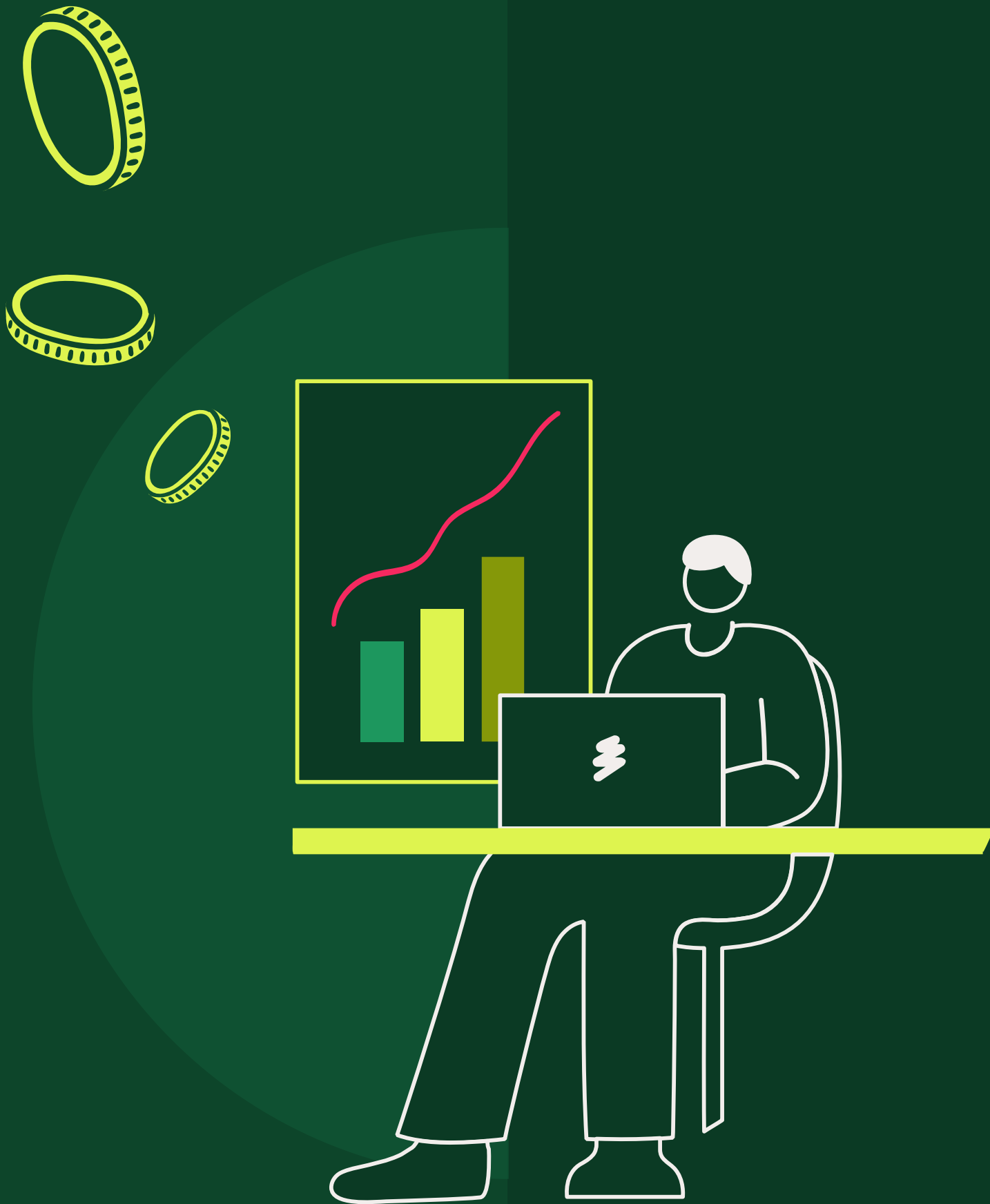# Blinkit- Sales- Analysis:-

Project Title: Blinkit-Sales-Analysis

Name: Shreya Das

College: Academy of Technology

Department: Computer Science and Business System

Semester: 7th

Internship under:

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Duration: 3 months 1st April 2025 to 30th June 2025

Acknowledgement:-

I would like to express my sincere gratitude to everyone who supported and encouraged me throughout the course of this project. Their feedback and guidance were instrumental in shaping the final outcome.

This project provided an excellent opportunity to explore real-world business data using **Power BI**, enhancing my understanding of retail performance metrics, customer behavior, and data-driven storytelling for decision-making.

Objective of the project:-

The main objective of this project is to design an **interactive Power BI dashboard** that empowers decision-makers to track and improve key retail metrics. It aims to identify **top-selling products**, analyze **customer satisfaction patterns**, and evaluate **delivery performance** across stores. Additionally, the project supports assessing **campaign effectiveness**, **inventory health**, and **profit margins** to help guide business strategy.

Ultimately, the project is targeted at enabling **data-backed decision-making**, improving **customer experience**, and optimizing **sales and supply chain operations** through intuitive and actionable visual insights.
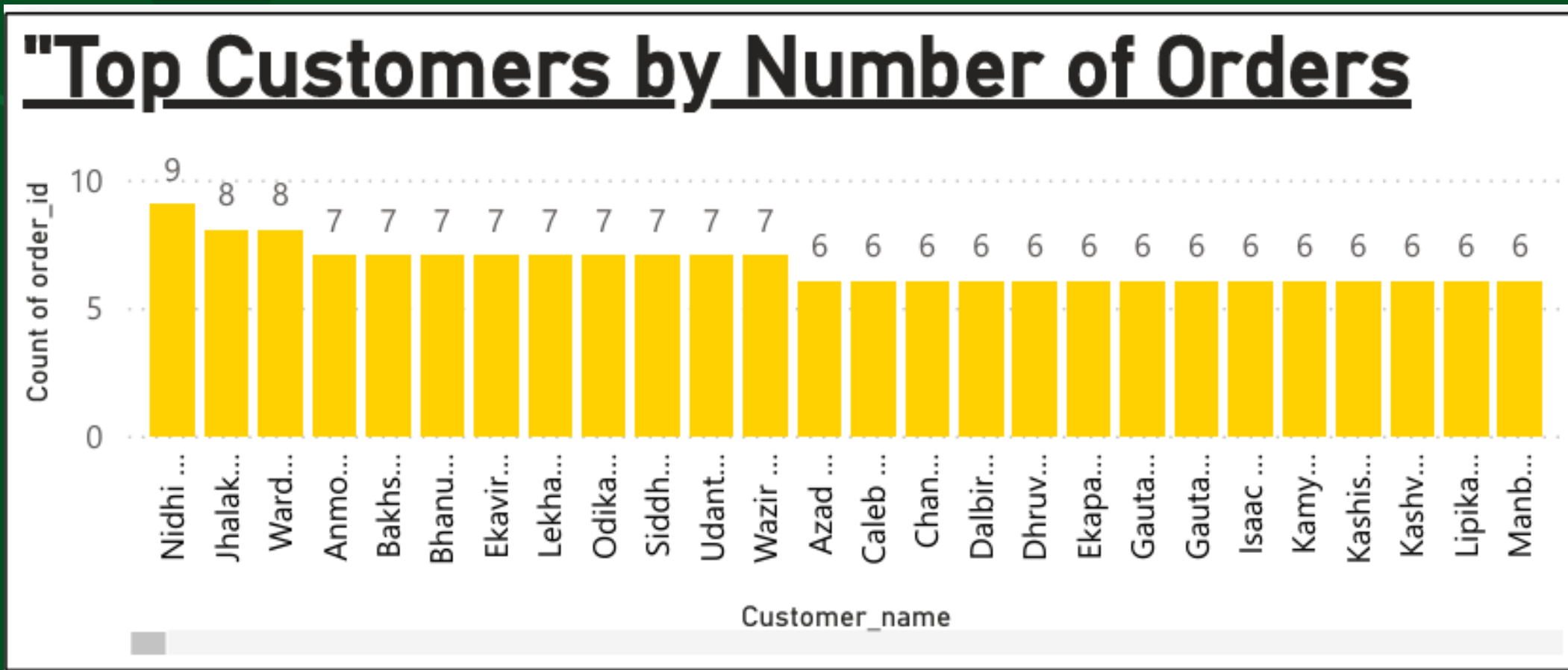
Dataset Overview:-

The dataset comprises a comprehensive view of customer behavior, order performance, product movement, and operational efficiency across various retail categories. It includes detailed fields such as **order ID, store ID, product category, brand, quantity, rating, feedback category, delivery status, margin percentage, campaign name, shelf life**, and **customer segment**. The data spans **March 2023 onwards**, covering both transactional and experiential aspects such as **customer feedback**, **sales volumes**, **delivery timelines**, and **marketing impact**.

It integrates multiple dimensions—from **product-level performance** (e.g., most and top ordered products) to **store-wise delivery efficiency** and **customer experience metrics** (e.g., rating trends, satisfaction by category). Filters like **feedback date**, **delivery status**, and **customer ID range** allow for dynamic slicing of insights. Additionally, campaign analysis and margin data bring in a profitability layer to evaluate the success of sales strategies.
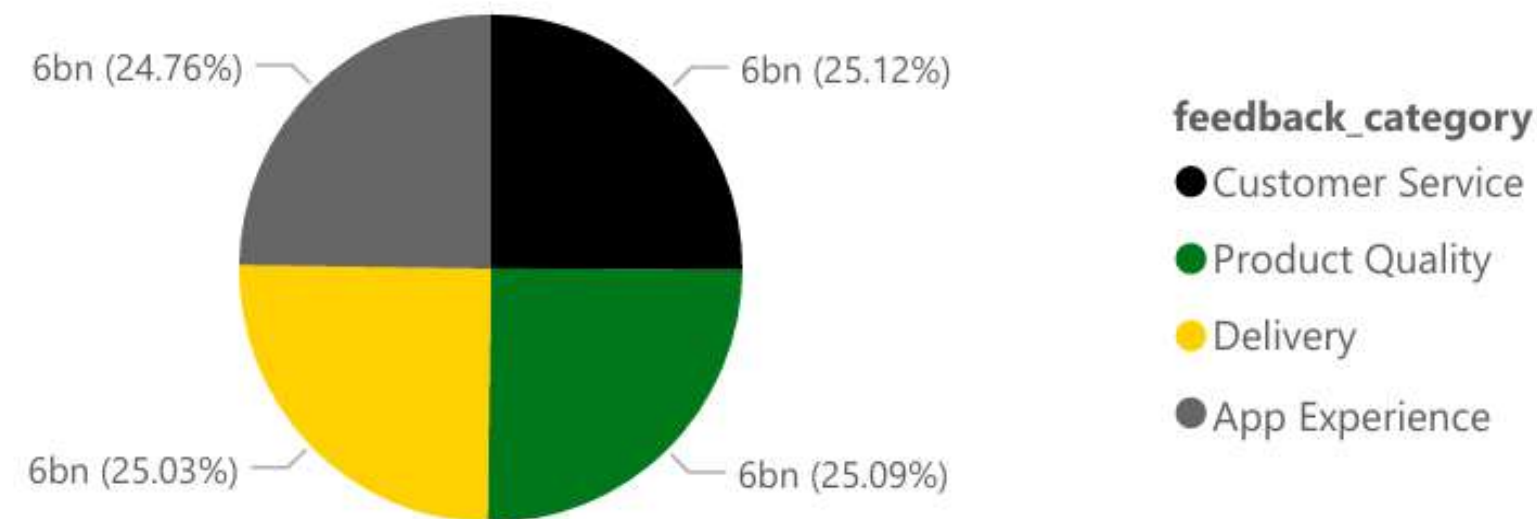
Tools used:-

➢ **<u>Power bi :</u>** For creating interactive visual dashboards

➢ **<u>GitHub :</u>** For project documentation and version control

➢ <u>GitHub Repository link:-</u> https://github.com/Shreya0413/Blinkit-Sales-Analysis

"Top Customers by Number of Orders

This bar chart highlights the top customers based on the count of their orders. The visual ranks customer names and indicates that the highest number of orders placed by any customer is 9, with several customers closely following at 8 and 7 orders. This helps identify the most engaged and loyal customers.

