Cyprus – Asian food by C

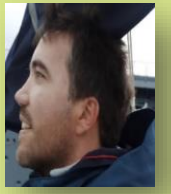
NOVA IMS Information Management School

PTIMA
DATA CONSULTING

Ana Carolina Ottavi

Carolina Bezerra

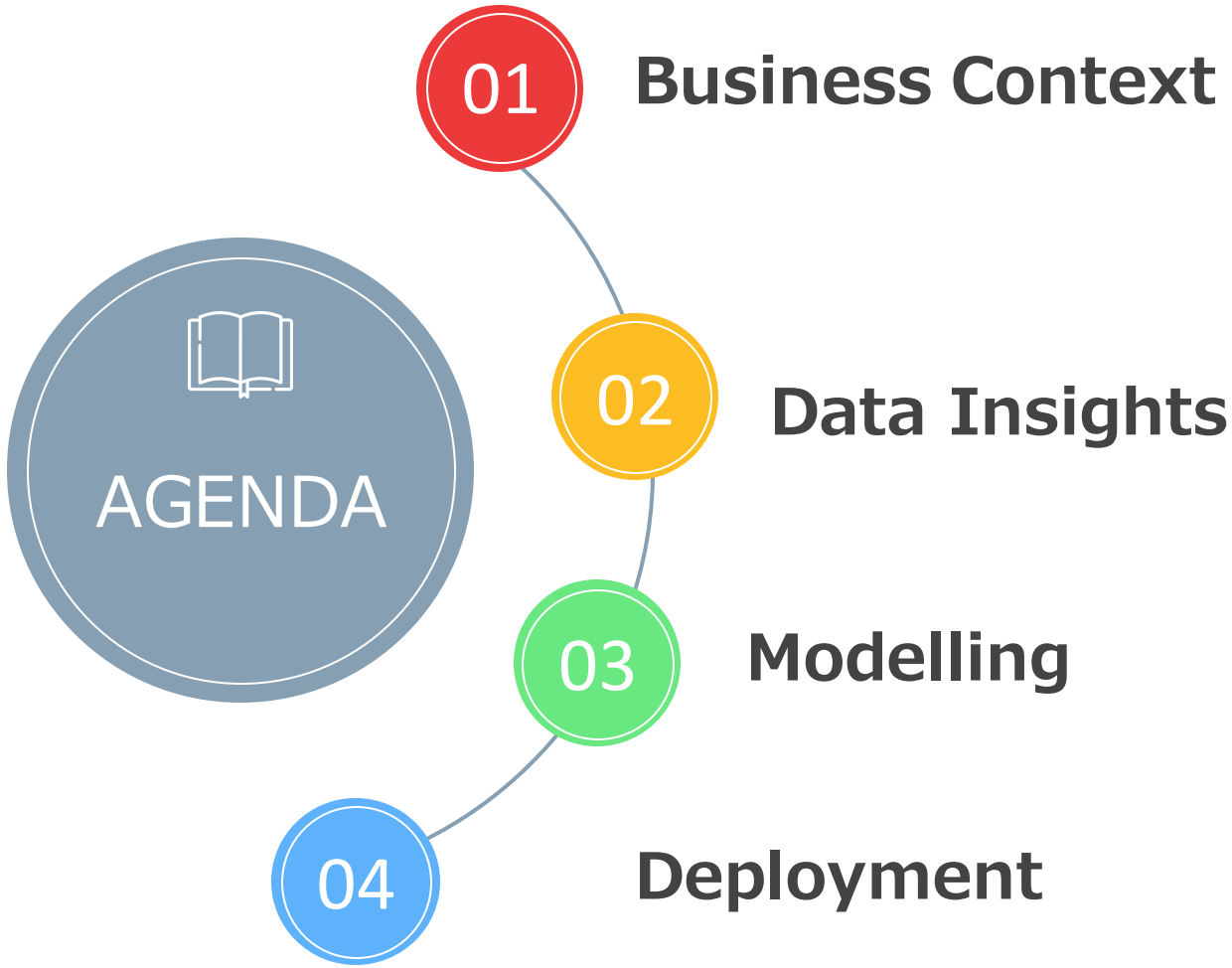
Duarte Girão



João Pólvora

Luca Loreiro

Market Basket Analysis – Asian Food by C



BUSINESS CONTEXT

Business Situation

- C's Asian food in Cyprus has been facing challenges due the increase of the competitivity in the restaurant business.

Business Goals

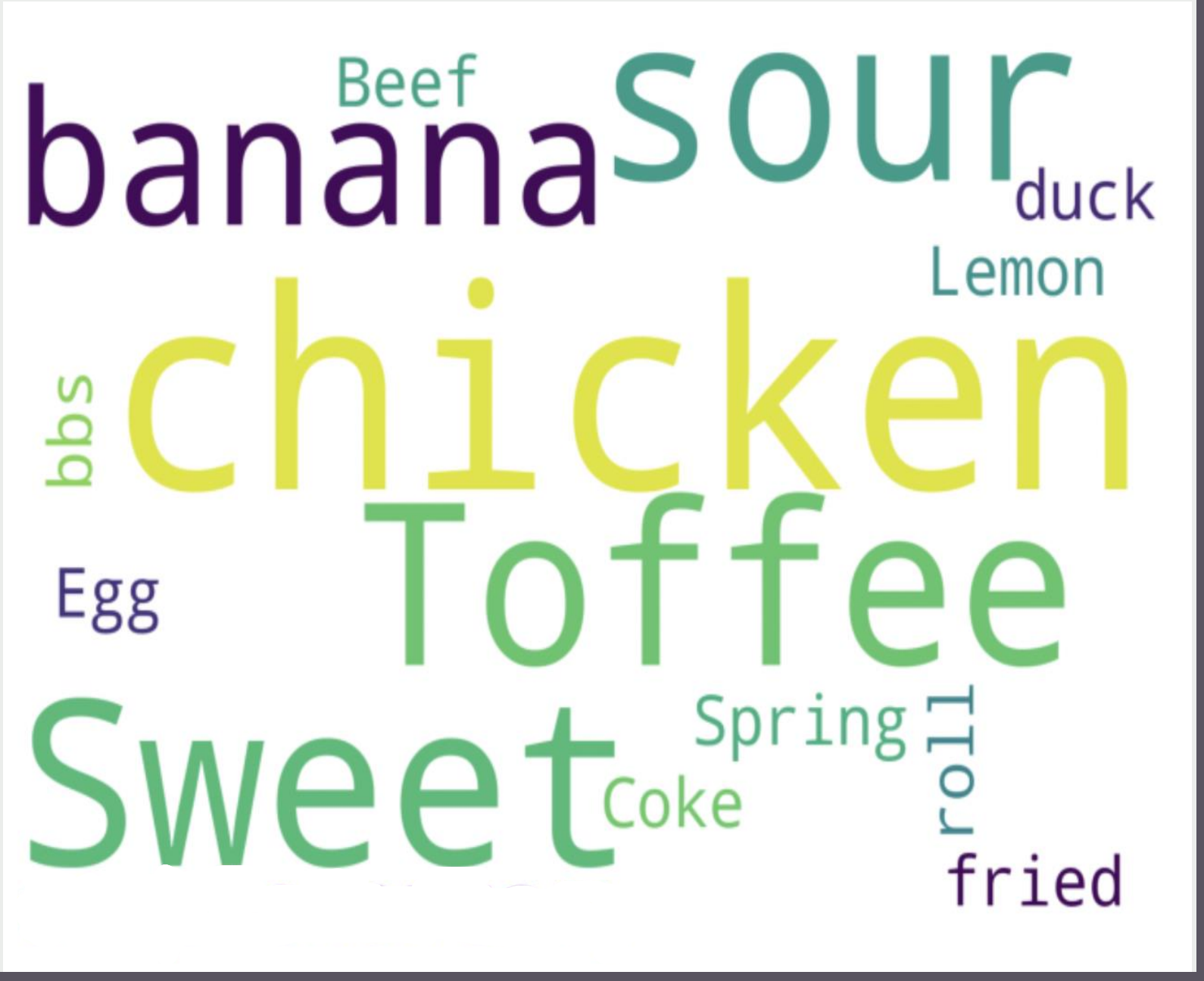
- Explore patterns and preferences based on customer behavior.
- Apply Market Basket Analysis.

Business Delivery

- Create a set of menus, introduction of new products, promotions and discounts.

