# PIZZA-SALES ANALYSIS

## TABLE OF CONTENT:

## OBJECTIVE:

This project is focused on analyzing pizza sales data to uncover customer preferences, identify popular pizza types, and understand monthly and weekly sales trends, among other insights. By utilizing MYSQL queries for data extraction and transformation alongside Excel for visualization, we aim to deliver valuable insights to stakeholders.

## PROBLEM STATEMENT:

A well-known pizza store seeks to enhance its sales and marketing strategies to boost revenue and improve customer satisfaction. To accomplish this, the company needs to analyze its sales data to reveal customer preferences, sales trends, and product performance. Our objective is to investigate the following:

1. **Total Revenue:** Calculating the total amount from all pizza orders.
2. **Average Order Value:** Finding the average spending per order.
3. **Total Pizzas Sold:** Adding up the quantities of all pizzas sold.
4. **Total Orders:** Counting the total number of orders received.
5. **Average Pizzas Per Order:** Determining the average number of pizzas per order.

6. **Daily Trend for Total Orders:** Tracking the daily trend of total orders ove r a specific period.

7. **Hourly Trend for Total Orders:** Displaying the monthly trend of total orders throughout the year.

8. **Percentage of sales by Pizza Category:** Showing the distribution of sales among different pizza categories.

9. **Percentage of sales by Pizza Size:** Analyzing the percentage of sales for different pizza sizes.

10. **Total Pizzas Sold by Category:** Comparing the sales performance of different pizza categories.

11. **Top 5 Best Sellers:** Identifying the most popular pizzas based on total sales.

12. **Bottom 5 Worst Sellers:** Identifying the least popular or underperforming pizzas.

# <u>METHODOLOGY:</u>

This section outlines the methodology used for this project, employing MYSQL and Excel for data manipulation, analysis, and visualization.

**MYSQL Workbench Analysis:**

- Extract and aggregate sales data from the pizza sales dataset to determine key metrics such as total sales revenue, average order value, and total orders.
- Examine sales trends over time (hourly, daily, monthly) to pinpoint peak sales periods and seasonal variations.
- Compute sales performance metrics for individual products, including identifying the best-selling pizzas, popular pizza sizes, and revenue contribution by product category.

**Excel Visualization:**

- After manipulating the data in SQL Workbench, insights were visualized using Excel.
- Design line charts to display sales trends over time, including filters for various time periods.
- Create pie charts to show revenue distribution by product category and size, highlighting the top-selling items and their revenue contributions.

- Integrate slicers and filters to enable users to dynamically explore the data and discover insights based on their specific criteria and interests.

## SOFTWARE'S USED:

1. SQL server management studio – 19.0.20209.0
2. MS Office/Excel: Version 2021

## DATASET USED:

Link - https://www.kaggle.com/datasets/nextmillionaire/pizza-sales-dataset

The dataset contains the following columns:

1. **Pizza_id:** Unique ID for each pizza.
2. **Pizza_name:** Name of the pizza.
3. **Order_id:** Unique ID for each order.
4. **Order_date:** Date the order was placed.
5. **Pizza_size:** Size of the pizza.
6. **Quantity:** Number of pizzas ordered.
7. **Unit_sold:** Price per pizza.
8. **Total_unit_sold:** Total revenue generated from each pizza.
9. **Order_time:** Timestamp showing when the order was placed.

## DATA ANALYSIS USING SQL:

**1. Total Revenue:**
SELECT SUM(total_price) AS Total_Revenue FROM pizza_sales;
***Output:***

| | Total_Revenue |
|---|---|
| 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 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

*Output:*

| | Avg_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)

*Output:*
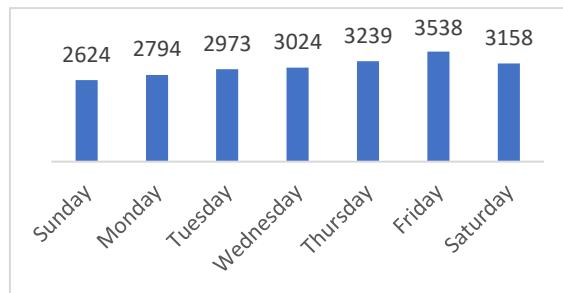
## 7. Hourly Trend for Orders

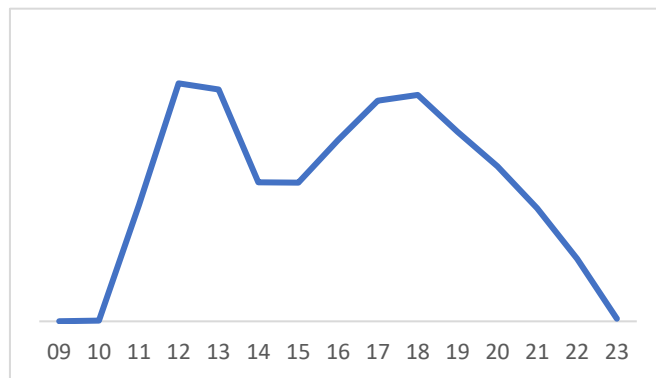SELECT DATEPART(HOUR, order_time) as order_hours, COUNT(DISTINCT order_id) as total_orders

from pizza_sales

group by DATEPART(HOUR, order_time)

order by DATEPART(HOUR, order_time)