Distribution of Feedback by Category

6bn (24.76%)   6bn (25.12%)

feedback_category
- Customer Service
- Product Quality
- Delivery
- App Experience

6bn (25.03%)   6bn (25.09%)

This pie chart highlights how customer feedback is distributed across key areas such as Customer Service, Product Quality, Delivery, and App Experience. The visual makes it easy to identify which aspects of the customer experience generate the most responses, helping prioritize service improvements.

Scatter Plot – Delivery Distance vs Delivery Time
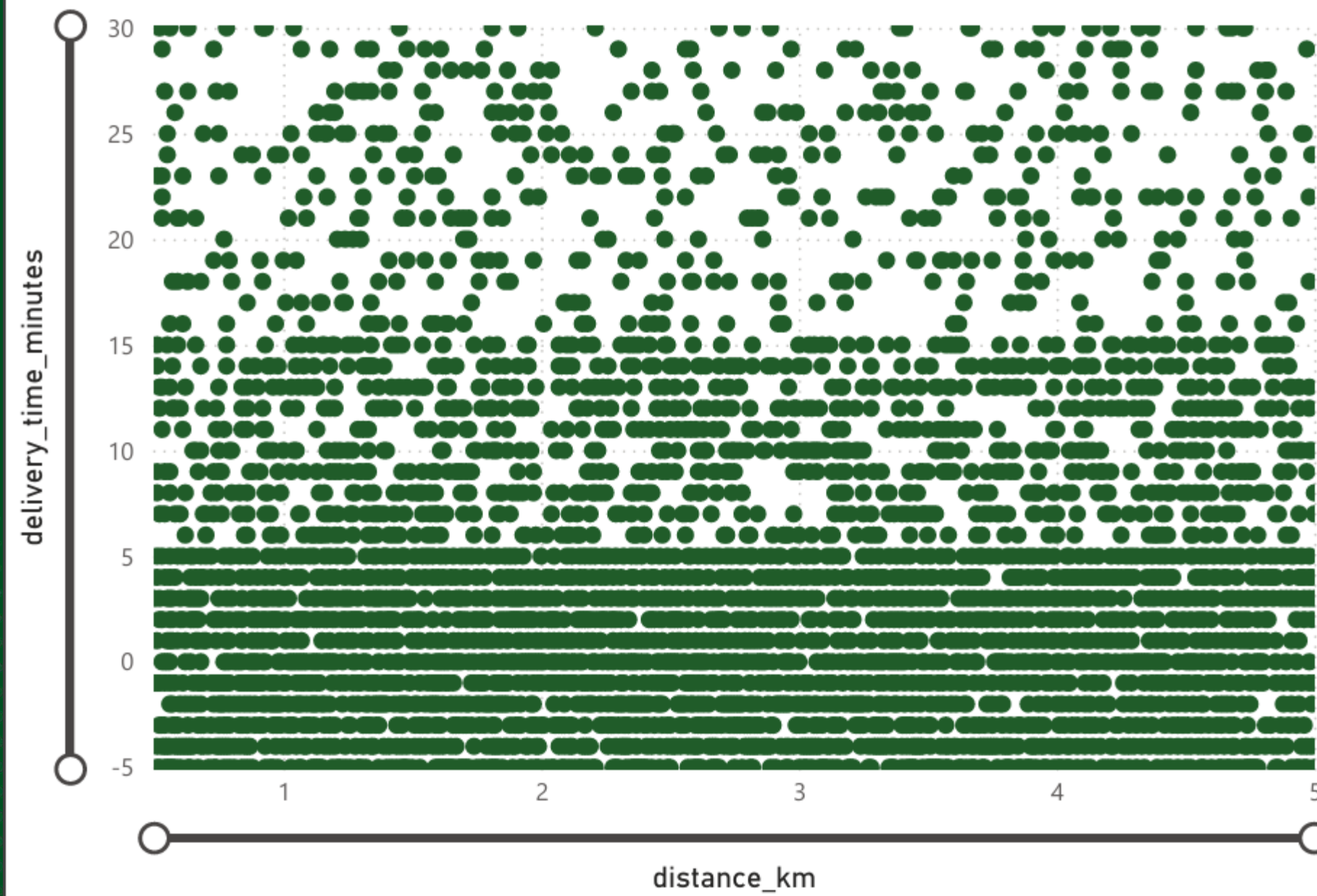
This scatter plot represents the relationship between delivery distance (in kilometers) and delivery time (in minutes). The plot shows clustered points suggesting that for most deliveries, regardless of distance variation between 1 to 5 km, the time taken remains under 30 minutes. It reflects consistency and efficiency in delivery times.

"Monthly Order Trends Over Time
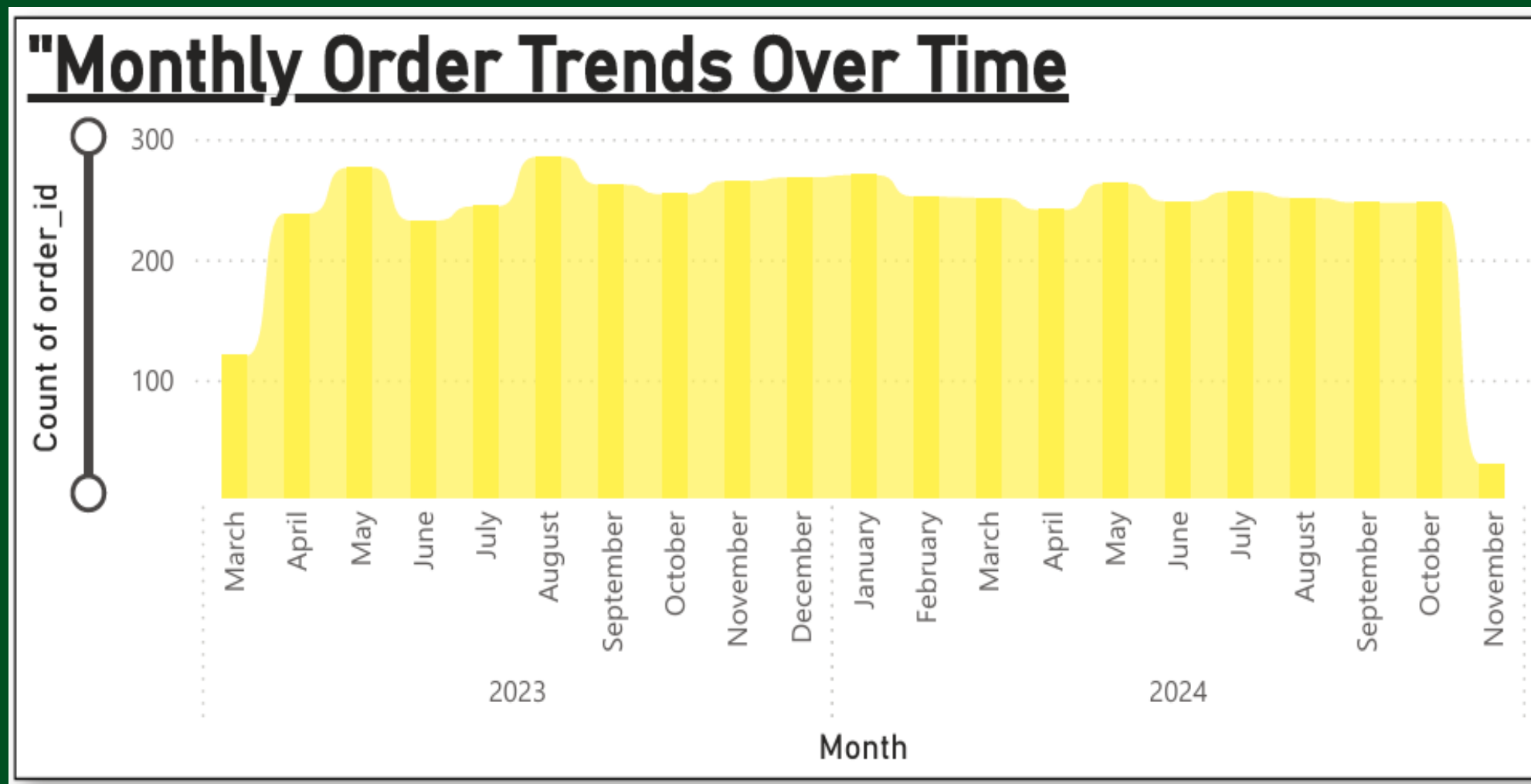
The line chart visualizes the monthly trend in the number of orders from March 2023 to November 2024. There is visible seasonality, with certain months showing peaks, indicating potential sales surges during specific periods. The trend helps identify high-performing months for strategic planning.

Customer Directory with Contact Information

Customer id	Customer name	Email id
80315623	Varenya Banik	aachalsarma@example.cor
70230254	Hamsini Sandhu	aachalsheth@example.net
14161586	Aachal Nazareth	aadhya71@example.org
61226563	Chameli Kala	aadhya91@example.com
74735607	Naksh Amble	aadhyabhalla@example.co
71615827	Yash Contractor	aadi81@example.com
27955158	Abeer Kamdar	aaggarwal@example.net

This table lists customer IDs, names, and email addresses, offering a detailed directory of customers. It supports CRM and marketing campaigns by providing essential contact data to target specific customer segments.
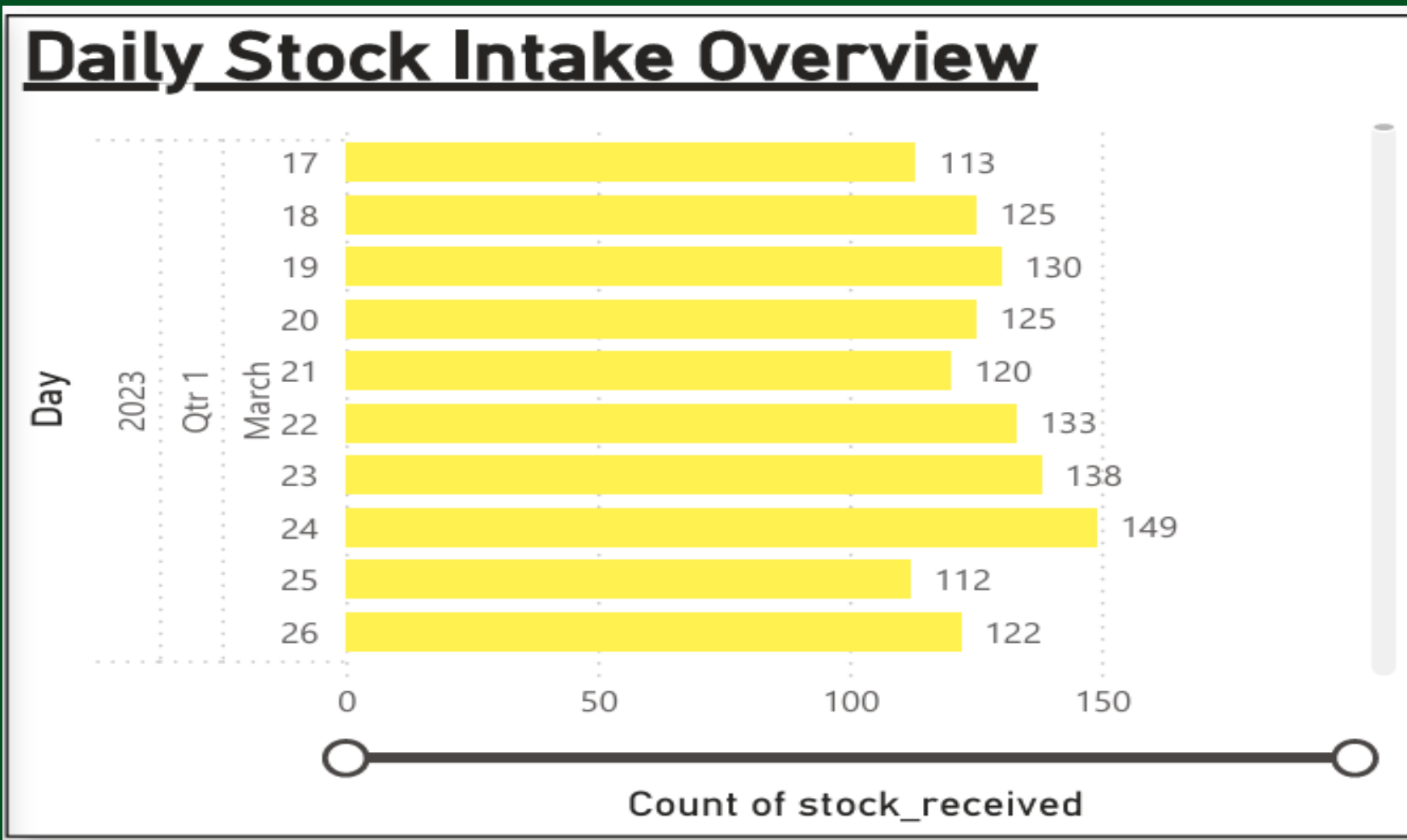
Shows the **quantity of stock received daily** starting from **March 17, 2023 onwards**. The data is represented across multiple days, though only part of the chart is visible due to screenshot cropping. Visible intake peaks around 149 units and fluctuates day-to-day. Reflects inbound stock volume trends over time. Helps evaluate restocking frequency and plan warehouse/logistics activities

Percentage of Damaged Stocks

product_name	product_id	Sum of stock_received	Sum o
Vitamins	298985	689	
Cheese	799952	459	
Frozen Biryani	306177	533	
Salt	764014	507	
Toilet Cleaner	336847	444	
Tomatoes	818990	477	
Baby Food	82484	687	
Total		**147526**	

This table visualizes damage rates for various products, listing quantities received and damaged. Products like Cheese, Salt, and Tomatoes show relatively higher damage numbers. This insight is useful for quality control and supply chain improvements.

