Retail store- HSR, Bangalore

Retail store, situated in HSR, Bangalore, has established itself as a prominent supermarket in the region, catering to a wide range of customers. In response to evolving customer needs and to enhance convenience, introduced a home delivery service in the year 2021. To ensure seamless operations and optimize customer satisfaction, the store diligently maintained a comprehensive transaction data sheet, containing detailed information at the order level. Let’s deep dive through the analysis.

## Order level Analysis

### Order distribution at slot and delivery area level:

* The order distribution across areas and slot level is high in **HSR Layout** and ITI Layout, whereas in Harlur, Kudlu and Bomannahali – MicoLayout have order distribution in moderate level. The other areas have the least order distribution irrespective of the slots.
* The high order distribution in HSR Layout and ITI Layout are likely driven by a combination of demographic factors, commercial activity, consumer behaviors, and efficient delivery logistics.
* By addressing the factors contributing to lower order volumes in other areas, it may be possible to increase overall order distribution across all delivery areas.

### Highest increase in monthly orders

* The month-wise increase in orders highlights ***HSR Layout*** as the top performer, followed by *ITI Layout*.
* The highest monthly increase in orders in HSR Layout can be contributed to a combination of enhanced commercial activities, effective marketing and promotions, improved delivery plans and increase in delivery partners, and the consumer behaviors.
* By focusing on the key factors associated with HSR Layout area’s growth, the order distribution in ITI layout can also be increased as it is the potential growth area compared to the other locations.

### Delivery charges as a percentage of product amount at slot and month level

* When analyzing the delivery charges as a percentage of product amount at slot level, we can summarize that the delivery charges percentage is higher at **late night** orders than other slots.
* The factors causing the higher delivery charges percentage at Late night orders would be:
* Increased wages for night shift delivery partners
* Limited delivery partner availability/ Scarcity of resources at night
* Increased operational costs
* Dynamic pricing strategies
* Customer demand for convenience
* Low order volumes lead to high delivery charges
* Consumer behavior
* The delivery charges as a percentage of product amount at *month level* has reduced in the month of September. There is a **constant decrease in month-to-month** delivery charges as a percentage of product amount.

### Discount as a percentage of product amount at slot and month level

* The highest discount as a percentage of product amount is in the month of **August** followed by **September.**
* The major reason for giving a high discount would be to increase the order volumes since the order counts/revenue is decreasing month to month.
* The other key factors for providing high discount as a percentage of product amount would be the festival season, clearance sale, competitive pressure, Marketing strategies and so on.
* To maximize the benefits of these discounts while maintaining customer satisfaction and profitability we can refine the discount strategies and use the data-driven insights.

### Discount as a percentage of product amount at drop area and slot level

#### Areas having 0% discount as a percentage of product amount:

The below 15 areas did not receive any discount on the product amount.

1. Banashankari Stage 2
2. Basavanagudi
3. Bellandur, Ecospace
4. Bellandur, ETV
5. Binnipet
6. Brookefield
7. Challagatta
8. CV Raman Nagar
9. Frazer Town
10. Kumaraswamy Layout
11. Mahadevapura
12. Marathahalli
13. Pattandur
14. Richmond Town
15. Vimanapura

### Areas received high average discount as a percentage of product amount:

|  |  |
| --- | --- |
| Drop area | High Average discount as a percentage of product amount |
| Bellandur, Sakara | 11.18% |
| Bilekahalli | 13.56% |
| Jayanagar | 11.87% |

The orders placed from the above three areas are the highest discount percentages on product amount.

Considering the slot, the average discount percentage on product amount is high in the **slot – Night**. The orders placed at night are getting high discounts. The average discount across the slots is shown below.

|  |  |
| --- | --- |
| SLOT | Average discount percentage on product amount |
| Afternoon | 2.90% |
| Evening | 4.23% |
| Late night | 4.00% |
| Morning | 3.25% |
| Night | 5.16% |

## CompletionRate Analysis

### Completion rate at slot vs day of the week

* As per the order completion rate at slot wise, the orders placed at **night** are getting cancelled/incomplete which leads to the less completion rate when compared to the other slots.
* The higher order completion rate is typically observed on **Sunday** when compared to other days. The lower order completion rate is on Saturday, especially at night.
* In conclusion, the analysis revealed that the completion rate varies significantly across different slots and weekdays, with higher rates typically observed in the afternoon slots and on Sundays.
* However, various factors like higher demand, peak hour sales, operational constraints and consumer behavior could be the cause of the lower completion rate.

### Completion rate at drop area level

* ***Lowest completion rate drop-areas:***

The completion rate at the drop area level is low in the below two areas:

1. Cox Town – 0%
2. Whitefield – 0%

The above delivery areas received only one order, and it was cancelled, hence resulting in the lowest completion rate when compared to the other delivery areas.

