



COFFEE Sales Analysis

*Tools Used : S Q L | Power BI |
Excel*

INTRODUCTION

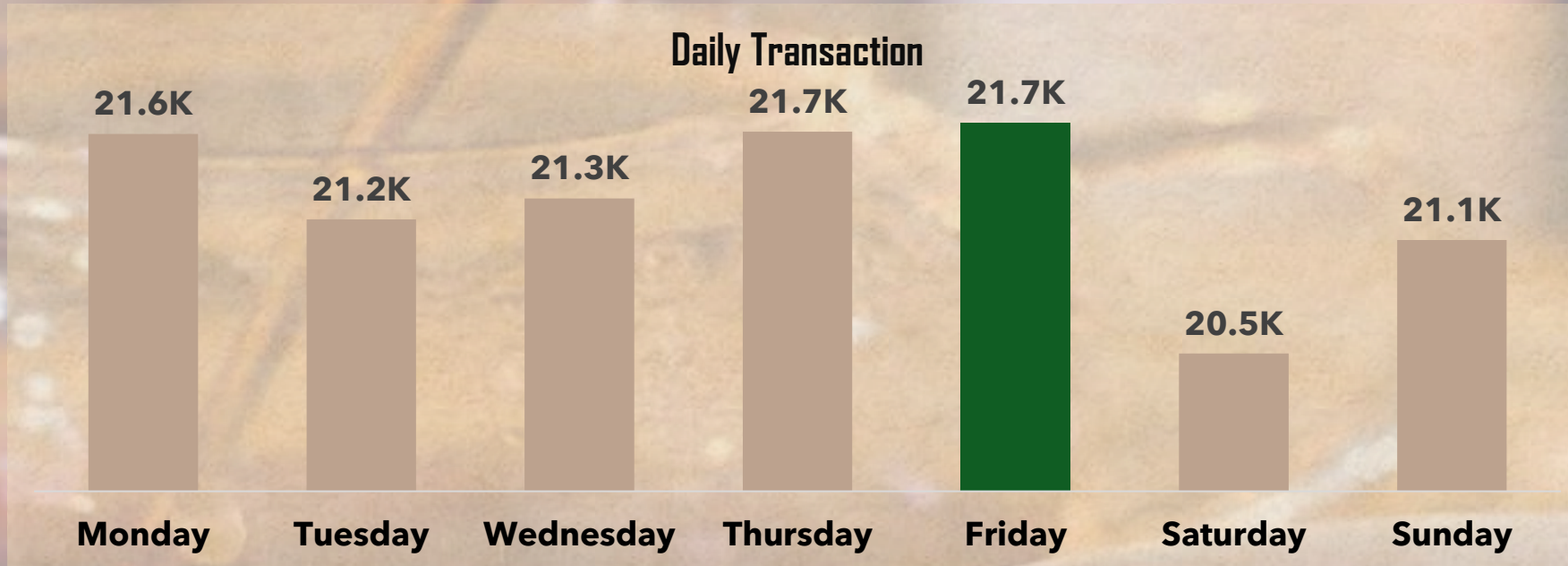
We have Transaction records for Maven Roasters, a fictitious coffee shop operating out of three NYC locations. Dataset includes the transaction date, timestamp and location, along with product-level details.

This project aims to analyze the sales data for the coffee shop to enhance revenue through optimum operational strategy.

The analysis also aims to demonstrate data cleaning and manipulation skills, various visualization technique that could be resulted to come up with meaningful insight out of the data .

