

Pizza Sales Analysis using SQL and Power BI



By Pratik Pansuriya





About the Project



Hello everyone, my name is Pratik Pansuriya, and I am excited to present my project, *Pizza Sales Analysis using SQL and Power BI*.

In this project, I will analyze pizza sales data using SQL to extract valuable insights that meet customer requirements. By running specific queries, I will uncover key metrics and trends that reflect customer behavior and business performance.

Following the SQL analysis, I will build an interactive Power BI dashboard to visualize the findings and compare key metrics. This dashboard will help in understanding the performance of different pizza categories and provide actionable insights.



About the Project

Using this analysis, restaurant owners can identify underperforming pizza categories and make data-driven decisions, such as offering discounts or even discontinuing specific items to improve profitability.

This project demonstrates how leveraging SQL and Power BI can empower businesses to make smarter decisions and optimize their strategies effectively.

Approach

Part -1: My SQL

- I. Import Data
- II. Creating Database
- III. Writing Queries
- IV. Creating Report

Part -2: Power BI

- I. Connecting to My SQL Server
- II. Data Cleaning
- III. Data Processing
- IV. Data Visualization
- V. Create Dashboard



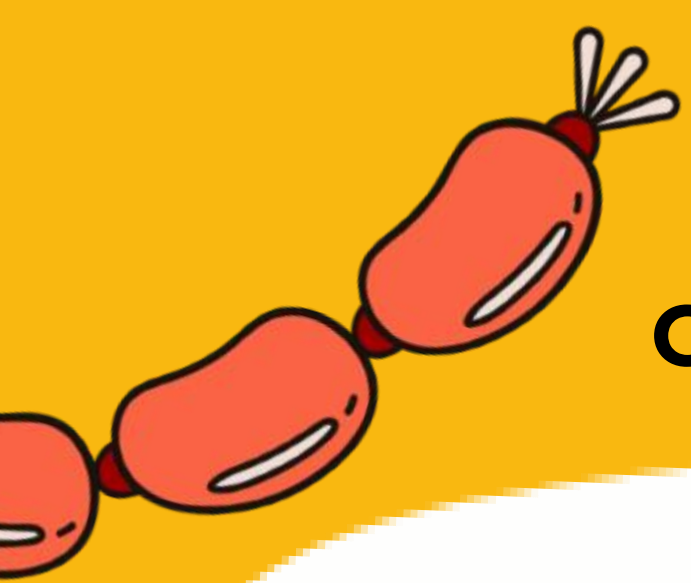
Problem Statement

KPI's Requirement

We need to analyse key indicators for our pizza sales data to gain insights into our business performance. Specifically, we want to calculate the following metrics:

1. **Total Revenue:** The sum of the total price of all pizza orders.
2. **Average Order Value:** The average amount spent per order, calculated by dividing the total revenue by the total number of orders.
3. **Total Pizzas Sold:** The sum of the quantities of all pizzas sold.
4. **Total Orders:** The total number of orders placed.
5. **Average Pizzas per Order:** The average number of pizzas sold per order, calculated by dividing the total number of pizzas sold by the total number of orders.





Problem Statement

Chart Requirement

We would like to visualize various aspects of our pizza sales data to gain insights and understand key trends. We have identified the following requirements for creating charts:

1. Daily Trend for Total Orders:

Create a bar chart that displays the daily trend of total orders over a specific time period. This chart will help us identify any patterns or fluctuations in order volumes on a daily basis.

2. Monthly Trend for Total Orders:

Create a line chart that illustrates the hourly trend of total orders throughout the day. This chart will allow us to identify peak hours or periods of high order activity.

