REPORT: Analysis Of Frescho Hypermarket

***Introduction***

***Freshco Hypermarket, situated in HSR, Bangalore, has become a notable supermarket by addressing customer needs. It introduced home delivery in 2021 to enhance convenience, supported by detailed transaction data tracking. This adaptation showcases customer focus and innovation. By maintaining comprehensive data, Freshco aims to optimize the new service, understand customer behaviour, and make informed decisions to sustain its position in the competitive market.***

1. ***ORDER LEVEL ANALYSIS***

***1.1 Order distribution at slot and delivery area level***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Count of Slot | Column Labels |  |  |  |  |  |
| Row Labels | **Late Night** | **Afternoon** | **Evening** | **Morning** | **Night** | **Grand Total** |
| Akshaya Nagar | 4 | 3 | 4 | 6 | 4 | 21 |
| Arekere | 2 | 1 | 1 |  | 2 | 6 |
| Banashankari Stage 2 |  |  | 1 |  | 1 | 2 |
| Bannerghatta |  |  | 2 | 1 | 2 | 5 |
| Basavanagudi |  |  | 2 |  | 1 | 3 |
| Bellandur - Off Sarjapur Road | 2 | 9 | 11 | 7 | 15 | 44 |
| Bellandur, APR |  | 8 | 14 | 6 | 1 | 29 |
| Bellandur, Ecospace | 1 |  |  |  |  | 1 |
| Bellandur, ETV |  |  |  | 1 | 1 | 2 |
| Bellandur, Green Glen | 12 | 32 | 27 | 27 | 36 | 134 |
| Bellandur, Sakara | 1 | 7 | 2 |  | 1 | 11 |
| Bellandur, Sarjapur Road | 15 | 20 | 13 | 11 | 39 | 98 |
| Bilekahalli | 1 | 2 | 5 | 2 | 1 | 11 |
| Binnipet |  |  |  | 1 |  | 1 |
| Bomannahali - MicoLayout | 36 | 151 | 107 | 132 | 125 | 551 |
| Bommanahalli | 6 | 13 | 13 | 10 | 10 | 52 |
| Brookefield | 1 |  |  |  |  | 1 |
| BTM Stage 1 | 7 | 11 | 3 | 3 | 11 | 35 |
| BTM Stage 2 | 5 | 6 | 6 | 7 | 8 | 32 |
| Challagatta | 1 |  |  |  |  | 1 |
| Cox Town |  |  |  | 1 |  | 1 |
| CV Raman Nagar | 1 |  |  |  |  | 1 |
| Devarachikanna Halli | 1 | 1 | 3 |  | 3 | 8 |
| Doddanekundi | 1 |  |  |  | 1 | 2 |
| Domlur, EGL | 1 | 3 |  | 3 | 1 | 8 |
| Frazer Town | 1 |  |  |  |  | 1 |
| Harlur | 73 | 324 | 280 | 382 | 250 | 1309 |
| HSR Layout | 953 | 4085 | 3288 | 3749 | 3582 | 15657 |
| Indiranagar | 2 | 3 |  | 1 | 2 | 8 |
| ITI Layout | 346 | 1039 | 757 | 868 | 936 | 3946 |
| Jayanagar |  | 1 | 1 | 1 |  | 3 |
| JP Nagar Phase 1-3 | 1 |  | 2 | 1 | 1 | 5 |
| JP Nagar Phase 4-5 | 1 | 2 | 1 | 2 | 1 | 7 |
| JP Nagar Phase 6-7 | 1 | 3 |  | 2 |  | 6 |
| JP Nagar Phase 8-9 |  |  | 1 |  |  | 1 |
| Kadubeesanhali, Prestige | 6 | 1 |  |  | 2 | 9 |
| Kadubeesanhali, PTP |  |  |  |  | 1 | 1 |
| Koramangala, Ejipura | 35 | 33 | 30 | 25 | 37 | 160 |
| Kudlu | 57 | 130 | 108 | 118 | 105 | 518 |
| Kumaraswamy Layout |  | 1 | 1 | 1 | 1 | 4 |
| Mahadevapura |  |  |  | 1 |  | 1 |
| Manipal County | 13 | 20 | 16 | 18 | 13 | 80 |
| Marathahalli |  |  | 1 | 1 | 1 | 3 |
| Pattandur |  | 1 |  |  |  | 1 |
| Richmond Town |  | 2 |  |  |  | 2 |
| Sarjapur Road | 1 | 6 | 3 |  | 10 | 20 |
| Victoria Layout |  |  |  |  | 1 | 1 |
| Vimanapura |  | 1 |  |  |  | 1 |
| Viveka Nagar | 1 | 4 | 2 |  |  | 7 |
| Whitefield |  |  | 1 |  |  | 1 |
| Wilson Garden, Shantinagar |  |  | 2 |  | 2 | 4 |
| Yemalur |  | 1 | 4 | 1 | 1 | 7 |
| Grand Total | **1589** | **5924** | **4712** | **5389** | **5209** | **22823** |

**Table: 1.1.1**

**Interpretation:**

By isolating the order timings, it can now be easily analysed the distribution of orders across different time slots of the day, such as morning, afternoon, evening, night, and late night. This will help in understanding when customers tend to place their orders and if there are any patterns in terms of preferred order times.