* ***Moderate completion rate drop-areas:***

1. *Bellandur, ETV – 50%*
2. *Marathahalli – 67%*
3. *Domlur, EGL – 75 %*

Apart from these drop areas, other drop areas are having a high completion rate. Hence, the key focus should be on the moderate and low areas where orders are cancelled/incomplete due to various factors.

### Completion rate at number of products ordered level

* The completion rate is a hundred percent when the number of products ordered is high. When there is a smaller number of products ordered the completion rate is less.
* If there are more than 17 products ordered by a customer in a single order, the completion rate is a hundred percent, which indicates that customers are not cancelling the orders when they order a high number of products.
* Orders with high numbers of products tend to have higher completion rates due to the increased customer commitment, prioritizing the high number of product orders by delivery partners, enhanced communication and efficient customer service.

## Summary of completion rate Analysis

* The completion rate of orders is strongly linked to both the number of products ordered and specific areas like HSR Layout.
* Higher completion rates are observed when customers place larger orders, likely due to the prioritization of these orders by delivery services and customer commitment.
* Regionally, HSR Layout stands out, possibly due to better infrastructure and delivery network efficiency and with higher commercial activity area.
* Additionally, orders placed on Sundays and during Afternoon slots exhibit higher completion rates, suggesting that these times align well with both customer availability and optimal delivery conditions.
* Conversely, orders placed on Saturdays and at night have lower completion rates, possibly due to logistical challenges or higher demand during the period.

## Customer Level Analysis

## Completion rate at source level

* The count of orders placed via organic source is higher than the other sources. The customers order more orders through the organic source. Meanwhile, the organic source is also a cost-effective method of marketing. Hence it is beneficial for the product owners too.
* The completion rate is higher in the organic source followed by Facebook
* The least completion rate is identified in the offline campaign. Hence, we should focus more on the offline campaign by providing attractive advertisements and television advertising. Through the offline campaign we could reach customers who are not using internet, easily. By implementing a strategic advertising and marketing strategy we could reach customers from all regions. Hence, the completion rate can be brought high.

## Aggregated LTV at customer acquisition source level

* The aggregated Lifetime value of customers is high in the customers who got acquired from the organic source.
* The next potential acquisition source which is higher after the organic source is Google.
* The other acquisition sources like Instagram, Snapchat, Facebook and offline campaign have almost the same aggregated LTV of customers.

## Aggregated LTV at customer acquisition month level

* As we analyze the aggregated LTV at customer acquisition month level, the aggregated LTV is highest in the month of January only
* A decreasing aggregated LTV at the customer acquisition month level month – to- month indicates that the customers acquired in more recent months are generating less revenue over time compared to those acquired in the earlier months.
* This trend can be concerning as it may suggest that the customers acquired in the resent months are less revenue generated and it affects the business
* To rectify this, the company may focus more on quality of acquisition sources, effective marketing, improved customer satisfaction and analyzing the valuable feedback from recent customers to understand any potential issues with products or services.

Below is the decreasing trend of aggregated LTV at acquisition month level

|  |  |
| --- | --- |
| Month | Aggregated LTV |
| January | 5161.7 |
| February | 2942.5 |
| March | 2157.7 |
| April | 1779.1 |
| May | 1475.8 |
| June | 1104.5 |
| July | 1415.7 |
| August | 1121.5 |
| September | 651.1 |

## Average Revenue per order at different customer acquisition source level

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

* Customers who got acquired by Snapchat and Google are generating more revenue, whereas customers acquired by Instagram are generating less revenue.
* Considering the revenue generated by the Instagram, we can conclude that the customers got acquired through Instagram are ordering a smaller number of products or a less prize of order.
* To rectify the less revenue problem by customers acquired through Instagram, the company may focus on the targeted strategies used in Instagram campaigns. There is a chance that the previously targeted audience of promotions wasn’t set to reach the customers that are interested in higher value purchases. Hence, by setting up the targeted audience to higher value purchases customers and by effectively promoting business on the sources we can increase the revenue.

## Average Revenue per order at different customer acquisition month level

* As analyzed the average revenue, it is decreasing month to month, this is concerning that the company’s growth is decreasing.
* This trend could indicate various underlying issues that need to be addressed to improve the effectiveness of the company’s acquisition strategies and overall business performance.

Potential causes for the less revenue:

* Targeting less profitable customers
* Increased competition
* Changes in consumer behavior
* Aggressive Promotional strategies or discounts

By addressing the above issues promptly, the revenue can be increased.