Marketing Campaign Spend vs. Revenue Generated

Campaign_name	Sum of spend	Sum of revenue_gene ▼
Referral Program	18,18,025.51	36,91
New User Discount	18,33,454.81	36,03
Email Campaign	18,10,729.67	36,01
Total	**1,63,19,838.24**	**3,21,93,**

This table compares the investment made in each marketing campaign against the revenue it generated. It evaluates the performance and efficiency of campaigns and helps prioritize future marketing spend.
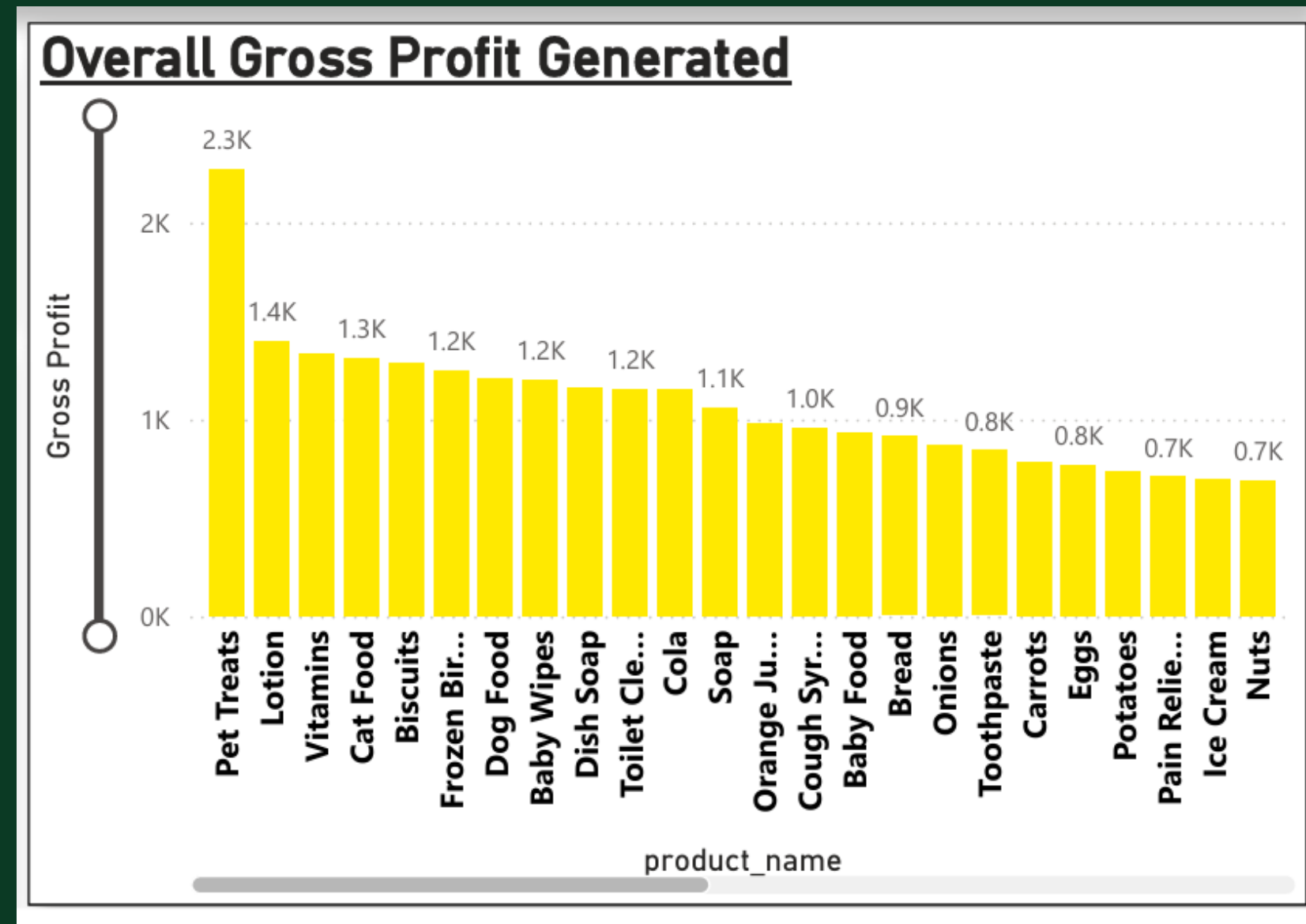
Average Order Value Performance

1.46K ✓

Goal: 1 (+1,46,239%)

14.80K

Roas

The **"Average Order Value Performance"** card shows an impressive AOV of **₹1.46K**, significantly surpassing the set goal of ₹1. This is accompanied by an astounding growth figure of **+1,46,239%**, which—though possibly affected by a placeholder goal—clearly highlights a substantial increase in how much customers spend per order. This metric is crucial for assessing profitability per transaction and the effectiveness of upselling or bundling strategies.

Beside it, the **"ROAS"** (Return on Ad Spend) metric stands at **₹14.80K**, indicating that for every unit of currency spent on marketing, the business is earning 14.8 times that amount in revenue. This strong ROAS value suggests highly efficient marketing campaigns and a healthy return from promotional investments, particularly important for optimizing budget allocation in future campaigns.

Overall Gross Profit Generated

Gross Profit

| 2.3K | 1.4K | 1.3K | 1.2K | 1.2K | 1.2K | 1.1K | 1.0K | 0.9K | 0.8K | 0.8K | 0.7K | 0.7K |

Pet Treats, Lotion, Vitamins, Cat Food, Biscuits, Frozen Bir..., Dog Food, Baby Wipes, Dish Soap, Toilet Cle..., Cola, Soap, Orange Ju..., Cough Syr..., Baby Food, Bread, Onions, Toothpaste, Carrots, Eggs, Potatoes, Pain Relie..., Ice Cream, Nuts

product_name

This bar chart presents the gross profit generated by each product. "Pet Treats" and "Lotion" stand out as the most profitable products. This helps identify high-margin items contributing significantly to overall profits.

Order Volume by Pincode

Pincode	Order_id(Count) ▲
6749	1
7186	1
13634	1
14359	1
14789	1
Total	**5000**

Delivery Delays Distribution

This table displays how many orders were delivered to each geographic area. It offers insight into location-based demand and can inform regional sales strategies.
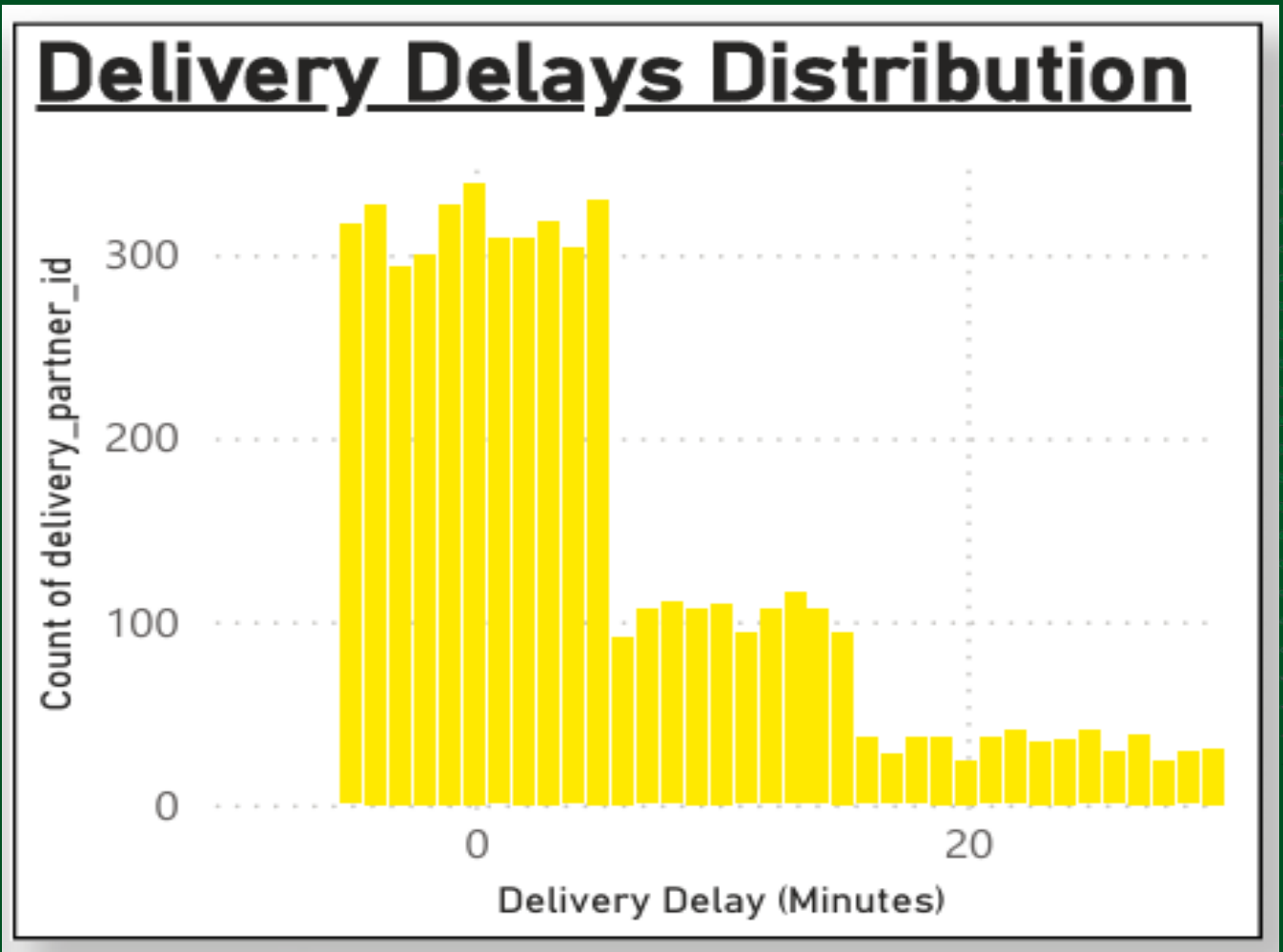
This histogram presents the frequency of delivery delays across different time intervals. It helps identify patterns and ranges of delays, informing delivery process improvements.
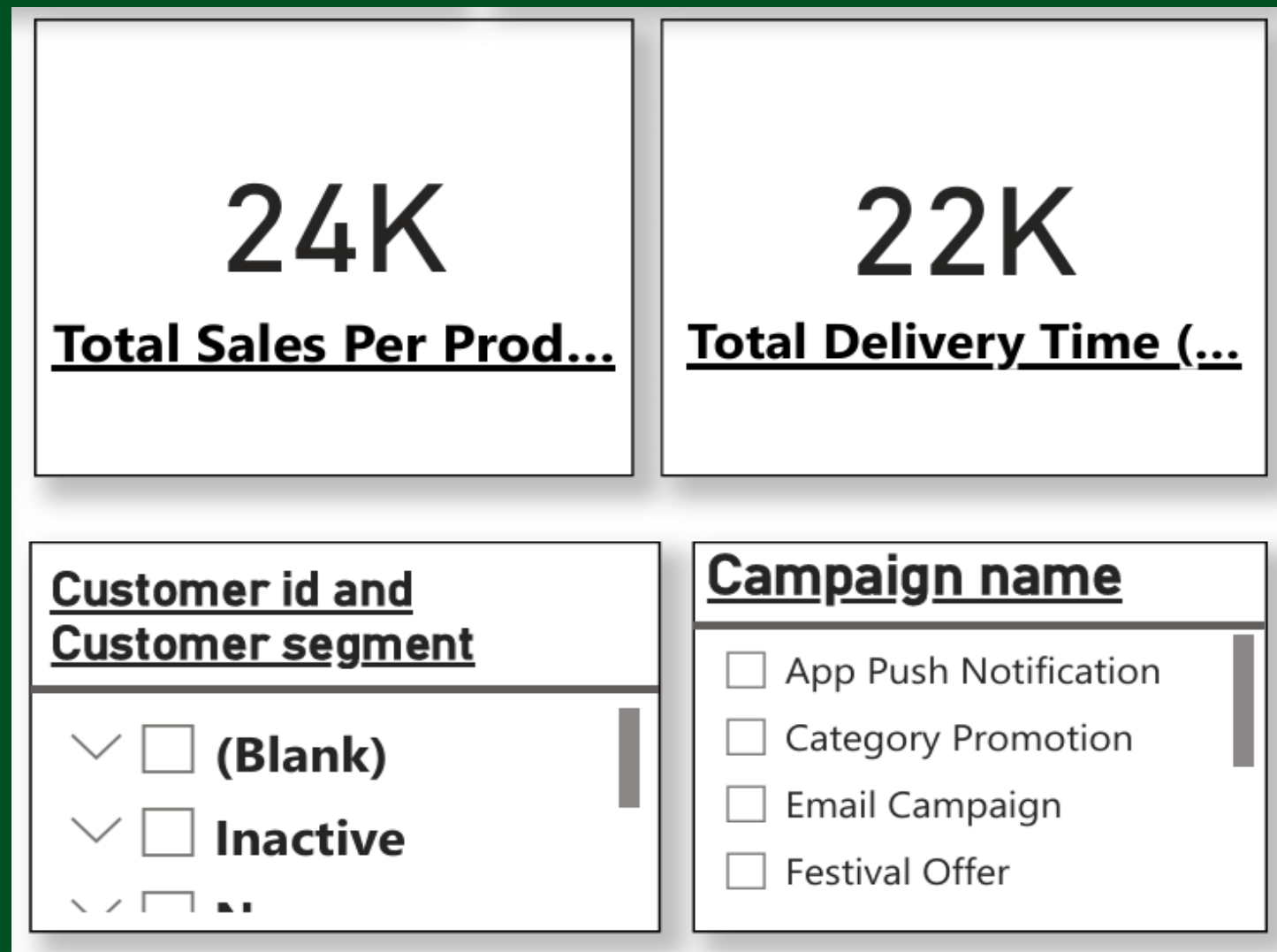
This visual contains **four elements**—two KPIs and two slicers—