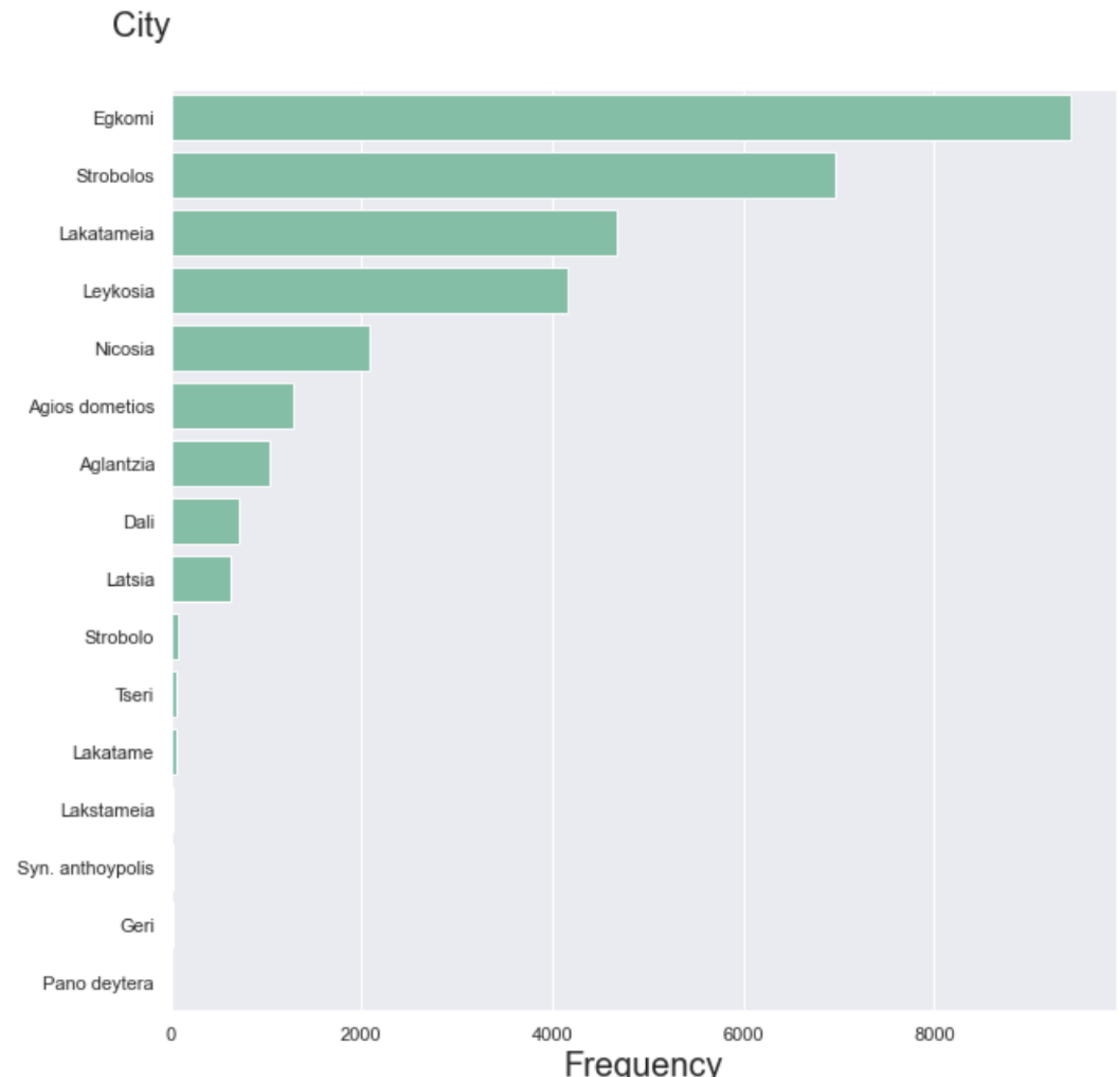
DATA INSIGHTS

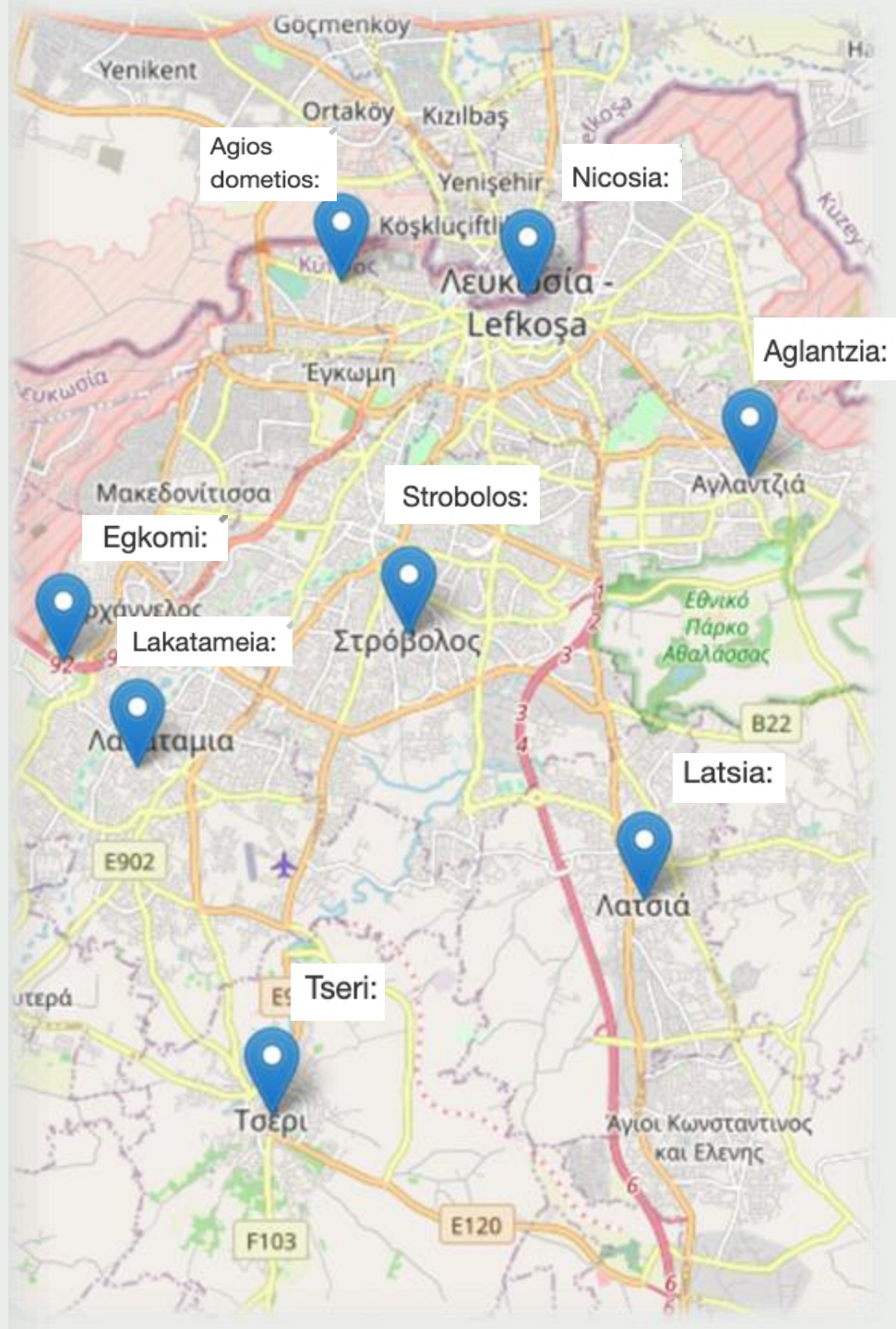
Most popular Product Families



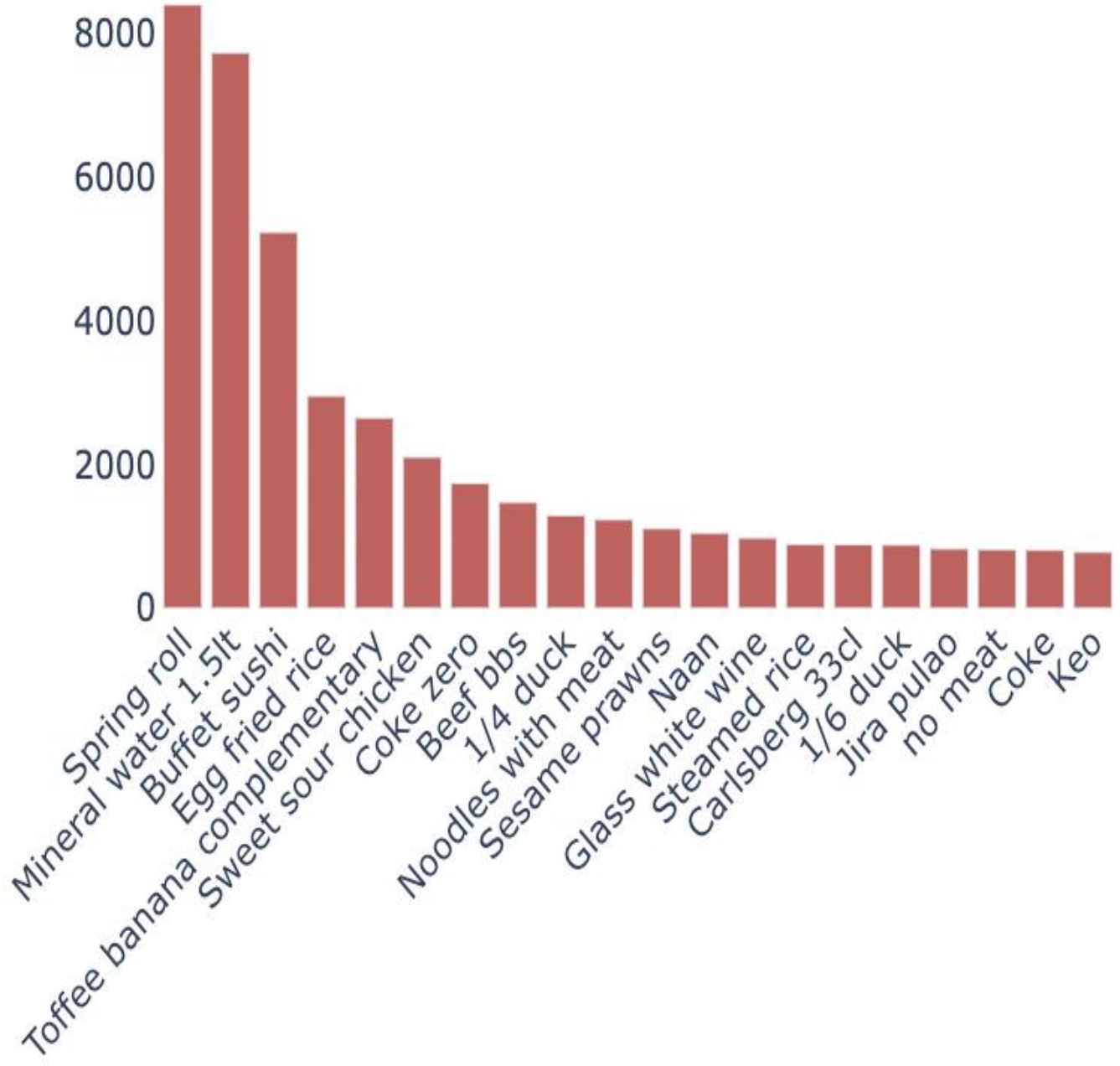
Most popular Products

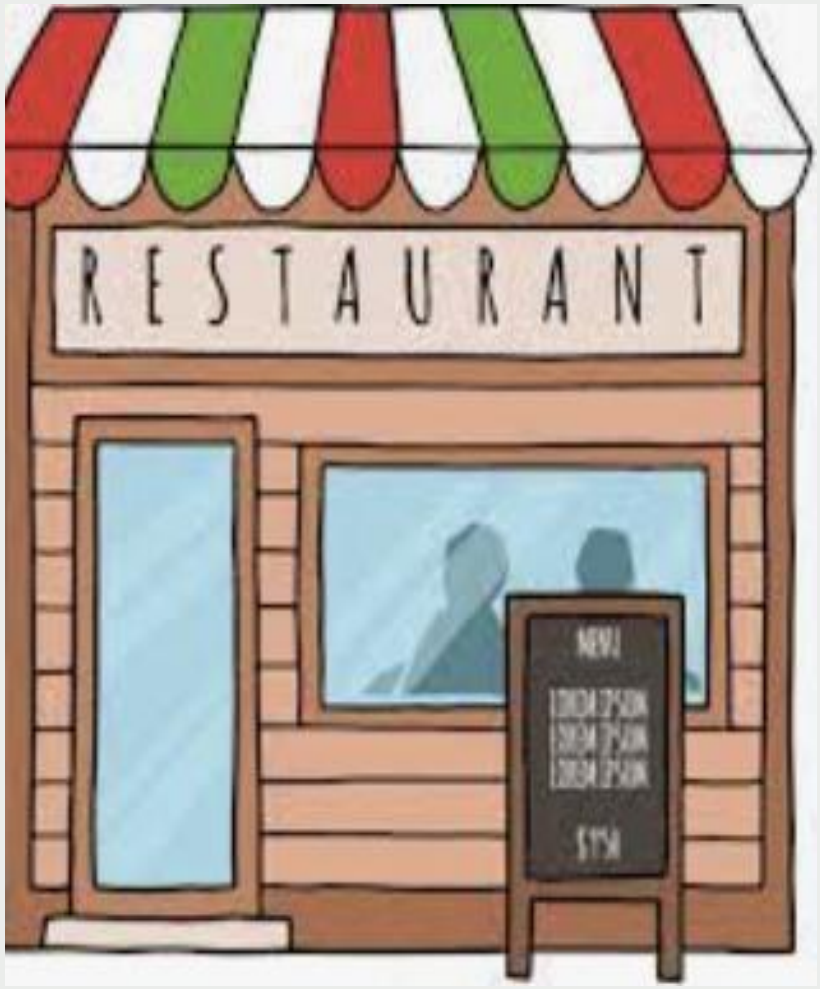
