PIZZA SALES REPORT

Analyzing Pizza Sales Data Using SQL Queries

INTRODUCTION

- Hello, My name is Ashik.
- I am a data enthusiast with a keen interest in analytics and problem-solving.
- Currently, I'm actively seeking opportunities as a Data Analyst.
- In this project, I undertook the analysis of a pizza sales report using SQL queries to gain actionable insights.

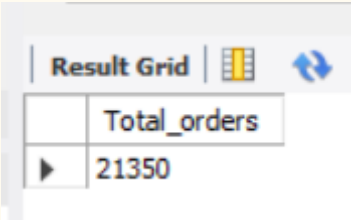
PROJECT OVERVIEW

- The project aimed to leverage data analytics to extract valuable information from the pizza sales dataset.
- Utilizing SQL queries, I delved into various dimensions of pizza sales data to uncover trends and patterns.
- The goal was to provide actionable recommendations to improve sales strategies and enhance customer satisfaction.
- This presentation will showcase my analytical skills and proficiency in deriving insights from data to drive business decisions.

Total Orders Placed

The query returns the total number of orders placed, which is 21,350. This metric provides a fundamental understanding of the volume of orders processed within the dataset.

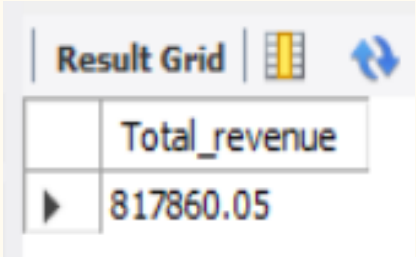
```sql
-- Retrieve the total number of orders placed.
SELECT
    COUNT(order_id) AS Total_orders
FROM
    orders;
```



Total Revenue Generated

This query calculates the total revenue generated from pizza sales, resulting in $817,860.05. Understanding total revenue is crucial for assessing the financial performance and profitability of the business.

```sql
-- Calculate the total revenue generated from pizza sales.
SELECT
    ROUND(SUM(pz.price * od.quantity), 2) AS Total_revenue
FROM
    pizzas pz
        INNER JOIN
    order_details od ON pz.pizza_id = od.pizza_id;
```



Highest-Priced Pizza

This query identifies the highest-priced pizza, which is The Greek Pizza priced at $35.95. Knowing the highest-priced item can inform pricing strategies and highlight premium offerings.

```sql
-- Identify the highest-priced pizza.
SELECT
    pzt.name AS Pizza_Name, pz.price AS Highest_priced_pizza
FROM
    pizza_types pzt
        INNER JOIN
    pizzas pz ON pzt.pizza_type_id = pz.pizza_type_id
WHERE
    pz.price = (SELECT
            MAX(price)
        FROM
            pizzas);
```

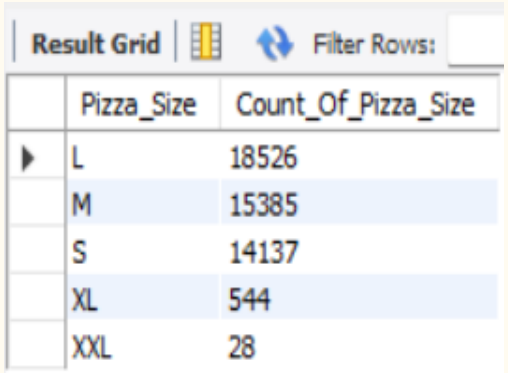
Result Grid | Filter Rows:

Pizza_Name	Highest_priced_pizza
The Greek Pizza	35.95

Most Common Pizza Size Ordered

This query reveals the distribution of pizza sizes ordered, with Large (L) being the most common size followed by Medium (M) and Small (S). Understanding size preferences can help optimize inventory management and pricing strategies.

```sql
-- Identify the most common pizza size ordered.
SELECT
    pz.size AS Pizza_Size,
    COUNT(od.order_id) AS Count_Of_Pizza_Size
FROM
    pizzas pz
        INNER JOIN
    order_details od ON pz.pizza_id = od.pizza_id
GROUP BY Pizza_Size
ORDER BY Count_Of_Pizza_Size DESC;
```



Result Grid | Filter Rows:

Pizza_Size	Count_Of_Pizza_Size
L	18526
M	15385
S	14137
XL	544
XXL	28

Top 5 Most Ordered Pizza Types

This query presents the top 5 most ordered pizza types along with their respective quantities. Understanding customer preferences for these popular pizza types can guide menu planning and promotional efforts.

```sql
-- List the top 5 most ordered pizza types along with their quantities.
SELECT
    pzt.name as Pizza, SUM(od.quantity) AS quantity
FROM
    pizza_types pzt
        JOIN
    pizzas pz ON pzt.pizza_type_id = pz.pizza_type_id
        JOIN
    order_details od ON pz.pizza_id = od.pizza_id
GROUP BY pzt.name
ORDER BY SUM(od.quantity) DESC
LIMIT 5;
```