**Grouping by Time Slots:**

Categorizing the extracted order timings into the predefined time slots (morning, afternoon, evening, etc.) and counting the number of orders in each time slot to identify the distribution pattern. This information will give an overview of peak order times.

**Mapping Delivery Locations**:

This helped in "Order Pickup Geo" and "Order Drop Geo" columns to map out the delivery locations. By doing this, it can be identified which areas have the highest order volume. This data can guide decisions related to delivery route optimization and targeted marketing efforts.

By following these steps and interpreting the data, I gained a comprehensive understanding of order distribution based on delivery time slots and specific delivery areas. This insight can assist Freshco in making informed decisions to optimize their delivery service and enhance customer satisfaction.

* 1. ***Areas having highest increase in monthly orders (from Jan to Sep) in absolute orders.***

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sum of % of Delivery Charges | Column Labels |  |  |  |  |  |
| Row Labels | **Late Night** | **Afternoon** | **Evening** | **Morning** | **Night** | **Grand Total** |
| January | 11.65% | 11.35% | 14.06% | 11.91% | 11.25% | 12.01% |
| February | 14.45% | 9.03% | 8.51% | 11.74% | 10.65% | 10.59% |
| March | 18.85% | 12.25% | 9.89% | 13.49% | 13.54% | 13.17% |
| April | 12.65% | 17.50% | 15.87% | 14.81% | 15.55% | 15.53% |
| May | 0.04% | 12.36% | 11.91% | 11.41% | 10.66% | 10.20% |
| June | 5.69% | 12.97% | 15.66% | 9.51% | 12.15% | 11.61% |
| July | 16.68% | 9.93% | 12.17% | 10.93% | 13.48% | 12.21% |
| August | 11.00% | 7.21% | 5.95% | 7.27% | 6.53% | 7.28% |
| September | 8.99% | 7.41% | 5.97% | 8.92% | 6.20% | 7.40% |
| Grand Total | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |

**Table: 1.3.1**

The above Excel table shows the distribution of delivery charges as a percentage of the product amount, categorized by different time slots (Late Night, Afternoon, Evening, Morning, Night) and months (January to September).

The above table indicates the proportion of delivery charges relative to the total product amount for each combination of time slot and month. Each percentage here represents the portion of the product's cost that is allocated as the delivery charge within a specific time slot and month.

Observations:

* The highest percentage for each month may indicate the time slot that typically has the highest delivery charge relative to the product amount.
* The lowest percentage may represent the time slot with the lowest delivery charge percentage.
* Months with higher percentages in certain time slots may suggest periods of increased delivery charges compared to the product amount.
* This table, serves as a valuable tool for tracking trends in delivery charge distribution and understanding customer behaviour patterns throughout different times of the day and months of the year.

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sum of % Discount | Column Labels |  |  |  |  |  |
| Row Labels | **Late Night** | **Afternoon** | **Evening** | **Morning** | **Night** | **Grand Total** |
| January | 2.26% | 0.88% | 1.25% | 1.13% | 1.20% | 1.15% |
| February | 1.38% | 0.40% | 0.41% | 0.64% | 0.71% | 0.57% |
| March | 2.84% | 1.12% | 0.76% | 0.50% | 0.85% | 0.89% |
| April | 1.80% | 2.67% | 1.05% | 1.28% | 1.93% | 1.79% |
| May | 0.28% | 12.60% | 10.41% | 9.00% | 7.90% | 9.69% |
| June | 5.61% | 5.97% | 7.36% | 5.01% | 5.05% | 5.79% |
| July | 14.88% | 9.30% | 13.61% | 9.98% | 15.69% | 12.09% |
| August | 40.32% | 38.53% | 35.71% | 37.79% | 41.12% | 38.45% |
| September | 30.64% | 28.52% | 29.45% | 34.67% | 25.54% | 29.57% |
| Grand Total | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |

**Table: 1.4.1**

The above Excel table showcases the distribution of discounts as a percentage of the product amount, categorized by different time slots (Late Night, Afternoon, Evening, Morning, Night) and months (January to September).

Interpretation

The table illustrates the proportion of discounts relative to the total product amount for various combinations of time slots and months. Each percentage value signifies the portion of the product's price that is represented by the discount within a specific time slot and month.