Slicers:-

•**Customer Segment Slicer**: Filters data by customer type (e.g., Inactive, New, Regular, Premium) to analyze behavior and contribution.

•**Campaign Name Slicer**: Allows filtering by marketing campaigns (e.g., App Push, Category Promo, Email, Festival) to measure their impact on key metrics like sales and retention.

KPIs:-

Total Sales Per Product:
Indicates that 24,000 units have been sold across all products. This metric provides a high-level view of overall product movement, helping assess which products are driving sales and informing decisions related to demand forecasting and inventory management.

Total Delivery Time:
Aggregates to 22,000 minutes spent on order deliveries. This KPI helps evaluate overall delivery efficiency and can highlight regions or time periods where delays occur, supporting improvements in logistics and customer satisfaction.
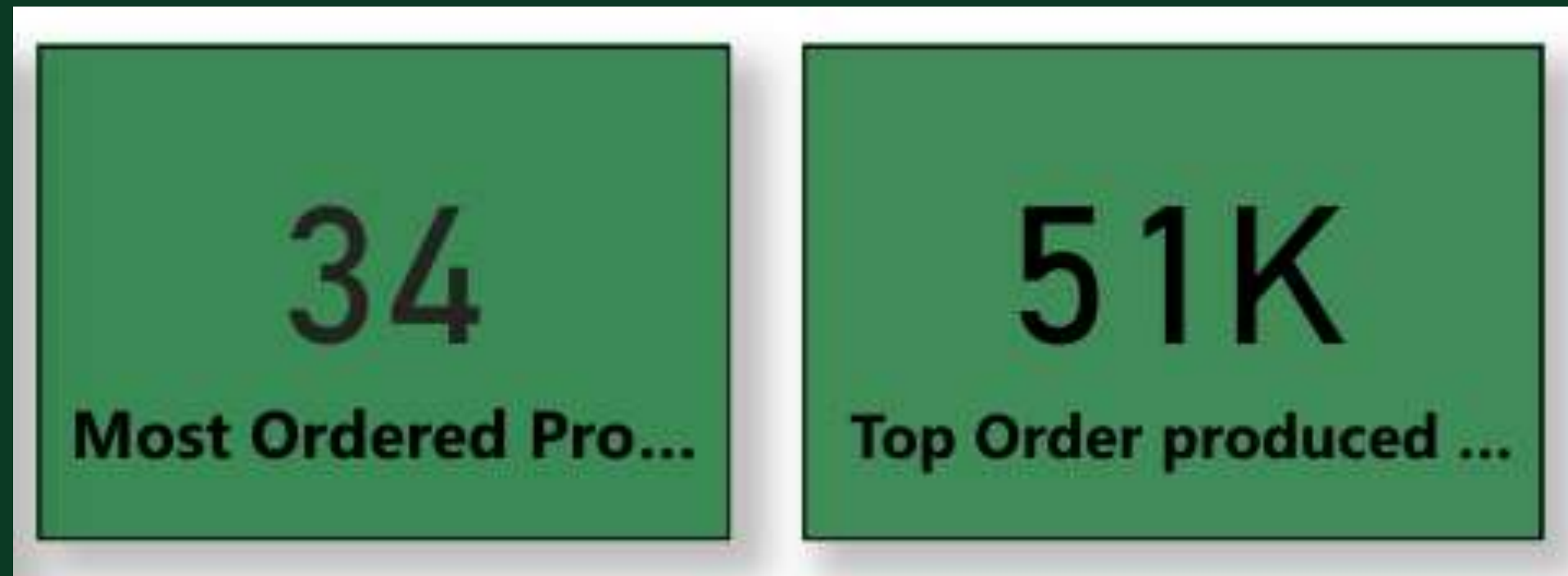
The **first KPI card**, titled **"Most Ordered Product"**, shows the number **34**, indicating that a single product has been ordered **34 times**, making it the most frequently purchased item in the dataset. This highlights customer preference or high utility, which can guide stock prioritization, promotional focus, or even bundling strategies.

The **second KPI card**, labeled **"Top Ordered Product"**, displays a value of **51K**, which represents the **total quantity** sold for the highest-selling product across all transactions. This emphasizes the sheer volume or popularity of a particular product and is essential for recognizing demand trends and ensuring consistent availability of that item in inventory.

Customer Distribution by Segment

639 (25.56%)

633 (25.32%)

600 (24%)

628 (25.12%)

customer_segment
- Regular
- Premium
- New
- Inactive
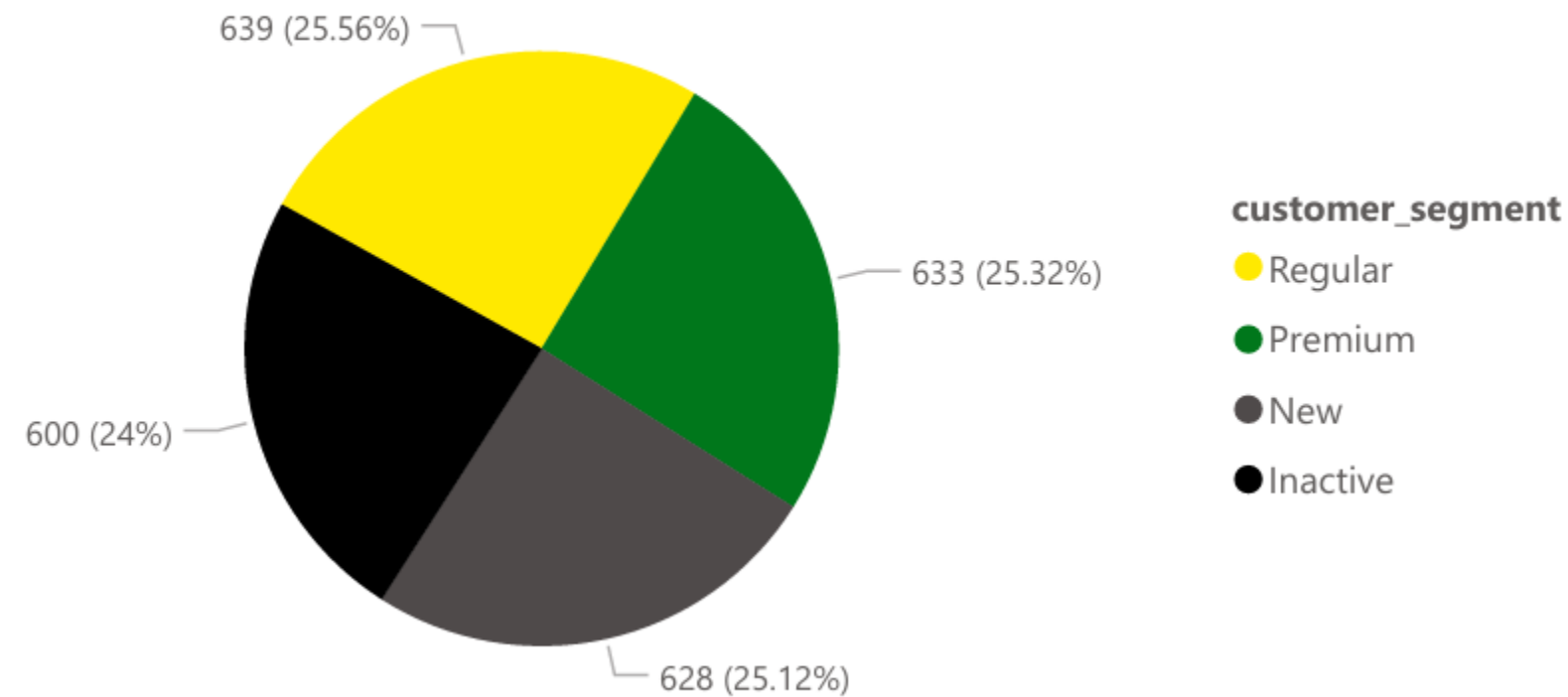
This pie chart shows the percentage of customers across different segments: Regular, Premium, New, and Inactive. Each segment is almost equally distributed, highlighting the diverse composition of the customer base.