***The Dataset contains only one table**

HOW TOTAL ORDER VARY BY DAY OF THE WEEK

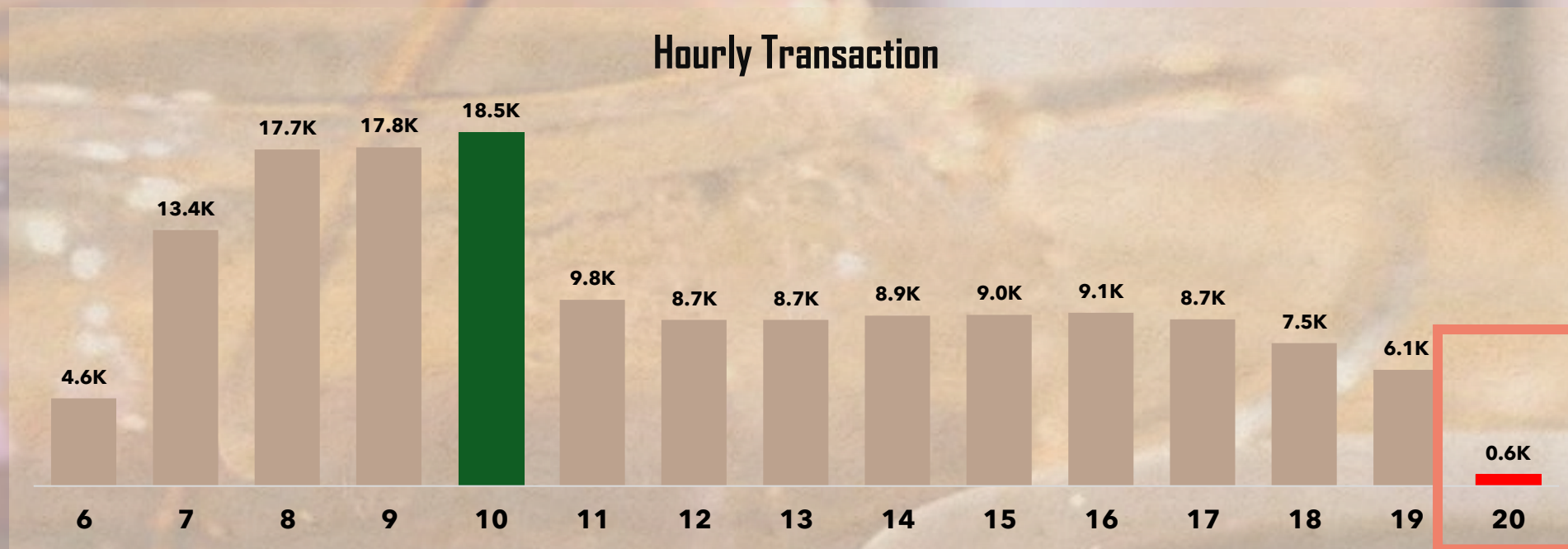


```
Select Week_day, Total_count from  
(Select dayname(transaction_date) as Week_day, weekday(transaction_date) as week_day_no,  
count(distinct(transaction_id)) as Total_count  
from coffee_sales_analysis  
group by dayname(transaction_date), weekday(transaction_date)) as TT  
order by week_day_no;
```

The busiest day of the week is Friday, however in general Monday, Thursday and Friday are the busy days of the week with a total transaction of more than 21500 a day.

Saturday is the slowest day. Weekend days in general have low transactions

WHAT ARE PEAK ORDERING HOURS



```
select hour(transaction_time) as Ord_hour, count(distinct(transaction_id)) as Total_Count
from coffee_sales_analysis
group by hour(transaction_time);
```

- Morning is the peak transaction time possibly because of the office hours. 10-11 am sees most of the traffic across 3 locations. The rise in order takes place post 7 am and that continues till 11 am in the morning. From 8 am onwards each hour sees around 18K transaction till 11 am.
- Post 7 pm transaction drastically falls down

WHAT IS THE MONTHLY SALES TREND



```
Select Ord_Month, Total_Revenue from  
(select monthname(transaction_date) as Ord_Month, Month(transaction_date) as Month_no,  
round(sum(transaction_qty*unit_price),0) as Total_Revenue  
from coffee_sales_analysis  
group by monthname(transaction_date), Month(transaction_date) ) as TT  
order by Month_no;
```

As data shows, after February the Monthly Revenue keeps on rising. This is clearly visible that summer months generate huge revenue due to increased public activities across NYC for the coffee shop

