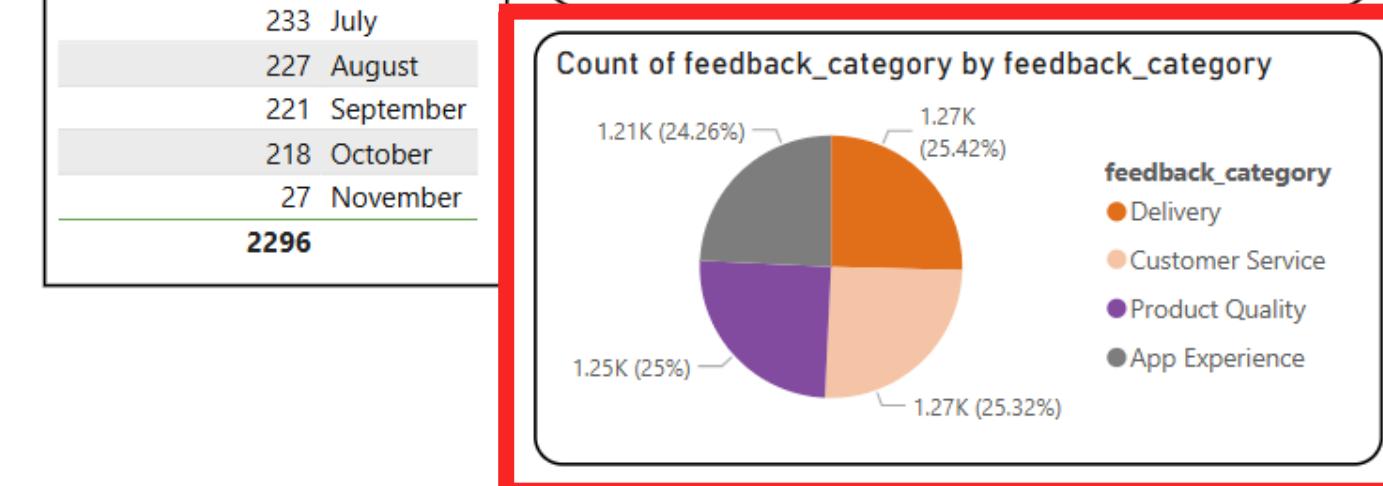
Q.Create a pie chart showing the distribution of feedback categories from Table 1

Purpose:

To understand which areas of Blinkit's service receive the most customer feedback — helping prioritize which departments need attention or improvement.

Insights:

- All four feedback categories appear to be almost equally distributed, each contributing ~25% to the total.
- A balanced distribution means Blinkit should focus on improvements across the entire customer journey, not just delivery or product issues.



CUSTOMER DETAILS TABLE

Q.Create a table visualization showing customer details (customer_id, name, email) from Table 2.

Purpose:

To display a clear and organized list of customer information for reference, support, or personalization purposes — using data from Table 2 (blinkit_customers).

Insights:

- Allows easy identification of repeat or high-value customers by combining with order and rating data.
- Enables targeted engagement, like sending loyalty offers or asking for app reviews.

customer_id	customer_name	email
31813	Indrajit Pau	wakeetasehgal@example.com
31826	Ekiya Pau	fbedi@example.com
61020	Onkar Suresh	rudradeshpande@example.com
75482	Jeet Gandhi	amrita05@example.net
119099	Zansi Parsa	neha08@example.com
188838	Idika Basu	deepakhanna@example.com
191616	Brijesh Tata	yadavipatla@example.org
211163	Hiral Baral	bhavsaryagnesh@example.com
243838	Sudiksha Nagar	chandanikrish@example.net
376144	Ira Chhabra	caleb02@example.com
408590	Januja Zachariah	nakshsahni@example.net
469006	Shivansh Loyal	darikaperi@example.net
625395	Leena Loyal	devanshwalia@example.org
644189	Tanay Sahni	janya99@example.org
666589	Kevin Bassi	jainchandani@example.net
701493	Ekaraj Saini	arya43@example.net
767523	Maya Khosla	khannaijaya@example.org
773410	Ladli Saha	gautami44@example.net
820740	Mekhala Sathe	naveennatt@example.com
894128	Chatura Agarwal	harishom@example.net
899941	Lopa Venkataraman	gavinchoudhary@example.com
949062	Jackson Karpe	sembhavika@example.net
954629	Fiyaz Mand	naggarwal@example.com
966247	Isavika Das	chelusubramanian@example.com

FILTERING ORDERS BY DELIVERY STATUS

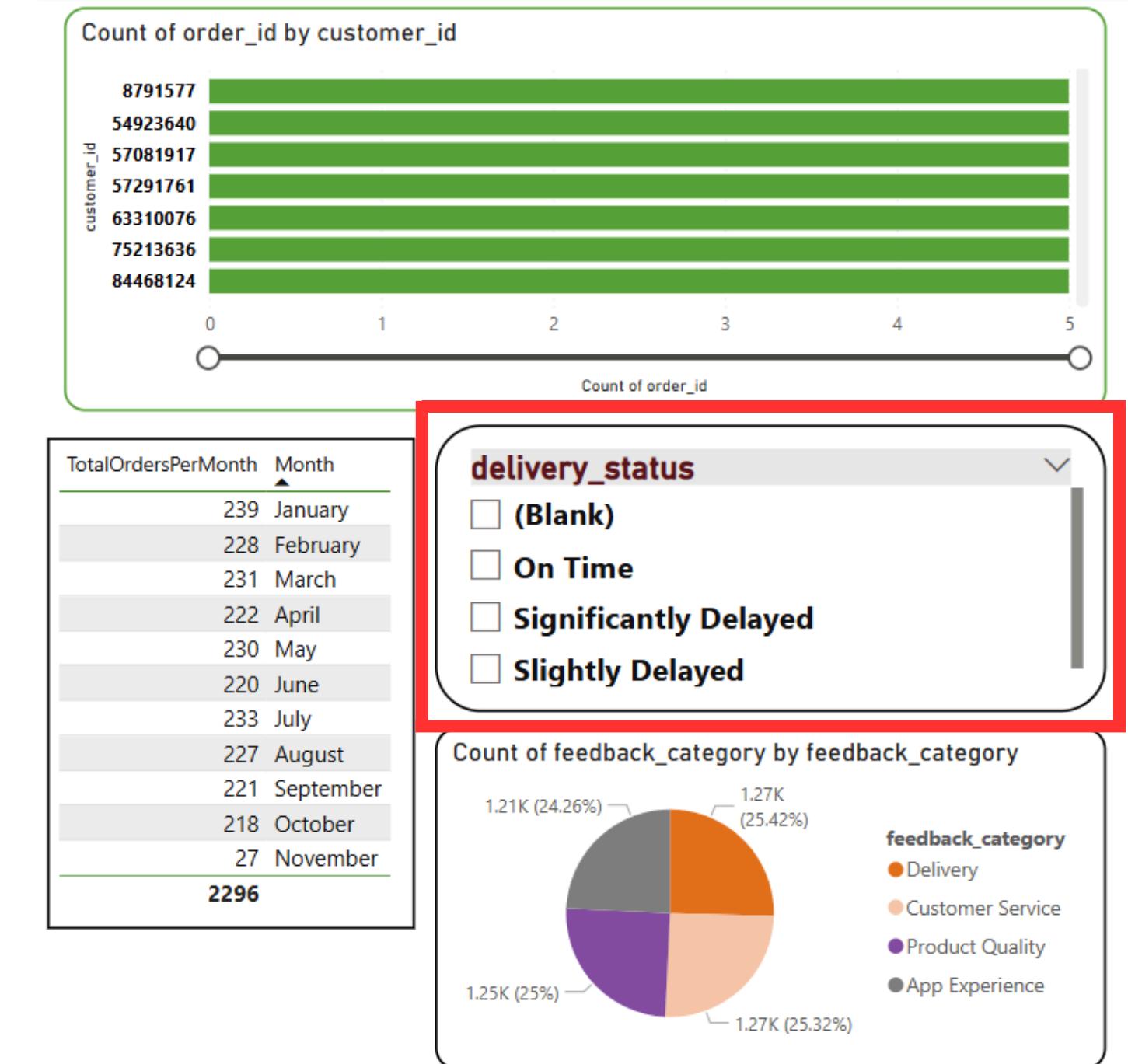
Q. How can you filter orders based on delivery status (on-time, delayed) from Table 3?