FREQUENCY OF CITIES IN THE TRANSACTIONS

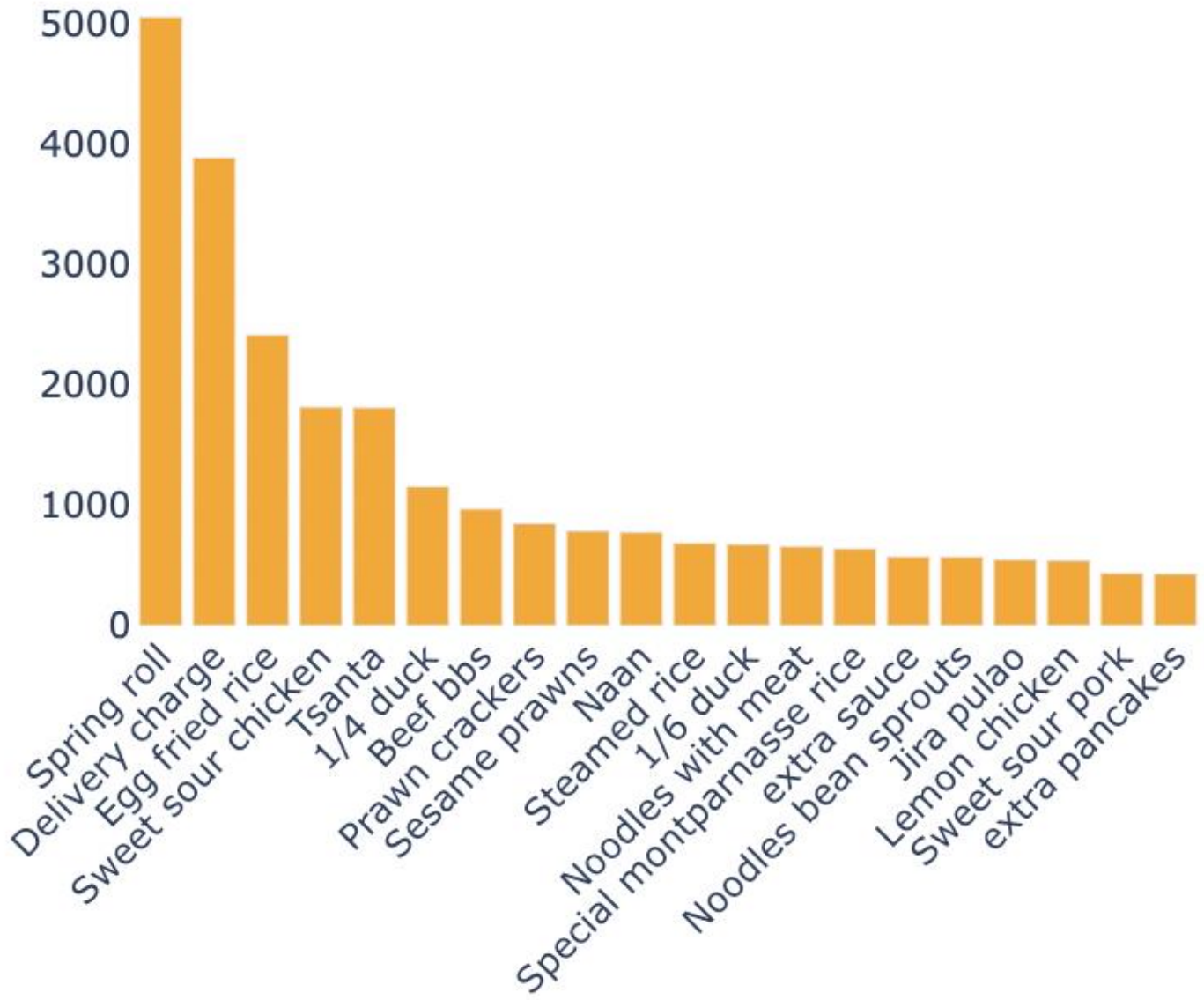

City
Egkomi
Strobolos
Lakatameia
Leykosia
Nicosia
Agios dometios
Aglantzia
Dali
Latsia
Strobolo
Tseri
Lakatame
Lakstameia
Syn. anthoypolis
Geri
Pano deytera
0
2000
4000
6000
8000
Frequency