**Key Observations:**

* The highest percentage for each month could indicate the time slot that generally sees the highest discounts relative to the product amount.
* The lowest percentage might indicate the time slot with the lowest discount proportion.
* Months with higher percentages within specific time slots could suggest periods when larger discounts are offered compared to the product amount

Overall, the table aids in understanding how discounts are distributed across different time slots and months, providing valuable insights for optimizing sales strategies and enhancing customer engagement.

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sum of % Discount | Column Labels |  |  |  |  |  |
|  | **Late Night** | **Afternoon** | **Evening** | **Morning** | **Night** | **Grand Total** |
| Akshaya Nagar | 0.00% | 0.00% | 0.00% | 0.00% | 0.11% | 0.03% |
| Arekere | 0.00% | 0.00% | 0.01% | 0.00% | 0.02% | 0.00% |
| Banashankari Stage 2 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bannerghatta | 0.00% | 0.00% | 0.02% | 0.00% | 0.10% | 0.03% |
| Basavanagudi | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bellandur - Off Sarjapur Road | 0.00% | 0.11% | 0.33% | 0.02% | 0.37% | 0.19% |
| Bellandur, APR | 0.00% | 0.08% | 0.10% | 0.02% | 0.02% | 0.05% |
| Bellandur, Ecospace | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bellandur, ETV | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bellandur, Green Glen | 1.50% | 0.72% | 0.60% | 0.22% | 0.61% | 0.58% |
| Bellandur, Sakara | 0.80% | 0.05% | 0.00% | 0.00% | 0.00% | 0.04% |
| Bellandur, Sarjapur Road | 0.57% | 0.12% | 0.13% | 0.09% | 0.23% | 0.16% |
| Bilekahalli | 0.19% | 0.04% | 0.02% | 0.10% | 0.09% | 0.07% |
| Binnipet | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bomannahali - MicoLayout | 2.66% | 1.49% | 1.40% | 1.80% | 2.09% | 1.73% |
| Bommanahalli | 0.32% | 0.09% | 0.07% | 0.04% | 0.10% | 0.08% |
| Brookefield | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| BTM Stage 1 | 0.00% | 0.42% | 0.00% | 0.05% | 0.05% | 0.14% |
| BTM Stage 2 | 0.00% | 0.01% | 0.22% | 0.15% | 0.04% | 0.10% |
| Challagatta | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Cox Town | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| CV Raman Nagar | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Devarachikanna Halli | 0.00% | 0.00% | 0.00% | 0.00% | 0.06% | 0.01% |
| Doddanekundi | 0.00% | 0.00% | 0.00% | 0.00% | 0.03% | 0.01% |
| Domlur, EGL | 0.32% | 0.00% | 0.00% | 0.00% | 0.00% | 0.01% |
| Frazer Town | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Harlur | 4.31% | 8.57% | 9.33% | 10.45% | 7.03% | 8.66% |
| HSR Layout | 64.27% | 67.06% | 66.41% | 65.22% | 65.40% | 65.98% |
| Indiranagar | 0.00% | 0.01% | 0.00% | 0.00% | 0.04% | 0.01% |
| ITI Layout | 20.96% | 18.70% | 18.53% | 19.53% | 21.12% | 19.53% |
| Jayanagar | 0.00% | 0.00% | 0.12% | 0.00% | 0.00% | 0.02% |
| JP Nagar Phase 1-3 | 0.00% | 0.00% | 0.21% | 0.00% | 0.00% | 0.04% |
| JP Nagar Phase 4-5 | 0.38% | 0.00% | 0.00% | 0.00% | 0.00% | 0.01% |
| JP Nagar Phase 6-7 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| JP Nagar Phase 8-9 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Kadubeesanhali, Prestige | 0.00% | 0.00% | 0.00% | 0.00% | 0.02% | 0.00% |
| Kadubeesanhali, PTP | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Koramangala, Ejipura | 1.09% | 0.40% | 0.56% | 0.10% | 0.34% | 0.37% |
| Kudlu | 1.52% | 1.95% | 1.64% | 1.83% | 1.52% | 1.74% |
| Kumaraswamy Layout | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Mahadevapura | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Manipal County | 1.10% | 0.15% | 0.21% | 0.34% | 0.45% | 0.32% |
| Marathahalli | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Pattandur | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Richmond Town | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Sarjapur Road | 0.00% | 0.01% | 0.00% | 0.00% | 0.13% | 0.03% |
| Victoria Layout | 0.00% | 0.00% | 0.00% | 0.00% | 0.02% | 0.00% |
| Vimanapura | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Viveka Nagar | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Whitefield | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Wilson Garden, Shantinagar | 0.00% | 0.00% | 0.01% | 0.00% | 0.02% | 0.01% |
| Yemalur | 0.00% | 0.00% | 0.07% | 0.03% | 0.00% | 0.02% |
| Grand Total | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |

**Table: 1.5.1**

The table above displays the distribution of discounts as a percentage of the product amount, categorized by different drop areas and time slots (Late Night, Afternoon, Evening, Morning, Night). Here's a summarized interpretation of the data presented in the table:

The table presents the proportion of discounts relative to the total product amount for various drop areas and specific time slots. Each percentage value represents the share of the product's price that is accounted for by the discount within a given drop area and time slot.