Purpose:

To enable interactive filtering of all visuals based on the selected delivery status — helping to analyze how on-time or delayed deliveries affect customer behavior and order metrics.

Insights:

- Selecting “Significantly Delayed” may reveal a drop in repeat orders or a shift toward negative feedback
- On-time deliveries often correlate with higher order volume and better customer experience.



STOCK RECEIVED OVER TIME BY PRODUCT

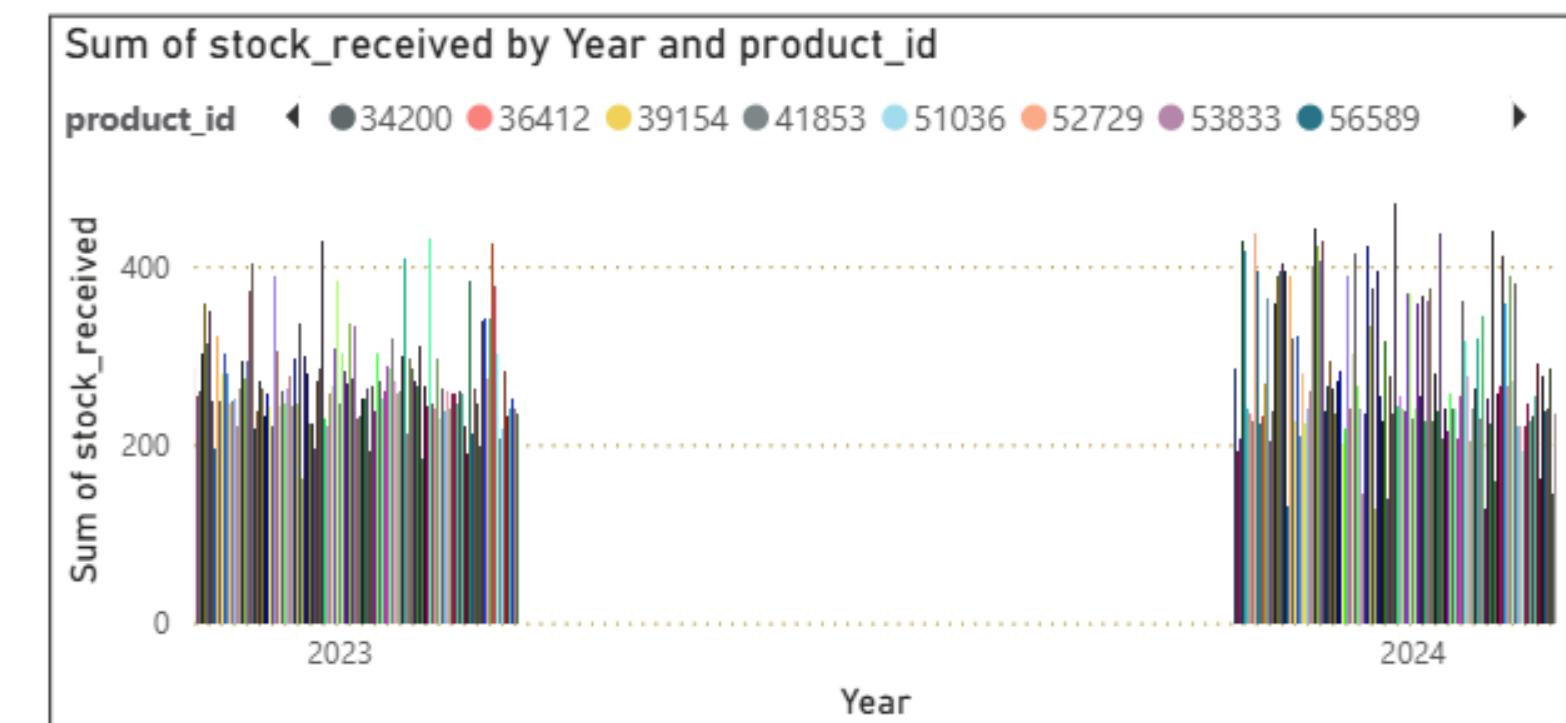
Q.Create a column chart showing stock received(Table 4 &Table 5) over time for different products.

Purpose:

To analyze how much stock was received each year for different products in order to identify supply trends and inventory flow.

Insights:

- Stock received in 2024 is generally higher than in 2023, indicating improved inventory flow.
- A few product IDs show significantly higher stock, suggesting higher demand.
- Some products have consistently lower stock, possibly due to lower demand or seasonal trends.



PERCENTAGE OF DAMAGED STOCK PER PRODUCT

Q.How do you calculate the percentage of damaged stock per product?

Purpose:

To identify which products have the highest stock damage rates so that inventory and quality control teams can take corrective actions.

Insights:

- Products like 34200 and 15314 show higher than average damage percentages.
- The overall damage rate across all products is around 0.75%.
- Helps in focusing on specific product lines for packaging or handling improvements.

product_id	DamagePercent
4452	0.57%
6405	0.54%
9436	0.93%
11422	0.41%
14145	0.74%
15314	1.03%
18035	1.00%
26060	0.41%
33797	0.70%
33955	0.18%
34186	0.85%
34200	1.17%
Total	0.75%

CAMPAIN PERFORMANCE TABLE

Q.Show a table with all campaigns (campaign_id, campaign_name, spend, revenue_generated) from Table 6.

Purpose:

To review the marketing campaign performance by showing key metrics such as total spend and revenue generated per campaign.

Insights:

- Referral Program shows the highest revenue generated while maintaining reasonable spending.
- Helps the marketing team make data-driven decisions about which campaigns to continue, pause, or adjust.

campaign_name	Sum of campaign_id	Sum of spend	Sum of revenue_generated
App Push Notification	298313610	\$17,88,989.2	\$35,54,370
Category Promotion	300943298	\$18,50,583	\$35,82,455.37
Email Campaign	299052581	\$18,10,729.67	\$36,01,785.22
Festival Offer	310812770	\$17,96,687.14	\$35,07,063.91
Flash Sale	291379422	\$18,31,687.82	\$35,56,087.02
Membership Drive	310982280	\$17,90,069.8	\$35,24,951.25
New User Discount	302168513	\$18,33,454.81	\$36,03,860.17
Referral Program	311426765	\$18,18,025.51	\$36,91,382.6
Total	2707102183	\$1,63,19,838.24	\$3,21,93,407.37

AVERAGE ORDER VALUE KPI

Q.Create a KPI visual to display the average order value (avg_order_value) from Table 2.

Purpose:

To display a key performance indicator (KPI) showing the average value of each customer order, helping monitor sales efficiency.

Insights:

- The Average Order Value (AOV) is approximately ₹1,100 (1.10K) per order.
- Helps assess customer purchase behavior — whether customers prefer bulk or small orders.
- Useful for pricing strategy and marketing analysis.



TOTAL REVENUE GENERATED FROM ALL CAMPAIGNS

Q.How do you calculate the total revenue generated from all campaigns in Table 6?

Purpose:

To calculate the total revenue generated across all marketing campaigns recorded in Table 6. This helps measure the overall effectiveness of marketing activities.

Insights:

- The total revenue shows the combined financial impact of all campaigns.
- Helps decide which marketing strategies are most profitable.

32.19M

TotalRevenue

CALCULATING TOTAL SALES REVENUE PER PRODUCT

Q.How do you calculate the total sales revenue per product?

Purpose:

To calculate how much total revenue each product generates by multiplying the order quantity by the price per unit for each product, helping identify the most profitable items.