Trend of Order Frequency Based on Quantity Ordered
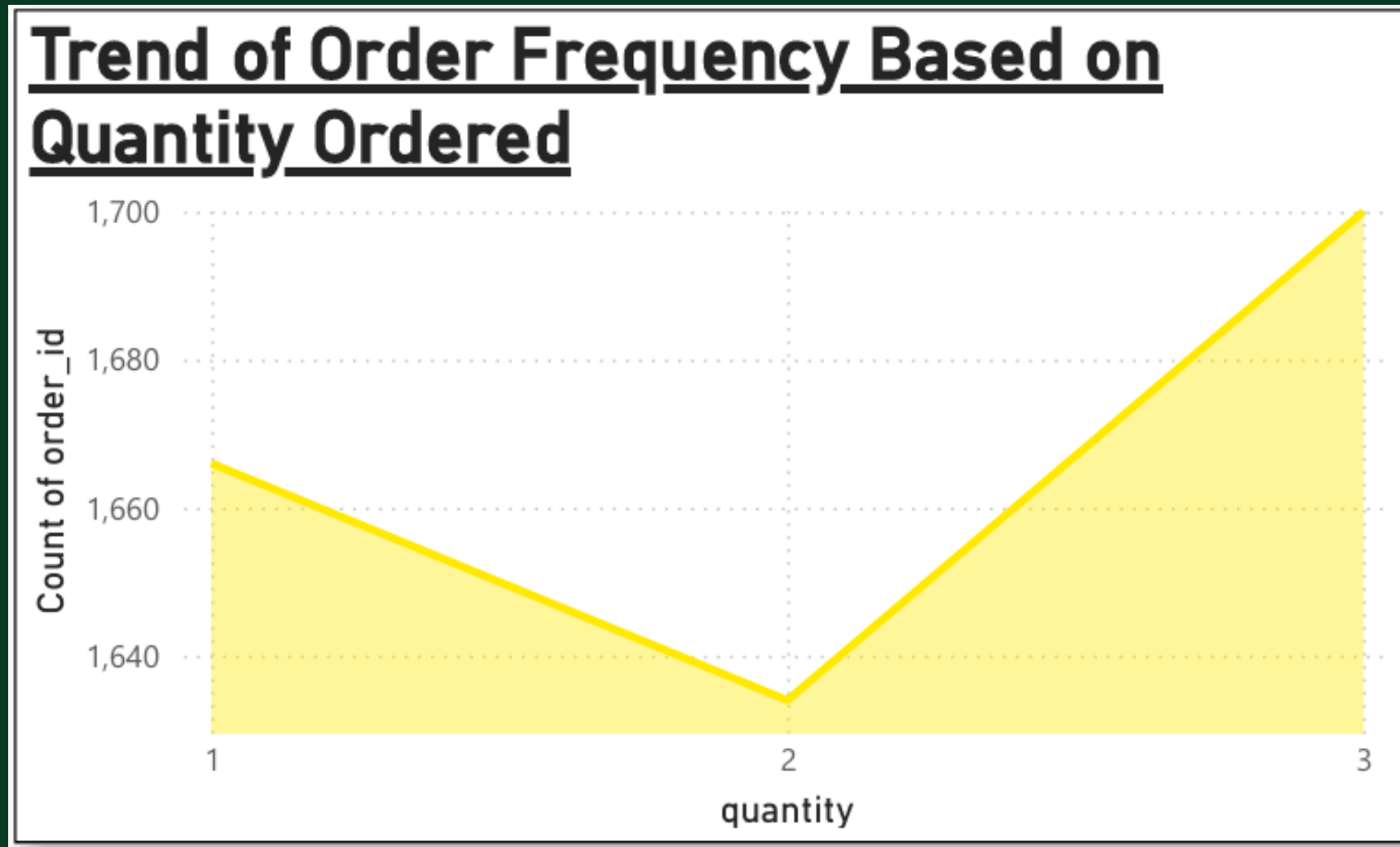
This line chart shows how frequently orders were placed based on the quantity ordered (1, 2, or 3 units). Most orders fall in the lower quantity range, suggesting customers typically purchase fewer items per order.

Total Revenue Generated

0.00M   32.19M   64.39M
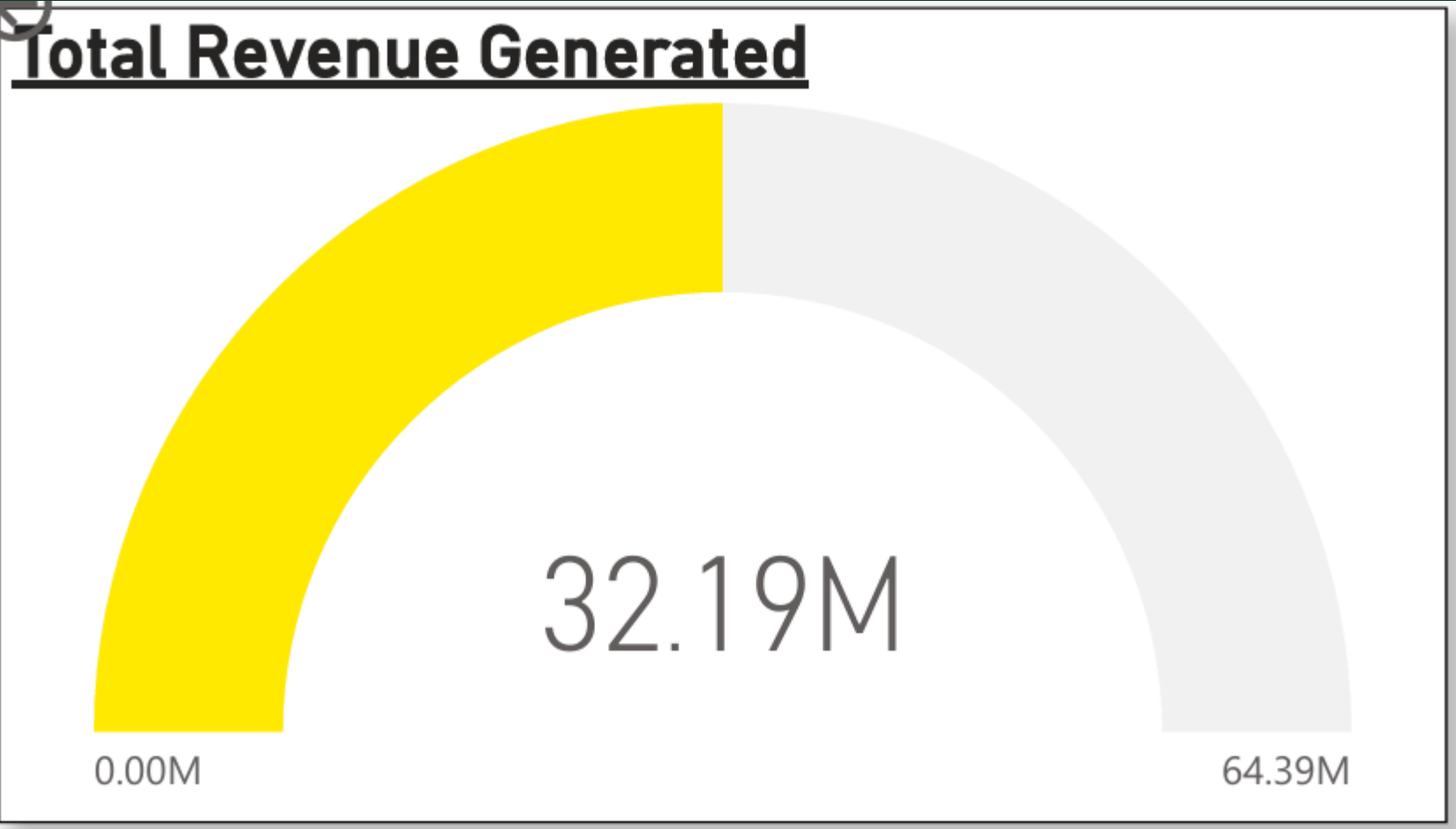
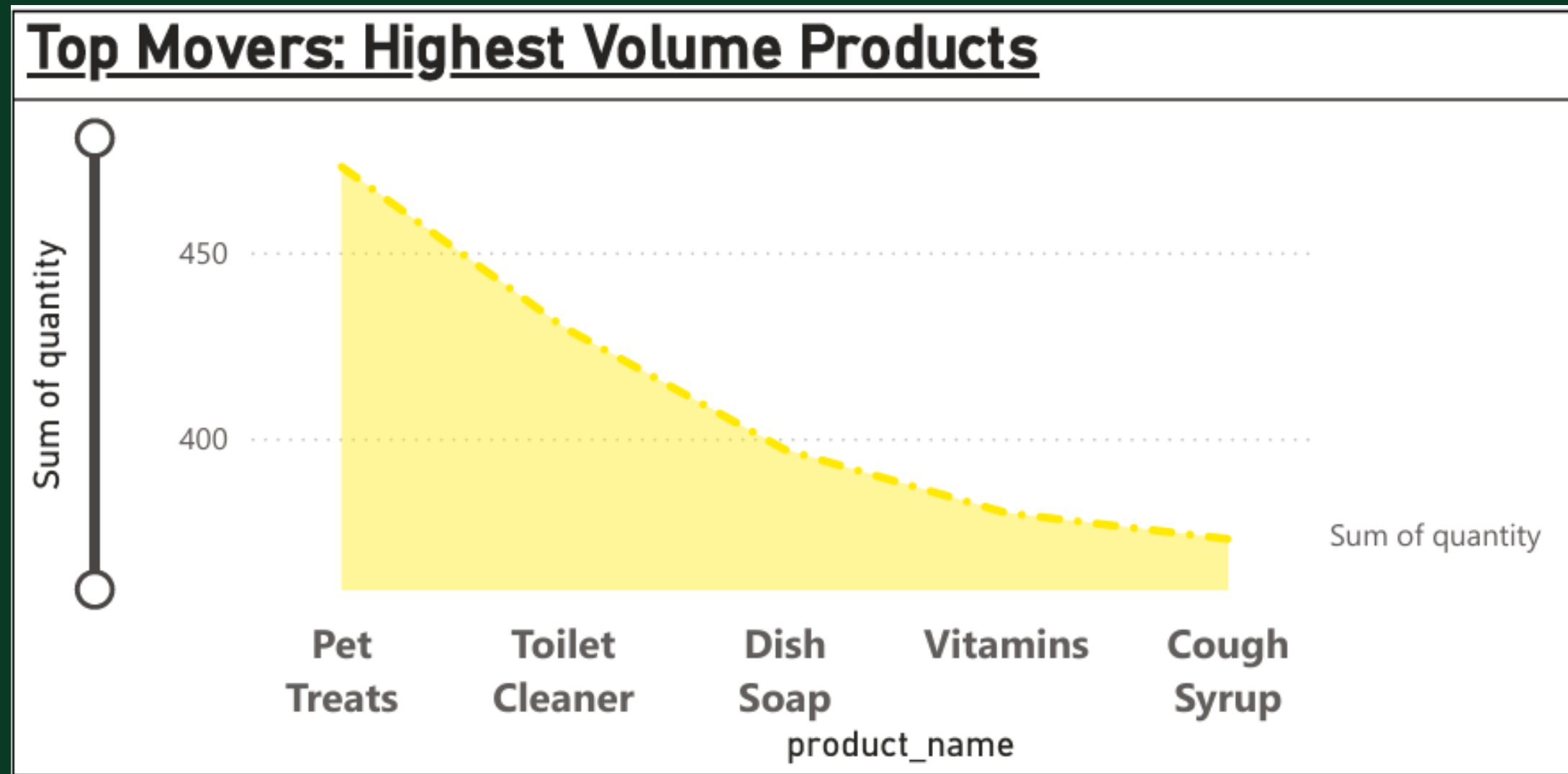This KPI indicates the proportion of repeat customers. It reflects customer loyalty and the effectiveness of engagement strategies.

category	Sum of quantity
⊞ Baby Care	655
⊞ Cold Drinks & Juices	758
⊞ Dairy & Breakfast	1114
⊞ Fruits & Vegetables	966
⊞ Grocery & Staples	895
Total	10034

This visual is a **matrix table** summarizing the **total quantity of products sold per category**, offering a clear view of demand across major product segments:

The **"Dairy & Breakfast"** category leads with **1,114 units sold**, followed by **Fruits & Vegetables** at **966** and **Grocery & Staples** with **895**. Other categories like **Cold Drinks & Juices (758)** and **Baby Care (655)** also contribute significantly. The **overall total** sales quantity across all listed categories is **10,034 units**.

Top Movers: Highest Volume Products

Sum of quantity

450 ....

400 ....

