

Problem Statement

KPI's Requirement

We need to analyze 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.
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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 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 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 funnel 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.

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.

PIZZA SALES SQL QUERIES

A. 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

```
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 SUM(quantity) AS Total_pizza_sold FROM pizza_sales
```

Results Messages	
	Total_pizza_sold
1	49574

4. Total Orders

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

Results Messages	
	Total_Orders
1	21350

5. Average Pizzas Per Order

```
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
```

Results Messages	
	Avg_Pizzas_per_order
1	2.32

B. 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)
```

Output:

	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

C. Monthly Trend for Orders

```
select DATENAME(MONTH, order_date) as Month_Name, COUNT(DISTINCT order_id) as  
Total_Orders  
from pizza_sales  
GROUP BY DATENAME(MONTH, order_date)
```

Output

	Month_Name	Total_Orders
1	February	1685
2	June	1773
3	August	1841
4	April	1799
5	May	1853
6	December	1680
7	January	1845
8	September	1661
9	October	1646
10	July	1935
11	November	1792
12	March	1840

D. % 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

E. % 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_size	total_revenue	PCT
1	L	375318.70	45.89
2	M	249382.25	30.49
3	S	178076.50	21.77
4	XL	14076.00	1.72
5	XXL	1006.60	0.12

F. Total Pizzas Sold by Pizza Category

```
SELECT pizza_category, SUM(quantity) as Total_Quantity_Sold
```

```

FROM pizza_sales
WHERE MONTH(order_date) = 2
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

G. Top 5 Pizzas by Revenue

```

SELECT Top 5 pizza_name, SUM(total_price) AS Total_Revenue
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Revenue DESC

```

	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

H. Bottom 5 Pizzas by Revenue

```

SELECT Top 5 pizza_name, SUM(total_price) AS Total_Revenue
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Revenue ASC

```

	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
4	The Mediterranean Pizza	15360.5
5	The Spinach Pesto Pizza	15596

I. Top 5 Pizzas by Quantity

```
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

J. Bottom 5 Pizzas by Quantity

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

Output

	pizza_name	Total_Pizza_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

K. Top 5 Pizzas by Total Orders

```
SELECT Top 5 pizza_name, COUNT(DISTINCT order_id) AS Total_Orders
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Orders DESC
```

	pizza_name	Total_Orders
1	The Classic Deluxe Pizza	2329
2	The Hawaiian Pizza	2280
3	The Pepperoni Pizza	2278
4	The Barbecue Chicken Pizza	2273
5	The Thai Chicken Pizza	2225

L. Borrom 5 Pizzas by Total Orders

```
SELECT Top 5 pizza_name, COUNT(DISTINCT order_id) AS Total_Orders
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Orders ASC
```

	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

NOTE

If you want to apply the pizza_category or pizza_size filters to the above queries you can use WHERE clause. Follow some of below examples

```
SELECT Top 5 pizza_name, COUNT(DISTINCT order_id) AS Total_Orders
FROM pizza_sales
WHERE pizza_category = 'Classic'
GROUP BY pizza_name
ORDER BY Total_Orders ASC
```

1. The Questions I Was Interested in Answering

I aimed to analyze pizza sales performance by answering:

- What is the total revenue, average order value, and pizzas sold per order?
- What are the daily and hourly sales trends?
- Which pizza sizes and categories contribute most to sales?
- What are the best and worst-selling pizzas?

2. The Steps I Took

- **Data Preparation:** Imported, cleaned, and structured the pizza sales dataset in **Power BI**.
- **KPI Calculations:** Created measures for total revenue, average order value, and total pizzas sold.
- **Trend & Performance Analysis:** Built visualizations for daily and hourly sales, category and size distribution, and top/bottom-selling pizzas.
- **Dashboard Development:** Designed an interactive Power BI dashboard with slicers for dynamic filtering.

3. My Key Takeaways

- **Sales peak during lunch and dinner hours**, guiding staffing and inventory planning.
- **Large and classic pizzas dominate sales**, while some variants underperform.
- **Marketing and promotions** can boost weaker-selling pizzas.
- **Data-driven insights** enhance decision-making, optimizing operations and profitability.

By leveraging **Power BI**, I transformed raw sales data into actionable insights, improving business strategy and efficiency.