

## **PROBLEM STATEMENT**

### **KPI's REQUIREMENT:**

We need to analyze the 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 prize 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.

### **CHARTS 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. Hourly 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 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 that attributed to different pizza sizes. This chart will help us understand customer preferences for pizza sizes and their impact on sales.
5. Total Pizza Sold by Pizza Category:  
Create a funnel chart that represents the total number of pizzas sold for each pizza category. This chart will allow us to compare the sales performance of different pizza categories.
6. Top 5 Best Sellers by Total Pizzas Sold:  
Create a bar chart highlighting the top 5 best-selling pizzas based on the total number of pizzas sold. This chart will help us identify the most popular pizza options.
7. Bottom 5 Worst Sellers by Total Pizzas Sold:  
Create a bar chart showcasing the bottom 5 worst-selling pizzas based on the total number of pizzas sold. This chart will enable us to identify underperforming or less popular pizza options.

## KPIs

```
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	piz
1	1	1	hawaiian_m	1	2015-01-01	11:38:36.00000000	13.25	13.25	M	Classic	Sliced Ham, Pineapple, Mozzarella Cheese	Th
2	2	2	classic_dlx_m	1	2015-01-01	11:57:40.00000000	16	16	M	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Ba...	Th
3	3	2	five_cheese_l	1	2015-01-01	11:57:40.00000000	18.5	18.5	L	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked Goud...	Th
4	4	2	ital_supr_l	1	2015-01-01	11:57:40.00000000	20.75	20.75	L	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	Th
5	5	2	mexicana_m	1	2015-01-01	11:57:40.00000000	16	16	M	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red Onio...	Th
6	6	2	thai_chn_l	1	2015-01-01	11:57:40.00000000	20.75	20.75	L	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, Thai Sw...	Th
7	7	3	ital_supr_m	1	2015-01-01	12:12:28.00000000	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	Th
8	8	3	prsc_argla_l	1	2015-01-01	12:12:28.00000000	20.75	20.75	L	Supreme	Prosciutto di San Daniele, Arugula, Mozzarella Cheese	Th
9	9	4	ital_supr_m	1	2015-01-01	12:16:31.00000000	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	Th
10	10	5	ital_supr_m	1	2015-01-01	12:21:30.00000000	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	Th

### 1. Total Revenue:

```
SELECT SUM(total_price) as TOTAL_REVENVUE FROM pizza_sales
```

	TOTAL_REVENVUE
1	817860.05083847

### 2. Average Order Value:

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

Output:

	Avg_Order_Value
1	38.3072623343546

### 3. Total Pizzas Sold:

```
SELECT SUM(quantity) as Total_Pizza_Sold FROM pizza_sales
```

Output:

	Total_Pizza_Sold
1	49574

### 4. Total Orders:

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

Output:

	Total_Orders
1	21350

### 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_Order FROM pizza_sales
```

Output:

	Avg_Pizzas_Per_Order
1	2.32

### 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
```

Output:

	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

### Hourly Trend For 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 Total_Orders DESC
```

Output:

	Order_hours	Total_Orders
1	12	2520
2	13	2455
3	18	2399
4	17	2336
5	19	2009
6	16	1920
7	20	1642
8	14	1472
9	15	1468
10	11	1231
11	21	1198

### % of Sales By Pizza Category:

```
SELECT pizza_category, CAST(SUM(total_price) AS decimal (10,2)) AS Total_Revenue,
CAST(SUM(total_price) * 100/(SELECT SUM(total_price) FROM pizza_sales)
AS DECIMAL (10,2)) AS PCT FROM pizza_sales
GROUP BY pizza_category
```

Output:

	pizza_category	Total_Revenue	PCT
1	Classic	220053.10	26.91
2	Chicken	195919.50	23.96
3	Veggie	193690.45	23.68
4	Supreme	208197.00	25.46

### % of Sales by Pizza Size:

```
SELECT pizza_size, CAST(SUM(total_price) AS decimal (10,2)) AS Total_Revenue,  
CAST(SUM(total_price) * 100/(SELECT SUM(total_price) FROM pizza_sales)  
AS DECIMAL (10,2)) AS PCT FROM pizza_sales  
GROUP BY pizza_size  
ORDER BY pizza_size
```

Output:

	pizza_category	Total_Revenue	PCT
1	Classic	220053.10	26.91
2	Chicken	195919.50	23.96
3	Veggie	193690.45	23.68
4	Supreme	208197.00	25.46

### Total Pizzas Sold by Pizza Category:

```
SELECT pizza_category, SUM(quantity) as Total_Quantity_Sold FROM pizza_sales  
GROUP BY pizza_category  
ORDER BY Total_Quantity_Sold DESC
```

Output:

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

### Top 5 Best Sellers by Total Pizzas Sold:

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

Output:

	pizza_name	Total_Pizza_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

### Bottom 5 Worst Sellers by Total Pizzas Sold:

```
SELECT TOP 5 pizza_name, SUM(quantity) AS Total_Pizza_Sold FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Pizza_Sold
```

Output:

	pizza_name	Total_Pizza_Sold
1	The Brie Carré Pizza	490
2	The Mediterranean Pizza	934
3	The Calabrese Pizza	937
4	The Spinach Supreme Pizza	950
5	The Soppressata Pizza	961