Göçmenköy
Yenikent
Ortaköy
Kızılbaş
Agios dometios:
Yenişehir
Nicosia:
Köşklüçiftlik
Λευκωσία - Lefkoşa
Aglantzia:
Έγκωμη
Αγλαντζιά
Μακεδονίτισσα
Strobolos:
Egkomi:
Στρόβολος
Lakatameia:
Εθνικό Πάρκο Αθαλάσσας
B22
Latsia:
E902
Λατσιά
Tseri:
Τσέρι
Άγιοι Κωνσταντίνος και Ελένης
E120
F103

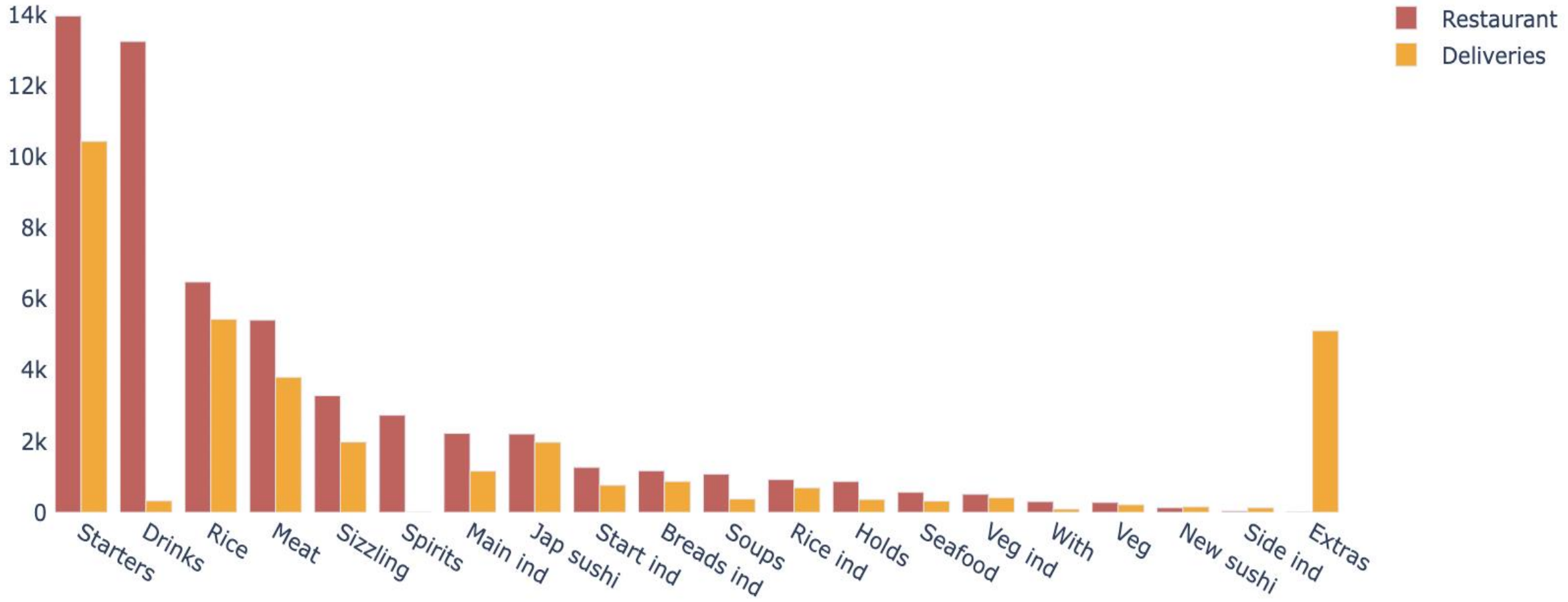
DELIVERY
VS RESTAURANT


8000
6000
4000
2000
0
Spring roll
Mineral water 1.5lt
Buffet sushi
Egg fried rice
Toffee banana complementary
Sweet sour chicken
Coke zero
Beef bbs
1/4 duck
Noodles with meat
Sesame prawns
Naan
Glass white wine
Steamed rice
Carlsberg 33cl
1/6 duck
Jira pulao
no meat
Coke
Keo


RESTAURANT
MENU

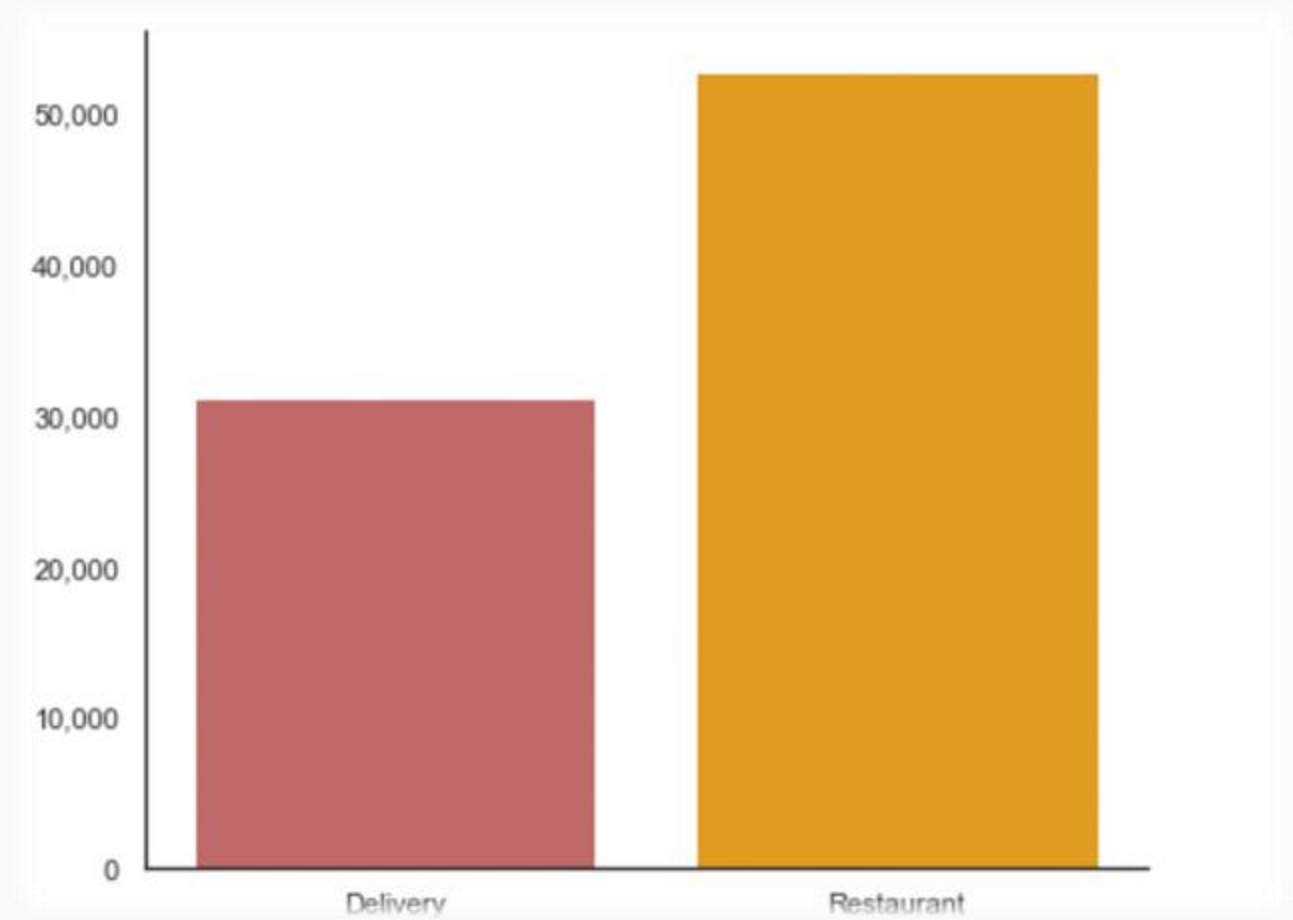

5000
4000
3000
2000
1000
0
Spring roll
Delivery charge
Egg fried rice
Sweet sour chicken
Tsanta
1/4 duck
Beef bbs
Prawn crackers
Sesame prawns
Naan
Steamed rice
1/6 duck
Noodles with meat
Special montparnasse rice
extra sauce
Noodles bean sprouts
Jira pulao
Lemon chicken
Sweet sour pork
extra pancakes

Bestselling products group by families (In Absolute Values)



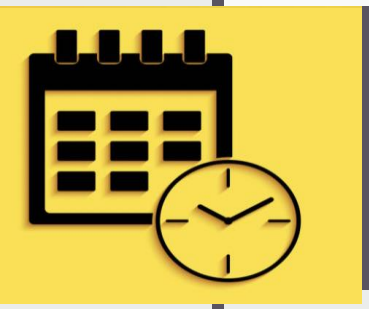
DO MORE ORDERS CORRESPOND TO MORE REVENUE?

