

## **SUMMARY**

### **ABSTRACT**

This project is to analyze the daily and hourly instacart orders to find out the amount of highest daily and hourly orders and finally predict the number of future orders ; which will help instacart to estimate the amount of shoppers they need. This will also help them to estimate profit and to find a balance between their in-store shoppers and full-service-shoppers for areas depending on their predicted daily demands.

### **DESIGN**

- Data selection and cleaning
- Exploratory data analysis
- Time series model building (future work)

### **DATA**

“The Instacart Online Grocery Shopping Dataset 2017” is used for this project. The data\_set used for this project is taken from evaluation\_set data and the last almost 98,570 rows are used.

#### **Data description**

- order\_id: order identifier
- product\_id: product identifier
- add\_to\_cart\_order: order in which each product was added to cart
- reordered: 1 if this product has been ordered by this user in the past, 0 otherwise
- user\_id: customer identifier
- eval\_set: which evaluation set this order belongs in
- order\_number: the order sequence number for this user (1=first, n=nth)
- order\_dow: the day of the week on which the order was placed
- order\_hour\_of\_day: the hour of the day on which the order was placed
- days\_since\_prior\_order: days since the last order, capped at 30, NA if order\_number=1
- product\_name: name of the product
- aisle\_id: aisle identifier
- department\_id: department identifier
- aisle: the name of the aisle
- department: the name of the department

### **METHODOLOGY**

- Remove duplicates and n/a values
- Produce columns: Order\_day, order\_hour, days\_since last order : using Vlookup

Number\_of\_orders : using CountIF function

- Produce visuals to see relationship between order number(Target) with possible features order\_days, order\_hour,
- Produce drop down validation table for the number of orders in each department
- Produce bar chart and line charts using Tableau and made a dashboard for the plots related with target(orders)

## TOOLS

EXCEL - Data organization and analysis

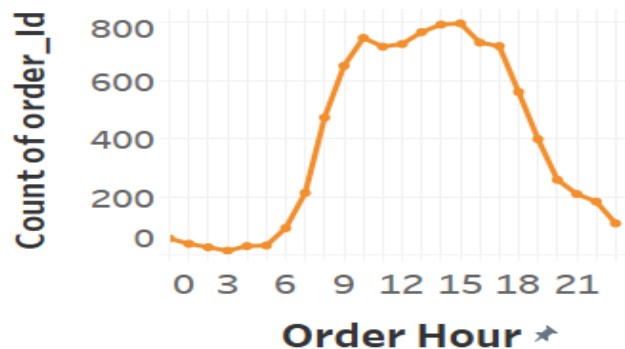
TABLEAU - Data visualization

## COMMUNICATION

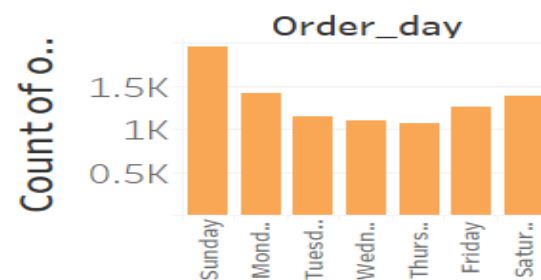
Tableau dashboard :

[https://public.tableau.com/app/profile/yordanos.woldebirhan/viz/Instacart\\_data\\_analysis/Dashboard1](https://public.tableau.com/app/profile/yordanos.woldebirhan/viz/Instacart_data_analysis/Dashboard1)

**Number of Orders throughout the day**



**Number of order for each days of the week**



**Hourly orders for days of the week**