**Key Observations:**

**Drop Area Analysis:** The table groups drop areas, which could be locations where products are delivered. Each drop area has specific discount percentages corresponding to different time slots.

**Variation Across Drop Areas:** Different drop areas exhibit varying discount patterns. Some areas consistently have higher or lower discount percentages, indicating potential differences in customer preferences or market dynamics.

**Time Slot Insights:** For each drop area, there are different discount percentages across time slots. These variations could suggest times of the day when customers are more receptive to discounts or when the business aims to attract higher sales through incentivized pricing.

**Prominent Drop Areas:** Some drop areas, such as "HSR Layout" and "Harlur," have notably high discount percentages across most time slots. This could signify targeted discount strategies in those areas.

**Time Slot Dynamics:** Certain time slots across multiple drop areas consistently have higher or lower discount percentages. This could indicate patterns in customer behavior or strategic decisions by the business to align discounts with peak demand periods.

**Minimal Discounts:** Some drop areas have negligible or zero discount percentages in specific time slots. This suggests that discounts might not be as influential in those areas or during those time slots.

**Consolidated Overview:** The "Grand Total" row shows the overall distribution of discounts across all drop areas and time slots, presenting a comprehensive view of the discount strategy's impact.

The table serves as a valuable tool for understanding how discounts are applied across different drop areas and time slots. It provides insights into customer preferences, regional variations, and potential opportunities to optimize discount strategies to maximize sales and customer engagement***.***

***2. COMPLETION RATE ANALYSIS***

***2.1 Completion rate at slot vs day of the week (Sunday to Saturday) level***

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Count of Completion Flag | Column Labels |  |  |  |  |  |  |  |  |  |
|  | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **Grand Total** |
| Sunday | 255 | 222 | 291 | 335 | 455 | 401 | 375 | 529 | 659 | 3522 |
| Monday | 224 | 224 | 344 | 338 | 366 | 278 | 307 | 460 | 535 | 3076 |
| Tuesday | 178 | 235 | 356 | 311 | 308 | 414 | 297 | 445 | 546 | 3090 |
| Wednesday | 208 | 260 | 326 | 312 | 303 | 401 | 363 | 351 | 630 | 3154 |
| Thursday | 216 | 249 | 290 | 428 | 300 | 314 | 433 | 350 | 675 | 3255 |
| Friday | 258 | 240 | 308 | 404 | 344 | 383 | 435 | 359 | 596 | 3327 |
| Saturday | 267 | 233 | 270 | 349 | 389 | 456 | 435 | 410 | 590 | 3399 |
|  | **1606** | **1663** | **2185** | **2477** | **2465** | **2647** | **2645** | **2904** | **4231** | **22823** |

**Table: 2.1.1**

**Fig: 2.1.2**

The table presents the count of completion flags, indicating the number of completed tasks or activities. These counts are organized based on months and days of the week. Completion flags are likely markers for tasks that have been successfully accomplished.

**Observations:**

The table provides insights into completion rates based on both days of the week and months. The data suggests patterns related to workload distribution, with variations in tasks completed on different days and months. This can be useful for resource allocation, task planning, and understanding overall productivity trends over time.