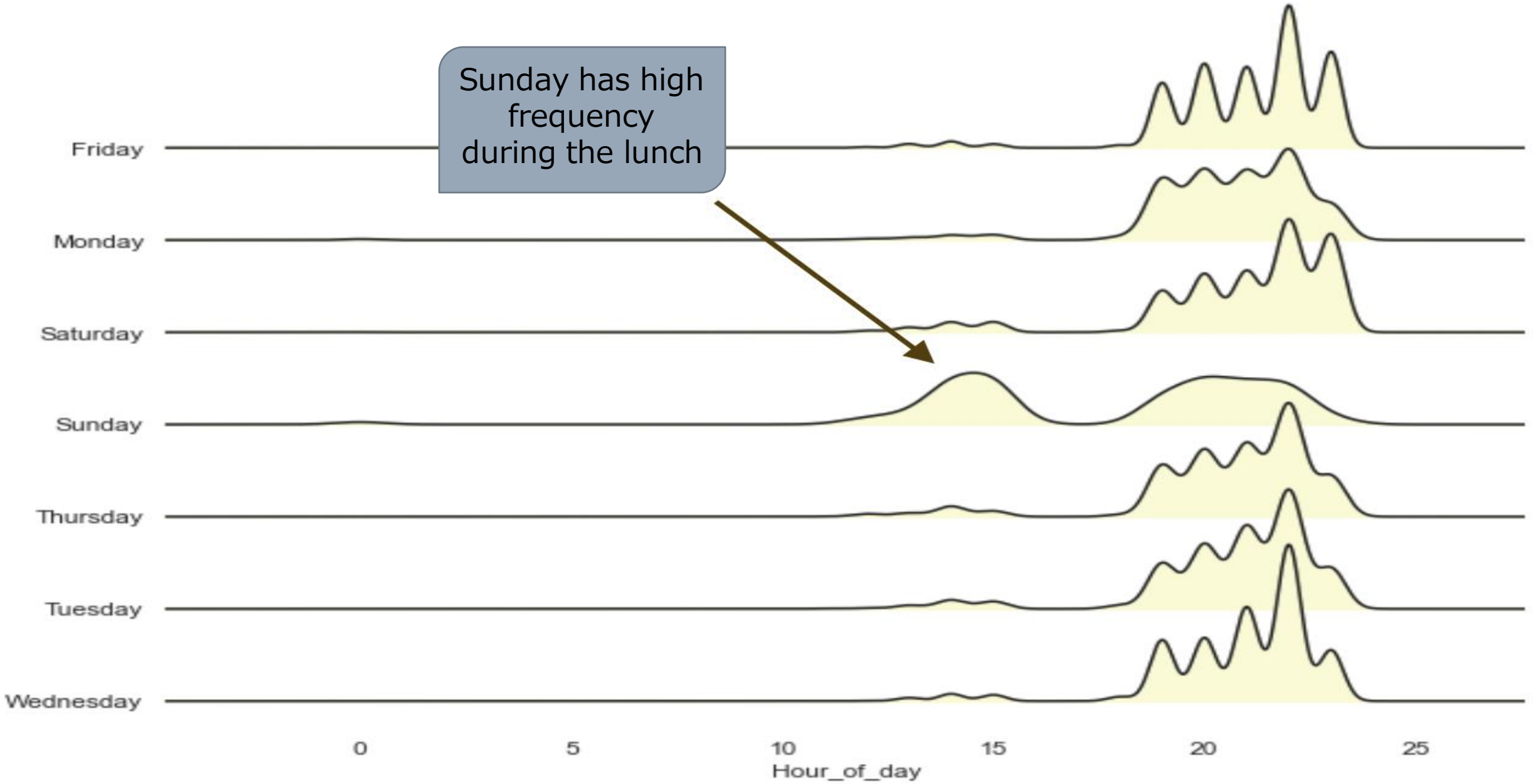
DELIVERY FREQUENCY

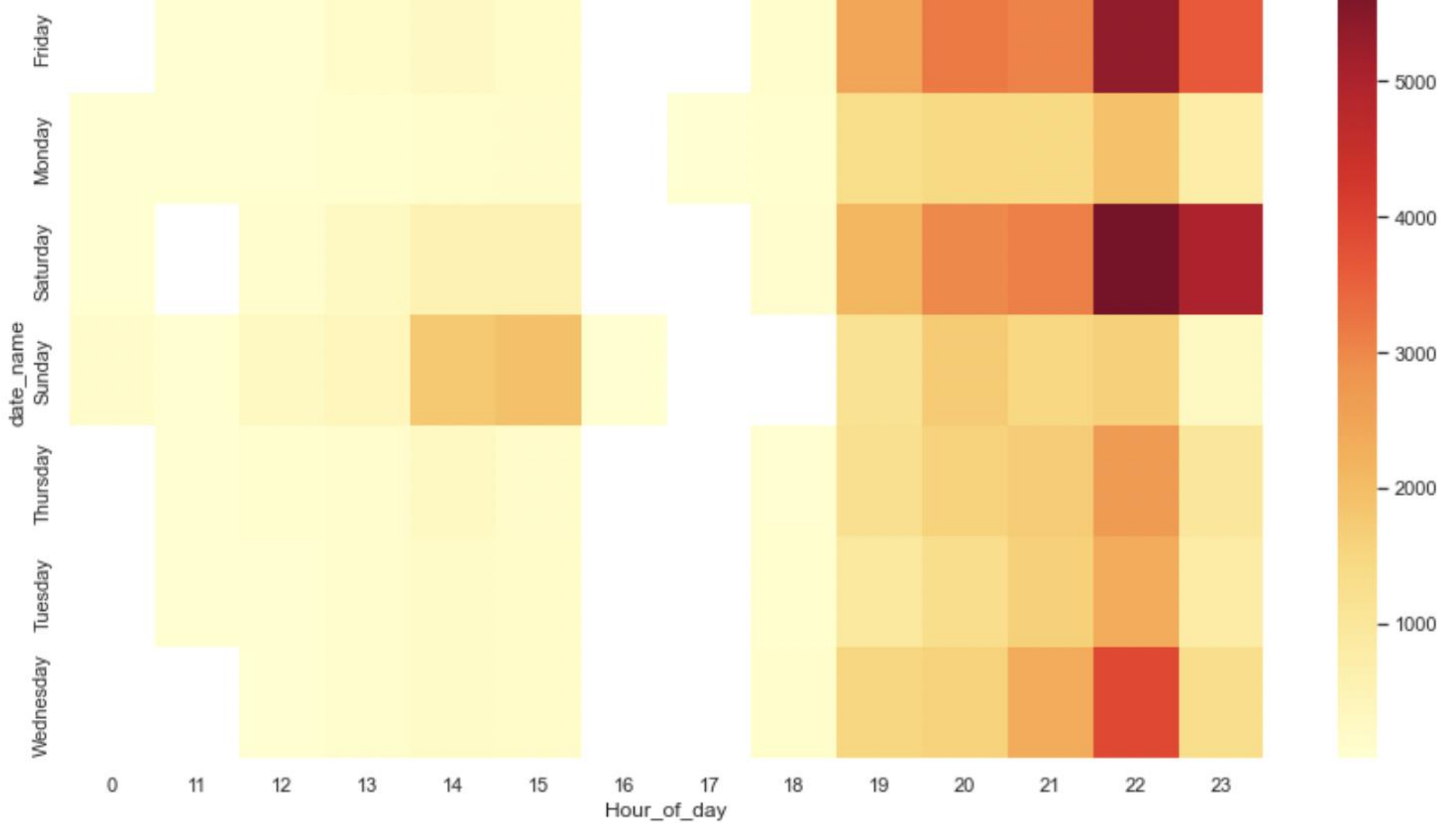


Revenue
26.5%
73.5%
Number of orders
43.7%
56.3%
Restaurant
Deliveries

HOW IS THE DISTRIBUTION OF CLIENTS BY DAY OF THE WEEK AND TIME?