Insights:

- The total revenue shows the combined financial impact of all campaigns..
- Helps decide which marketing strategies are most profitable.

product_id	TotalSalesRevenue
4452	3,907.24
6405	4,257.18
9436	1,857.03
11422	1,907.40
14145	13,247.64
15314	9,840.45
18035	19,378.80
26060	6,858.80
33797	4,440.60
33955	2,977.28
34186	26,843.85
34200	7,675.20
36412	7,953.60
39154	18,937.20
Total	24,65,789.50

TOTAL DELIVERY TIME CALCULATION

Q.Create a measure to calculate the total delivery time (actual_time - promised_time) in Table 3.

Purpose:

To calculate the total delivery time for all orders by subtracting the promised delivery time from the actual delivery time in Table 3 (blinkit_delivery_performance).

Insights:

- Helps measure the total time spent on all deliveries.
- Identifies how much time is spent beyond the promised window.
- Useful for analyzing logistics performance and customer experience improvement.

14-01-1900
10:15:00

Earliest total delivery time

CUSTOMER SEGMENT DISTRIBUTION

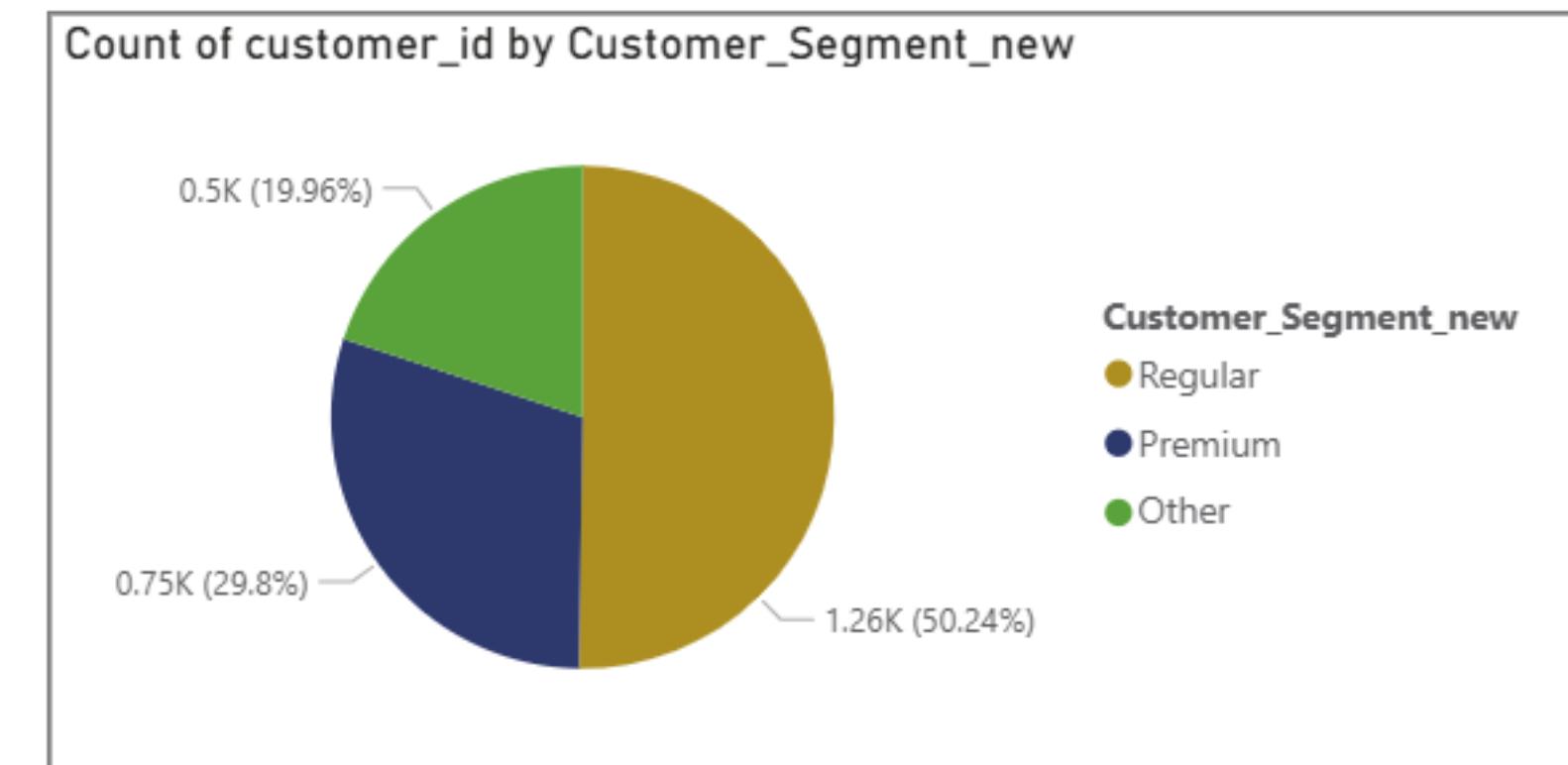
Q. How do you visualize customer segments (Table 2) using a pie chart?

Purpose:

To visualize the proportion of customers categorized under Regular, Premium and other segments. This helps in identifying the dominant customer segment accordingly.

Insights:

- Regular customers (50.24%) form the largest segment, indicating a strong core base.
- Premium customers (29.8%) reflect a high-value group with frequent orders.
- Other segment (19.96%) may include inactive or unclassified customers.



FREQUENCY OF ORDERS PER PINCODE

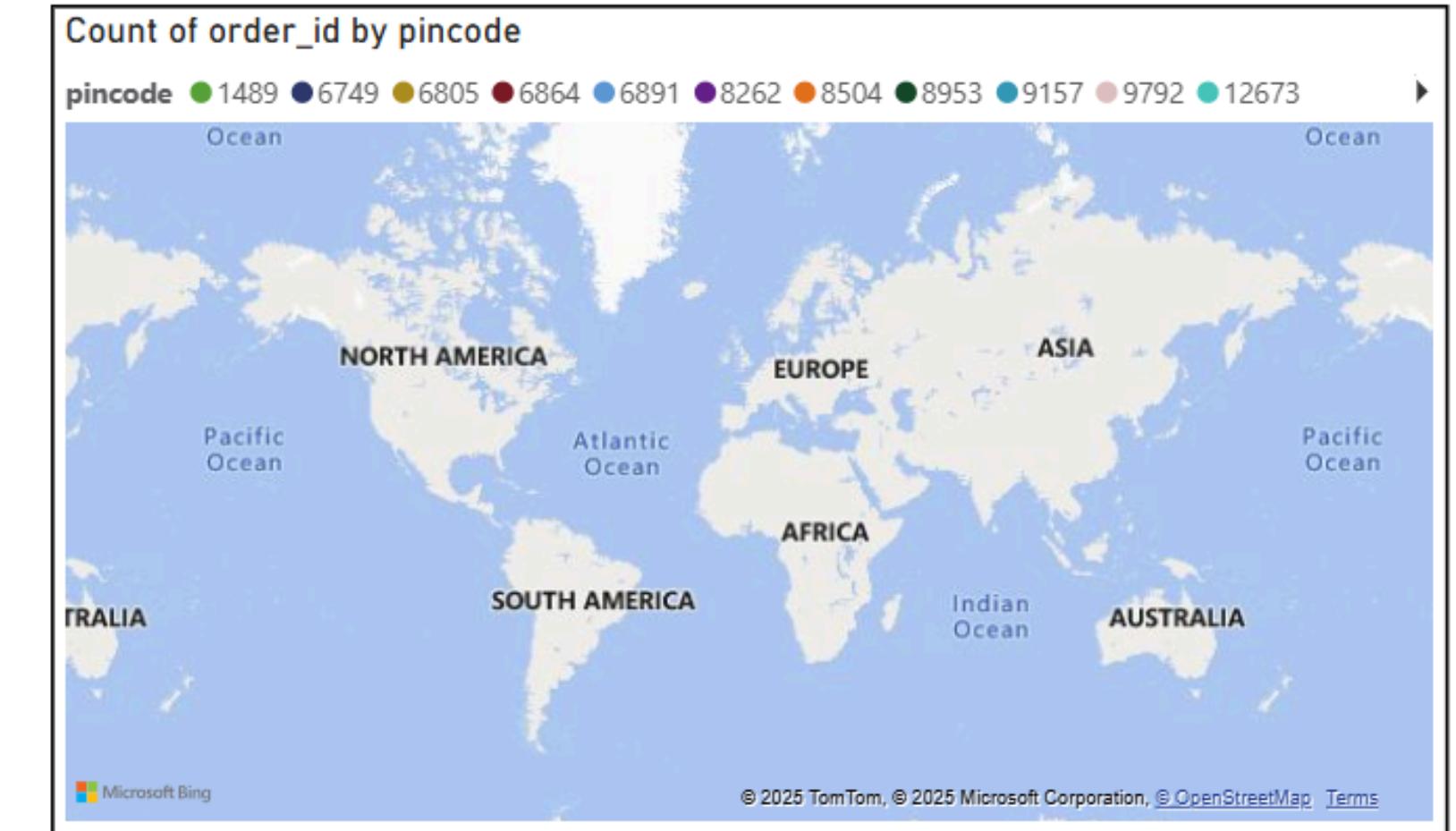
Q.Create a heatmap showing the frequency of orders per pincode (Table 2).