Result Grid | Filter Rows:

Pizza	quantity
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

Total Quantity of Each Pizza Category Ordered

This query provides the total quantity of each pizza category ordered. It's evident that Classic pizzas are the most popular category, followed by Supreme, Veggie, and Chicken. Understanding category preferences can inform menu optimization and marketing strategies.

```sql
-- Join the necessary tables to find the total quantity of each pizza category ordered.
SELECT
    pzt.category, SUM(od.quantity) as quantity
FROM
    pizza_types pzt
        JOIN
    pizzas pz ON pzt.pizza_type_id = pz.pizza_type_id
        INNER JOIN
    order_details od ON pz.pizza_id = od.pizza_id
GROUP BY pzt.category
ORDER BY SUM(od.quantity) DESC;
```

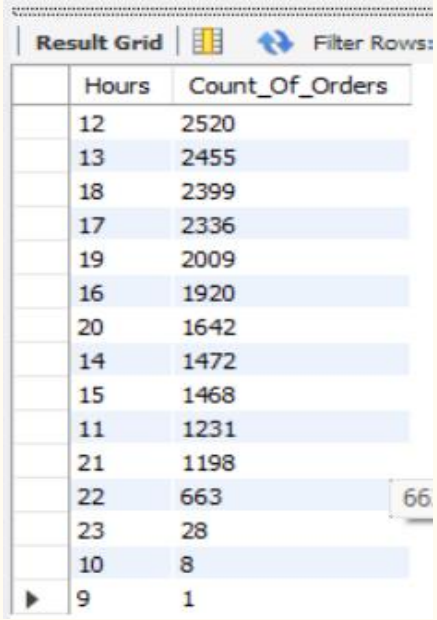
Result Grid | Filter Rows:

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Distribution of Orders by Hour of the Day

Peak hours for order placement are observed around lunchtime, with 12 PM showing the highest number of orders (2520), followed by 1 PM (2455).Order volume gradually decreases after the lunch rush, with a slight increase observed during dinner hours.

```sql
-- Determine the distribution of orders by hour of the day.
SELECT
    HOUR(order_time) AS Hours,
    COUNT(order_id) AS Count_Of_Orders
FROM
    orders
GROUP BY Hours;
```


Result Grid | Filter Rows:

Hours	Count_Of_Orders
12	2520
13	2455
18	2399
17	2336
19	2009
16	1920
20	1642
14	1472
15	1468
11	1231
21	1198
22	663
23	28
10	8
9	1

Category-wise Distribution of Pizzas

The Supreme and Veggie categories have the highest diversity of pizza types, with 9 varieties each, followed by Classic with 8, and Chicken with 6. Understanding this distribution can inform menu planning and promotional strategies to highlight the variety offered within each category

```sql
-- Join relevant tables to find the category-wise distribution of pizzas.

SELECT
    category AS Category, COUNT(name) AS Pizza_Types
FROM
    pizza_types
GROUP BY Category
ORDER BY Pizza_Types DESC;
```

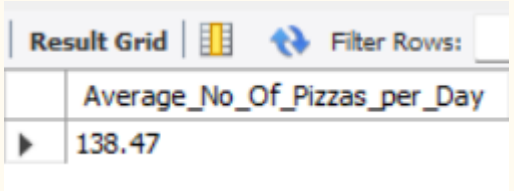
Result Grid | Filter Rows

Category	Pizza_Types
Supreme	9
Veggie	9
Classic	8
Chicken	6

Average Number of Pizzas Ordered per Day

The average number of pizzas ordered per day is 138.47 pizzas. Understanding this average helps in assessing the daily demand for pizzas and can inform inventory management and production planning to meet customer demand effectively.

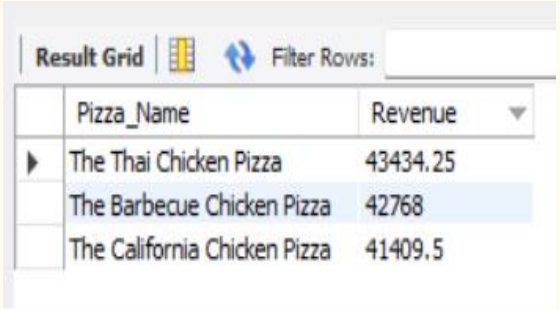
```sql
-- Group the orders by date and calculate the average number of pizzas ordered per day.
SELECT
    ROUND(AVG(quantity), 2) AS Average_No_Of_Pizzas_per_Day
FROM
    (SELECT
        os.order_date, SUM(od.quantity) AS quantity
    FROM
        orders os
    JOIN order_details od ON os.order_id = od.order_id
    GROUP BY os.order_date) tb;
```