## Order Rating Analysis – Number of products

* When the number of products is less in an order, the order rating by customers is high.
* From this trend, we could understand the fact that the larger products orders are not rated high/ not rated at all.
* The company might focus more on the larger order’s customer satisfaction while maintaining the same level of service for the lower amount of products order which resulted in good customer satisfaction.
* Apart from customer satisfaction there are several factors that could be taken care of for large orders, like focusing on order accuracy, delivering the products on time and improved customer communication.

## Order Rating Analysis – Slot wise

* When analyzing the order rating across the slots when the orders placed in the afternoon are significantly rated higher than the other slots. Next to the afternoon slot, the orders placed in the Morning are rated high.
* The late-night orders are not generally rated high (5/4 rating), and the less order rating (2 or 1 rating) is also not high, which indicates that the late-night orders maintain a medium order rating across the slots.
* The slot in which the low order rating count is high is the orders placed at night. Even though the high order ratings are moderate at night, the low order rating is high, hence, by focusing on the orders placed at night, we could improve the overall rating slot wise.

## Delivery Level Analysis

## Overall Delivery time at month level

* As analyzed the overall delivery time across the months, the orders delivered in **May month** had the **highest overall delivery time** with an average of **59 minutes** per order.
* Key factors contributing to highest Delivery time in May would be
* Increase in demand due to seasonal changes, festivals, vacations, holidays in May which can lead to spike in orders, this spike in orders can be the cause of increased delivery times
* Weather conditions might have affected the delivery
* Scarcity of delivery resources due to vacations
* Operational Challenges

By proactively addressing these factors through resource allocation, proactive planning and effective order management and delivery route planning it is possible to mitigate these highest overall delivery time and improve delivery efficiency.

To note that the average overall delivery time has decreased in the month of September, which indicates the planned delivery actions taken.

## Overall Delivery time at weekday/weekend level

* While diving deep into the data of overall delivery time based on the type of the day, there is no major difference between the weekdays and weekends in other months except for May.
* As mentioned earlier, the overall delivery time is high in the month of May on both weekends and weekdays, comparing to weekdays, May weekends have the highest overall delivery of all days and months.
* Average overall delivery time at weekdays and weekends is shown below:

|  |  |  |
| --- | --- | --- |
| **Order Month** | **Weekday** | **Weekend** |
| January | 22.66 | 21.16 |
| February | 19.36 | 19.31 |
| March | 20.19 | 20.54 |
| April | 27.37 | 29.40 |
| May | 42.54 | 48.50 |
| June | 22.91 | 22.89 |
| July | 19.57 | 20.54 |
| August | 22.61 | 22.89 |
| September | 19.58 | 19.64 |

## Overall delivery time at slot level

* The average overall delivery time at slot level is **high for the Afternoon and Evening orders**.
* The high average delivery time during the afternoon and evening slots is primarily driven by peak hour sales, high order volumes, traffic congestion as the slot timing is from 12PM-8PM.
* Apart from these factors, the operational constraints and delivery resources are also a part of the key factors.
* The average overall delivery time is **shorter during the late-night period.** This is due to a lower volume of orders and decreased traffic congestion, allowing for a more efficient and expedited delivery process.

## Delivery charges Vs. Delivery time

* The **delivery charge is high for the late-night slots** whereas the average overall delivery time is shorter.
* The expedited delivery times during late-night hours are frequently attributed to diminished traffic and a lower volume of orders, enabling faster completion of deliveries.
* Although late-night delivery slots offer reduced delivery times, the elevated delivery fees are warranted due to heightened operational expenses, restricted resource availability, increased risks and safety protocols, as well as higher wages for employees working night shifts.

#### 5 Delivery areas with high delivery charges and delivery time

1. Kumaraswamy Layout
2. Mahadevapura
3. Pattandur
4. Vimanapura
5. JP Nagar Phase 4-5

Apart from these 5 delivery areas, delivery charges tend to be higher in areas that are either far from the distribution center or have low volume of orders.

A map with a route

Description automatically generated

### Logical reason behind high delivery charges for areas far from the delivery areas:

* Longer distances results in high fuel consumption and costs, vehicle damage, and high delivery time spent per delivery.
* Delivering to distant locations takes more time, which could otherwise be used to complete multiple deliveries closer to the hypermarket/delivery center
* In areas where the order volume is low, delivery resources may have to travel longer distances between deliveries or even make a single delivery on a trip. This increases the cost of delivery charges
* In remote or low order areas, there are fewer delivery services available, which increases the demand for delivery services. The lack of competition among them will result in high delivery charges
* Less predictable travel times

A distinct pattern emerges in delivery times that is associated with delivery regions, influenced by elements such as geographic location, traffic conditions, order density, and service coverage. By comprehending these factors, delivery services can enhance their operations and boost efficiency, resulting in more uniform and dependable delivery times across various areas.