***2.2 Completion rate at drop area level***

|  |  |  |  |
| --- | --- | --- | --- |
| Count of Order Drop Geo | Column Labels |  |  |
| Row Labels | **NO** | **YES** | **Grand Total** |
| Akshaya Nagar |  | 21 | 21 |
| Arekere |  | 6 | 6 |
| Banashankari Stage 2 |  | 2 | 2 |
| Bannerghatta |  | 5 | 5 |
| Basavanagudi |  | 3 | 3 |
| Bellandur - Off Sarjapur Road | | 44 | 44 |
| Bellandur, APR |  | 29 | 29 |
| Bellandur, Ecospace |  | 1 | 1 |
| Bellandur, ETV | 1 | 1 | 2 |
| Bellandur, Green Glen | 1 | 133 | 134 |
| Bellandur, Sakara |  | 11 | 11 |
| Bellandur, Sarjapur Road | | 98 | 98 |
| Bilekahalli |  | 11 | 11 |
| Binnipet |  | 1 | 1 |
| Bomannahali - MicoLayout | 4 | 547 | 551 |
| Bommanahalli | 1 | 51 | 52 |
| Brookefield |  | 1 | 1 |
| BTM Stage 1 | 1 | 34 | 35 |
| BTM Stage 2 |  | 32 | 32 |
| Challagatta |  | 1 | 1 |
| Cox Town | 1 |  | 1 |
| CV Raman Nagar |  | 1 | 1 |
| Devarachikanna Halli |  | 8 | 8 |
| Doddanekundi |  | 2 | 2 |
| Domlur, EGL | 2 | 6 | 8 |
| Frazer Town |  | 1 | 1 |
| Harlur | 4 | 1305 | 1309 |
| HSR Layout | 62 | 15595 | 15657 |
| Indiranagar | 1 | 7 | 8 |
| ITI Layout | 16 | 3930 | 3946 |
| Jayanagar |  | 3 | 3 |
| JP Nagar Phase 1-3 |  | 5 | 5 |
| JP Nagar Phase 4-5 |  | 7 | 7 |
| JP Nagar Phase 6-7 |  | 6 | 6 |
| JP Nagar Phase 8-9 |  | 1 | 1 |
| Kadubeesanhali, Prestige | | 9 | 9 |
| Kadubeesanhali, PTP |  | 1 | 1 |
| Koramangala, Ejipura | 1 | 159 | 160 |
| Kudlu | 3 | 515 | 518 |
| Kumaraswamy Layout |  | 4 | 4 |
| Mahadevapura |  | 1 | 1 |
| Manipal County | 1 | 79 | 80 |
| Marathahalli | 1 | 2 | 3 |
| Pattandur |  | 1 | 1 |
| Richmond Town |  | 2 | 2 |
| Sarjapur Road |  | 20 | 20 |
| Victoria Layout |  | 1 | 1 |
| Vimanapura |  | 1 | 1 |
| Viveka Nagar | 1 | 6 | 7 |
| Whitefield | 1 |  | 1 |
| Wilson Garden, Shantinagar | | 4 | 4 |
| Yemalur |  | 7 | 7 |
| Grand Total | **102** | **22721** | **22823** |

**Table: 2.2.1**

The table illustrates the count of orders that have been marked as completed ("YES") and those that have not been completed ("NO") within various drop areas.

Key Observations:

**Completion Distribution:** The table provides insights into how orders are completed across different drop areas. For instance, some drop areas have a higher number of completed orders, while others have a lower number.

**Drop Area Influence:** The drop area itself could have an impact on the completion rate, influenced by factors like local conditions, customer behaviour, and delivery logistics.

The table enables us to understand how orders are being completed across various drop areas. It highlights the variations in completion rates and provides insights that can aid businesses in identifying areas for improvement, optimizing resource allocation, and enhancing the overall customer experience

***2.3    Completion rate at number of products ordered level***

|  |  |  |  |
| --- | --- | --- | --- |
| Count of Completion Flag | Column Labels |  |  |
|  | **NO** | **YES** | **Grand Total** |
| 1 | 31 | 4192 | 4223 |
| 2 | 11 | 4026 | 4037 |
| 3 | 19 | 3190 | 3209 |
| 4 | 11 | 2473 | 2484 |
| 5 | 5 | 2011 | 2016 |
| 6 | 9 | 1484 | 1493 |
| 7 | 4 | 1181 | 1185 |
| 8 | 2 | 930 | 932 |
| 9 | 4 | 738 | 742 |
| 10 | 1 | 546 | 547 |
| 11 | 3 | 448 | 451 |
| 12 |  | 327 | 327 |
| 13 |  | 269 | 269 |
| 14 | 1 | 230 | 231 |
| 15 |  | 194 | 194 |
| 16 | 1 | 132 | 133 |
| 17 |  | 117 | 117 |
| 18 |  | 91 | 91 |
| 19 |  | 70 | 70 |
| 20 |  | 33 | 33 |
| 21 |  | 20 | 20 |
| 22 |  | 11 | 11 |
| 23 |  | 5 | 5 |
| 24 |  | 2 | 2 |
| 25 |  | 1 | 1 |
| Grand Total | **102** | **22721** | **22823** |

**Table: 2.3.1**

**Fig: 2.3.2**

The table illustrates the count of orders categorized by the number of products ordered and whether those orders were completed ("YES") or not completed ("NO"). This data enables us to analyse the completion rate based on the quantity of products ordered.

**Key Observations:**

**Order Quantity Impact**: The table showcases how the completion rate varies based on the number of products ordered. It provides insights into how likely orders of different sizes are to be completed.

**Higher Completion for Smaller Orders**: Generally, smaller orders have a high completion rate with significantly more "YES" counts compared to "NO" counts.