Sum of quantity

Pet Treats | Toilet Cleaner | Dish Soap | Vitamins | Cough Syrup

product_name

This bar chart lists the products with the highest sales volume, with "Pet Treats," "Toilet Cleaner," and "Dish Soap" leading in quantity sold. It highlights the most popular or frequently purchased items.

Order Quantities by Product Category

Order Quantity by Product Category and Brand

Brand	Quantity
⊞ Acharya Ltd	24
⊞ Acharya PLC	17
⊞ Agarwal-Dhar	19
⊞ Agate and Sons	16
⊞ Agate Ltd	15
⊞ Aggarwal Group	15
⊞ Andra, Mander and Kari	13
⊞ Anne, Mammen and Khatri	23
⊞ Apte, Soman and Raju	16
⊞ Arora LLC	17
⊞ Arora-Magar	14
⊞ Arya Group	14
⊞ Arya, Sundaram and Pingle	14
⊞ Aurora LLC	19
Total	5000

Margin % by Product

Product_name	
Pet Treats	Margin_percentage 420
Lotion	Margin_percentage 350
Frozen Biryani	Margin_percentage 280
Dish Soap	Margin_percentage 250
Toilet Cleaner	Margin_percentage 250
Biscuits	Margin_percentage 245
Cat Food	Margin_percentage 245
Baby Wipes	Margin_percentage 240

Margin_percentage
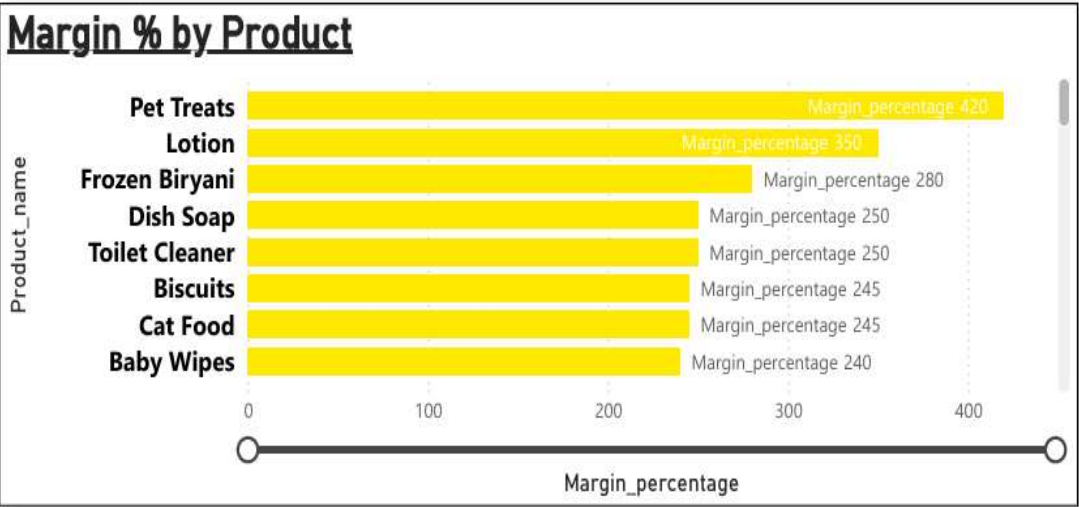
This visual provides insights into product performance from two angles—

The **left table** lists brands alongside the **quantity of orders** they received. Brands like **Acharya Ltd (24 units)** and **Anne, Mammen and Khatri (23 units)** top the list, while the total across all brands sums up to **5,000 units**. This helps identify the most demanded brands, useful for stock planning and vendor management.

On the **right**, a **bar chart** shows the **margin percentage by product**, with **Pet Treats** leading at **420%**, followed by **Lotion (350%)** and **Frozen Biryani (280%)**. Products like **Dish Soap**, **Biscuits**, and **Toilet Cleaner** also show healthy profit margins above 240%.
Together, these visuals highlight which brands drive volume and which products drive profitability, supporting balanced decision-making between sales volume and margin optimization.

5000	267	27.78	231.76
Total Products	**Total Brands**	**Average Margin %**	**Average Shelf Life (Days)**

This visual showcases four key performance indicators (KPIs) related to product inventory and profitability:

• The first card shows **5,000 total products**, reflecting a diverse and extensive catalog available for customers.

• The second card highlights **267 total brands**, indicating a wide supplier base and strong product variety.

• The third card reports an **average margin of 27.78%**, which is a healthy profitability figure across all products.

• The fourth card reveals an **average shelf life of 231.76 days**, suggesting that products generally have a long usability span, which aids in better inventory turnover and reduced waste.

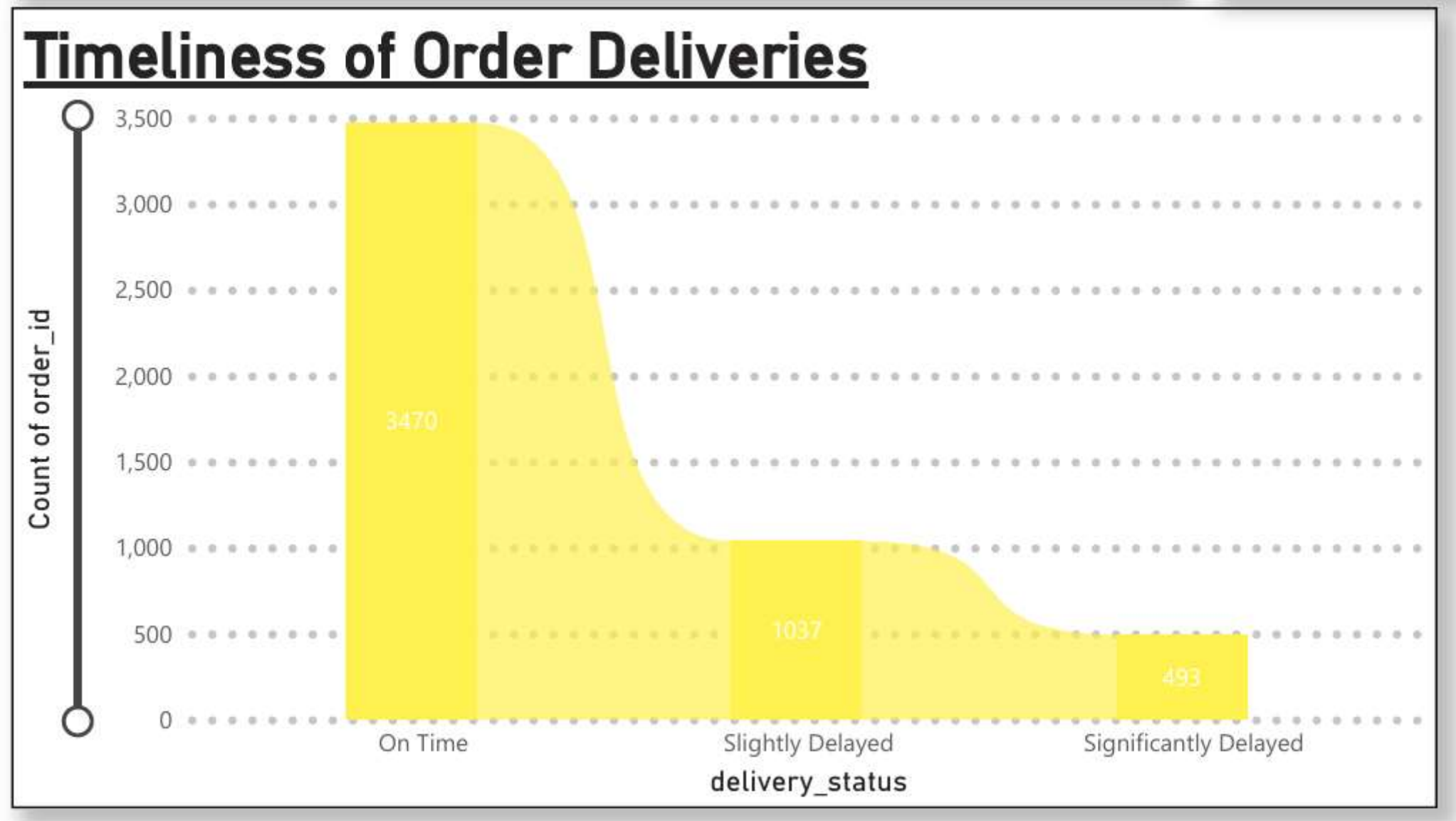Together, these metrics provide a quick overview of assortment scale, brand partnerships, financial health, and product longevity.