Purpose:

To visualize the concentration of orders across different locations using pincode data, helping identify high-demand areas and logistics focus zones.

Insights:

- You can clearly see which pincodes have the highest order frequency.
- Helps with resource allocation — focusing delivery resources in high-order zones.
- Supports marketing targeting by identifying key customer clusters.



TOTAL DELIVERY DELAY (IN MINUTES)

**Q.How do you create a calculated column for delivery delays
(actual_delivery_time - promised_delivery_time)?**

Purpose:

To calculate and display the delay in delivery time per order by finding the difference between actual_delivery_time and promised_delivery_time in minutes.

Insights:

- Total Delivery Delay Minutes = 22,215 minutes.
- This delay could negatively affect customer satisfaction, especially if delays are frequent or concentrated in specific timeframes or locations.

Delivery_delays = actual_delivery_time - promised_delivery_time

22215

Sum of Delivery_Delays

RETURN ON AD SPEND (ROAS) CALCULATION

Q.Create a measure to calculate the Return on Ad Spend (ROAS) using (revenue_generated / spend) from Table 6.

Purpose:

To calculate the Return on Ad Spend (ROAS) — a key marketing metric showing how much revenue is earned for every unit of currency spent on advertising campaigns.

Insights:

- ROAS above 100% indicates a profitable campaign.
- Helps in budget allocation by focusing on the most effective campaigns.
- Supports decisions on scaling or pausing certain marketing strategies.

197.27%

ROAS

DELIVERY EFFICIENCY ANALYSIS

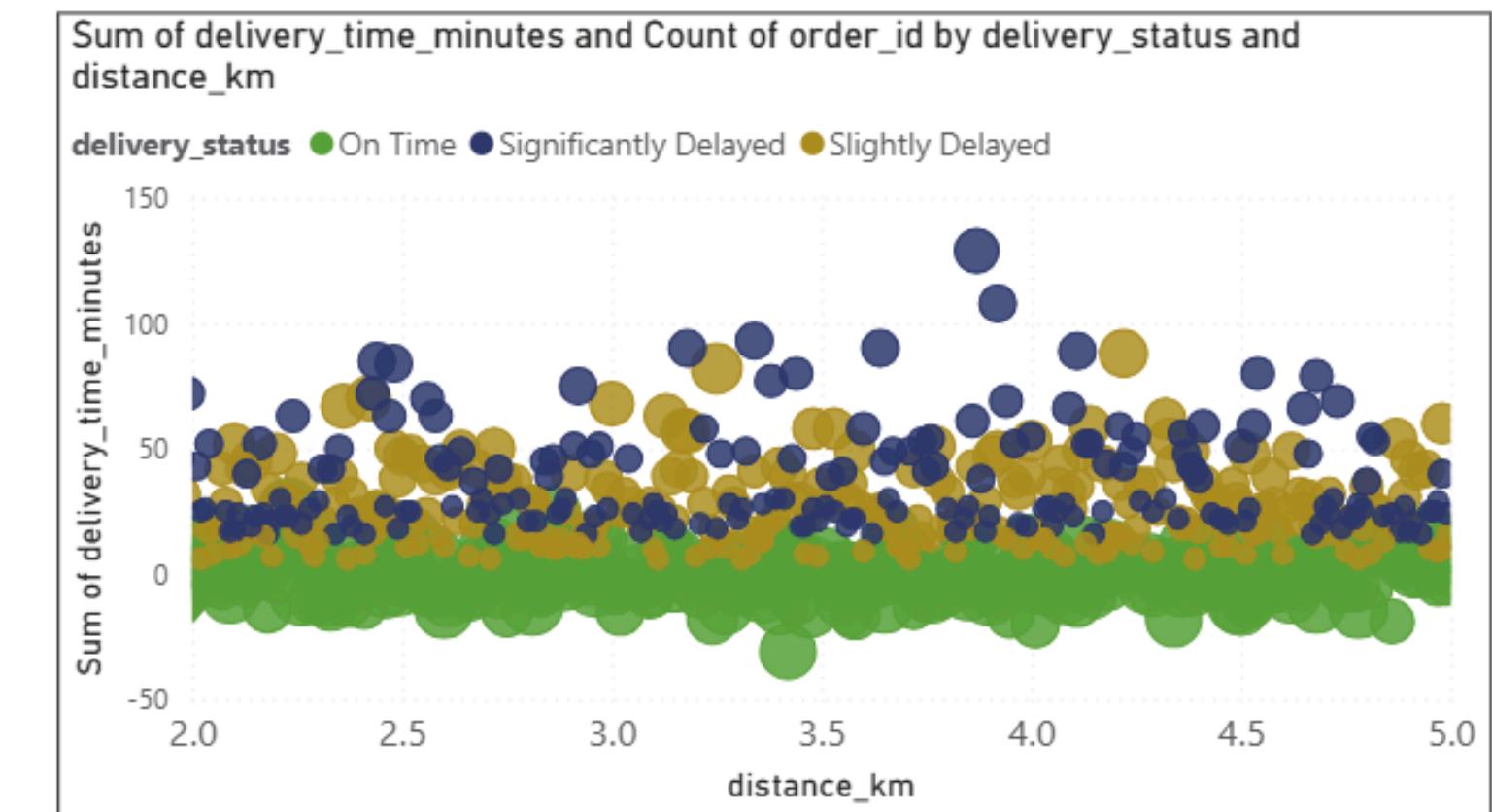
Q. Show a scatter plot of distance vs. delivery time to analyze delivery efficiency (Table 3).

Purpose:

To evaluate delivery efficiency by comparing distance (km) with delivery time (minutes) using a scatter plot, helping identify delay patterns and optimize last-mile logistics.

Insights:

- On-time deliveries are consistent and low in delivery time across all distance ranges.
- Delays are observed even at short distances, indicating issues beyond just distance—possibly route congestion, staff availability, or order batching.



CUSTOMER RETENTION RATE CALCULATION

Q.Create a measure to calculate customer retention rate using total_orders from Table 2.

Purpose:

To calculate the percentage of returning customers by checking how many customers placed orders out of the total customers.

Insights:

- The customer retention rate is shown as 94.20% in your screenshot.
- This means more than half of the customers placed repeat orders. indicating good customer loyalty.
- Helps the business measure long-term customer engagement and adjust marketing strategies accordingly.

