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Class: 3DM
Course: DSC261-3 - Data Visualization
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Exercise No: Lab Assignment-3

E-commerce Delivery Analytics Dataset

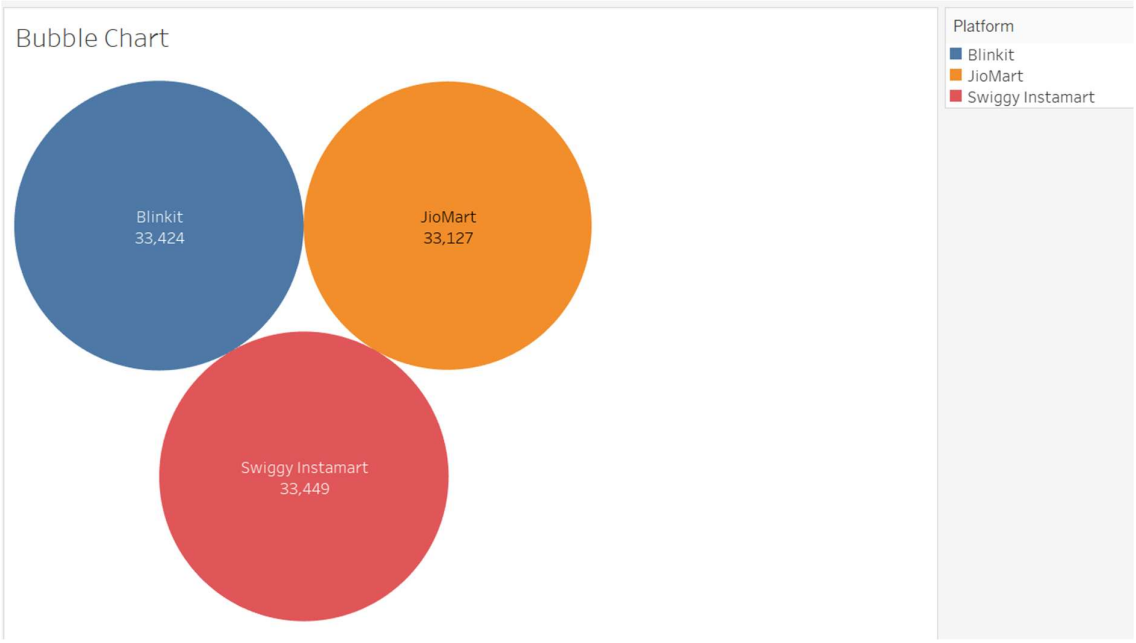
About Dataset-

This dataset provides detailed insights into e-commerce grocery delivery services, focusing on Blinkit, Swiggy Instamart, and JioMart. It includes customer feedback, delivery times, service ratings, and various factors affecting delivery performance. This dataset is useful for analyzing customer satisfaction, identifying service trends, and optimizing delivery logistics.

Attributes -

- **Order ID:** Unique identifier for each order - Categorical
- **Platform:** The e-commerce platform (Blinkit, Swiggy Instamart, JioMart) - Categorical
- **Order Date & Time:** Timestamp of when the order was placed - Date/Time
- **Delivery Time (Minutes):** Time taken for order delivery - Numerical
- **Customer Feedback:** Text-based feedback provided by the customer - Text/Unstructured
- **Service Rating (1-5):** Customer rating for delivery service - Numerical
- **Delivery Distance (km):** Distance covered by the delivery agent - Numerical
- **Payment Method:** Mode of payment (Cash, UPI, Card, Wallet) - Categorical
- **Order Value (INR):** Total value of the order in Indian Rupees - Numerical
- **Discount Applied (INR):** Discount provided on the order - Numerical
- **Delivery Charges (INR):** Charges applied for delivery - Numerical
- **Order Status:** (Delivered, Cancelled, Delayed, etc.) – Categorical

Visualization 1: Order Distribution by Platform (Bubble Chart)

