Data Analysis: Excel-SQL-Power BI

**Project Name: Pizza Sales** 

#### Part-1: MS SQL Server

- Import raw data
- Creating Database
- Writing SQL Queries
- Creating report

#### Part-2: Power BI

- Connecting to MS SQL Server
- Data Cleaning
- Data Processing- DAX functionalities
- Data visualization
- Report/ Dashboard

#### **Problem Statement:**

#### **KPI's Requirement**

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

- 1. Total Revenue
- 2. Average Order Value
- 3. Total Pizza Sold
- 4. Total Orders
- 5. Average Pizzas Per Orders

#### **Charts Requirement**

- 1. Daily Trend for Total Orders
- 2. Monthly Trend for Total Orders
- 3. Percentage of Sales by Pizza Category
- 4. Percentage of Sales by Pizza Size
- 5. Total Pizzas sold by Pizza Category
- 6. Top 5 Best Sellers by Revenue, Total Quantity and Total Orders
- 7. Bottom 5 Worst Sellers by Revenue, Total Quantity and Total Orders

#### **Software Used:**

MS Office/Excel

MS SQL Server

SQL Server Management Studio

Power BI

# Pizza Sales SQL Queries:

KPI's:

#### 1. Total Revenue:

```
SELECT SUM(total_price) AS Total_Revenue from pizza_sales;

Results Messages

Total_Revenue

1 817860.05083847
```

# 2. Average Order Value:

```
SQLQuery1.sql - FA...akhrul Ahmed (67))* 

SELECT * FROM pizza_sales;

SELECT SUM(total_price) / COUNT(DISTINCT order_id) AS Avg_Order_Value from pizza_sales;

Results * Messages*

Avg_Order_Value*

1 * 38.3072623343546
```

#### 3. Total Pizzas Sold:

```
SELECT * FROM pizza_sales;

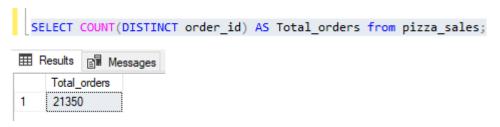
SELECT SUM(quantity) AS Total_Pizza_Sold from pizza_sales;

Results Messages

Total_Pizza_Sold

1 49574
```

#### 4. Total Orders:



# 5. Average Pizzas Per Orders:

```
SELECT CAST(CAST(SUM(quantity) AS DECIMAL(10,2)) /

CAST(COUNT(DISTINCT order_id) AS DECIMAL(10,2)) AS DECIMAL(10,2)) AS AVG_Pizzas_Per_orders from pizza_sales;

-- The average could be a decimal number. To show it properly we have used CAST function

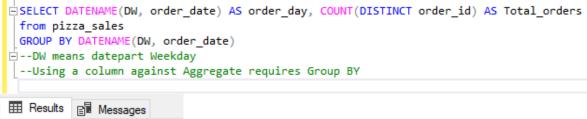
--10 means upto 10th place it will be counted

--2 means upto 2 decimal places will be shown in the result
```



# **Charts Requirement:**

# 8. Daily Trend for Total Orders- Bar chart



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

# 9. Monthly Trend for Total Orders- Line chart



# 10. % of Sales by Pizza Category- Pie chart

```
SELECT pizza_category, SUM(total_price) * 100 /
  (SELECT SUM(total price) from pizza sales) AS PCT
  from pizza_sales
  GROUP BY pizza_category;
Results Messages
    pizza_category
                  23.9551375322885
     Chicken
1
2
                  25.4563112111462
     Supreme
3
                   26.9059602306976
     Classic
4
                   23.6825910258677
     Veggie
```

```
SELECT pizza_category, SUM(total_price) as Total_Sales, SUM(total_price) * 100 /
(SELECT SUM(total_price) from pizza_sales WHERE MONTH(order_date) = 1) AS PCT
from pizza_sales
WHERE MONTH(order_date) = 1
GROUP BY pizza_category;
--If we ant to see the total sales also then we create another column with SUM
--If we want to filter the data then we can use WHERE clause
--MONTH(order_date) = 1 means January and 2 means February
```

Results Ressages				
	pizza_category	Total_Sales	PCT	
1	Chicken	16188.75	23.1952780348435	
2	Supreme	17929.7499866486	25.6897867985821	
3	Classic	18619.4000015259	26.6779189176038	
4	Veggie	17055.4000778198	24.4370162489706	

# 11. % of Sales by Pizza Size- Pie chart

	pizza_size	Total_Sales	PCT
1	L	95229.65	46.37
2	M	61159.00	29.78
3	S	45384.25	22.10
4	XL	3289.50	1.60
5	XXL	287.60	0.14

#### 12. Total Pizzas sold by Pizza Category - Funnel chart

```
SELECT pizza_size, CAST(SUM(total_price) AS DECIMAL(10,2)) AS Total_Sales, CAST(SUM(total_price) * 100 /

(SELECT SUM(total_price) from pizza_sales WHERE DATEPART(QUARTER, order_date)=1) AS DECIMAL(10,2)) AS PCT

from pizza_sales

WHERE DATEPART(QUARTER, order_date)=1

GROUP BY pizza_size

ORDER BY PCT DESC;

-- For making two decimal points use CAST

--WHERE clause is used to see the first quarter of sales percentage
```

■ Results				
	pizza_	size	Total_Sales	PCT
1	L		95229.65	46.37
2	M		61159.00	29.78
3	S		45384.25	22.10
4	XL		3289.50	1.60
5	XXL		287.60	0.14

# 13. Top 5 Best Sellers by Revenue, Total Quantity and Total Orders- Bar chart

```
☐ SELECT TOP 5 pizza_name, SUM(total_price) AS Total_Revenue
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Revenue DESC;
```

⊞ Results				
	pizza_name	Total_Revenue		
1	The Thai Chicken Pizza	43434.25		
2	The Barbecue Chicken Pizza	42768		
3	The California Chicken Pizza	41409.5		
4	The Classic Deluxe Pizza	38180.5		
5	The Spicy Italian Pizza	34831.25		

4

5

The Mediterranean Pizza

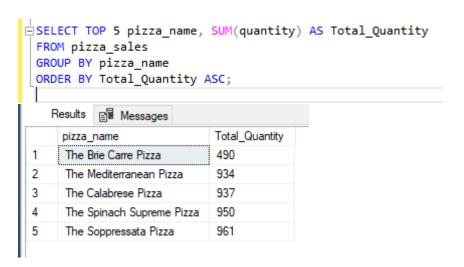
The Spinach Pesto Pizza

# 14. Bottom 5 Worst Sellers by Revenue, Total Quantity and Total Orders- Bar chart

```
SELECT TOP 5 pizza_name, SUM(total_price) AS Total_Revenue
  FROM pizza_sales
 GROUP BY pizza_name
 ORDER BY Total Revenue ASC;
⊟--DESC gives top 5 results
 --ASC gives bottom 5 results
 Results Messages
     pizza_name
                             Total_Revenue
 1
      The Brie Carre Pizza
                             11588.4998130798
 2
      The Green Garden Pizza
                             13955.75
 3
      The Spinach Supreme Pizza 15277.75
```

15360.5

15596



□SELECT TOP 5 pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders
| FROM pizza\_sales
| GROUP BY pizza\_name
| ORDER BY Total\_Orders ASC;

⊞ Results ☑ Messages			
	pizza_name	Total_Orders	
1	The Brie Carre Pizza	480	
2	The Mediterranean Pizza	912	
3	The Spinach Supreme Pizza	918	
4	The Calabrese Pizza	918	
5	The Chicken Pesto Pizza	938	