94.20%

RetentionRate

FORECASTING FUTURE STOCK LEVELS

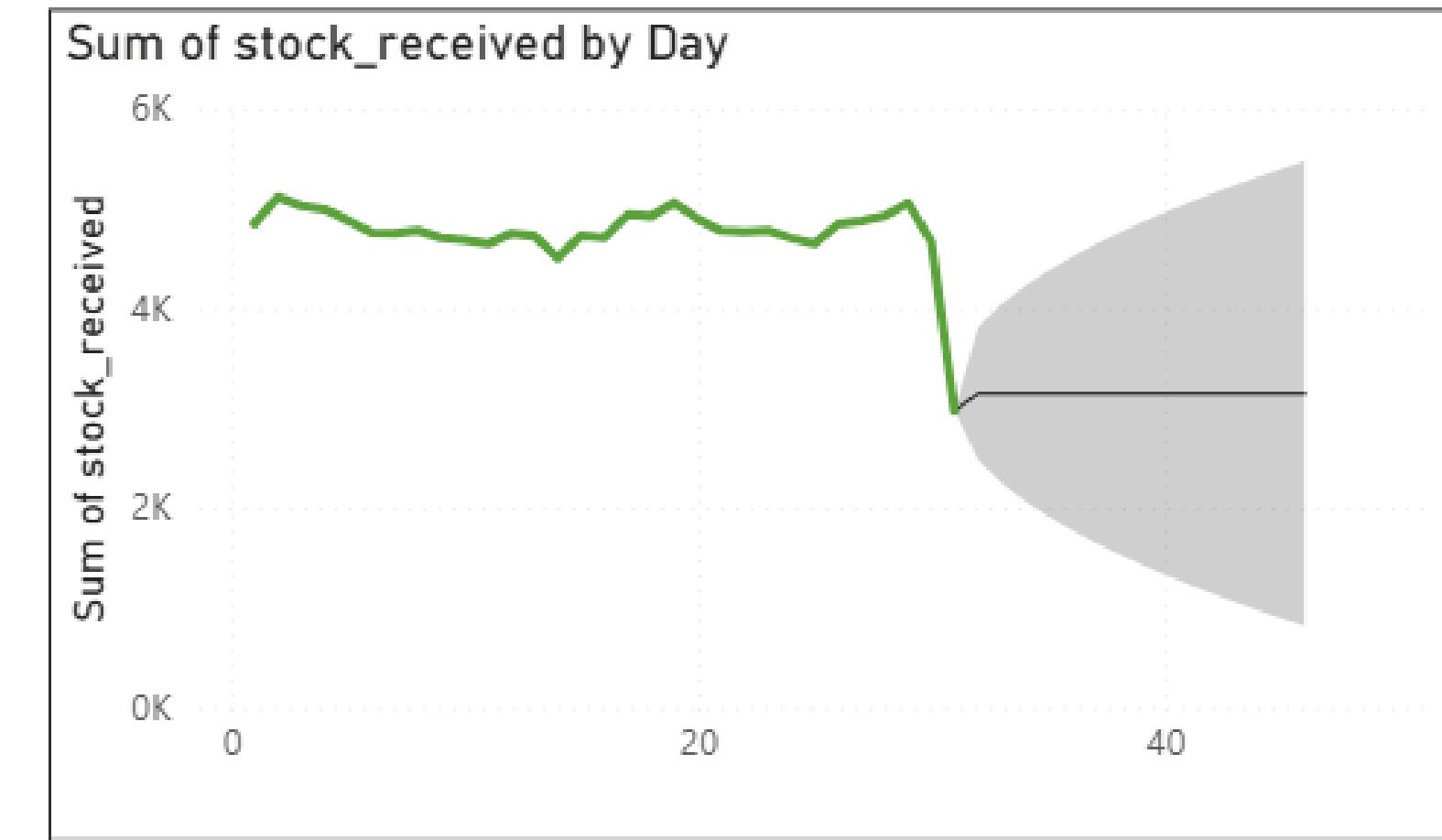
Q. How do you create a forecast for future stock levels based on historical stock received data (Table 4 & Table 5)?

Purpose:

To project future daily stock intake using historical data, enabling smarter inventory management, procurement planning, and demand preparedness.

Insights:

- Sudden drop in stock received indicates a potential disruption.
- The forecast trend line predicts recovery with high uncertainty.
- Helps the business prepare for supply fluctuation risks.



TOP 5 BEST-SELLING PRODUCTS

Q.Create a report to identify the top 5 best-selling products based on quantity ordered (Table 7).

Purpose:

To identify the top-performing products based on the total quantity ordered, helping the business make informed decisions in product promotion and demand forecasting.

Insights:

- Baby-related products are leading in order quantity, indicating a strong demand from family or child-focused customer segments.
- Essential items like Bread and Dog Food also appear in the top 5, reflecting consistent consumption patterns.

product_id	product_name	Sum of OrderQuantity
992178	Pain Reliever	29
880510	Bread	29
820973	Baby Wipes	33
131748	Dog Food	29
51036	Baby Food	34
Total		183

GROSS PROFIT ANALYSIS USING MARGIN PERCENTAGE

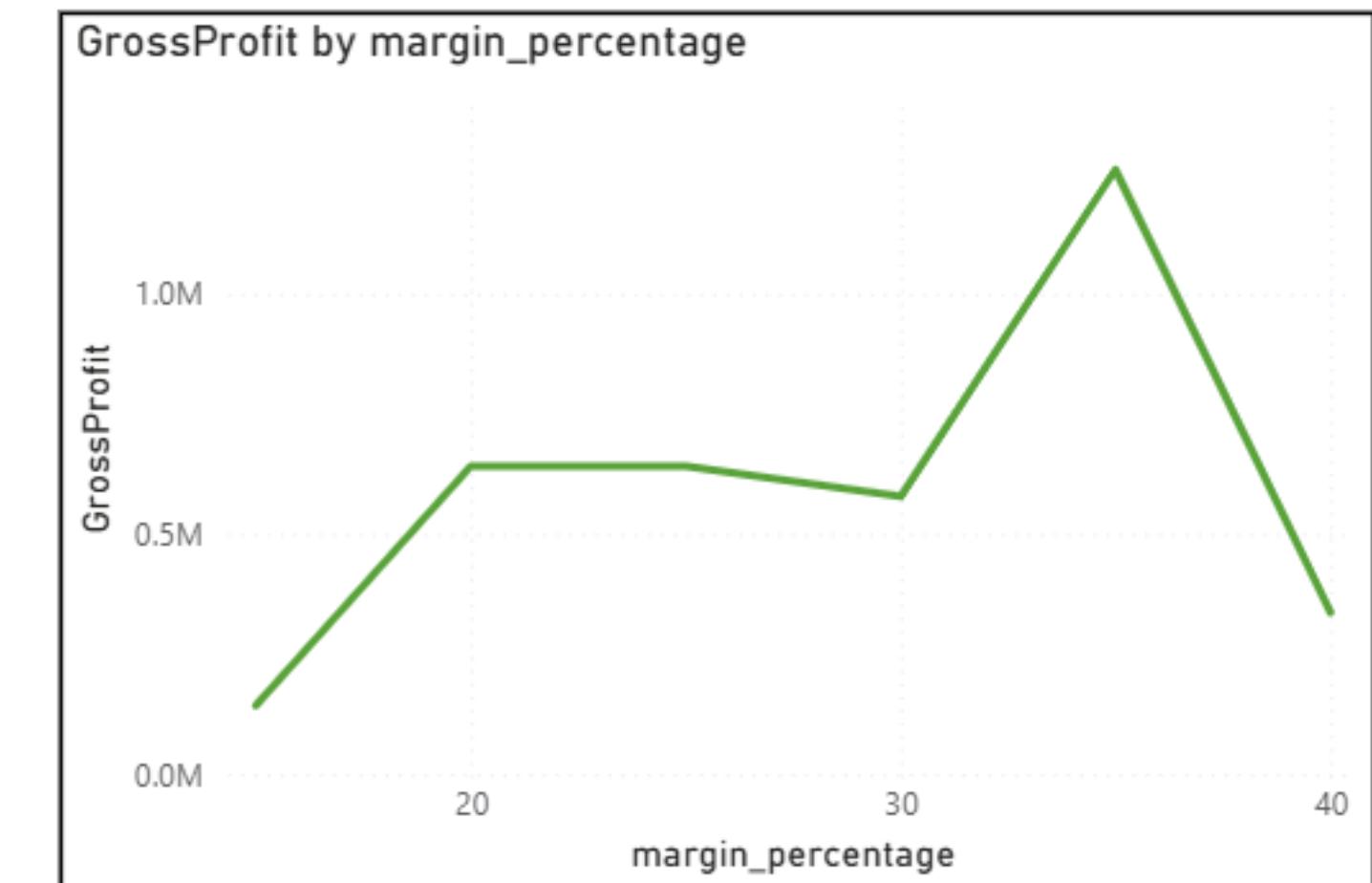
Q.Create a measure to calculate gross profit using margin_percentage from Table 9.