3. Percentage of Sales by Pizza Category:

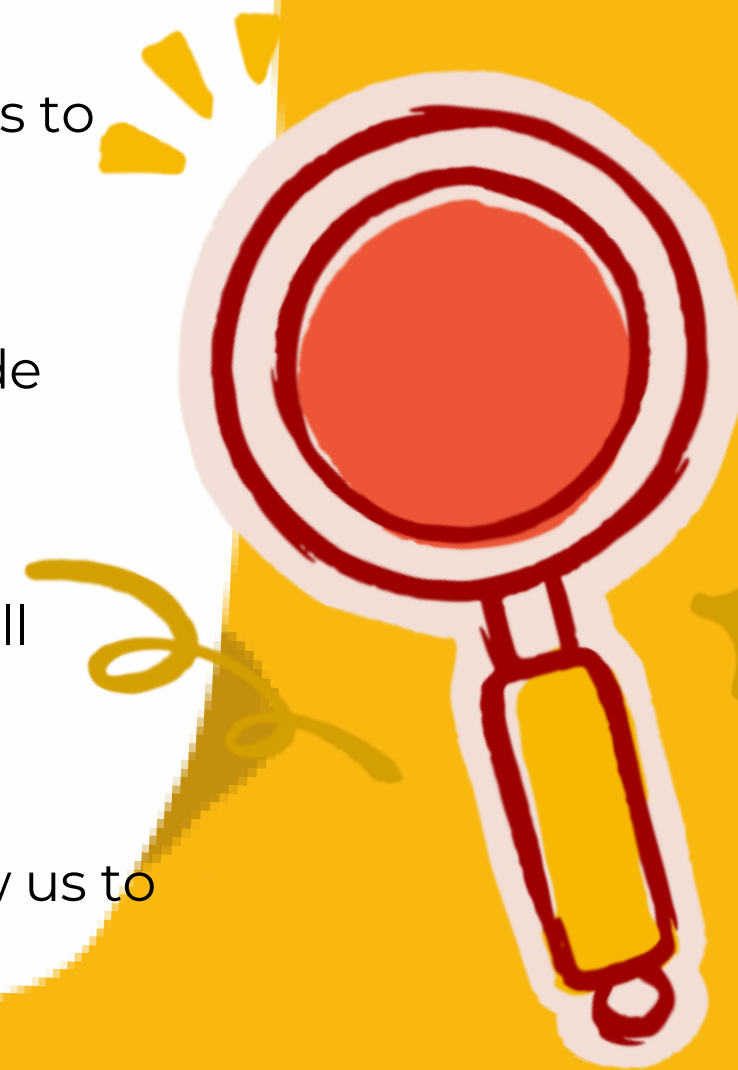
Create a pie chart that shows the distribution of sales across different pizza categories. This chart will provide insights into the popularity of various pizza categories and their contribution to overall sales.

4. Percentage of Sales by Pizza Size:

Generate a pie chart that represents the percentage of sales attributed to different pizza sizes. This chart will help us understand customer preferences for pizza sizes and their impact on sales.

5. Total Pizzas Sold by Pizza Category:

Create a bar chart that presents the total number of pizzas sold for each pizza category. This chart will allow us to compare the sales performance of different pizza categories.



Q1. Total Revenue

```
select round(sum(total_price),2) as Total_Revenue  
from pizza_sales;
```

Result Grid		Filter Rows:
	Total_Revenue	
▶	817860.05	

Q2. Average Order Value

```
select round(sum(total_price)/count(distinct order_id),2) as Average_Order_Value  
from pizza_sales;
```

Result Grid		Filter Rows:
	Average_Order_Value	
▶	38.31	



Q3. Total Pizzas Sold

```
select sum(quantity) as Total_Pizzas_Sold  
from pizza_sales;
```

Result Grid		Filter Rows:
	Total_Pizzas_Sold	
▶	49574	



Q4. Total Orders

```
select count(distinct order_id) as Total_Orders  
from pizza_sales;
```

Result Grid		Filter Rows:
	Total_Orders	
▶	21350	

Q5. Avg. Pizzas per Order



Result Grid		Filter Rows:
	Avg_Pizzas_per_Order	
▶	2.3220	

```
select sum(quantity)/count(distinct order_id) as Avg_Pizzas_per_Order  
from pizza_sales;
```



Q6. Daily Trends for Total Orders

```
SELECT DAYNAME(STR_TO_DATE(order_date, '%d-%m-%Y')) AS Order_Day,  
       COUNT(DISTINCT order_id) AS Total_Orders  
FROM pizza_sales  
GROUP BY DAYNAME(STR_TO_DATE(order_date, '%d-%m-%Y'));
```



Result Grid			Filter Rows:
	Order_Day	Total_Orders	
▶	Friday	3538	
	Monday	2794	
	Saturday	3158	
	Sunday	2624	
	Thursday	3239	
	Tuesday	2973	
	Wednesday	3024	

Q7. Monthly Trends for Total Orders





```
select monthname(STR_TO_DATE(order_date, '%d-%m-%y')) as Order_Month , count(distinct order_id) as Total_Order
from pizza_sales
group by monthname(STR_TO_DATE(order_date, '%d-%m-%y'));
```