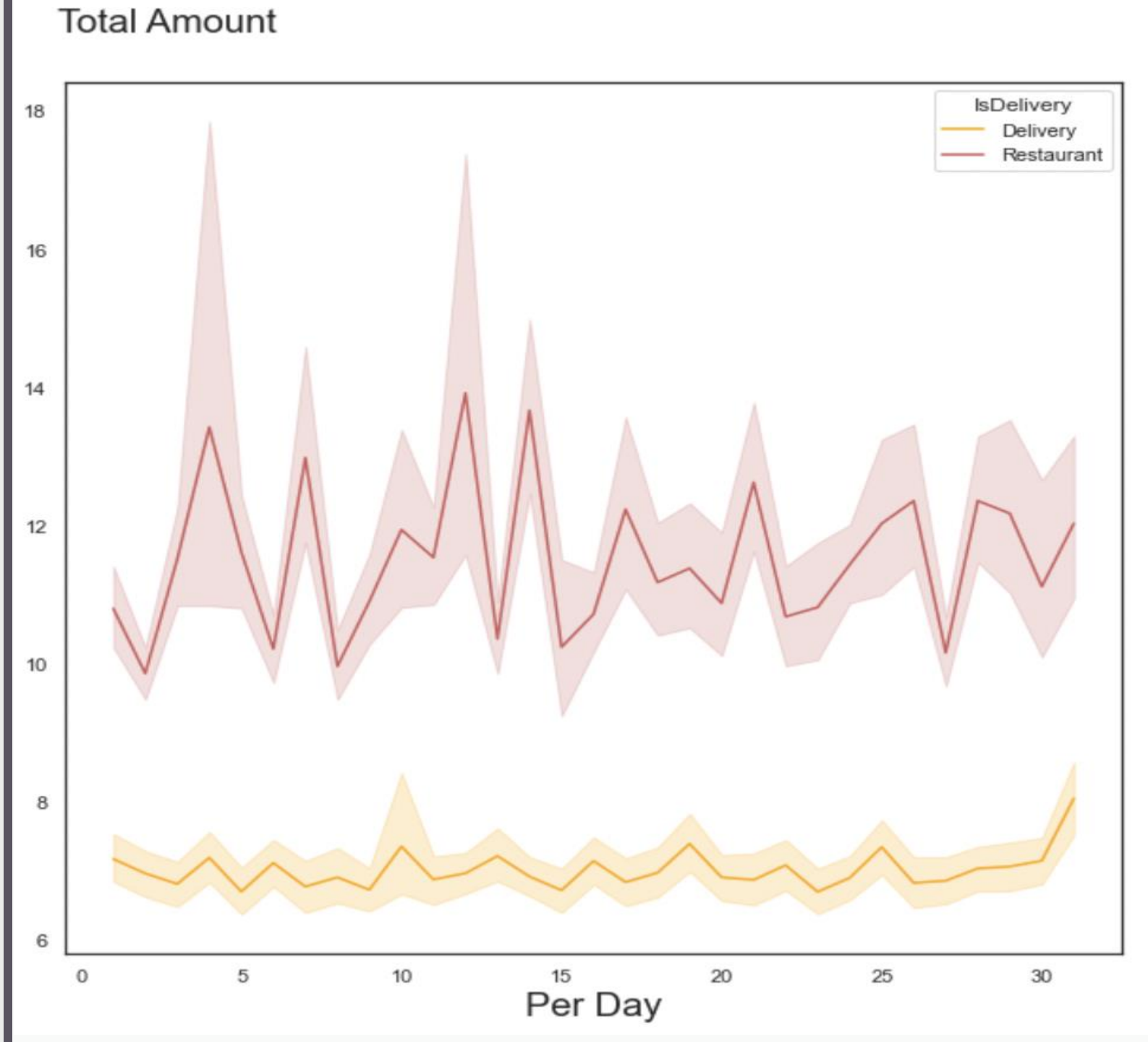

Sunday has high frequency during the lunch
Friday
Monday
Saturday
Sunday
Thursday
Tuesday
Wednesday
0
5
10
15
20
25
Hour_of_day

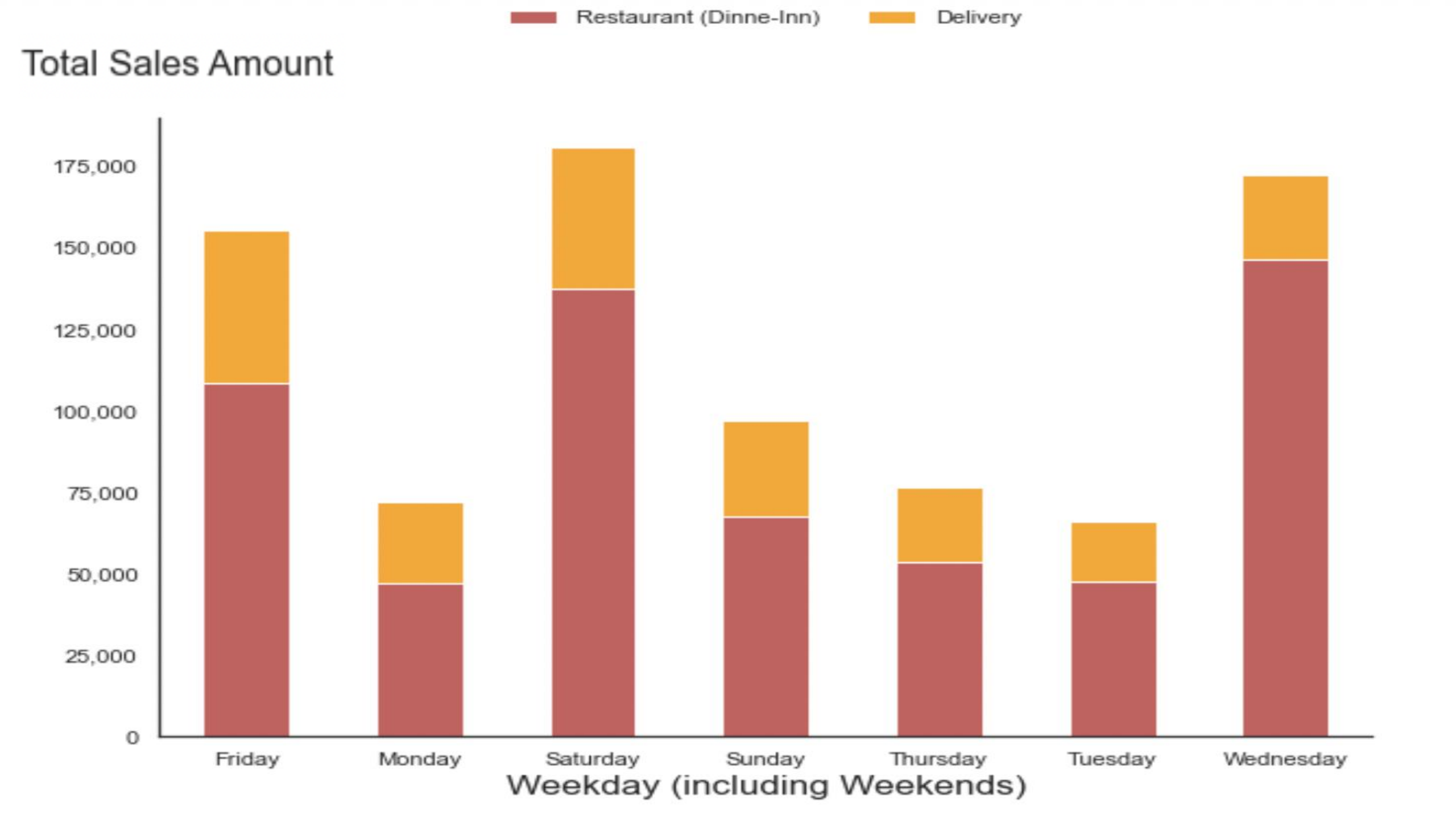

Friday
Monday
Saturday
Sunday
Thursday
Tuesday
Wednesday
date_name
0
11
12
13
14
15
16
17
18
19
20
21
22
23
Hour_of_day
5000
4000
3000
2000
1000

