

# SQL DATA EXPLORATION PROJECT

In this project, the dataset from a Pizza company was explored in order to provide the solution to these 15 questions.

1. **Total Revenue** (The sum of the total price of all pizzas)
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)
6. **Daily Trend for Total orders**
7. **Hourly Trend for Total Orders**
8. **Percentage of Sales by Pizza Category**
9. **Percentage of Sales by Pizza Category** (For only the Month of January)
10. **Percentage of Sales by Pizza Size**
11. **Percentage of Sales by Pizza Size** (For quarter of the year)
12. **Total Pizza Sold by Pizza Category**
13. **Top 5 Best Sellers by Total Pizzas Sold**
14. **Bottom 5 Worst Sellers by Total Pizzas Sold**
15. **Bottom 5 Worst Sellers by Total Pizzas Sold** (For only August)

After this exploration analysis in SQL, the same data will be exported to Excel and Power BI to visualize the result.

--To check the entire file before starting the exploration

```
SELECT *  
FROM pizza_sales
```

	pizza_id	order_id	pizza_name_id	quantity	order_date	order_time	unit_price	total_price	pizza_size	pizza_category	pizza_ingredients
7	7	3	ital_supr_m	1	2015-01-01 00:00:00.000	1899-12-30 12:12:28.000	16,5	16,5	M	Supreme	Calabrese Salami, Caj
8	8	3	prsc_argla_l	1	2015-01-01 00:00:00.000	1899-12-30 12:12:28.000	20,75	20,75	L	Supreme	Prosciutto di San Dan
9	9	4	ital_supr_m	1	2015-01-01 00:00:00.000	1899-12-30 12:16:31.000	16,5	16,5	M	Supreme	Calabrese Salami, Caj
10	10	5	ital_supr_m	1	2015-01-01 00:00:00.000	1899-12-30 12:21:30.000	16,5	16,5	M	Supreme	Calabrese Salami, Caj
11	11	6	bbq_ckn_s	1	2015-01-01 00:00:00.000	1899-12-30 12:29:36.000	12,75	12,75	S	Chicken	Barbecued Chicken, F
12	12	6	the_greek_s	1	2015-01-01 00:00:00.000	1899-12-30 12:29:36.000	12	12	S	Classic	Kalamata Olives, Feta
13	13	7	spinach_supr_s	1	2015-01-01 00:00:00.000	1899-12-30 12:50:37.000	12,5	12,5	S	Supreme	Spinach, Red Onions,
14	14	8	spinach_supr_s	1	2015-01-01 00:00:00.000	1899-12-30 12:51:37.000	12,5	12,5	S	Supreme	Spinach, Red Onions,
15	15	9	classic_dbx_s	1	2015-01-01 00:00:00.000	1899-12-30 12:52:01.000	12	12	S	Classic	Pepperoni, Mushroom
16	16	9	green_garden...	1	2015-01-01 00:00:00.000	1899-12-30 12:52:01.000	12	12	S	Veggie	Spinach, Mushrooms,
17	17	9	ital_cpcllo_l	1	2015-01-01 00:00:00.000	1899-12-30 12:52:01.000	20,5	20,5	L	Classic	Capocollo, Red Pepp
18	18	9	ital_supr_l	1	2015-01-01 00:00:00.000	1899-12-30 12:52:01.000	20,75	20,75	L	Supreme	Calabrese Salami, Caj
19	19	9	ital_supr_s	1	2015-01-01 00:00:00.000	1899-12-30 12:52:01.000	12,5	12,5	S	Supreme	Calabrese Salami, Caj
20	20	9	mexicana_s	1	2015-01-01 00:00:00.000	1899-12-30 12:52:01.000	12	12	S	Veggie	Tomatoes, Red Pepp

1--Total Revenue (The sum of the total price of all pizzas)

```
SELECT SUM(total_price) Total_Revenue  
FROM pizza_sales
```

	Total_Revenue
1	817860,0499999992

2--Average Order Value (The average amount spent per order, calculated by dividing the total revenue by the total number of orders)

```
SELECT SUM(total_price)/ COUNT(DISTINCT order_id) Avg_Order_Value  
FROM pizza_sales
```

	Avg_Order_Value
1	38,3072622950816

3--Total Pizzas Sold (The sum of the quantities of all pizzas sold)

```
SELECT SUM(quantity) Total_Pizzas_Sold  
FROM pizza_sales
```

	Total_Pizzas_Sold
1	49574

#### 4--Total Orders (The total number of orders placed)

```
SELECT COUNT(DISTINCT order_id) Total_Orders
FROM pizza_sales
```

Results		Messages
	Total_Orders	
1	21350	

#### 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)

```
SELECT CAST(SUM(quantity) / COUNT(DISTINCT order_id) AS DECIMAL(10,2))
Average_Pizzas_Per_Order
FROM pizza_sales
```

Results		Messages
	Average_Pizzas_Per_Order	
1	2.32	

#### 6--Daily Trend for Total orders

```
SELECT DATENAME(DW, order_date) as Order_Day, COUNT(DISTINCT order_id) as Total_orders
FROM pizza_sales
GROUP BY DATENAME(DW, order_date)
ORDER BY Total_orders DESC
```