Result Grid			Filter Rows:
	Order_Month	Total_Order	
▶	April	1799	
	August	1841	
	December	1680	
	February	1685	
	January	1845	
	July	1935	
	June	1773	
	March	1840	
	May	1853	
	November	1792	
	October	1646	
	September	1661	



Q8. Percentage of Sales by Pizza Category

```
select pizza_category, round(sum(total_price)*100/(select sum(total_price) from pizza_sales),2) as PCT
from pizza_sales
group by pizza_category;
```

Result Grid |   Filter Rows:

	pizza_category	PCT
▶	Classic	26.91
	Veggie	23.68
	Supreme	25.46
	Chicken	23.96



Q9. Percentage of Sales by Pizza Size

```
select pizza_size , round(sum(total_price)*100/(select sum(total_price) from pizza_sales),2) as PCT  
from pizza_sales  
group by pizza_size;
```

Result Grid			Filter Rows:
	pizza_size	PCT	
▶	M	30.49	
	L	45.89	
	S	21.77	
	XL	1.72	
	XXL	0.12	



Q10. Percentage of Sales by Pizza Category

```
select pizza_category , sum(quantity) as Total_pizza_sold
from pizza_sales
group by pizza_category;
```



Result Grid			Filter Rows:
	pizza_category	Total_pizza_sold	
▶	Classic	14888	
	Veggie	11649	
	Supreme	11987	
	Chicken	11050	

Q11. Top 5 Best Sellers by Revenue, Total Quantity, and Total Orders

-- by Revenue

```
select pizza_name, sum(total_price) as Total_Revenue
from pizza_sales
group by pizza_name
order by Total_Revenue desc
limit 5;
```



-- by Quantity



```
select pizza_name , sum(quantity) as Total_Quantity
from pizza_sales
group by pizza_name
order by Total_Quantity desc
limit 5;
```



-- by Orders

```
select pizza_name , count(distinct order_id) as Total_Orders
from pizza_sales
group by pizza_name
order by Total_Orders desc
limit 5;
```



Result Grid   Filter Rows: <input type="text"/>		
	pizza_name	Total_Revenue
▶	The Thai Chicken Pizza	43434.25
	The Barbecue Chicken Pizza	42768
	The California Chicken Pizza	41409.5
	The Classic Deluxe Pizza	38180.5
	The Spicy Italian Pizza	34831.25

Result Grid   Filter Rows: <input type="text"/>		
	pizza_name	Total_Quantity
▶	The Classic Deluxe Pizza	2453
	The Barbecue Chicken Pizza	2432
	The Hawaiian Pizza	2422
	The Pepperoni Pizza	2418
	The Thai Chicken Pizza	2371

Result Grid   Filter Rows: <input type="text"/>		
	pizza_name	Total_Orders
▶	The Classic Deluxe Pizza	2329
	The Hawaiian Pizza	2280
	The Pepperoni Pizza	2278
	The Barbecue Chicken Pizza	2273
	The Thai Chicken Pizza	2225

Q12. Bottom 5 Best Sellers by Revenue, Total Quantity, and Total Orders

Result Grid			Filter Rows:
	pizza_name	Total_Revenue	
▶	The Brie Carre Pizza	11588.5	
	The Green Garden Pizza	13955.75	
	The Spinach Supreme Pizza	15277.75	
	The Mediterranean Pizza	15360.5	
	The Spinach Pesto Pizza	15596	

Result Grid			Filter Rows:
	pizza_name	Total_Quantity	
▶	The Brie Carre Pizza	490	
	The Mediterranean Pizza	934	
	The Calabrese Pizza	937	
	The Spinach Supreme Pizza	950	
	The Soppressata Pizza	961	

Result Grid			Filter Rows:
	pizza_name	Total_Orders	
▶	The Brie Carre Pizza	480	
	The Mediterranean Pizza	912	
	The Calabrese Pizza	918	
	The Spinach Supreme Pizza	918	
	The Chicken Pesto Pizza	938	

-- by Revenue

```
select pizza_name, round(sum(total_price),2) as Total_Revenue
from pizza_sales
group by pizza_name
order by Total_Revenue asc
limit 5;
```

-- by Quantity

```
select pizza_name , sum(quantity) as Total_Quantity
from pizza_sales
group by pizza_name
order by Total_Quantity asc
limit 5;
```