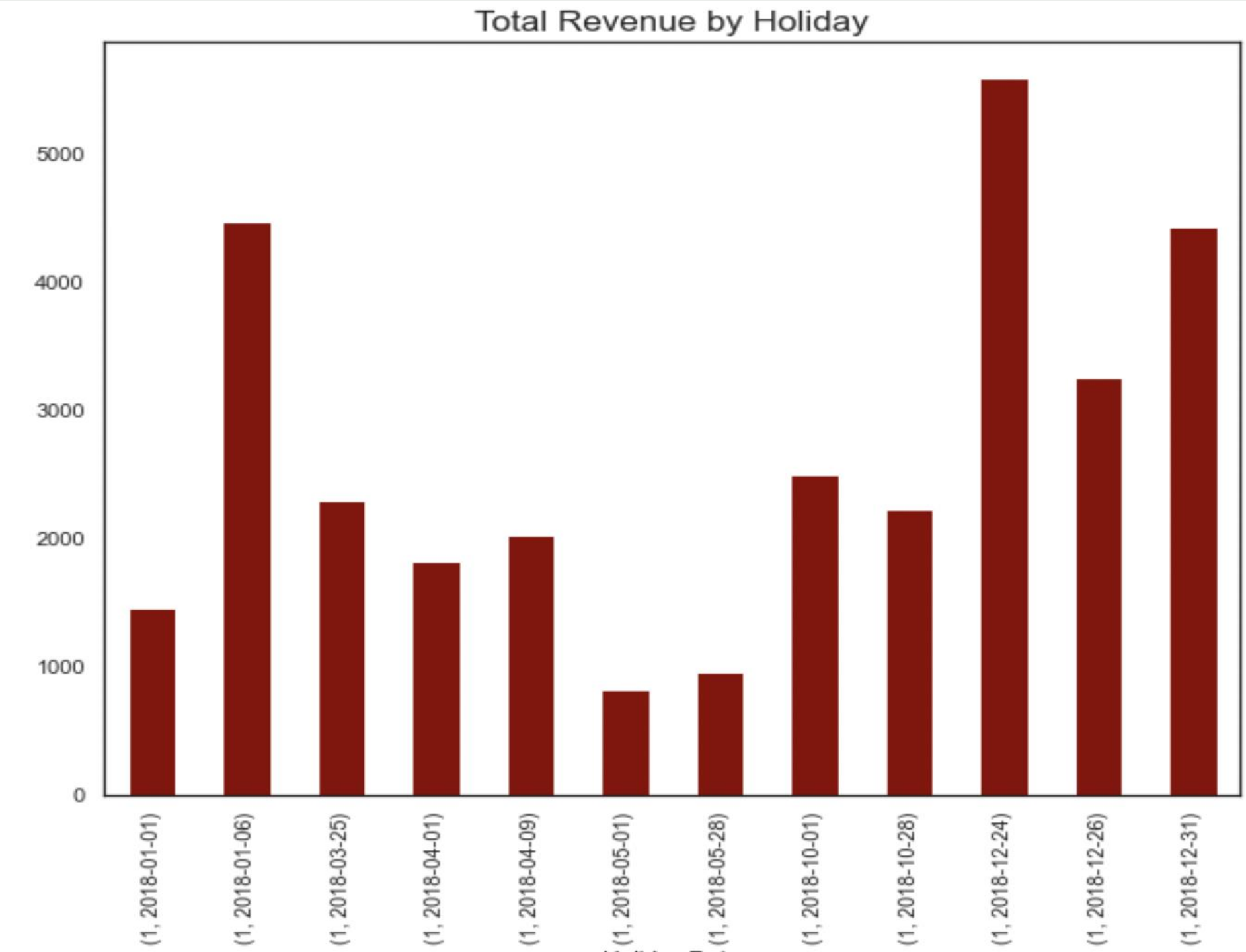
ANALYZING THE TOTAL SALES AMOUNT

REVENUE PER ORDER

Delivery vs Restaurant



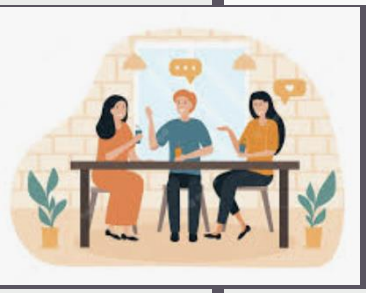

Restaurant (Dinne-Inn)
Delivery
Total Sales Amount
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
Friday
Monday
Saturday
Sunday
Thursday
Tuesday
Wednesday
Weekday (including Weekends)

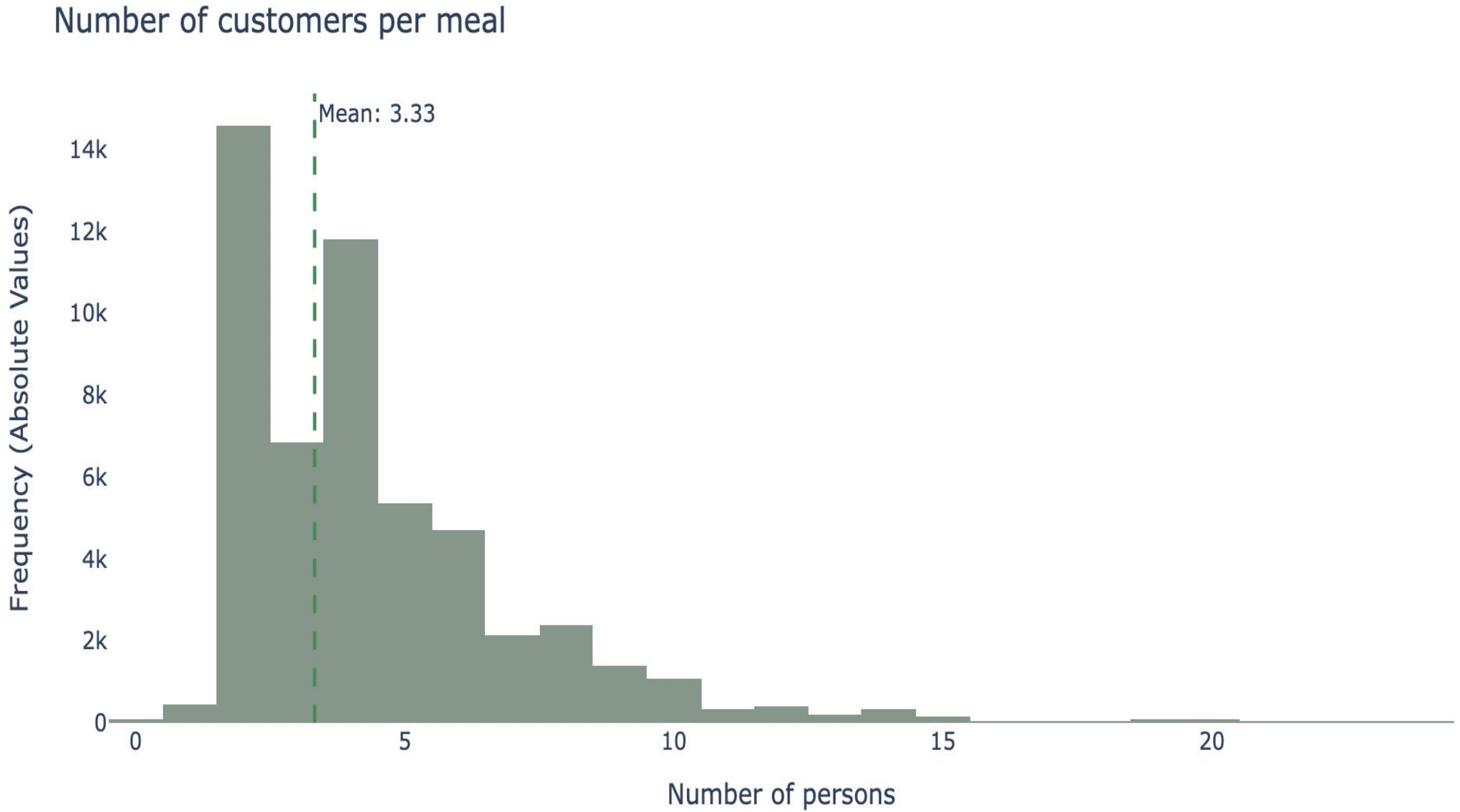

Total Revenue by Holiday
5000
4000
3000
2000
1000
0
(1, 2018-01-01)
(1, 2018-01-06)
(1, 2018-03-25)
(1, 2018-04-01)
(1, 2018-04-09)
(1, 2018-05-01)
(1, 2018-05-28)
(1, 2018-10-01)
(1, 2018-10-28)
(1, 2018-12-24)
(1, 2018-12-26)
(1, 2018-12-31)