Clustered Bar Chart: Price vs. MRP by Product
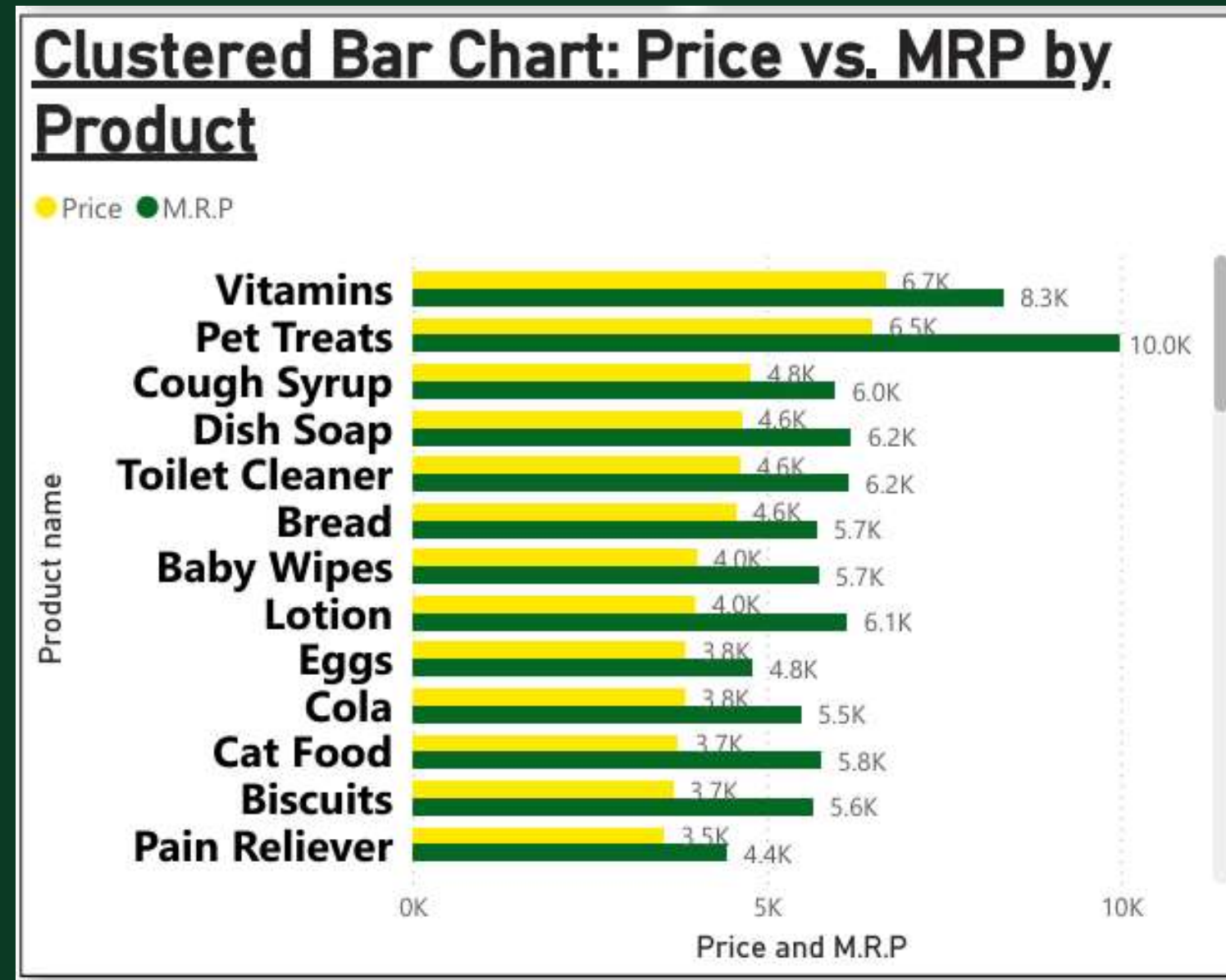
This clustered bar chart compares the selling price against the MRP for various products. It highlights discounting strategies or price sensitivity across products, with some products being sold close to or even at MRP.
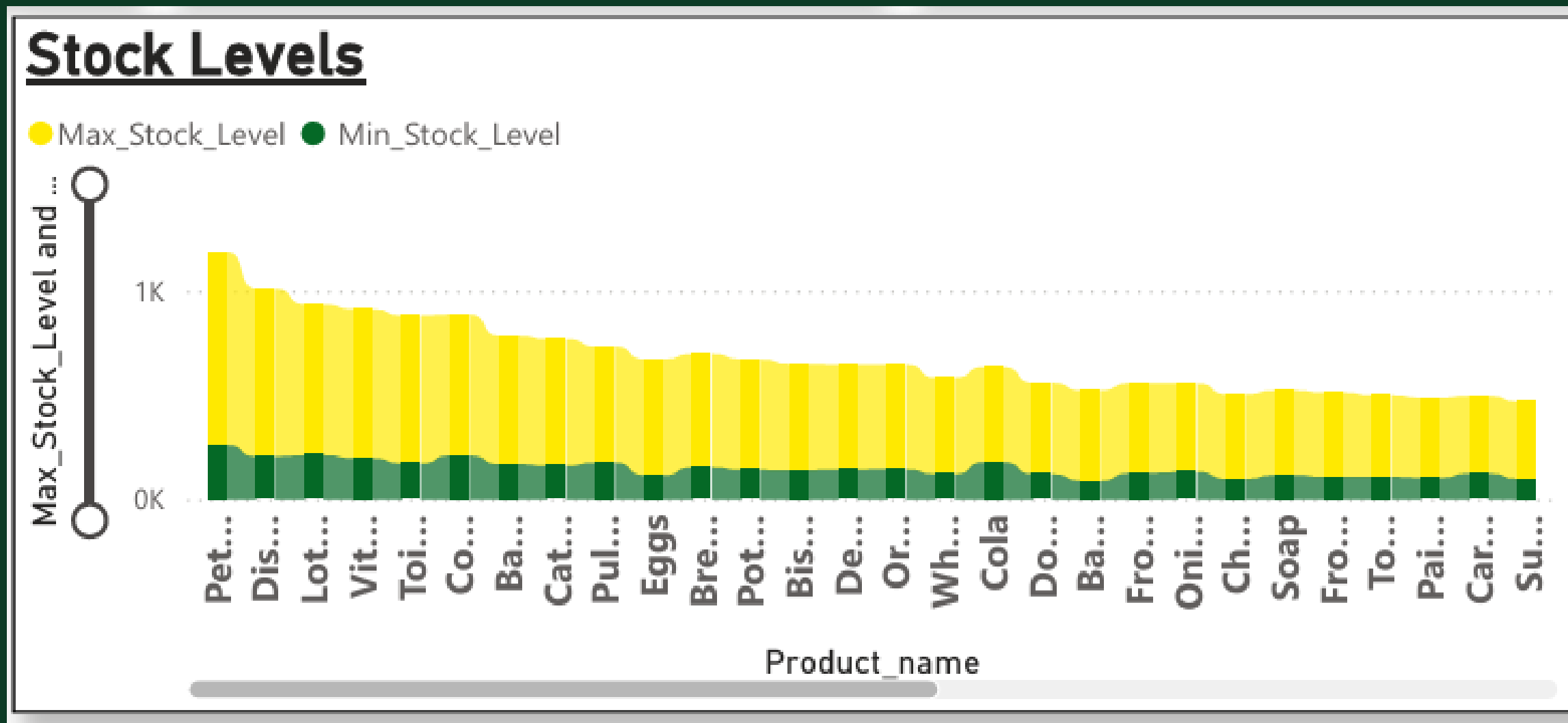
This chart compares maximum and minimum stock levels for various products. It informs stock planning and ensures products remain within optimal inventory thresholds.

Timeliness of Order Deliveries

Count of order_id vs delivery_status

delivery_status	Count
On Time	3470
Slightly Delayed	1037
Significantly Delayed	493

This column chart categorizes order deliveries based on punctuality. It highlights how many orders were delivered on time versus those that were delayed, reflecting operational reliability.

Time-Series of Daily Orders
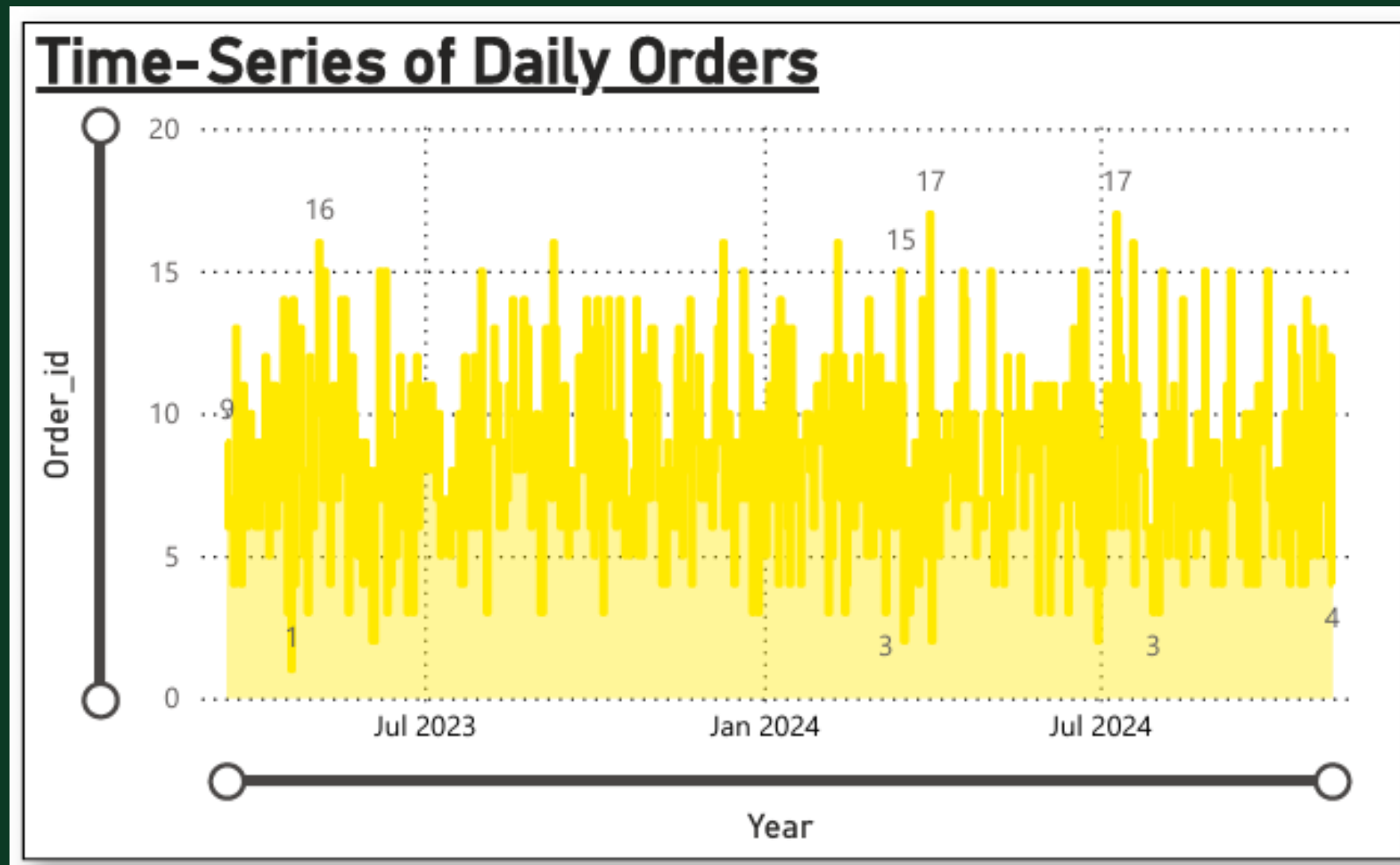
This line chart presents a detailed view of daily order activity over a period of time. It illustrates fluctuations in order volumes, capturing both peak sales days and periods of lower activity. The trendline helps in understanding short-term spikes due to campaigns or seasonal effects, as well as long-term buying behavior. By observing these patterns, businesses can optimize inventory planning, align staffing with demand cycles, and make informed decisions about promotions and logistics.

Estimated Customer Lifetime Value

Customer_id	Customer_name	Avg_order_value	Total_orders
45383958	Aachal Mangat	482.19	19
14161586	Aachal Nazareth	353.97	11
15487049	Aadhya Cherian	1,928.00	15
87222820	Aadhya Padmanabhan	497.66	13
65618148	Aadhya Palla	1,644.51	9
35885052	Aadhya Ravi	1,838.87	1
79206969	Aadi Bains	721.13	1
10608845	Aadi Gole	735.36	2
65692224	Aahana Buch	1,053.33	3
Total		**27,55,939.59**	**26229**

This table presents the calculated lifetime value of each customer, derived from their average order value and total number of orders placed. It highlights which customers have contributed the most revenue over time and provides insights into long-term profitability. By understanding which segments or individuals bring the highest lifetime returns, businesses can develop retention strategies, personalize marketing campaigns, and allocate resources more effectively toward valuable customer relationships.

Marketing Funnel: From Impressions to Conversions

	100%
Impression	29M
Clicked	3M
Conversion	0M
	1%
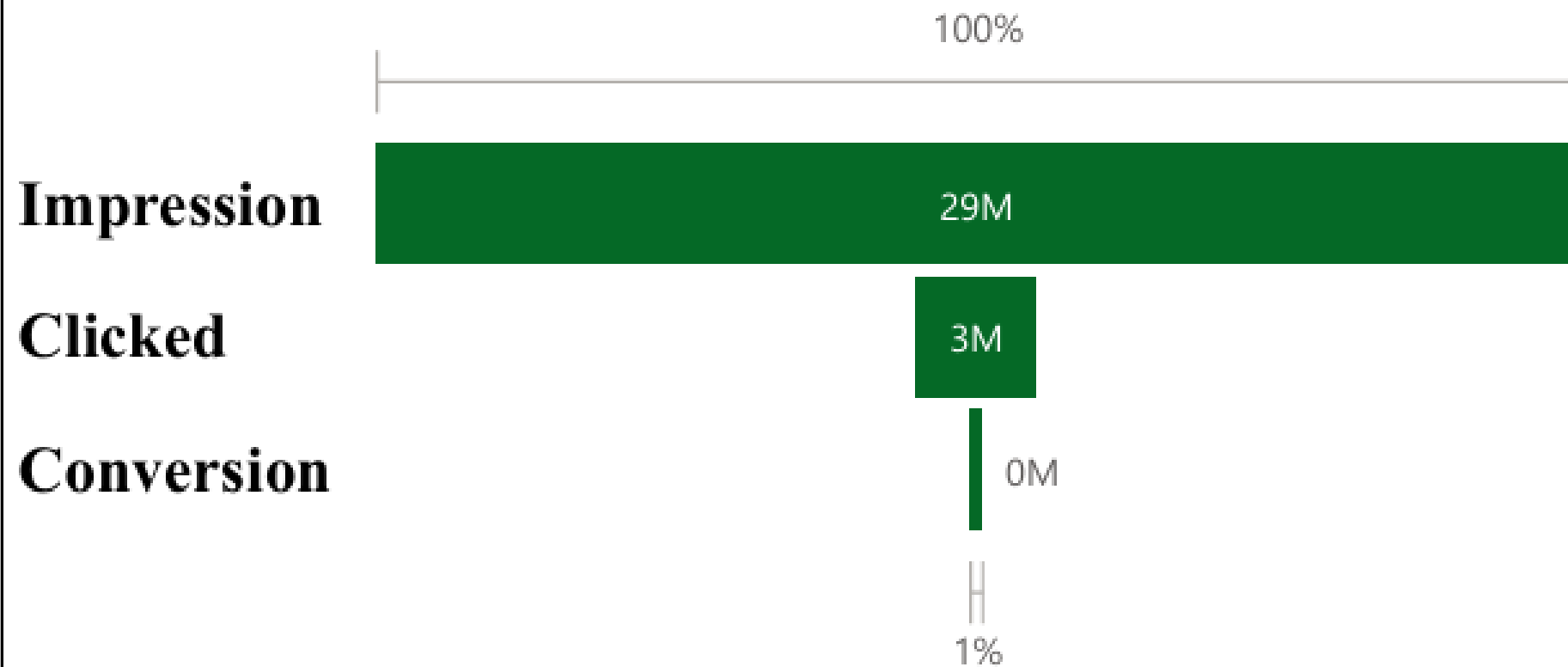
This funnel chart breaks down the stages of a marketing campaign, beginning with total impressions and narrowing down to actual customer conversions. Each stage of the funnel—impressions, clicks, and conversions—shows the number of users retained at that level. The visual provides a clear view of where customer engagement drops off, helping to pinpoint inefficiencies and optimize campaign elements to increase conversion rates. It supports performance evaluation of marketing efforts and assists in identifying opportunities to improve user experience and targeting.

