**Freshco Hypermarket Capstone Report**

* **Order Level Analysis**
  + **Order Distribution at slot and delivery area level:**
    - **Overall Order Distribution:**
      * The total number of orders across all areas and slots is 22,823.
    - **Top Areas by Total Orders:**
      * HSR layout leads with 15,657 orders followed by ITI Layout with 3,946 orders and Harlur with 1,309 orders.
      * The reason behind the HSR layout leading can be because the Order Pickup Geo or the inventory is itself in the HSR Layout.
    - **Time Slot Distribution:**
      * Morning and Afternoon slots are the busiest with 5,389 and 5,924 orders respectively.
    - **Area Specific Insights:**
      * HSR layout and ITI Layout are the top areas for all slots.
      * Koramangala, Ejipura and Bellandur, Green Glen have relatively lower order counts across all slots.
      * Some areas like Bellandur - Off Sarjapur Road, BTM Stage 1, and BTM Stage 2 show a significant decrease in order counts during the Late-Night slot.
  + **Areas having highest increase in monthly orders:**
    - From the above insight, considering the top 10 areas by number of orders placed, HSR Layout and ITI Layout have the highest increase in monthly orders, which is between August and September.
  + **Delivery charges as a percentage of Product Amount:**
    - The overall delivery charges as a percentage of Product Amount were 11.7%.
    - The delivery charges were higher during Late-Night which were 19.8% of the Product Amount.
    - This can be because of the limited availability of staff during Late-Night.
  + **Discount as a percentage of Product Amount:**
    - The total discount as a percentage of Product Amount is 6.5%.
    - According to the insight above, August had a greater discount rate; this could be because of 15th Aug (Independence Day) and other festive season offers.
    - The late-night discount rate was rather low, at approximately 3.5%.
* Completion Rate Analysis
  + **Completion Rate by Slot in Relation to Day of Week:**
    - The Average completion rate is 99.55% which is quite high and indicates overall good performance in completing deliveries across all time slots and days.
    - **Patterns:** 
      * Evening Advantage: Deliveries during the Evening and Afternoon slots have the highest completion rates, suggesting that this slot is more efficient and reliable.
      * Weekend Challenges: Late Night and Night slots on Saturdays have the lowest completion rates, indicating that weekends might present more challenges or require adjustments in delivery operations.
      * Weekday consistency: Weekdays (Monday to Friday) generally show consistent completion rates across all slots, with minor variations.
  + **Completion Rate at Drop Area Level:**
    - High Completion Rates: Many drop areas have achieved 100% completion rate indicating excellent performance in these areas with all deliveries being completed successfully.
    - Areas with lower Completion Rates:
      * Ares such as Cox Town and Whitefiled have 0% completion rate, indicating the need of improvement in delivery performance.
      * Other areas – Bellandur-ETV, Domlur-EGL, Indiranagar, Marathahalli and Viveka Nagar have comparatively lower completion rate, where the delivery performance need to be improved.
* **Customer Level Analysis:**
  + **Aggregated Life Time Value (LTV) at Customer Acquisition source level:**
    - **Digital Platforms Lead:**
      * Snapchat, Google, and Facebook are the top-performing sources in terms of average LTV with rupees 390.8, 384.43, 374.36 respectively, indicating that digital advertising and marketing efforts on these platforms are effective in acquiring valuable customers.
    - **Organic and Offline Performance:**
      * Offline Campaign and Organic sources perform around the average, suggesting that traditional offline campaigns and organic channels (e.g., direct visits, word of mouth, referrals) are maintaining a steady performance in acquiring customers with average lifetime value.
    - **Room for Improvement:**
      * Instagram has a slightly lower average LTV, indicating potential areas for optimization in the marketing strategies targeting Instagram users to improve customer value over their lifetime.
  + **Aggregated LTV at Acquisition Month level:**
    - January has the highest average LTV of ₹ 400.32, indicating customers acquired in January tend to have the highest lifetime value for the business. This can be due to the New Year celebrations and other festivals.
    - September has the lowest average LTV of ₹ 292.23, which is significantly lower than the overall average.
    - March and May have average LTVs above the overall Grand Total of ₹ 372.64, with values of ₹ 373.40 and ₹ 373.85 respectively. This suggests that customers acquired in these months also provide good value to the business over their lifetime
  + **Average Revenue per Order at Acquisition source level:**
    - **Digital Platforms Leading Revenue:**
      * Snapchat, Google, and Facebook are the top revenue-generating sources, highlighting the effectiveness of digital advertising and marketing efforts on these platforms in not only acquiring valuable customers but also generating higher revenues.
    - **Offline and Organic Revenue Performance:**
      * Offline Campaign and Organic sources perform around the average in terms of revenue, suggesting that traditional offline campaigns and organic channels are maintaining a steady revenue contribution to the business.