Results		Messages
	Order_Day	Total_orders
1	Friday	3538
2	Thursday	3239
3	Saturday	3158
4	Wednesday	3024
5	Tuesday	2973
6	Monday	2794
7	Sunday	2624

### 7--Hourly Trend for Total Orders

```
SELECT DATEPART(HOUR, order_time) as Order_hours, COUNT(DISTINCT order_id) as
Total_orders
FROM pizza_sales
GROUP BY DATEPART(HOUR, order_time)
ORDER BY DATEPART(HOUR, order_time)
```

	Order_hours	Total_orders
2	10	8
3	11	1231
4	12	2520
5	13	2455
6	14	1472
7	15	1468
8	16	1920
9	17	2336
10	18	2399
11	19	2009
12	20	1642
13	21	1198
14	22	663
15	23	28

### 8--Percentage of Sales by Pizza Category

```
SELECT pizza_category, CAST(SUM(total_price)*100 / (SELECT sum(total_price) from
pizza_sales)AS DECIMAL(10)) AS Total_Sale_Percentage
FROM pizza_sales
GROUP BY pizza_category
```

	pizza_category	Total_Sale_Percentage
1	Chicken	23.96
2	Supreme	25.46
3	Classic	26.91
4	Veggie	23.68

### 9--Percentage of Sales by Pizza Category (For only the Month of January)

```
SELECT pizza_category, SUM(total_price)*100 / (SELECT sum(total_price) from
pizza_sales WHERE MONTH(order_date) = 1) AS January_Sale_Percentage
FROM pizza_sales
WHERE MONTH(order_date) = 1
GROUP BY pizza_category
```

	pizza_category	January_Sale_Percentage
1	Chicken	23.20
2	Supreme	25.69
3	Classic	26.68
4	Veggie	24.44

### 10--Percentage of Sales by Pizza Size

```
SELECT pizza_size, CAST(SUM(total_price)*100 / (SELECT sum(total_price) from
pizza_sales) AS DECIMAL (10,2)) AS Quarter_Sale_Percentage
FROM pizza_sales
GROUP BY pizza_size
ORDER BY Quarter_Sale_Percentage DESC
```

	pizza_size	Total_Sale_Percentage
1	L	45.89
2	M	30.49
3	S	21.77
4	XL	1.72
5	XXL	0.12

### 11--Percentage of Sales by Pizza Size (For quarter of the year)

```
SELECT pizza_size, CAST(SUM(total_price)*100 / (SELECT sum(total_price) from
pizza_sales WHERE DATEPART(QUARTER, order_date)=1) AS DECIMAL (10,2)) AS
Quarter_Sale_Percentage
FROM pizza_sales
WHERE DATEPART(QUARTER, order_date)=1
GROUP BY pizza_size
ORDER BY Quarter_Sale_Percentage DESC
```

	pizza_size	Quarter_Sale_Percentage
1	L	46.37
2	M	29.78
3	S	22.10
4	XL	1.60
5	XXL	0.14

### 12--Total Pizza Sold by Pizza Category

```
SELECT pizza_category, SUM(quantity) AS Total_Pizzas_Sold
FROM pizza_sales
GROUP BY pizza_category
ORDER BY Total_Pizzas_Sold DESC
```

	pizza_category	Total_Pizzas_Sold
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

### 13--Top 5 Best Sellers by Total Pizzas Sold

```
SELECT TOP 5 pizza_name, SUM(quantity) as Top5_Pizzas_Sold
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Top5_Pizzas_Sold DESC
```

Results Messages		
	pizza_name	Top5_Pizzas_Sold
1	The Classic Deluxe Pizza	2453
2	The Barbecue Chicken Pizza	2432
3	The Hawaiian Pizza	2422
4	The Pepperoni Pizza	2418
5	The Thai Chicken Pizza	2371

### 14--Bottom 5 Worst Sellers by Total Pizzas Sold

```
SELECT TOP 5 pizza_name, SUM(quantity) as Bottom5_Pizzas_Sold
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Bottom5_Pizzas_Sold ASC
```

Results Messages		
	pizza_name	Bottom5_Pizzas_Sold
1	The Brie Carre Pizza	490
2	The Mediterranean Pizza	934
3	The Calabrese Pizza	937
4	The Spinach Supreme Pizza	950
5	The Soppressata Pizza	961

### 15--Bottom 5 Worst Sellers by Total Pizzas Sold (For only August)

```
SELECT TOP 5 pizza_name, SUM(quantity) as August_Bottom5_Pizzas_Sold
FROM pizza_sales
WHERE MONTH(order_date) = 8
GROUP BY pizza_name
ORDER BY August_Bottom5_Pizzas_Sold ASC
```

Results Messages		
	pizza_name	August_Bottom5_Pizzas_Sold
1	The Brie Carre Pizza	43
2	The Calabrese Pizza	73
3	The Mediterranean Pizza	77
4	The Italian Vegetables Pizza	78
5	The Soppressata Pizza	79