**Capstone project**

**Freshco Hypermarket**

**Order level Analysis:**

1. Identify order distribution at slot and delivery area level.

* The highest order (4085) is made in HSR layout during after-noon.
* The spike in graph shows HSR layout has made many orders during the day.
* Locations like Richmond town, Binnipet, Broke field etc. has one order in a day

1. Identify the areas having highest increase in monthly orders (from Jan to Sep) in absolute orders.

* In HSR layout, the highest increase in orders happened in the month of Sept. There were 685 order increase compared to the orders placed in the month of July.
* In ITI layout, the highest increase in orders happened in the month of Sept. There were 389 order increase compared to the orders placed in the month of July.
* In Harlur, the highest increase in orders happened in the month of Sept. There were 285 order increase compared to the orders placed in the month of July.

1. Calculate delivery charges as a percentage of product amount at slot and month level.

Delivery charges as percentage of PA at slot level is given below:

* Afternoon-22%
* Evening-19%
* Late-night-12%
* Morning-24%
* Night-23%

The delivery percentage is higher in the morning slot and lower in the late-night slot.

1. Calculate discount as a percentage of product amount at slot and month level.

Discount charges as percentage of PA at month level is given:

* January-1.15%
* February-0.57%
* March-0.89%
* April-1.79%
* May-9.69%
* June-5.79%
* July-12.09%
* August-38.45%
* September-29.57%

There was a huge discount rate during the August month.

* August Afternoon-10.55%
* August Night-9.84%
* August morning-9.19%

5. Calculate discount as a percentage of product amount at drop area and slot level.

Discount as a percentage of PA at drop area is given:

* HSR layout has 18.36% of Discount at Afternoon, which is the highest.
* HSR layout has 15.86% of Discount at Morning
* HSR layout has 15.65% of Discount at Night
* HSR layout has 13.73% of Discount at Evening

**Completion Rate Analysis:**

6.    Identify Completion rate at slot vs day of the week (Sunday to Saturday) level. Can you spot some pattern in the data?

* Sunday orders has the highest completion rate in all slot level
* Evening and Afternoon orders has the highest completion rate compared to other slots.
* Morning and late-night orders have highest cancellation rate compared to other slots.

7.    Calculate completion rate at drop area level.

* HSR Layout has most completion rate followed by ITI Layout and Harlur.
* Brookfield, Challagatta, Cox Town, CV Raman Layout, Frazer Town, Mahadevapura and others have least completion rate and drop level.

8.    Completion rate at number of products ordered level. For this first you need to create a column having number of products against every order.

* The orders with 1 product have highest cancellation rate.
* The orders have more than 17 products have more completion rate.

9.    Give you analysis on the any pattern you observe in the completion rate

* The delivery area which is far than Order Pickup Geo has highest cancellation rates.
* The orders which have products within 5-6 items has highest number of cancellation rate.
* May month has highest completion rate and March has highest cancellation rate.

**Customer Level Analysis**:

10.    Identify Completion rate at source level.

* + Customer sourced from Organic has 99.25% completion rate, which is highest.
  + Customer sourced from offline campaign has lowest completion rate.

11.    Calculate LTV for every customer.

12.    Calculate aggregated LTV at customer acquisition source level. Refer to aggregated LTV example.

|  |  |
| --- | --- |
| Customer Source | Aggregated LTV |
| Facebook | 3,533.50 |
| Google | 13,511.06 |
| Instagram | 3,301.49 |
| Offline Campaign | 4,145.86 |
| Organic | 13,922.97 |
| Snapchat | 3,613.75 |

13.    Calculate aggregated LTV at acquisition month level. Refer to aggregated LTV example.

|  |  |
| --- | --- |
| Month | Aggregated LTV |
| January | 10,306.15 |
| February | 11,806.52 |
| March | 12,094.05 |
| April | 9,607.15 |
| May | 7,123.32 |
| June | 7,547.36 |
| July | 9,930.52 |
| August | 8,342.37 |
| September | 7,156.43 |