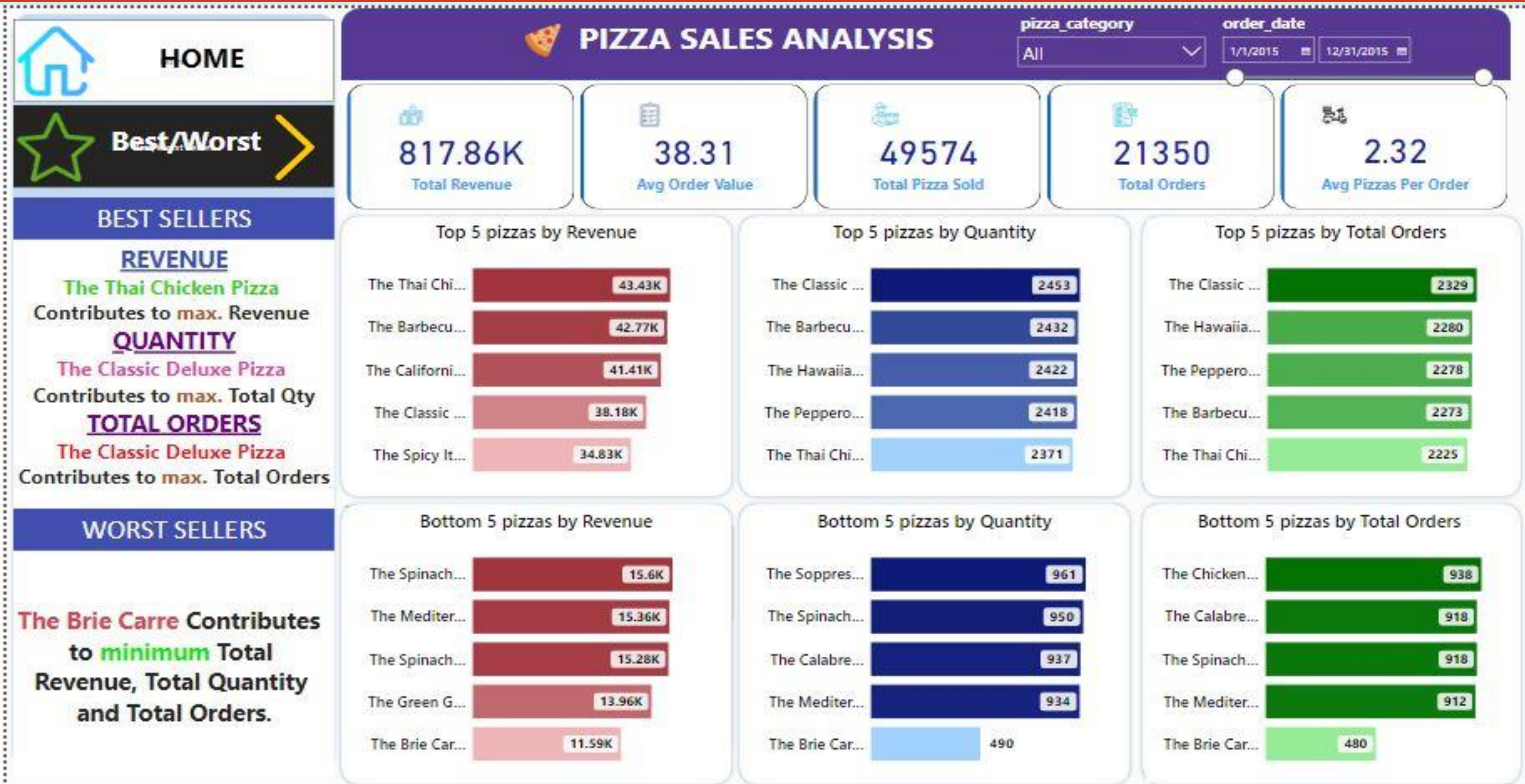
-- by Orders

```
select pizza_name , count(distinct order_id) as Total_Orders
from pizza_sales
group by pizza_name
order by Total_Orders asc
limit 5;
```