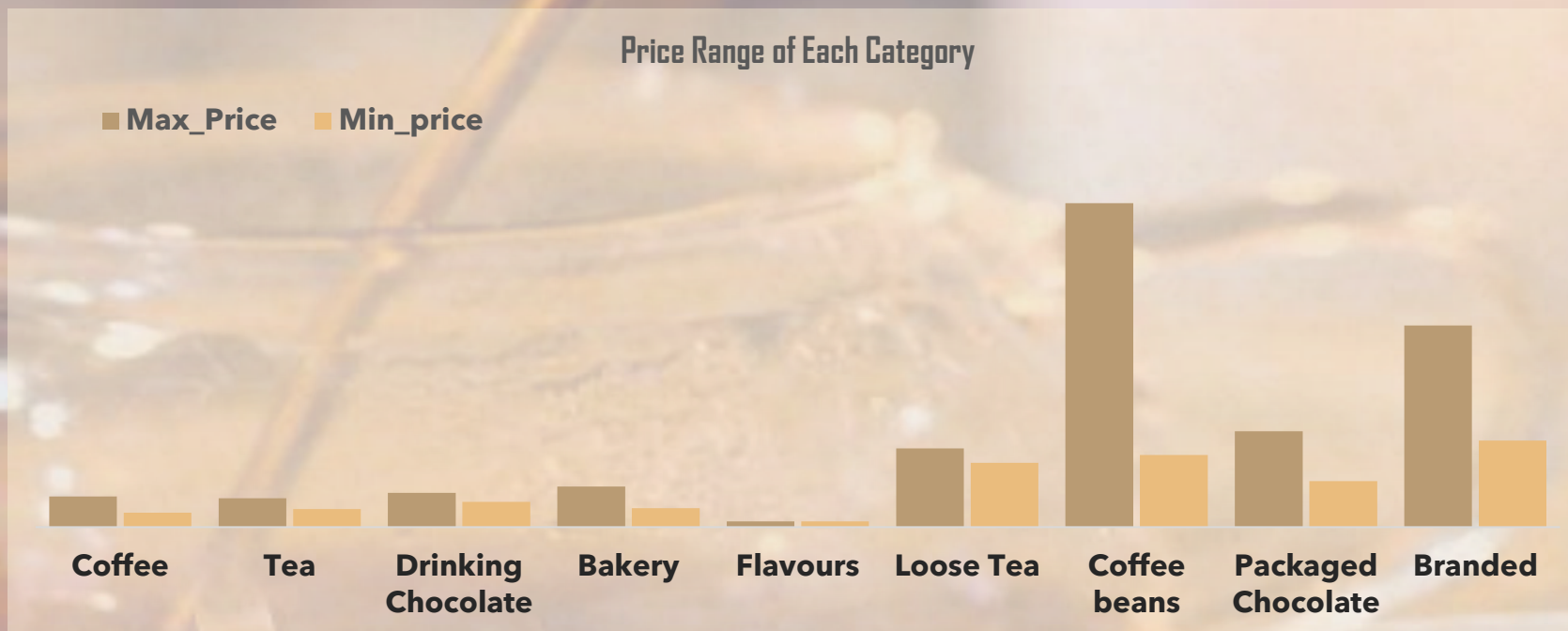
BEST PERFORMING CATEGORIES



```
Select product_category, round(sum(transaction_qty*unit_price),0) as Total_revenue,  
sum(transaction_qty) as Total_count  
from coffee_sales_analysis  
group by product_category  
order by 2 desc;
```

- **Coffee is the highest revenue generating category followed by Tea.**
- **Branded, Loose Tea, Flavours and Pckgd chocolates together generate only around \$37K. The product line within these categories needs to be analyzed and if needed should be removed from the menu to maximize profit for the shop**

WHAT IS THE PRICE RANGE FOR EACH CATEGORY



```
select product_category, max(unit_price) as Max_Price,  
min(unit_price) as Min_price  
from coffee_sales_analysis  
group by product_category;
```

- Coffee Beans category has the highest max price and Branded has the highest minimum price.
- On the other hand high revenue generating categories such as Coffee, Tea have low price range.
- Data shows Flavours category has no price variation across its product line