    - **Instagram Revenue Potential:**
      * Instagram has a slightly lower average revenue, indicating potential areas for optimization in the marketing strategies targeting Instagram users to increase revenue generation.
  + **Order Rating across slots, number of items placed, delivery charges and discount:**
    - **Order Rating against slot:**
      * **Consistent Customer Satisfaction:**
        + All slots have very close average order ratings ranging from 4.8839 to 4.8938.
        + The minor differences in average ratings between the slots are negligible, suggesting that customers are equally satisfied with the service quality and delivery experience across all time slots.
    - **Order Rating against Delivery Charges**:
      * **Influence of Delivery Charges on Ratings**: Lower delivery charges (0-99) are associated with higher average ratings, indicating that customers are more satisfied with lower delivery costs.
      * **Threshold Effect on Ratings:** There seems to be a threshold effect on ratings, with ratings dropping noticeably for delivery charges above 100 and especially in the 150-199 range.
      * **Perfect Ratings for Premium Charges:** The 200-349 delivery charge ranges with perfect ratings may represent premium or special delivery services that meet or exceed customer expectations, resulting in high satisfaction levels.

* + - **Order Rating against Discount:**
      * **Positive Impact of Moderate Discounts:** Moderate discounts in the 0-299, 600-699, and 700-799 ranges are associated with high average ratings, suggesting that customers appreciate and are satisfied with these discount offers.
      * **Perfect Ratings for Higher Discounts:** 300-399, 800-899, and 400-499 ranges with perfect ratings may represent special or exclusive discount offers that meet or exceed customer expectations, resulting in exceptional satisfaction levels.
      * **Lowest Rating for Mid-Range Discount:** The 400-499 range with the lowest rating may indicate that customers have specific expectations or perceptions related to discounts in this range, which might not have been fully met.
    - **Order Rating against Number of Products:** 
      * **Moderate Orders Drive Satisfaction:** Orders with moderate numbers of products (e.g., 2, 3, 5, 7, 10, 13, 19, and 17) are associated with high average ratings, suggesting that customers are satisfied with these order sizes.
      * **Exceptional Satisfaction for Specific Orders:** Orders with 22-25 products have perfect ratings, indicating exceptional satisfaction levels. These orders might represent bulk or special orders where customers have specific expectations and these are being met.
      * **Challenges with Extreme Orders:** Orders with extreme numbers of products (e.g., 1 and 21) have lower ratings, indicating potential challenges or specific customer expectations related to very small or very large orders.
* **Delivery Analysis:** 
  + **Average Overall Delivery Time at Month and weekday/weekend level:**
    - **Seasonal Variations:** 
      * May stands out with the highest average delivery time, possibly due to increased demand or external factors like weather conditions or festivals affecting delivery logistics.
      * February shows the lowest average delivery time, suggesting efficient delivery operations during this period.
    - **Weekday vs. Weekend Impact:**
      * The slight increase in average delivery time on weekends compared to weekdays could be attributed to higher order volumes or reduced delivery staff availability on weekends.
    - By understanding and addressing factors influencing delivery time, such as seasonal variations, weekday/weekend dynamics, and operational efficiency, delivery services can optimize performance and enhance customer experiences.
  + **Average Overall Delivery Time at Slot level:**
    - **Efficient Late-Night Deliveries:** Late Night deliveries show the shortest average delivery time, possibly due to lower traffic and fewer orders during this time, allowing for quicker delivery fulfillment.
    - **Consistency Across Other Slots:** Other slots show relatively consistent average delivery times, indicating consistent delivery service levels throughout the day.
    - By monitoring and optimizing delivery operations based on slot-specific performance, delivery services can ensure timely and efficient order fulfillment, enhancing customer satisfaction and loyalty.
  + **Average Overall Delivery Time at Delivery Area level:**
    - **Geographical Distribution:**
      * Delivery areas such as Whitefield, Cox Town, and Bellandur, Ecospace have exceptionally low average delivery times ranging from 1.07 to 3.18 minutes.
      * Conversely, areas like Brookefield, Mahadevapura, and Vimanapura show significantly higher average delivery times ranging from 75.48 to 146.67 minutes.
    - **Urban Density and Traffic:**
      * Areas with lower average delivery times like Whitefield and Cox Town might be relatively less congested with lower traffic, leading to quicker deliveries.
      * On the other hand, areas with higher average delivery times like Brookefield and Mahadevapura could be densely populated urban areas with heavier traffic congestion, resulting in longer delivery times.
    - **Distance from Fulfillment Centers:**
      * Areas closer to fulfillment centers or warehouses may experience shorter delivery times due to reduced travel distance and quicker access to resources.
      * Conversely, areas located farther away from fulfillment centers may experience longer delivery times due to increased travel distance and potential logistical challenges.
    - **Population Density and Demand:**
      * Higher population density areas may experience higher demand for delivery services, leading to longer delivery times as delivery drivers navigate through densely populated areas and handle a larger volume of orders.