**OBSERVATIONS AND INSIGHTS**

Capstone - Funnel Analysis using Statistics and Hypothesis Testing.

**Business Case: Swiggy**

Swiggy is one of the largest food eCommerce platform in the country. Every day more than 1 million users are transacting on the platform. Let’s say you are growth and strategy analyst of Swiggy and you need to generate insight on the company’s performance in 2019. For this, you are going to use the ‘Funnel Case Study Data’ workbook which has 3 worksheets. You can find the details of the sheets below:

***Session Details*** sheet has date wise session count. You can find listing sessions, menu sessions, cart sessions, payment sessions and order sessions day over day

***Channel wise traffic*** sheet has traffic (listing sessions) breakup at the date level.

***Supporting Data*** sheet has other information at the date level which might help you solve the case. The description of the columns is written below

|  |  |
| --- | --- |
| **Metric** | **Description** |
| Count of restaurants | Number of operating restaurants for the day |
| Average Discount | Average discount given to all the transacting customers |
| Out of stock Items per restaurant | Average out of stock items per restaurant  (total out of stock items/total restaurants) |
| Avg. Packaging charges | On an average what is the packaging charges paid by customer while placing the order |
| Avg. Delivery Charges | On an average what is the delivery charges paid by customer while placing the order |
| Avg Cost for two | Cost for two is approximate spent for creating meal for two. |
| Number of images per restaurant | Count of images listed per restaurant on menu page |
| Success Rate of payments | ratio of successful transactions and payments initiated |

**Your Task:**

* You need to identify the increase or decrease in the number of orders using ***Session Details*** sheet
  + Fill all the remaining columns of Session details based on the definition mentioned above the column names
  + Identify date of highs and lows in the orders with respect to same day last week
  + Hint: on weekends, Swiggy is getting extra orders naturally. Hence you might see so many highs.
  + Hint: You can ignore difference of less than 20% and above -20% from the same day last week. Hence you can define highs which are above 20% or lows below -20%
* Check if there is change in traffic as compared to same day last week
  + If there is change in traffic, identify the source of traffic change using Channel wise traffic sheet
* Check if there is change in **Overall Conversion** as compared to previous dates
  + Break the overall conversion into smaller part in the following metrics, and create fresh columns on the following metrics in the Session Sheet
    - L2M
    - M2C
    - C2P
    - P2O
  + Identify which one of the conversions is fluctuating
  + Create hypotheses on what could be the possibility for fluctuation in conversions
  + Validate the hypotheses using Supporting data

**Funnel Analysis Report (word doc):**  Create a document, mention all the insights related to the business case and submit it. The report should have a list of dates having any order drop and hike as compared to last same day last week. Mention the reason for the drop in front of the date itself.

* Identify if traffic fluctuated as compared to the same day last week
  + If yes, then try to identify the source of the traffic creating fluctuation
* Identify if Overall conversion fluctuated as compared to same day last week
  + If yes, then try to identify smaller conversions leading to the impact (L2M, M2C, C2P, P2O)
  + Once you identify the smaller conversion leading to an increase or decrease in the orders, use supporting data to explain the reason for the same
* Extra marks for structured and formatted doc (10%)

**Supporting excel file (excel file)**: Create a workbook having all the calculations (charts, tables, conditional formatting etc) to your insights.

**Order Count**

***Dates of Highs and Lows***

15 01/2019 91% **10-10-2019** 55%

22/01/2019 185% HIGH 17-10-2019 206%

29 / 01 /2019 28% LOW 24-10-2019 82%

05/ 02 / 2019 215% HIGH **02-03-2019** 62%

12 /02 /2019 104% LOW 09-03-2019 202%

19/02/ 2019 44% LOW 17-03-2019 88%

26/02/ 2019 220% HIGH 24-03-2019 122%

05/03/ 2019 92% LOW 28-03-2019 106%

19/03/2019 54% LOW **04-04-2019** 48%

26/03/2019 178% HIGH 11-04-2019 192%

02/04/2019 104% LOW 18-05-2019 173%

16/07/2019 37% LOW 25-04-2019 61%

23/07/2019 235% HIGH 02-05-2019 100%

30/07/2019 103% LOW **20-06-2019** 46%

20/08/2019 104% 27-06-2019 215%

27/08/2019 83%

15/10/2019 89%

22/10/2019 120% HIGH

29/10/2019 87% LOW

**TRAFFIC CHANGE WITH RESPECT TO A WEEK**

***Dates Of Highs and Lows***

**12-01-2019** 28.72%

**4-07-2019** 219.15%

19-01-2019 373% 13-06-2019 97%

26-01-2019 92.23%

**15-01-2019** 98.01%

22-01-2019 224.65%

29-01-2019 46%

5-02-2019 100%

**13-06-2019** 97%

20-06-2019 47%

27-06-2019 215%

**CONVERSION CHANGE**

***Dates of highs and lows***

22-01-2019 105%

29-01-2019 48%

05-02-2019 215%

23-02-2019 87%

02-03-2019 58%

09-03-2019 202%

12-03-2019 104%

19-03-2019 53%

26-03-2019 187%

02-04-2019 95%

28-03-2019 107%

04-04-2019 47%

11-04-2019 207%

18-04-2019 157%

25-04-2019 61%

09-07-2019 99%

16-07-2019 41%

23-07-2019 228%

30-07-2019 105%

04-08-2019 100%

11-08-2019 46%

18-08-2019 200%

25-08-2019 115%

07-09-2019 88%

14-09-2019 49%

21-09-2019 214%

28-09-2019 107%

02-10-2019 81%

09-10-2019 127%

16-10-2019 93%

10-11-2019 96%

17-11-2019 46%

24-11-2019 224%

01-12-2019 120%

08-12-2019 87%

21-12-2019 83%

28-12-2019 120%

**HYPOTHESIS TESTING**

|  |
| --- |
| **AVERAGE STANDARD DEVIATION VARIANCE RANGE** |
| **L2M- 24% 0.022 0.00048 16%** |
| **M2C- 38% 0.0396 0.00156 54%** |
| **C2P- 71% 0.043 0.0018 44%** |
| **P20- 81% 0.0385 0.00148 48%** |

* **From the above data it can be observed that fluctuation in the L2M (Listing to Menu) category is the least.**
* **Regarding M2C (Menu to Cart) it can the reason for high range (indicates fluctuation ) can be due to lack of options, out of stock items.**
* **For C2P (Cart to Payment) reason can be high delivery charges , taxes or too much delivery time, or buying directly from the outlet is more economical.**
* **For P20 one reason can be not accepting COD. Another can be technical issues.**