TOP 10 PRODUCTS

Product	Revenue % ▼	#Transaction
Barista Espresso	13.1%	24943
Brewed Chai tea	11.0%	26250
Hot chocolate	10.4%	17457
Gourmet brewed coffee	10.0%	25973
Brewed Black tea	6.9%	17462
Brewed herbal tea	6.8%	17328
Premium brewed coffee	5.6%	12431
Organic brewed coffee	5.4%	13012
Scone	5.3%	10465
Drip coffee	4.6%	12891

- **Barista Espresso is the most revenue generating product followed by Brewed Chai tea and Hot Chocolate**
- **Brewed Chai tea has the highest transaction followed by Gourmet Brewed coffee and Barista Espresso.**
- **Proper inventory needs to be checked and maintained for these popular products as among 29 unique products only these 10 contribute nearly 80% to the total Revenue**

```
with cte as
(select product_type, sum(transaction_qty*unit_price) as Rev,
Sum(transaction_qty)as Total_Count
from coffee_sales_analysis
group by product_type)
select product_type, round(Rev*100/Sum(Rev) over(),1) as Rev_Percentage, Total_Count
from cte
order by 2 desc
limit 10;
```

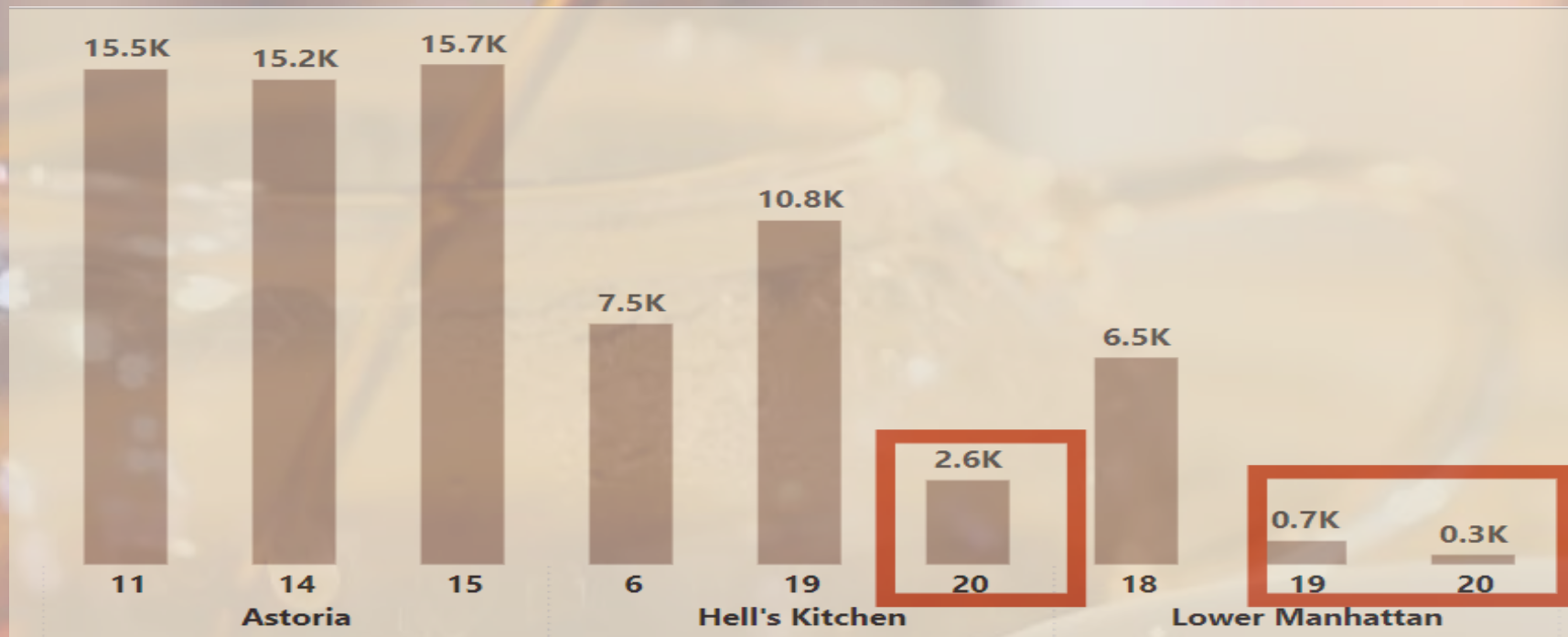

IS THERE ANY EXCEPTION IN TOP PRODUCTS ACROSS LOCATIONS

Store Location	Revenue
Astoria	
Barista Espresso	27935
Brewed Chai tea	27428
Hot chocolate	26335
Gourmet brewed coffee	23823
Brewed herbal tea	16282
Hell's Kitchen	
Barista Espresso	32420
Brewed Chai tea	25645
Hot chocolate	23586
Gourmet brewed coffee	23010
Brewed Black tea	15576
Lower Manhattan	
Barista Espresso	31051
Brewed Chai tea	24009
Gourmet brewed coffee	23201
Hot chocolate	22494
Brewed Black tea	16216

- As per analysis the top products are consistent across the three locations in NYC
- Unlike other two locations , in Astoria Herbal Tea snatched the 5th top position in terms of revenue

```
with cte as (select store_location, product_type, sum(Transaction_qty) as Total_Count,  
round(sum(transaction_qty*unit_price),0) as Total_Rev,  
rank() over(partition by store_location order by sum(transaction_qty*unit_price) desc) as rnk_No  
from coffee_sales_analysis  
group by 1, 2)  
select store_location, product_type, Total_Count, Total_Rev  
from cte  
where rnk_no <=5;
```

WHAT ARE SLOW HOURS ACROSS THE STORES



```
select store_location, Ord_Hour, Total_Rev
from Storewise_hourly_sales
where rnk_No in (1,2,3);
```

Post 8pm both Hell's Kitchen and Lower Manhattan see slow hours in terms of revenue. Astoria's revenue is still satisfying even in slow hours.

Note: Here Storewise_hourly_Sales is a view of Locationwise hourly sales created in SQL