Order Ratings by Date

| order_id	Year	Month	Day	rating
60465	2023	April	17	3
60465	2024	October	24	3
60465	2023	June	29	4
60465	2024	October	23	4
2237858	2023	November	10	1
2237858	2024	June	28	1
2237858	2023	April	2	3
2237858	2024	January	19	3
3101265	2024	May	23	1
3101265	2023	August	16	2

Order Ratings by Date Table:
This table displays individual order ratings along with their corresponding date details such as order ID, year, month, and day. It helps track how customer sentiment has varied over time and also allows cross-checking with specific orders. By reviewing this table, users can identify if certain months or years tend to attract lower or higher ratings.

Rating Distribution

1.41K (12.83%)

3.3K (30.1%)

1.41K (12.85%)

rating
- 4
- 3
- 5
- 2
- 1

1.95K (17.79%)

2.9K (26.43%)
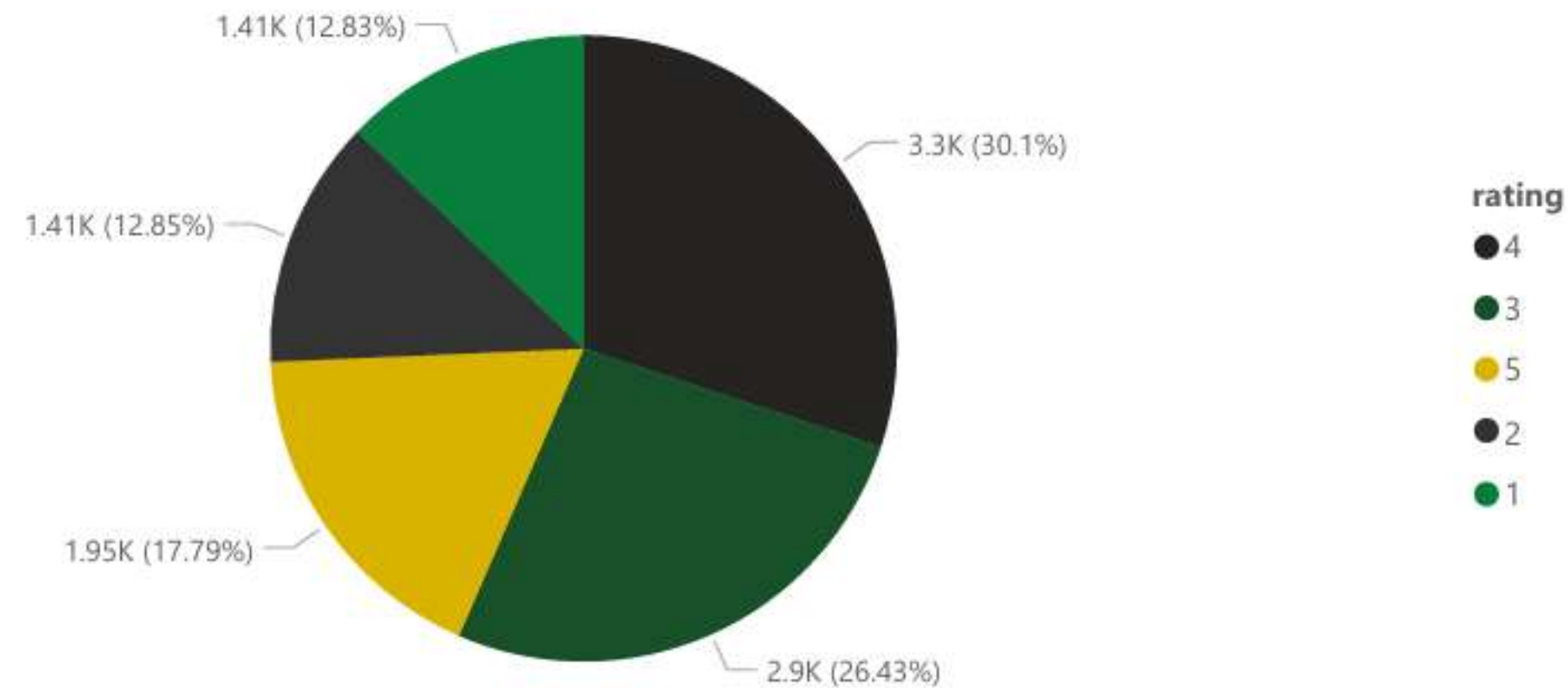
This pie chart breaks down the distribution of customer ratings from 1 to 5. Rating 4 dominates the feedback with 30.1%, followed by rating 3 (26.43%), indicating that most customers are moderately satisfied. The chart quickly communicates customer satisfaction levels and highlights potential quality improvement needs if lower ratings are significant.

Rating Count Trend by Year and Store
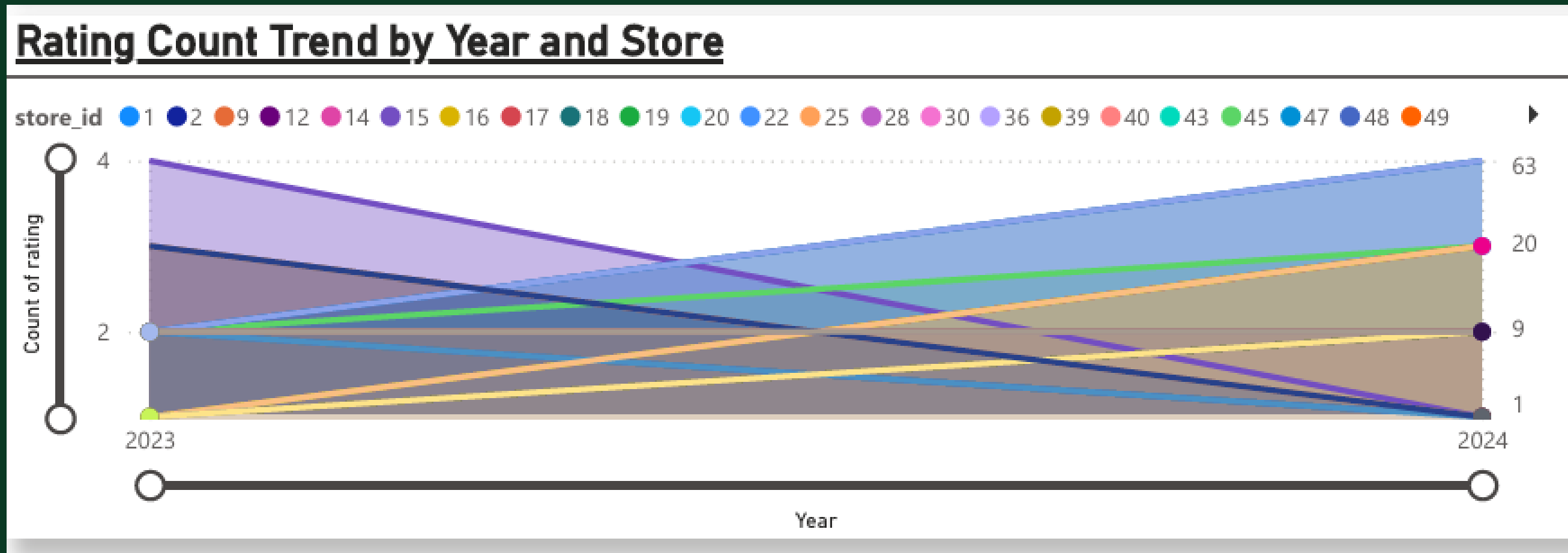
This line chart shows how rating counts have changed over the years for different stores (represented by store IDs). Some stores show an increase in ratings while others decline. This visual helps compare performance across stores and spot trends—whether customer feedback volume is rising, declining, or remaining steady.

Customer Feedback by Store and Category

Store_id	Customer_id	Rating	Feedback_category
1	48765625	1	App Experience
2	70420271	1	App Experience
9	53076417	1	Customer Service
9	53076417	1	Product Quality
12	97111069	1	App Experience
12	97111069	2	Customer Service
12	97111069	1	Delivery
14	18082040	1	App Experience
14	18082040	1	Customer Service
14	18082040	1	Delivery
Total		5000	

Filter by Feedback Date

Feedback_date

16-03-2023   04-11-2024

This date slicer enables filtering of feedback records by a specific time range. By adjusting the date slider, users can focus their analysis on recent trends or historical patterns, which is essential for temporal comparison and decision-making based on evolving customer input.

This table details feedback records including store ID, customer ID, rating, and feedback category (e.g., App Experience, Customer Service). It provides a granular look at how customers rate various aspects of service. Repeating customers across feedback categories also suggest that multiple service dimensions are evaluated per customer.

Filter by Significantly Delayed Deliveries
Delivery_status(Delayed) ⌄
☐ Significantly Delayed

Filter by On-Time Deliveries
Delivery_status(On-Time) ⌄
☐ On Time

Filter by Delivery Status (All Options)
Delivery_status(All) ⌄
☐ (Blank)
☐ On Time
☐ Significantly Delayed

Delivery Status by Order and Store

Order_id	Store_id	Delivery_status
60465	3943	On Time
2237858	1987	On Time
3101265	974	On Time
5120698	3184	Slightly Delayed
5512907	419	Slightly Delayed
7550508	70	On Time
8701796	1925	Slightly Delayed
9408428	9889	On Time
10161194	6592	On Time
10448052	1064	On Time

Significantly Delayed: Filters orders with major delays to identify underperforming stores or regions needing improvement.

On Time: Shows only timely deliveries, useful for measuring punctuality performance.

All Options: Includes all delivery statuses for a complete and customizable analysis view.

This table shows the delivery performance of orders by linking order ID and store ID with their delivery status (e.g., On Time, Slightly Delayed). It offers insight into how punctual each store's delivery service is, which is crucial for logistics performance and customer satisfaction.

Key Findings:-

- **Diverse Customer Base**: Customers are evenly spread across segments, with a few showing strong loyalty through repeated purchases.

- **Top Products & Profitability**: Items like *Pet Treats* and *Lotion* lead in both sales volume and profit margins.

- **Efficient Deliveries**: Most deliveries are completed within 30 minutes, though some delays highlight areas for operational improvement.

- **Effective Marketing**: Campaigns show high ROAS , indicating strong returns on marketing investments.

- **Seasonal Trends**: Monthly sales spikes reveal clear seasonal demand patterns, aiding in better planning.

Conclusion:-

This analysis provided a comprehensive overview of Blinkit's sales performance, customer behavior, product profitability, and operational metrics. Key insights include the identification of high-value products and customers, efficiency in delivery operations, and the effectiveness of marketing campaigns.

These findings can directly support strategic decision-making by:

Informing product assortment and pricing decisions based on performance data.

Enhancing delivery systems to address delays and improve customer satisfaction.

Guiding targeted marketing initiatives with proven ROI.

Enabling proactive planning aligned with seasonal demand patterns.

By leveraging these insights, Blinkit can strengthen customer relationships, boost profitability, and streamline its sales and supply chain operations.

Thank you

Shreya Das
Email:- shreyadas0413@gmail.com