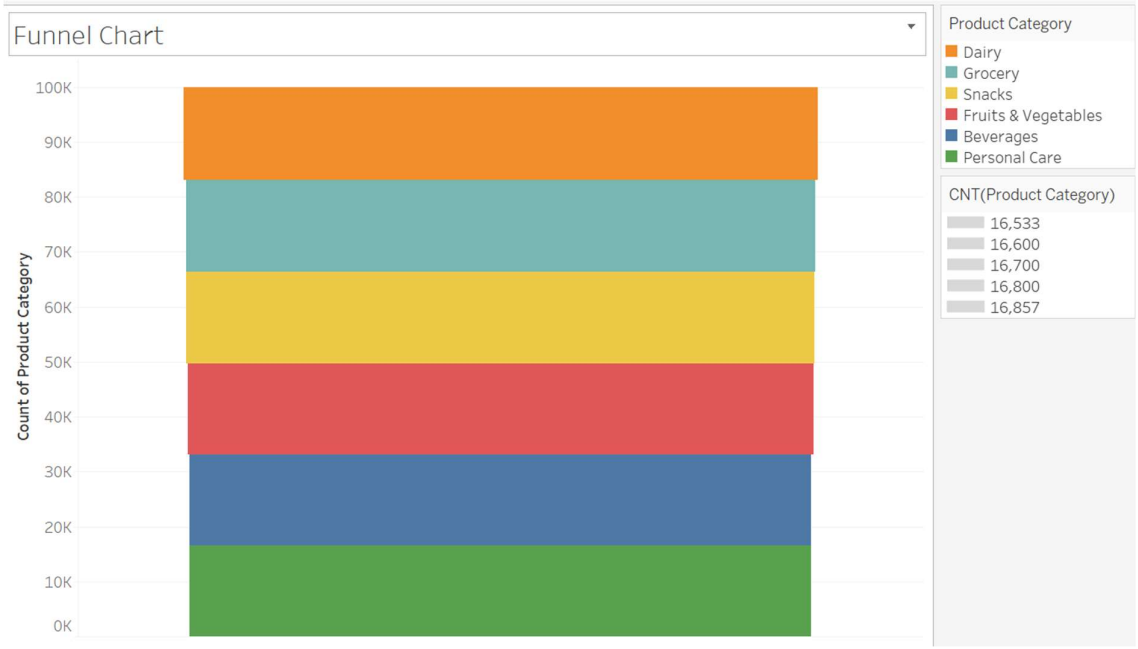


The first bubble chart visualizes the total number of orders across the platforms Blinkit, JioMart, and Swiggy Instamart, with a platform filter applied to focus on these key players. Swiggy Instamart leads with 33,449 orders, indicating a strong customer base for this service. Blinkit follows closely with 33,424 orders, showing robust demand, while JioMart has 33,127 orders, suggesting a slightly lower but still significant presence. The bubble sizes effectively highlight the distribution, with Swiggy Instamart standing out as the top choice. The platform filter narrows the data to these three, providing a clear comparison, and the tooltip enhances the visualization by displaying exact counts on hover, offering deeper insights into order trends.

Visualization 2: Order Distribution by Platform and Category (Tree Map)