Power BI Dashboard

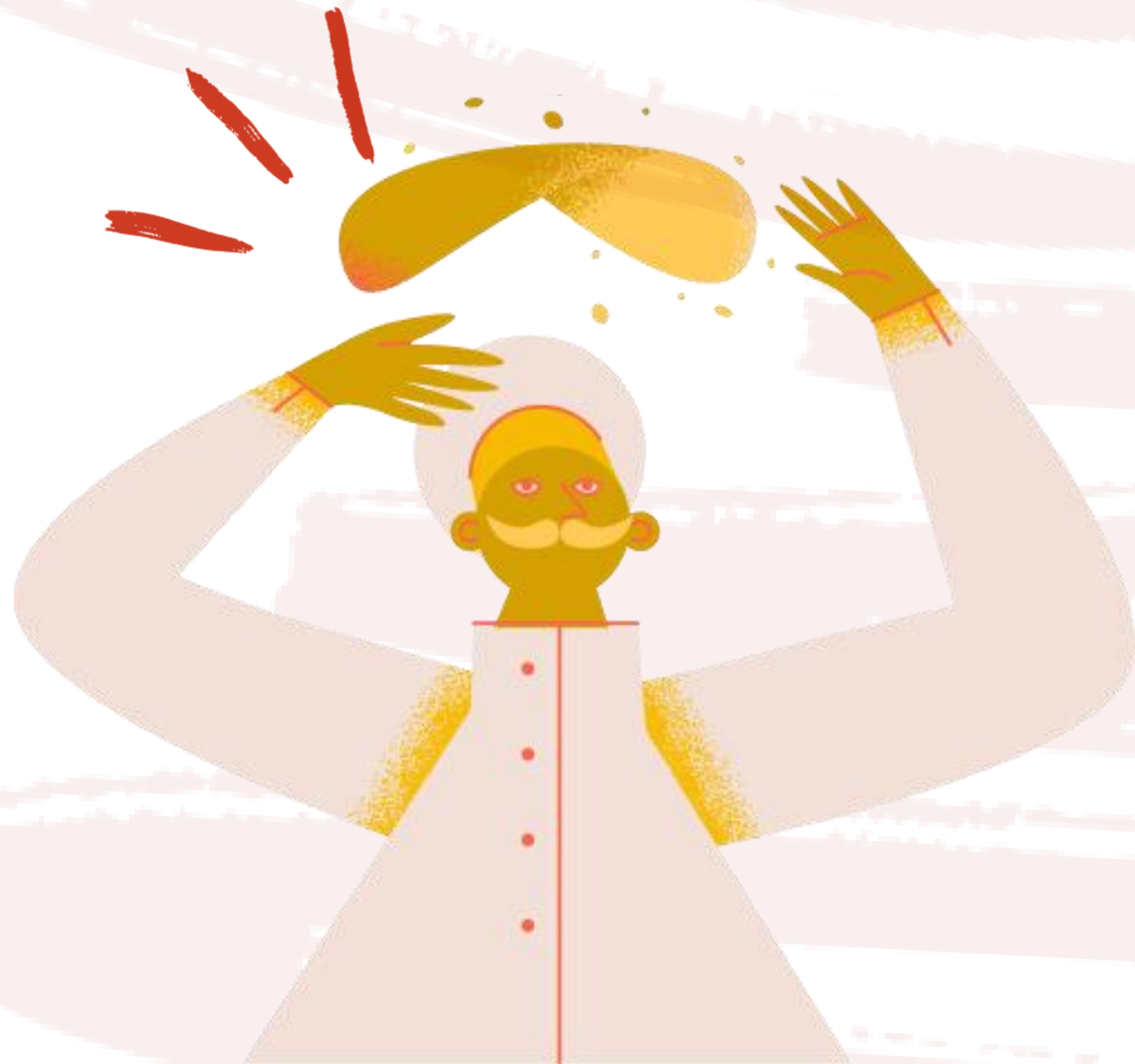


Power BI Dashboard



Insights

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- 1) **Peak Days:** Orders are highest on weekends, especially Fridays and Saturdays.
 - 2) **Top Months:** Maximum orders occur in January and July.
 - 3) **Top Category:** The "Classic" category leads in both sales and total orders.
 - 4) **Top Size:** Large-sized pizzas contribute the most to overall sales.
 - 5) **Top Revenue Pizza:** "The Thai Chicken Pizza" generates the highest revenue.
 - 6) **Top Quantity Pizza:** "The Classic Deluxe Pizza" ranks highest in total quantity and orders.
 - 7) **Lowest Performer:** "The Brie Carre" records the lowest revenue, quantity, and total orders.



Thank
You!