*Output*



## 8. % 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

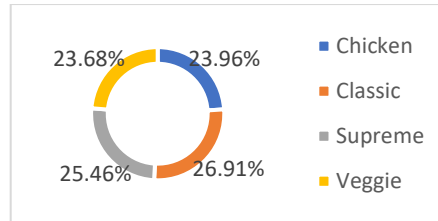DECIMAL(10,2)) AS PCT

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 |

## 9. % 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*



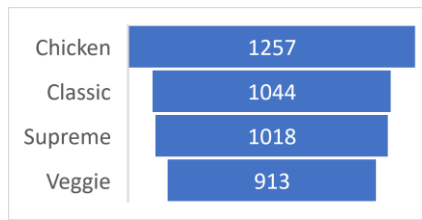| | pizza_size | total_revenue | PCT |
|---|---|---|---|
| 1 | L | 375318.70 | 45.89 |
| 2 | M | 249382.25 | 30.49 |
| 3 | S | 178076.50 | 21.77 |
| 4 | XL | 14076.00 | 1.72 |
| 5 | XXL | 1006.60 | 0.12 |
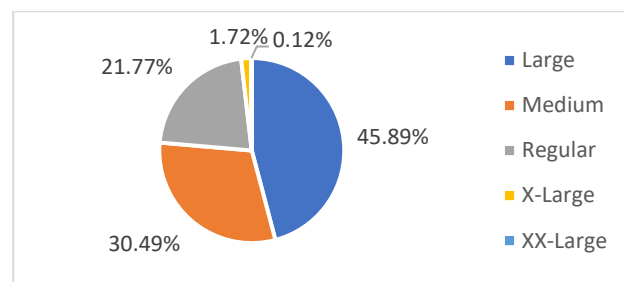
## 10. Total Pizzas Sold by Pizza Category

SELECT pizza_category, SUM(quantity) as Total_Quantity_Sold

FROM pizza_sales

WHERE MONTH(order_date) = 2

GROUP BY pizza_category
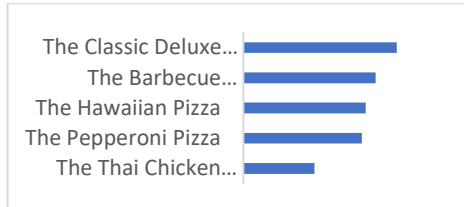
ORDER BY Total_Quantity_Sold DESC

### *Output*

## 11. 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
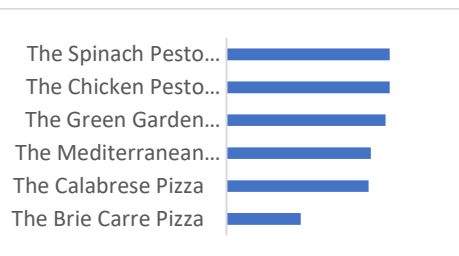
ORDER BY Total_Pizza_Sold DESC

### *Output*



## 12. Bottom 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 ASC

### *Output*

# DATA VISUALIZATION USING EXCEL:

## INTERACTIVE DASHBOARD:



# SUMMARY OF KEY INSIGHTS:

Based on the analysis of pizza sales data, the following key insights have been identified:

1. **Peak Ordering Days:** Orders peak during weekends, notably on Fridays and Thursdays.

2. **Seasonal Patterns:** July and January observe the highest order volumes.

3. **Leading Sales Category:** The Classic category drives the highest sales revenue and order numbers.

4. **Popular Pizza Size:** Large pizzas are the top-selling size.

5. **Top Revenue-Generating Pizza:** The Thai Chicken Pizza stands out as the highest revenue contributor.

6. **Best-Selling Pizza:** The Classic Deluxe Pizza leads in both total quantity sold and order count.

7. **Lowest Revenue Contributor:** The Brie Carre Pizza records the lowest revenue, quantity sold, and order count.

# SUGGESTION:

Here are some recommendations based on the insights:

1. Increase staffing levels during busy periods on Thursdays and Fridays during lunchtime to manage the higher demand effectively.
2. Introduce early dining discounts or encourage table sharing to incentivize customers to dine earlier, thereby boosting table turnover rates and overall revenue.
3. Utilize social media platforms to promote the pizza shop, expanding its reach and attracting new customers.
4. Enhance the overall customer experience by focusing on improved customer service, creating a more comfortable dining atmosphere, and introducing new menu options.