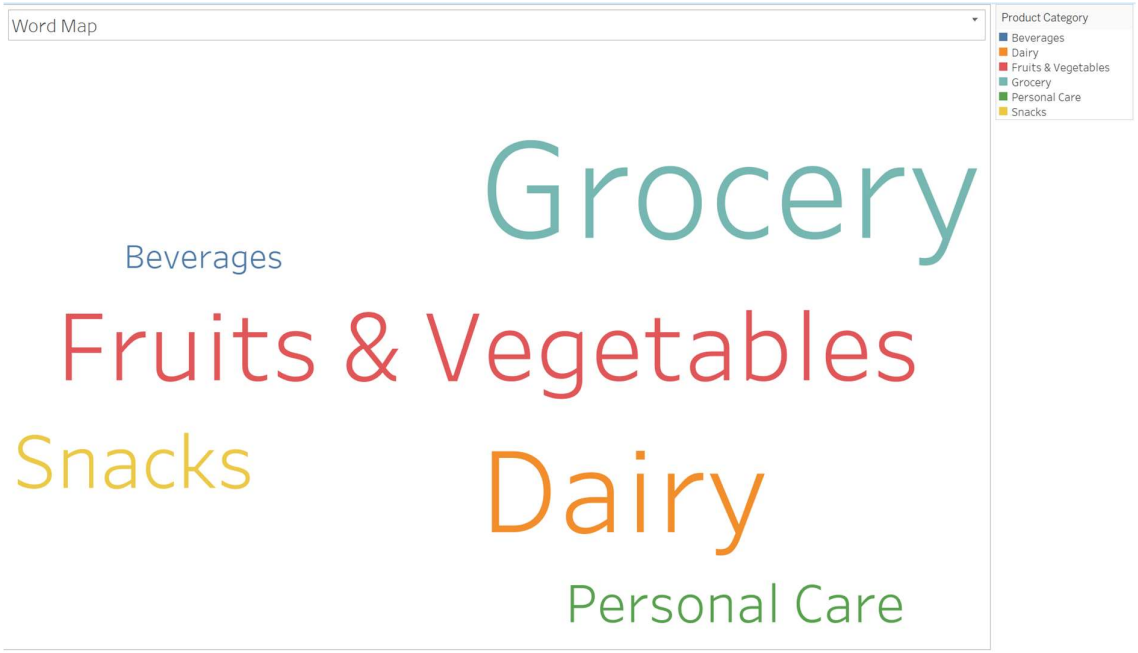
The second tree map displays the total order counts across platforms (Blinkit, Swiggy Instamart, JioMart) and their respective categories, with a platform filter applied to segment the data. Swiggy Instamart leads with 5,634 orders in Personal Care, followed by 5,599 in Snacks, 5,532 in Beverages, 5,510 in Fruits & Vegetables, and 5,628 in Dairy, showcasing a diverse customer preference. Blinkit follows with 5,643 in Dairy, 5,586 in Grocery, 5,563 in Snacks, 5,463 in Personal Care, 5,593 in Beverages, and 5,576 in Fruits & Vegetables, indicating a balanced spread. JioMart has 5,605 in Grocery, 5,586 in Dairy, 5,546 in Fruits & Vegetables, 5,436 in Personal Care, and 5,411 in Beverages, with a strong showing in Grocery. The platform filter highlights these distributions, and the tree map's size variations effectively emphasize category performance, with tooltips providing detailed counts on hover for deeper analysis.

Visualization 3: Order Progression by Product Category (Funnel Chart)



The third funnel chart illustrates the progression of orders across product categories (Dairy, Grocery, Snacks, Fruits & Vegetables, Beverages, Personal Care), with a product category filter applied to analyze each segment. Dairy starts with the highest count at 16,600 orders, indicating strong initial demand, followed by Grocery at 16,533, Snacks at 16,857, Fruits & Vegetables at 16,700, Beverages at 16,857, and Personal Care at 16,857. The narrowing funnel suggests a consistent drop-off, with Dairy maintaining the lead throughout, highlighting its popularity. The product category filter isolates these trends, and the tooltip enhances the visualization by showing exact counts at each stage, offering insights into category performance and potential bottlenecks.

Visualization 4: Order Popularity by Product Category (Word Map)



The fourth word map visualizes the popularity of product categories based on order frequency, with a product category filter applied to highlight key segments. Grocery stands out as the largest word, indicating the highest demand, followed by Dairy, which also shows significant popularity. Fruits & Vegetables, Beverages, Snacks, and Personal Care follow, with varying sizes reflecting their order counts, suggesting a diverse customer interest. The product category filter focuses on these categories, and the word map's size variations effectively emphasize the most ordered items. The tooltip enhances the visualization by providing additional details on hover, offering deeper insights into customer preferences.

Visualization 5: Delivery Time by Platform and Product Category (Heat Map)

The fifth heat map visualizes the average delivery time (in minutes) across platforms (JioMart, Blinkit, Swiggy Instamart) and product categories (Beverages, Dairy, Fruits & Vegetables, Grocery, Personal Care, Snacks), with an average delivery time filter applied to analyze performance. JioMart shows the longest delivery times, with 29.67 minutes for Beverages, 25.19 minutes for Dairy, and a peak of 57.36 minutes for Personal Care, indicating potential delays. Blinkit follows with 30.63 minutes for Beverages, 25.47 minutes for Dairy, and a low of 15.23 minutes for Snacks, showing efficiency in some categories. Swiggy Instamart has 30.56 minutes for Beverages, 25.45 minutes for Dairy, and 15.22 minutes for Snacks, with a high of 59.18 minutes for Personal Care. The average delivery time filter highlights these variations, and the heat map's color intensity effectively emphasizes longer delivery times, with tooltips providing exact values on hover for deeper insights into logistics performance.

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