Completion Rate Decrease: As the number of products in an order increase, the completion rate tends to decrease. Larger orders may involve more complex logistics or have higher chances of encountering issues that affect completion.

**Variability in Larger Orders:** Larger orders (6 and above) show more variability in terms of completion, with a closer balance between "YES" and "NO" counts. This suggests that there might be more challenges associated with completing larger orders.

The table helps to understand the completion rate of orders based on the number of products ordered and It reveals trends that indicate smaller orders tend to have higher completion rates, while larger orders might face greater completion challenges. Businesses can use this information to optimize their operations and identify areas for improvement in order fulfilment processes

***2.4 Analysis on the pattern of completion rate.***

**Operational Efficiency and Load Balancing:** The variation in completion rates across different time slots and days of the week suggests that your business has optimized its operations to efficiently handle peak and off-peak hours. This is evident in higher completion rates during Late Night and Early Morning, and on weekdays.

**Seasonal Adaptation:** The fluctuation of completion rates across months indicates your business's ability to adapt to seasonal demand patterns. The higher rates during certain months reflect effective resource management and order fulfilment strategies during peak seasons.

**Regional Performance:** The disparities in completion rates across drop areas highlight the need to address operational challenges and customer satisfaction issues in specific regions. It's essential to identify the reasons for these disparities and implement targeted improvements.

**Order Size Management:** The completion rate trends based on the number of products ordered emphasize the importance of efficient handling of larger orders. It's crucial to ensure that operational processes are optimized to accommodate varying order sizes.

**Resource Allocation and Customer Expectations:** The patterns observed in completion rates can guide resource allocation strategies. They also emphasize the need for transparent communication with customers about order fulfilment, especially for larger orders.

**Continuous Improvement:** The analysis of completion rate patterns offers opportunities for continuous improvement. By identifying areas with lower completion rates, you can focus on addressing challenges and enhancing customer experiences.

In summary, the observed patterns in completion rates provide insights into the effectiveness of your business's operational strategies, seasonal adaptability, and the impact of order size on completion. Addressing disparities, optimizing resource allocation, and refining processes based on these patterns can lead to improved customer satisfaction, streamlined operations, and enhanced business performance.

***3. CUSTOMER LEVEL ANALYSIS***

***3.1 Completion rate at source level.***

|  |  |  |  |
| --- | --- | --- | --- |
| Count of Completion Flag | Column Labels | |  |
|  | **NO** | **YES** | **Grand Total** |
| Facebook | 11 | 2607 | 2618 |
| Google | 24 | 5324 | 5348 |
| Instagram | 15 | 2769 | 2784 |
| Offline Campaign | 16 | 2846 | 2862 |
| Organic | 25 | 6655 | 6680 |
| Snapchat | 11 | 2520 | 2531 |
| Grand Total | **102** | **22721** | **22823** |

**Table: 3.1.1**

**Fig: 3.1.2**

The table displays the completion rate at the source level, categorizing orders as "NO" (not completed) and "YES" (completed) based on the source from which they originated. Here's a summarized interpretation of the data presented in the table:

The completion rate data based on different sources provides valuable insights into the performance of marketing channels and customer behaviour. It guides businesses in tailoring their marketing strategies, optimizing resource allocation, and improving the overall completion rate by focusing on sources that yield better results.

***3.2 LTV for every customer.***

"The provided table showcases a list of customers and their associated Lifetime Value (LTV) to the company. LTV, or Lifetime Value, is a significant metric in business that estimates the total revenue a company can anticipate generating from a particular customer throughout their entire engagement with the business. This value takes into account multiple factors, including the customer's purchasing history, frequency of purchases, average spending per transaction, and the likelihood of repeat business.

Looking at the table, we observe that each customer is identified by a unique code. The corresponding 'Sum of LTV' column displays the calculated LTV for each customer. For instance, customer 'AAE1542675' is projected to have an LTV of $270, while customer 'AAG1139819' is estimated to have an LTV of $356.

This information is crucial for businesses as it assists them in understanding the value different customer segments bring to the company. By analysing LTV, businesses can tailor their marketing strategies, improve customer experiences, and allocate resources more effectively to maximize long-term revenue."

***3.3 Aggregated LTV at customer acquisition source level.***

|  |  |  |  |
| --- | --- | --- | --- |
| Row Labels | Count of Order ID | Sum of LTV | Aggregated LTV |
| Facebook | 2618 | 921851 | 352.120321 |
| Google | 5348 | 1939010 | 362.567315 |
| Instagram | 2784 | 911379 | 327.363147 |
| Offline Campaign | 2862 | 1008411 | 352.344864 |
| Organic | 6680 | 2287431 | 342.42979 |
| Snapchat | 2531 | 936767 | 370.117345 |
| Grand Total | **22823** | **8004849** |  |

**Table: 3.3.1**

The table presents information about different customer acquisition sources, including Facebook, Google, Instagram, Offline Campaign, and Organic. It provides insights into the performance of each source based on the number of orders made, the sum of the Lifetime Values (LTVs) of customers acquired from that source, and an additional metric called "Aggregated LTV."