WHAT IS THE SALES SCENARIO POST 5 PM ACROSS THE STORE LOCATIONS



```
select store_location, Ord_hour, Total_Rev
from Storewise_hourly_sales
group by store_location, Ord_hour, Total_Rev
having Ord_hour >=17;
```

- It seems Astoria gets closed between 8 pm. It is visible that even during the closing hours the revenue generation is significantly high
- However, both Hell's Kitchen and Lower Manhattan keeps it open beyond 8pm.

RECOMENDATIONS

Daily Operational recommendation: Monday, Thursday and Friday are the busy days of the week. Inventory management is important during the weekdays. Saturday and Sunday have low transactions. To increase the footfall, store can come up with strategy of weekend offers specially in Summers as summer activity causes rise in sales and transactions

Location wise Operational recommendation: Shop sales, in general is significantly low post 8pm in the evening. As we dig dip, it could be seen that in Astoria shop is closed within 8pm even after having its revenue at peak post 7pm. On the other, it is not profitable to open the shop at Hell's Kitchen post 8pm and Lower Manhattan post 7pm. Hence the coffee shop should reduce manpower in L. Manhattan and Hell's Kitchen and reallocate them to Astoria keeping it open after 7pm in order to improve revenue>profit margin

Price Range Adjustment: Since the top revenue-generating categories (like Coffee and Tea) have a low price range, strategically increasing prices could enhance profitability without significantly impacting sales volume. This should be done carefully to maintain perceived value.

If the highest-priced item (Civet Cat) is not generating enough sales or transactions, it may be wise to reevaluate its inclusion. If it's not aligning with customer demand, removing it could free up resources and reduce inventory costs. For Branded and Pckgd Chocos categories with low revenue and transactions despite a high price range, consider reviewing the product offerings in this category. If they're not selling, you might want to either lower prices, offer promotions, or discontinue them altogether.

Menu Card Changes: Simplifying the menu by removing less popular Flavours can streamline operations and reduce complexity, potentially improving customer experience and increasing sales for the remaining items.

Inventory Management: Reducing the variety of products that aren't moving can help minimize tied-up capital and improve profitability. This is especially relevant for high-cost items that aren't selling well.