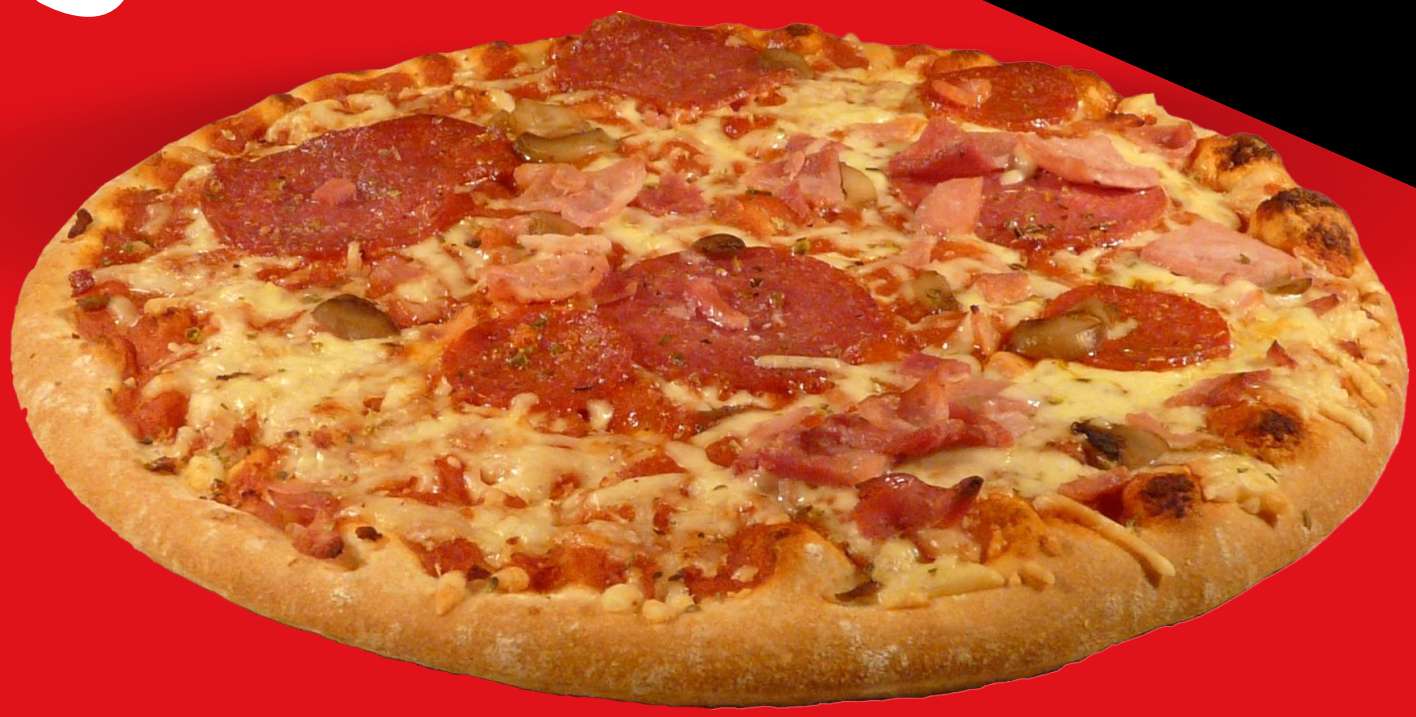
ANALYZING PIZZA SALES DATA

SQL PROJECT SHOWCASE



Introduction

Objective:

The main goal is to analyze extensive pizza order data to uncover trends, assess performance across different pizza categories, and derive insights that can help in strategic decision making and marketing efforting

Data Sources:

Our analysis is based on four key tables:

A). Order Details: Contains specifics of each order including order ID, Pizza ID, and quantity.

B). Orders: Records the date and time of each order.

C). Pizzas: Details about each pizza including size and price.

D). Pizza Types: Information about pizza categories, names, and ingredients.

Retrieve the total number of orders placed.

```sql
--QUESTION: 1   Retrieve the total number of orders placed.

SELECT COUNT(order_id) as total_number_of_order
FROM orders;
```

Results | Messages

	total_number_of_order
1	21350

Calculate the total revenue generated from pizza sales.

```sql
--QUESTION: 2    Calculate the total revenue generated from pizza sales.

SELECT ROUND(SUM(quantity * price),2) as total_revenue
FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id;
```

Results | Messages

	total_revenue
1	817860.05

Identify the highest-priced pizza.

```sql
--QUESTION: 3  Identify the highest-priced pizza.

SELECT TOP 1 pizza_types.name, pizzas.price--, MAX(price) as highest_price_pizza
FROM pizzas
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY price DESC;
```

Results | Messages

	name	price
1	The Greek Pizza	35.95

Identify the most common pizza size ordered.

```sql
--QUESTON: 4  Identify the most common pizza size ordered.

SELECT pizzas.size, COUNT(order_details.order_details_id)as order_count
FROM pizzas
JOIN order_details
ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC
```

Results | Messages

	size	order_count
1	L	18526
2	M	15385
3	S	14137
4	XL	544
5	XXL	28

List the top 5 most ordered pizza types along with their quantities.

```sql
--QUESTION 5:  List the top 5 most ordered pizza types along with their quantities.
SELECT TOP 5 pizza_types.name , SUM(order_details.quantity) as quantity_of_order
FROM pizzas
JOIN order_details
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizzas.pizza_type_id = pizza_types.pizza_type_id
GROUP BY pizza_types.name
ORDER BY quantity_of_order DESC;
```