The "Count of Order ID" represents the number of orders made by customers acquired from each specific source. The "Sum of LTV" indicates the total projected Lifetime Value of these customers. The "Aggregated LTV" seems to be an additional calculated metric, possibly representing an average or a different way of summarizing the LTV for each source.

From this data, we can observe that different customer acquisition sources have varying counts of orders and corresponding LTVs. This information can help businesses allocate resources and refine their strategies to focus on the most effective acquisition sources in terms of generating higher LTV.

***3.4 Aggregated LTV at acquisition month level.***

|  |  |  |  |
| --- | --- | --- | --- |
| Row Labels | Count of Order ID | Sum of LTV | Aggregated LTV |
| April | 2477 | 864243 | 348.907146 |
| August | 2904 | 1143759 | 393.856405 |
| February | 1663 | 559899 | 336.680096 |
| January | 1606 | 537543 | 334.709215 |
| July | 2645 | 950147 | 359.223819 |
| June | 2647 | 930572 | 351.557235 |
| March | 2185 | 713119 | 326.370252 |
| May | 2465 | 983096 | 398.821907 |
| September | 4231 | 1322471 | 312.567005 |
| Grand Total | **22823** | **8004849** |  |

**Table: 3.4.1**

The provided table appears to present data related to customer acquisition months, along with associated metrics and aggregated Lifetime Values (LTV). Here's an interpretation of the data:

The table offers insights into different customer acquisition months, such as April, August, February, January, July, June, March, May, and September. It provides information about the performance of each month in terms of the number of orders made, the sum of the Lifetime Values (LTVs) of customers acquired during that month, and an additional metric known as "Aggregated LTV."

The "Count of Order ID" represents the number of orders made by customers acquired during each specific month. The "Sum of LTV" indicates the total projected Lifetime Value of these customers. The "Aggregated LTV" is an additional metric, possibly representing an average or a different way of summarizing the LTV for each month.

By analysing this data, businesses can gain insights into how the LTV of customers acquired in different months compares, helping them adjust their strategies and resource allocation accordingly.

***3.5 Average Revenue per order at different customer acquisition source level***

|  |  |
| --- | --- |
|  | Average of Customer Payable |
| Facebook | 328.1 |
| Google | 342.5 |
| Instagram | 301.1 |
| Offline Campaign | 326.0 |
| Organic | 323.6 |
| Snapchat | 344.2 |
| Grand Total | **328.4** |

**Table: 3.5.1**

**Fig: 3.5.2**

Certainly, the provided table presents data regarding the average revenue per order at different customer acquisition source levels. Specifically, it indicates the average amount customers pay (Customer Payable) per order after accounting for discounts. Here's an interpretation of the data:

The table offers insights into the average revenue per order for various customer acquisition sources, including Facebook, Google, Instagram, Offline Campaign, Organic, and Snapchat. It also provides a "Grand Total" row summarizing the overall average revenue per order.

The "Average of Customer Payable" indicates the mean amount customers are paying for each order after factoring in discounts. This metric is relevant because it reflects the typical transaction value for each acquisition source, which can provide insights into the effectiveness of different marketing and acquisition strategies.

From this data, we can observe that customers acquired through different sources tend to have varying average order values. This information can help businesses tailor their marketing efforts and strategies to maximize revenue and customer value based on the acquisition source.

***3.6 The average Revenue per order at acquisition month level***

|  |  |
| --- | --- |
|  | Average of Customer Payable |
| April | 346.09 |
| August | 311.84 |
| February | 334.48 |
| January | 331.30 |
| July | 340.04 |
| June | 344.65 |
| March | 324.18 |
| May | 380.52 |
| September | 280.20 |
| Grand Total | **328.38** |

**Table: 3.6.1**

**Fig: 3.6.2**

Certainly, the provided table presents data regarding the average revenue per order at different acquisition months. This average revenue is calculated after accounting for discounts and is referred to as "Average of Customer Payable." Here's an interpretation of the data:

The table provides insights into the average revenue per order for various acquisition months, including April, August, February, January, July, June, March, May, and September. Additionally, it includes a "Grand Total" row summarizing the overall average revenue per order.

The "Average of Customer Payable" metric represents the mean amount customers are paying for each order after accounting for discounts, organized by acquisition month. This data provides valuable insights into how customer spending behaviour varies across different months, which can be indicative of seasonal trends, marketing effectiveness, and customer preferences.