14.    What is the average Revenue (Product amount after discount) per order at different customer acquisition source level?

|  |  |
| --- | --- |
| Customer Source | Average Revenue |
| Facebook | 328.10 |
| Google | 342.55 |
| Instagram | 301.10 |
| Offline Campaign | 326.01 |
| Organic | 323.56 |
| Snapchat | 344.16 |

15.    What is the average Revenue (Product amount after discount) per order at acquisition month level?

|  |  |
| --- | --- |
| Month | Aggregated LTV |
| January | 360.25 |
| February | 320.27 |
| March | 327.93 |
| April | 318.89 |
| May | 328.84 |
| June | 305.28 |
| July | 296.65 |
| August | 265.22 |
| September | 244.15 |

16.    Is there any pattern in order rating across slots, number of items placed, delivery charges, discount. For example, there might be an insight from the data that orders placed during late night are generally rated high. While orders placed in early morning are not rated high. OR orders having more than 5 items are generally rated high.

* Rating 1:
* It is given mostly given during night time and when the discount is given in smaller margin
* The orders which have 1,2 products has most rated 1.
* The orders which have higher delivery charge and less products ordered.
* Rating 2:
* It is also given mostly given during night time and when the discount is given in smaller margin
* The orders which have 1,2 products has most rated 1.
* The orders which have higher delivery charge and less products ordered.
* Rating 3:
* It is often given during well discounted afternoons and min del charges.
* Rating 4:
* Best discounted morning slot orders are rated 4.
* Minimum delivery charges and less delivery time orders are rated 4.
* Rating 5:
* Late-night discounted with minimum delivery charges orders are rated 5.
* Blank Rating:
* Less discounted and more delivery charge orders are not rated.
* Night slot with more delivery charges are not rated by customers.
* Less discounted afternoons are not rated by customers.

**Delivery Analysis:**

17.    Calculate average overall delivery time at month and delivery area level.

Average Overall delivery time at month and delivery level is 24 mins.

* Mahadevapura has shown highest spike in May.
* Akshaya Nagar has shown 2nd highest spike in August.
* Domulur has shown 3rd highest spike in May.
* HSR layout has shown the least delivery times in all month, but May month has average of 42 Mins.

18. Calculate average overall delivery time at month and weekday/weekend level. You might need to create a column which will tag every date to either weekday or weekend.

Average delivery time at weekend/weekday level:

* Weekdays🡪23 mins
* Weekends🡪25 Mins

Average delivery time at month level:

* January🡪22 Mins
* February🡪19 Mins
* March🡪20 Mins
* April🡪28 Mins
* May🡪44 Mins
* June🡪23 Mins
* July🡪20 Mins
* August🡪22 Mins
* September🡪19 Mins

19.    Calculate average overall delivery time at slot level. Refer to the definition of slot.

Average overall delivery time is 24 Mins.

* Late-Nights has average 17 mins delivery time, which is least.
* Afternoon has average of 25.46 mins delivery time, which is the highest.

20.    Do you see any pattern in delivery charges with slot or delivery area.

* Delivery charges with slot
* Late-Night🡪Higher
* Morning, Evening🡪Lower than Late-Night and Higher than Noon and night.
* Afternoon, Night🡪Lower
* Delivery charges with delivery Area
* Places nearer to Freshco Hypermarket, HSR layout🡪Lower
* Places Farer to Freshco Hypermarket, HSR layout🡪Higher
* Delivery charges are directly proportional to distance.

21.    Do you see any pattern in delivery time and delivery area? If yes then find out logical reason.

Yes, the delivery time is more to the delivery areas which are far from the Hypermarket.

* Brookfield and Mahadevapura shows highest delivery time as they are far from HSR Layout.
* ITI layout and HSR layout shows the least delivery time as they are in the same location as the hypermarket.