Purpose:

To calculate and visualize Gross Profit by using the margin_percentage for each product. This helps in identifying which categories or yield the highest profit margins.

Insights:

- Products with higher margin percentages (above 30%) contribute significantly to overall Gross Profit.
- Strategic focus on high-margin categories can boost profitability even if sales volume is moderate.



TIME-SERIES ANALYSIS OF DAILY ORDER COUNTS

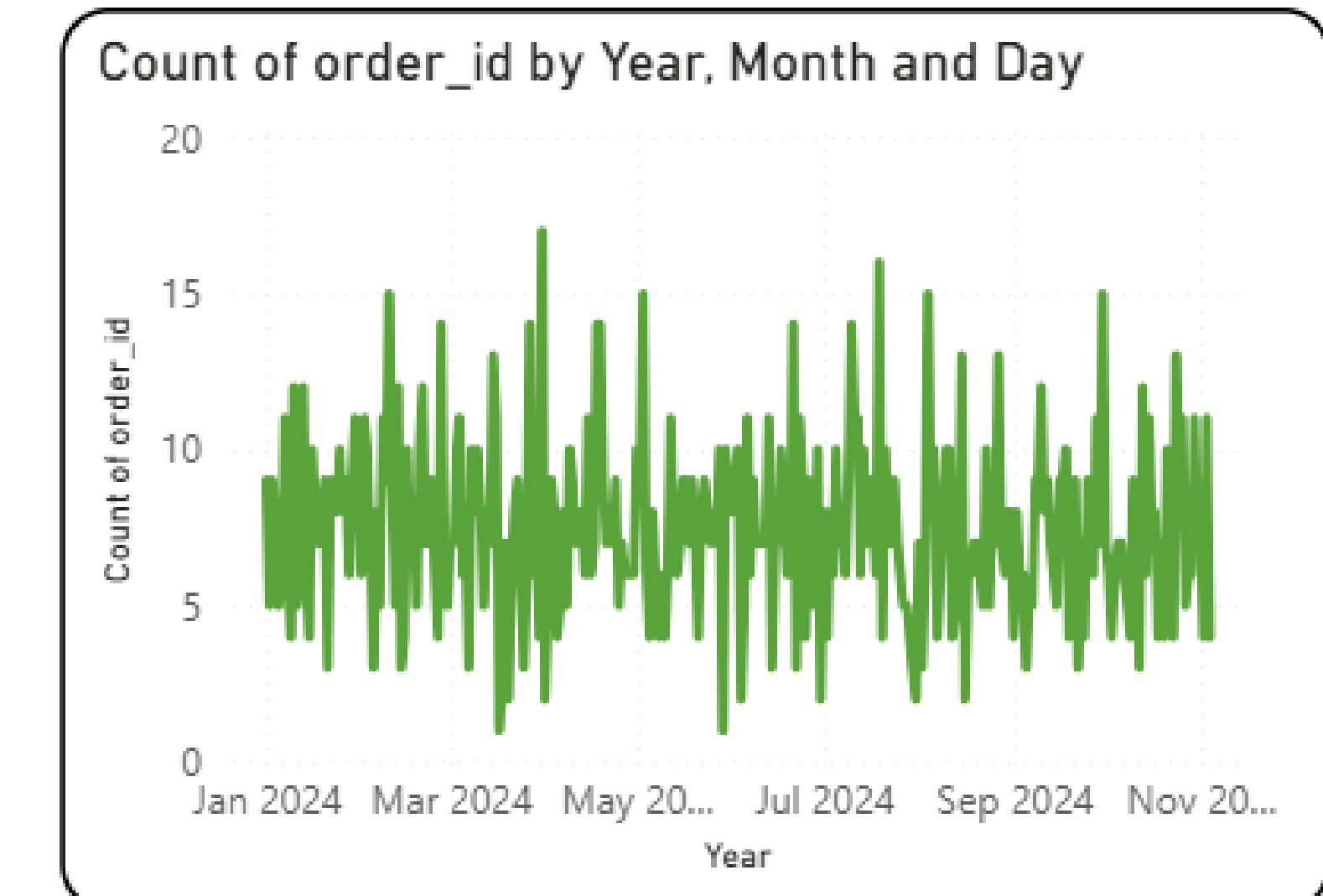
Q. Build a time-series analysis of daily order counts using order_date from Table 8.

Purpose:

To monitor daily customer order patterns and identify stable or fluctuating sales activity over time using order_date from Table 8.

Insights:

- The line shows a consistent order volume across the observed time range.
- Supports operational planning with insights into order trends over days and months.



MOST FREQUENTLY ORDERED PRODUCT IDENTIFICATION

Q.How do you use DAX to find the most frequently ordered product?

Purpose:

To identify the product with the highest number of orders, supporting product stocking and marketing focus.

Insights:

- Pet Treats is the most frequently ordered item across all customer segments.
- Top 5 products dominate the majority of orders, indicating a clear customer preference pattern.

Pet Treats

Most_Ordered_Product

ORDER QUANTITY BY PRODUCT CATEGORY

Q.Create a matrix visualization to show order quantity per product category(Table 9).

Purpose:

To visualize total order quantities distributed across different product categories, helping monitor category-wise sales performance.

Insights:

- Baby Care, Snacks & Munchies, and Pet Care show higher total order quantities.
- Helps in identifying which product categories contribute the most to overall sales.
- Useful for inventory management and prioritizing top-performing product categories.

category	Baby Food	Baby Wipes	Bananas	Biscuits	Bread
Snacks & Munchies				123	
Pharmacy					
Pet Care					
Personal Care					
Instant & Frozen Food					
Household Care					
Grocery & Staples					
Fruits & Vegetables			45		
Dairy & Breakfast					13
Cold Drinks & Juices					
Baby Care	115	176			
Total	115	176	45	123	13

CUSTOMER LIFETIME VALUE

Q.How do you calculate customer lifetime value using avg_order_value and total_orders (Table 2)?

Purpose:

To measure the total revenue a business expects from a customer over the entire relationship duration.

Insights:

- The CLV is ₹29.03M, indicating strong customer purchasing behavior.
- A high CLV means repeat purchases and customer loyalty are strong.
- This metric helps in budgeting marketing spend and prioritizing high-value customer segments.

29.03M

Customer Lifetime Value

CAMPAIN CONVERSION FUNNEL

Q.How do you create a funnel chart to track the campaign conversion process(Table 6)?

Purpose:

To visualize the step-by-step drop-off in the marketing campaign journey — from impressions, clicks, to final conversions.

Insights:

- The funnel chart highlights where most customers drop off.
- Helps in identifying weak stages in the campaign funnel and improving campaign effectiveness.
- In your case, there is a significant retention up to conversion, as seen with 5.40K conversions highlighted.

Count of conversions and Sum of campaign_id

Count of con...

5.40K

DYNAMIC SLICER FOR DELIVERY STATUS

Q.Create a dynamic slicer for filtering orders by delivery status (on-time vs delayed).

Purpose:

To allow users to filter and analyze order data by delivery status (On-Time or Delayed), helping identify patterns in delivery performance.

Insights:

- Users can easily switch between viewing only delayed or on-time orders.
- Helps highlight periods or products where delayed deliveries are more frequent.
- Supports more targeted delivery performance analysis in the report.



UNIFIED STOCK REPORT

Q.How do you merge stock data from Table 4 & Table 5 to create a unified stock report?

Purpose:

To create a consolidated stock report by combining stock received data from Table 4 and stock inventory data from Table 5.

Insights:

- Helps in analyzing total stock available including received and existing inventory.
- Useful for identifying gaps in stock tracking and optimizing inventory management.