Results | Messages

	name	quantity_of_order
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

Join the necessary tables to find the total quantity of each pizza category ordered.

```sql
--QUESTION 6:    Join the necessary tables to find the total quantity of each pizza category ordered.

SELECT  pizza_types.category , SUM(order_details.quantity) as quantity_of_order
FROM pizzas
JOIN order_details
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizzas.pizza_type_id = pizza_types.pizza_type_id
GROUP BY pizza_types.category
ORDER BY quantity_of_order DESC;
```

Results | Messages

	category	quantity_of_order
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

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

```sql
--QUESTION 8: Join relevant tables to find the category-wise distribution of pizzas.

SELECT category, COUNT(pizza_type_id) as total_number
 FROM pizza_types
GROUP BY category;
```

Results | Messages

	category	total_number
1	Chicken	6
2	Classic	8
3	Supreme	9
4	Veggie	9

Determine the distribution of orders by hour of the day.

```sql
--QUESTION 9:  Group the orders by date and calculate the average number of pizzas ordered per day.

   WITH CTE AS (
               SELECT orders.date, ROUND(sum(order_details.quantity),0) as sum_of_quantity
               FROM orders
               JOIN order_details
               ON orders.order_id = order_details.order_id
               GROUP BY orders.date
               )
               SELECT ROUND(AVG(sum_of_quantity),0)  avg_of_order_per_day
               FROM CTE;
```

Results | Messages

	avg_of_order_per_day
1	138

Determine the top 3 most ordered pizza types based on revenue.

```sql
--QUESTION 10: Determine the top 3 most ordered pizza types based on revenue.

SELECT TOP 3 name, SUM(quantity * price) as Revenue
FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY name
ORDER BY SUM(quantity * price) DESC;
```

Results | Messages

	name	Revenue
1	The Thai Chicken Pizza	43434.25
2	The Barbecue Chicken Pizza	42768
3	The Californía Chicken Pizza	41409.5

Calculate the percentage contribution of each pizza type to total revenue.

```sql
--QUESTION 11:  Calculate the percentage contribution of each pizza type to total revenue.

SELECT category, ROUND(SUM(quantity * price) /  (SELECT ROUND(SUM(quantity * price),2) as total_revenue
                                                 FROM order_details
                                                 JOIN pizzas
                                                 ON order_details.pizza_id = pizzas.pizza_id)*100,2) as Revenue
FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY category
ORDER BY Revenue;
```

Results | Messages

	category	Revenue
1	Veggie	23.68
2	Chicken	23.96
3	Supreme	25.46
4	Classic	26.91

Analyze the cumulative revenue generated over time.

```sql
--QUESTION 12: Analyze the cumulative revenue generated over time.

WITH CTE AS (
            SELECT date, SUM(price * quantity) as total_revenue
            FROM orders
            JOIN order_details
            ON orders.order_id = order_details.order_id
            JOIN pizzas
            ON pizzas.pizza_id = order_details.pizza_id
            GROUP BY date
            )
            SELECT date, total_revenue, SUM(total_revenue) OVER (ORDER BY date) AS cum_revenue
            FROM CTE;
```

Results | Messages

	date	total_revenue	cum_revenue
1	2015-01-01 00:00:00.0000000	2713.85	2713.85
2	2015-01-02 00:00:00.0000000	2731.9	5445.75
3	2015-01-03 00:00:00.0000000	2662.4	8108.15
4	2015-01-04 00:00:00.0000000	1755.45	9863.6
5	2015-01-05 00:00:00.0000000	2065.95	11929.55
6	2015-01-06 00:00:00.0000000	2428.95	14358.5
7	2015-01-07 00:00:00.0000000	2202.2	16560.7

Determine the top 3 most ordered pizza types based on revenue for each pizz category.

```sql
--QUESTION 13: Determine the top 3 most ordered pizza types based on revenue for each pizza category.

SELECT name, Revenue, category
FROM
    (
     SELECT category, name, Revenue, RANK() OVER(PARTITION BY category ORDER BY Revenue DESC) AS RN
     FROM
         (
            SELECT category, name, SUM(quantity * price) as Revenue
            FROM order_details
            JOIN pizzas
            ON order_details.pizza_id = pizzas.pizza_id
            JOIN pizza_types
            ON pizza_types.pizza_type_id = pizzas.pizza_type_id
            GROUP BY category, name
        ) AS a
    ) AS b
WHERE RN <= 3;
```

Results | Messages

	name	Revenue	category
1	The Thai Chicken Pizza	43434.25	Chicken
2	The Barbecue Chicken Pizza	42768	Chicken
3	The Californía Chicken Pizza	41409.5	Chicken
4	The Classic Deluxe Pizza	38180.5	Classic
5	The Hawaiian Pizza	32273.25	Classic
6	The Pepperoni Pizza	30161.75	Classic
7	The Spicy Italian Pizza	34831.25	Supreme
8	The Italian Supreme Pizza	33476.75	Supreme
9	The Sicilian Pizza	30940.5	Supreme
10	The Four Cheese Pizza	32265....	Veggie

Findings and Business Implications

Major Insights:

Our analysis revealed sizling sales totaling $817,860, with top earners including the Greek Pizza at $35.98, large pizzas dominating orders, and the Classic Deluxe leading as the most ordered pizza type, among other savory insights, guiding future strategies for continued success.

Recommendations:

To optimize profits and customer satisfaction, it’ recommended to focus promotional efforts on top-delling pizza types, particularly during peak sales hours, enhance menu variety in the Veggie and Supreme categories, and streamline operations to improve efficiency during high-demand periods. Implementing customer loyalty programs and continuously adapting to market trends based on feedback eill also be crucial for sustained groqth.

Thank You!

For your attention and time...