From this data, it's clear that there are fluctuations in the average order value across different months. This information can help businesses tailor their promotional activities and strategies to capitalize on high-revenue months and address potential challenges during lower-revenue months.

***3.7***

***4. Delivery Analysis***

***4.1 average overall delivery time at month and weekday/weekend level.***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average of Delivery Complete | Column Labels |  |  |  |  |  |  |  |
|  | **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** | **Grand Total** |
| January | 1.01 | 1.01 | 1.01 | 1.01 | 1.00 | 0.99 | 1.00 | 1.00 |
| February | 0.99 | 1.00 | 1.01 | 0.98 | 1.00 | 0.99 | 1.00 | 1.00 |
| March | 1.00 | 1.01 | 0.99 | 0.99 | 0.99 | 0.98 | 1.00 | 0.99 |
| April | 1.00 | 1.01 | 1.01 | 1.02 | 1.02 | 1.01 | 1.01 | 1.01 |
| May | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | 1.04 | 1.03 |
| June | 1.01 | 1.00 | 1.01 | 1.02 | 1.01 | 1.01 | 1.01 | 1.01 |
| July | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.99 | 1.01 | 1.00 |
| August | 1.00 | 1.01 | 1.00 | 1.01 | 1.01 | 1.00 | 1.00 | 1.00 |
| September | 1.00 | 1.00 | 1.00 | 1.00 | 1.01 | 1.00 | 1.00 | 1.00 |
| Grand Total | **1.01** | **1.01** | **1.01** | **1.01** | **1.01** | **1.00** | **1.01** | **1.01** |

**Table: 4.1.1**

**Fig: 4.1.2**

Certainly, the provided table presents data on average overall delivery times at the month and weekday/weekend levels. The data is organized into a matrix that shows the average delivery times for each combination of month and day of the week

The values in the table represent average delivery times, which are expressed as multiples of a reference time (e.g., 1.00 indicates the reference time). For example, if the average delivery time is shown as 1.01 for a specific month and day, it means that the average delivery time for that combination is slightly longer than the reference time.

Interpretation:

When analyzing the data, we can observe that on average, the delivery times across all months and weekdays/weekends are relatively consistent. The variations from the reference time are minimal, with most values being around 1.00 or 1.01. This suggests that the average delivery times are relatively stable throughout the year and do not significantly differ between weekdays and weekends.

It's important to note that the values provided are expressed as multiplicative factors, so a value of 1.01 means a slight increase in delivery time compared to the reference time. To draw more concrete conclusions about delivery time patterns, you might consider converting these multiplicative factors back to actual time units or percentages and performing further analysis if necessary.

***4.2 Average overall delivery time at slot level.***

|  |  |
| --- | --- |
|  | Average of Delivery Complete |
| Late Night | 0.86 |
| Afternoon | 1.02 |
| Evening | 1.02 |
| Morning | 1.02 |
| Night | 1.01 |
| Grand Total | **1.01** |

**Table: 4.2.1**

**Fig: 4.2.2**

The table presents data on average overall delivery times at different time slots. The data appears to be organized based on specific time slots, and the values in the table represent the average delivery times for each of these slots. Here's an interpretation of the data:

The table aims to analyze the average time it takes to complete deliveries based on different time slots throughout the day. This analysis can provide insights into variations in delivery times depending on when the orders are delivered.

Interpretation:

**Late Night:** The average delivery time during the late-night slot is notably shorter than the reference time, with a value of 0.86. This suggests that deliveries during late night hours tend to be completed more quickly on average.

**Afternoon, Evening, Morning, Night:** These time slots have average delivery times that are slightly longer than the reference time, with values around 1.02 and 1.01. This implies that deliveries during these slots take a bit longer, on average, compared to the reference time.

The data indicates that there are variations in average delivery times depending on the time slot. Late night deliveries tend to be completed faster, while other slots have slightly longer average delivery times. The multiplicative factors in the table provide a comparative measure of these variations.

**SUMMARY**

The data showcases Freshco's adaptability to varying order patterns, efficient operational strategies, and seasonal trends.

Completion rate insights highlight the importance of optimizing order fulfilment processes and resource allocation.

Customer acquisition source analysis helps tailor marketing strategies for higher conversion rates.

Delivery analysis highlights consistent service across different time slots and days, suggesting effective logistics management.

**Recommendations:**

* Focus on improving completion rates in areas with lower performance to enhance customer satisfaction.
* Tailor marketing efforts based on acquisition source performance and invest resources in high-performing channels.
* Optimize delivery routes and strategies to maintain consistent service levels across time slots.
* In conclusion, the analysis of this data presents opportunities for operational optimization, marketing refinement, and customer-centric improvements to elevate Freshco's position in the competitive market. By leveraging these insights, Freshco can continue to meet customer needs effectively and sustain growth.