Sum of damaged_stock	Year	Quarter	Month	Day	product_id	Sum of stock_received
0	2023	Qtr 1	March	1	4452	1
0	2023	Qtr 1	March	1	6405	8
0	2023	Qtr 1	March	1	9436	6
0	2023	Qtr 1	March	1	11422	11
0	2023	Qtr 1	March	1	14145	5
0	2023	Qtr 1	March	1	15314	4
0	2023	Qtr 1	March	1	18035	4
0	2023	Qtr 1	March	1	26060	5
0	2023	Qtr 1	March	1	33797	6
0	2023	Qtr 1	March	1	72055	2
1109						28779

CUSTOMER ORDERS BY STORE

Q.Create a report to track customer orders by store_id (Table 8).

Purpose:

To track and compare the total number of customer orders across different store locations using store_id from Table 8.

Insights:

- Identify which store locations receive the highest customer orders.
- Helps in analyzing store performance and optimizing resource allocation.
- Supports decision-making for promotions and stock distribution based on order volume.

Customer Orders by Store		
store_id	Sum of order_total	Count of order_id
2409	6,543.19	
6124	6,173.45	
909	5,868.92	
7603	5,804.23	
6841	5,692.84	
5047	5,662.12	
5347	5,604.64	
1380	5,578.40	
6862	5,515.23	
1465	5,498.39	
8131	5,490.94	
Total	49,77,164.29	

ORDER DENSITY BY AREA

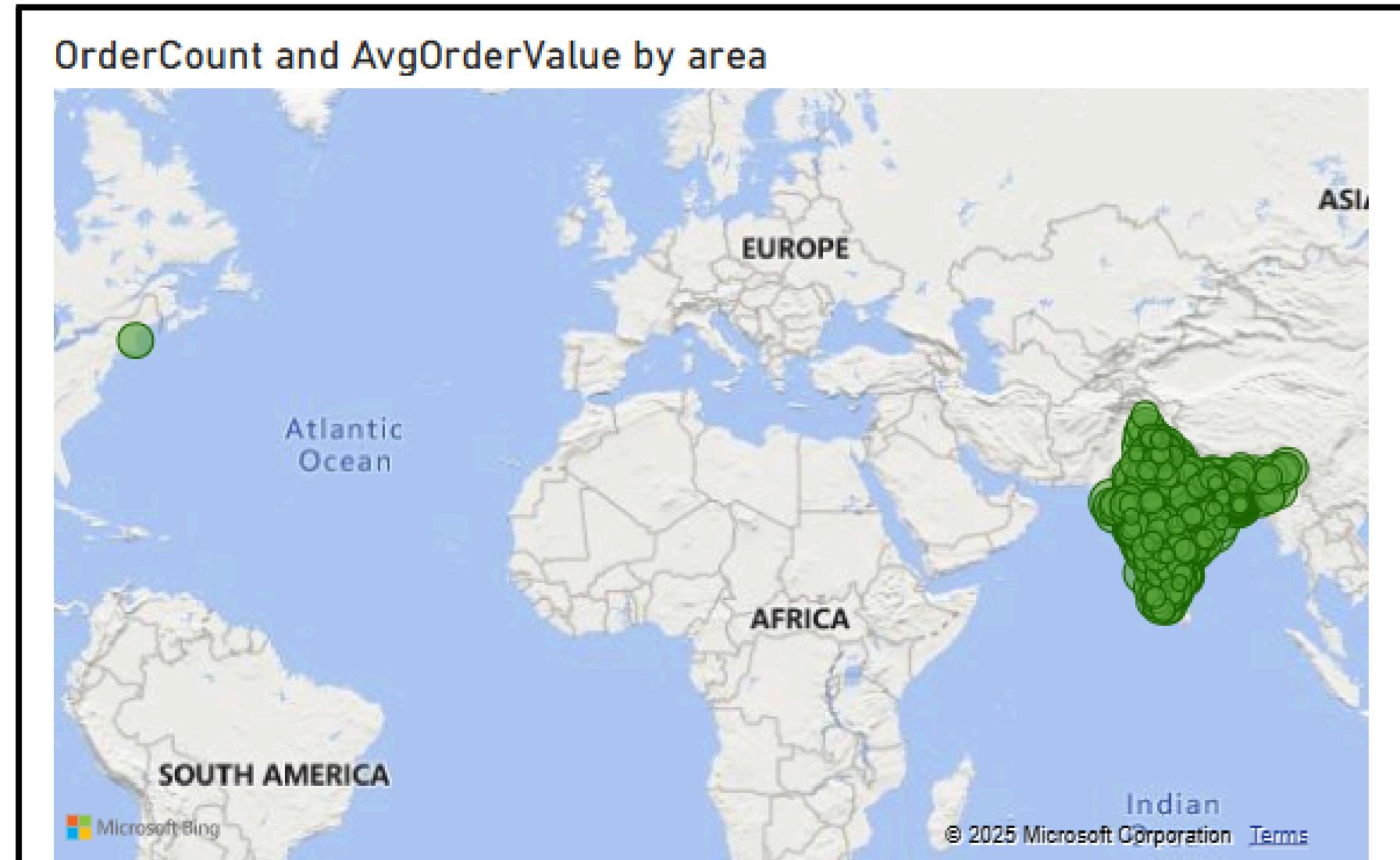
Q. Build a map visualization showing order density per area (Table 2).

Purpose:

To visualize customer order distribution geographically using a map, helping identify high and low order density zones across different areas.

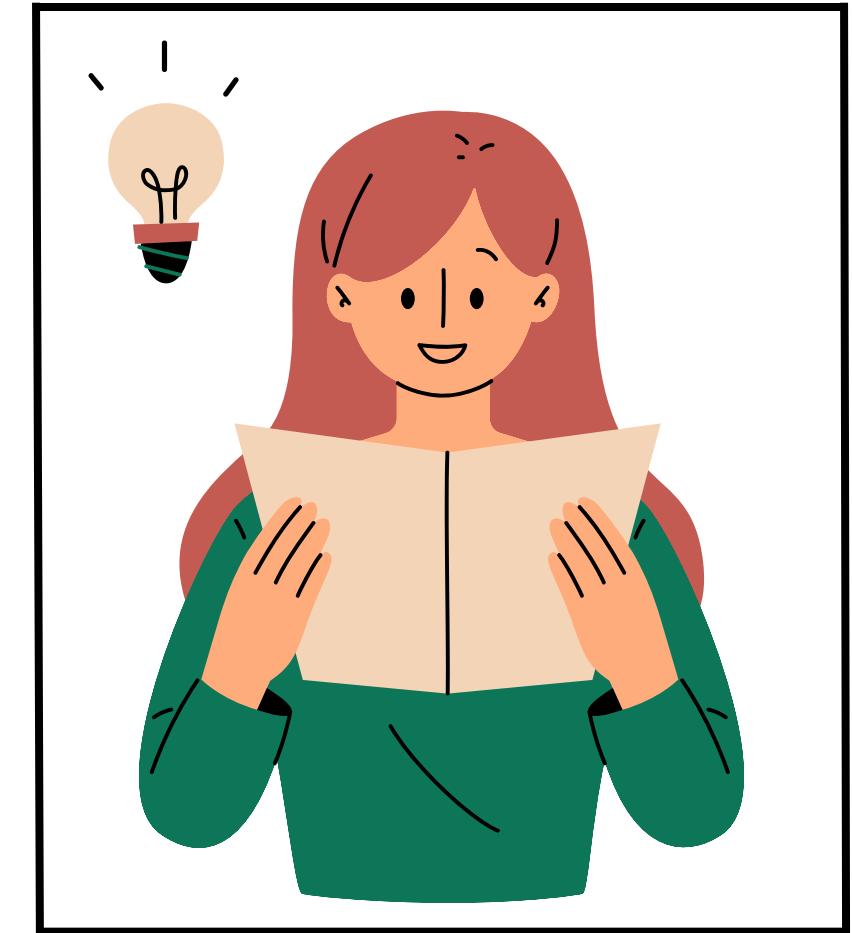
Insights:

- High order density is concentrated in specific regions, highlighting key sales zones.
- Useful for regional marketing strategies and optimizing delivery logistics.