2019
HAPPY NEW YEAR!

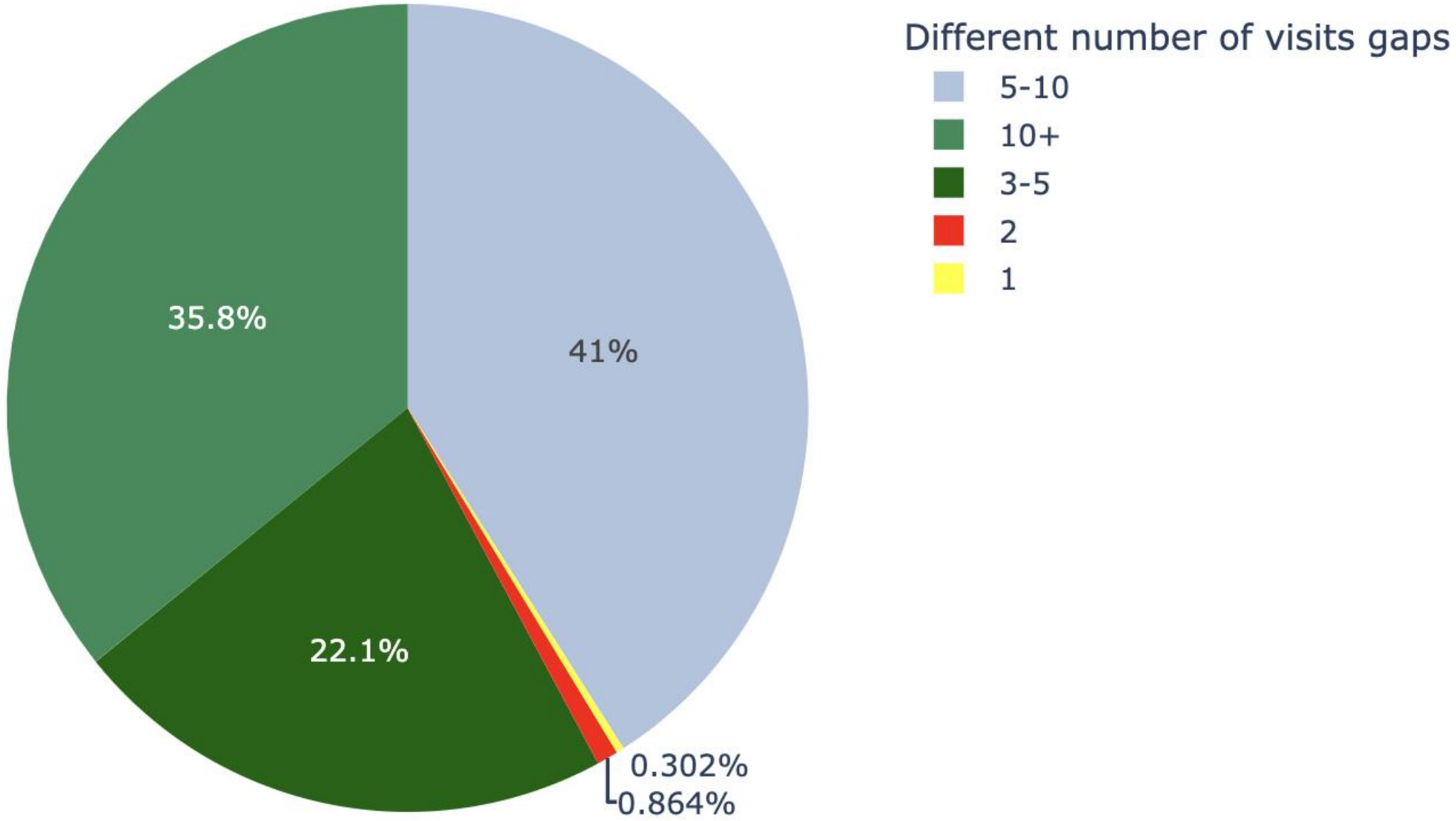
HAPPY EPIPHANY

UNDERSTANDING CUSTOMER BEHAVIOR




Number of customers per meal
Mean: 3.33
14k
12k
10k
8k
6k
4k
2k
0
Frequency (Absolute Values)
0
5
10
15
20
Number of persons

Distribution of the number of visits per client

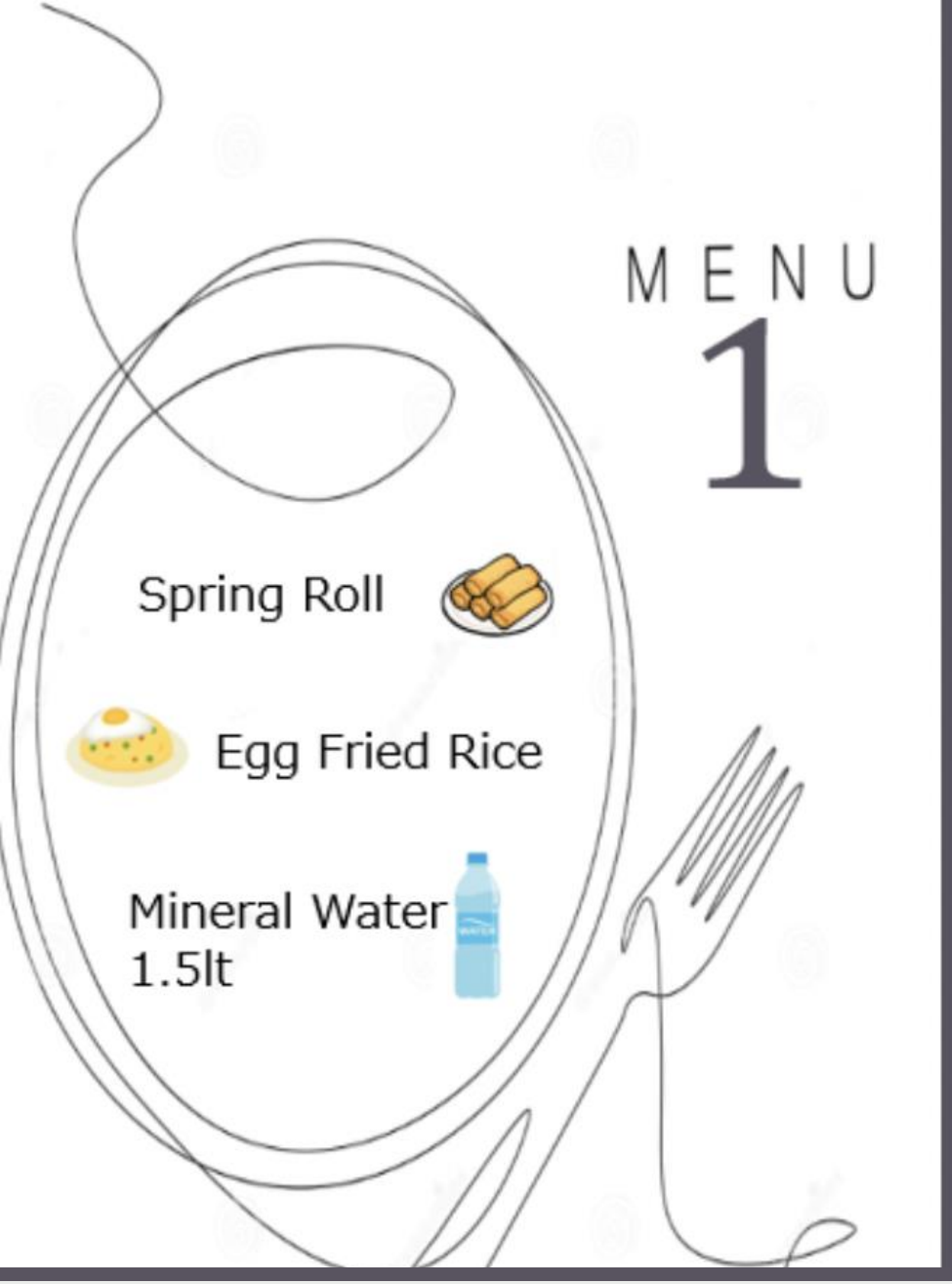


MODELLING

BREAKING DOWN THE DATASET...

Restaurant Segment	• Higher revenue per meal
Delivery Segment	• Higher proportion of revenue on Fridays and Saturdays

Drawing interesting conclusions!



Common conclusion for Dine-inn and Delivery

- **Create a New Menu 1**
- **Creation of new product:** Noodles without meat

Dine-inn

Deliveries

2

MENU

RECOMMENDATIONS

SATURDAY LUNCH CAMPAIGN

"If you order on Saturday Lunch, we offer you a discount on next dinner visit"

BEST HOLIDAYS PROMOTION

Christmas Eve

New Year's Eve

Epiphany

- More business hours
- Focus on high quality products
- Partnerships nearby restaurant

WORST HOLIDAYS PROMOTION

Labor Day/May Day

Orthodox Pentecost Monday

Attract costumers

DEPLOYMENT

Short-Term

- Application of promotions and discounts;

Medium-Term

- Final recommendation system;
- Quarterly report to the main decision-makers as marketing and financial areas;

Long-Term

- Annually modeling review;

Final recommendation system

A consultation system for employees and management

There are two types of recommendations:

Restaurant and Deliveries

Recommendation Restaurants

Based on:

- **Number of persons**
- **Ordered Items**

- ***"Three customers order Spring Roll, what are the main suggestions under the model?"***

Recommendation Delivery

Based on:

- **Customer City**
- **Ordered Items**

- ***"A costumer that orders 'Spring roll' in 'Egkomi', what are the main suggestions under the model?"***

antecedents	consequents
Spring roll	Chicken cashew nuts
Spring roll	extra sauce

CONCLUSION

- **Market Basket Analysis** is used to optimize operations and drive profitable improvements for the business;
- Understanding customer behavior is pivotal to developing **more effective marketing strategies**;
- Resulting in more **successful promotions** and ultimately increased revenue;
- Recommendations that are in line with **C's goals.**

THANK
YOU !