Top 3 Most Ordered Pizza Types Based on Revenue

The Thai Chicken Pizza leads with a revenue of $43,434.25, followed by The Barbecue Chicken Pizza with $42,768, and The California Chicken Pizza with $41,409.50.

```sql
-- Determine the top 3 most ordered pizza types based on revenue.
SELECT
    pzt.name AS Pizza_Name, SUM(pz.price * od.quantity) AS Revenue
FROM
    pizza_types pzt
        JOIN
    pizzas pz ON pzt.pizza_type_id = pz.pizza_type_id
        JOIN
    order_details od ON pz.pizza_id = od.pizza_id
GROUP BY pzt.name
ORDER BY Revenue DESC
LIMIT 3;
```



Pizza_Name	Revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

Percentage Contribution of Each Pizza Type to Total Revenue

Classic pizzas contribute the highest percentage at 26.91%, followed by Supreme at 25.46%, Chicken at 23.96%, and Veggie at 23.68%.

```sql
-- Calculate the percentage contribution of each pizza type to total revenue.
SELECT
    pzt.category,
    ROUND((SUM(pz.price * od.quantity) / (SELECT
                    ROUND(SUM(pz.price * od.quantity), 2)
                FROM
                    pizzas pz
                        JOIN
                    order_details od ON pz.pizza_id = od.pizza_id)) * 100,
            2) AS Revenue_percentage
FROM
    pizza_types pzt
        JOIN
    pizzas pz ON pzt.pizza_type_id = pz.pizza_type_id
        JOIN
    order_details od ON pz.pizza_id = od.pizza_id
GROUP BY pzt.category
ORDER BY Revenue_Percentage DESC;
```

Result Grid | Filter Rows:

category	Revenue_percentage
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Cumulative Revenue Over Time

The cumulative revenue over time, providing insight into the revenue trend. Analyzing cumulative revenue helps in understanding the overall revenue trajectory and identifying periods of significant growth or decline.

```sql
-- Analyze the cumulative revenue generated over time.
select order_date, sum(Revenue) over(order by order_date) as Cumulative_Revenue
from
(select os.order_date, sum(od.quantity * pz.price) as Revenue
from
order_details od join pizzas pz on od.pizza_id = pz.pizza_id
join
orders os on od.order_id = os.order_id
group by os.order_date) as sales;
```

Result Grid | Filter Rows:

order_date	Cumulative_Revenue
2015-01-01	2713.8500000000004
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55
2015-01-06	14358.5
2015-01-07	16560.7
2015-01-08	19399.05
2015-01-09	21526.4

Top 3 Most Ordered Pizza Types Based on Revenue for Each Pizza Category

Ranking the pizza types within their respective categories based on revenue, we can prioritize menu offerings and promotional efforts tailored to each category's top sellers.

```sql
-- Determine the top 3 most ordered pizza types based on revenue for each pizza category.
SELECT *
FROM (
    SELECT *,
           RANK() OVER (PARTITION BY category ORDER BY Revenue DESC) AS Rankings
    FROM (
        SELECT pzt.category,
               pzt.name,
               SUM((od.quantity) * pz.price) AS Revenue
        FROM pizza_types pzt
        JOIN pizzas pz ON pzt.pizza_type_id = pz.pizza_type_id
        JOIN order_details od ON od.pizza_id = pz.pizza_id
        GROUP BY pzt.category, pzt.name
    ) AS report
) AS b
WHERE Rankings <= 3;
```

Result Grid | Filter Rows: | Export: | Wrap

category	name	Revenue	Rankings
Chicken	The Thai Chicken Pizza	43434.25	1
Chicken	The Barbecue Chicken Pizza	42768	2
Chicken	The California Chicken Pizza	41409.5	3
Classic	The Classic Deluxe Pizza	38180.5	1
Classic	The Hawaiian Pizza	32273.25	2
Classic	The Pepperoni Pizza	30161.75	3
Supreme	The Spicy Italian Pizza	34831.25	1
Supreme	The Italian Supreme Pizza	33476.75	2
Supreme	The Sicilian Pizza	30940.5	3
Veggie	The Four Cheese Pizza	32265.70000...	1
Veggie	The Mexicana Pizza	26780.75	2
Veggie	The Five Cheese Pizza	26066.5	3

Summary

- Strong demand for classic and chicken pizzas.
- Peak ordering hours around lunch and dinner times.
- The Thai Chicken Pizza emerges as the top revenue generator.
- Classic and Supreme categories contribute the most to total revenue.
- Revenue steadily increases over time, indicating consistent growth.

Key Takeaways

- Classic and chicken pizzas are customer favorites and should be emphasized in promotions.
- Consider offering specials during peak ordering hours to maximize revenue.
- Monitor revenue trends over time to identify growth opportunities and adjust strategies accordingly.

THANKS

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