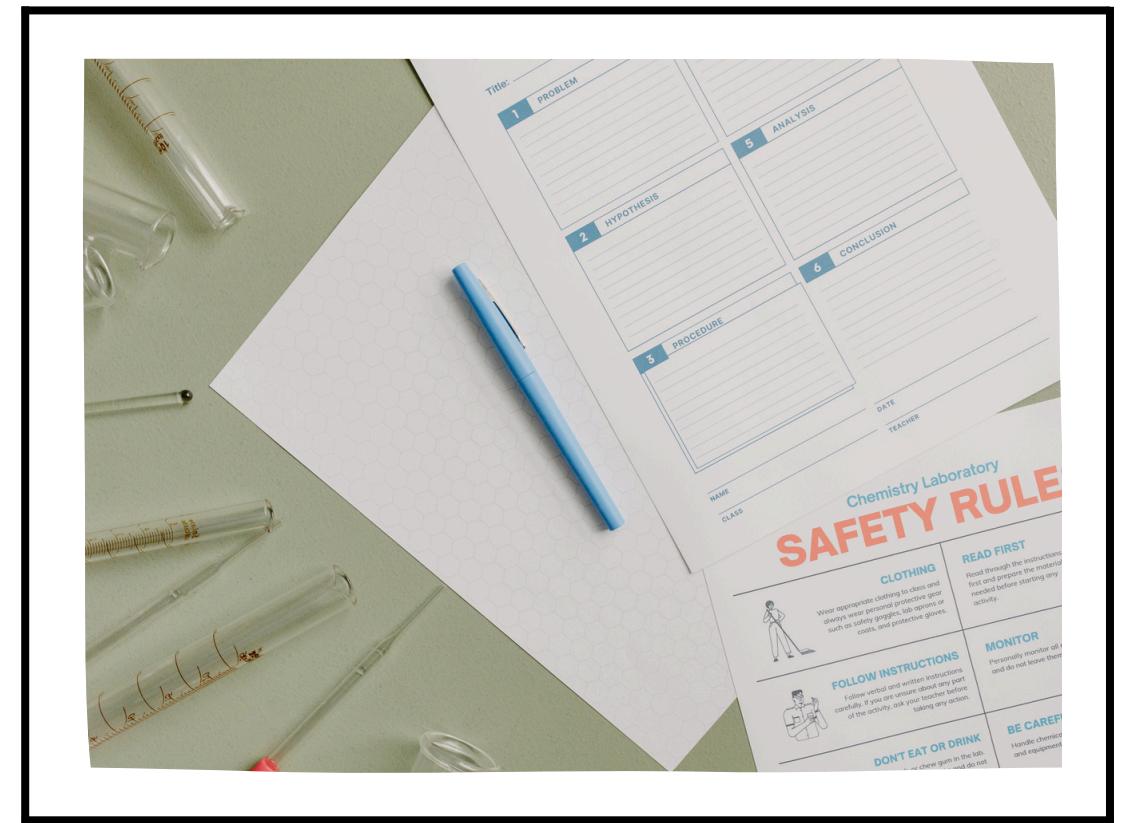
KEY FINDINGS

- **Baby Food is the Top-Selling Product:** From the product analysis, Baby Food had the highest order quantity, suggesting strong demand in the Baby Care segment
- **Most Deliveries Are On-Time, But Some Delays Occur Even at Short Distances:** Delivery status and distance vs. time analysis show mostly on-time deliveries, though short-distance orders sometimes face delays.
- **High Order Density in Specific Areas and High-Converting Campaigns:** Map visualizations reveal order hotspots, and campaign analysis shows effective conversion rates, guiding marketing focus and store resource allocation.



CONCLUSION

- This analysis provided clear insights into customer behavior, product demand, delivery efficiency, and campaign performance.
- We learned that Regular and Premium customers drive the majority of orders, and products like Baby Food lead in sales.
- The findings can help Blinkit improve inventory management, delivery processes, and targeted marketing strategies.
- By focusing on high-demand products and areas, the business can make informed decisions to enhance customer satisfaction and boost profitability.

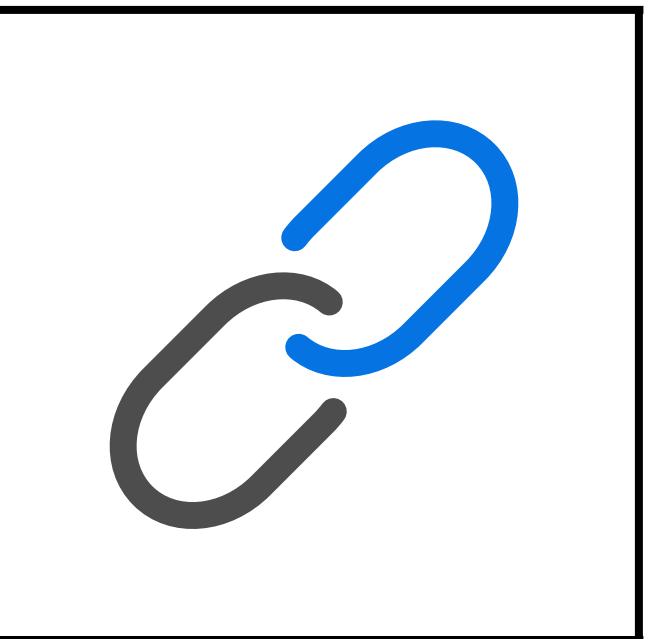


GITHUB REPOSITORY LINK

This repository link contains the complete Power BI report and the datasets used for analysis.

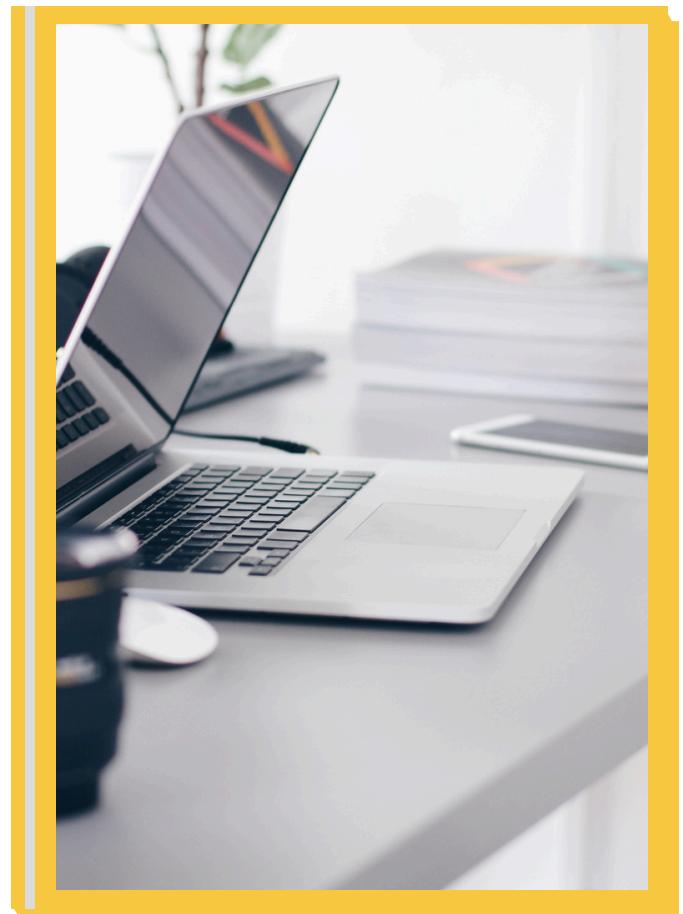
Feel free to explore the project files from the link below:

<https://github.com/Ishika-Parihal/powerbi>



REFERENCES

- Dataset Source: Kaggle
- Power BI Documentation:
<https://learn.microsoft.com/en-us/power-bi/>
- GitHub Repository (Project Files):
<https://github.com/Ishika-Parihal/powerbi>





THANK YOU

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