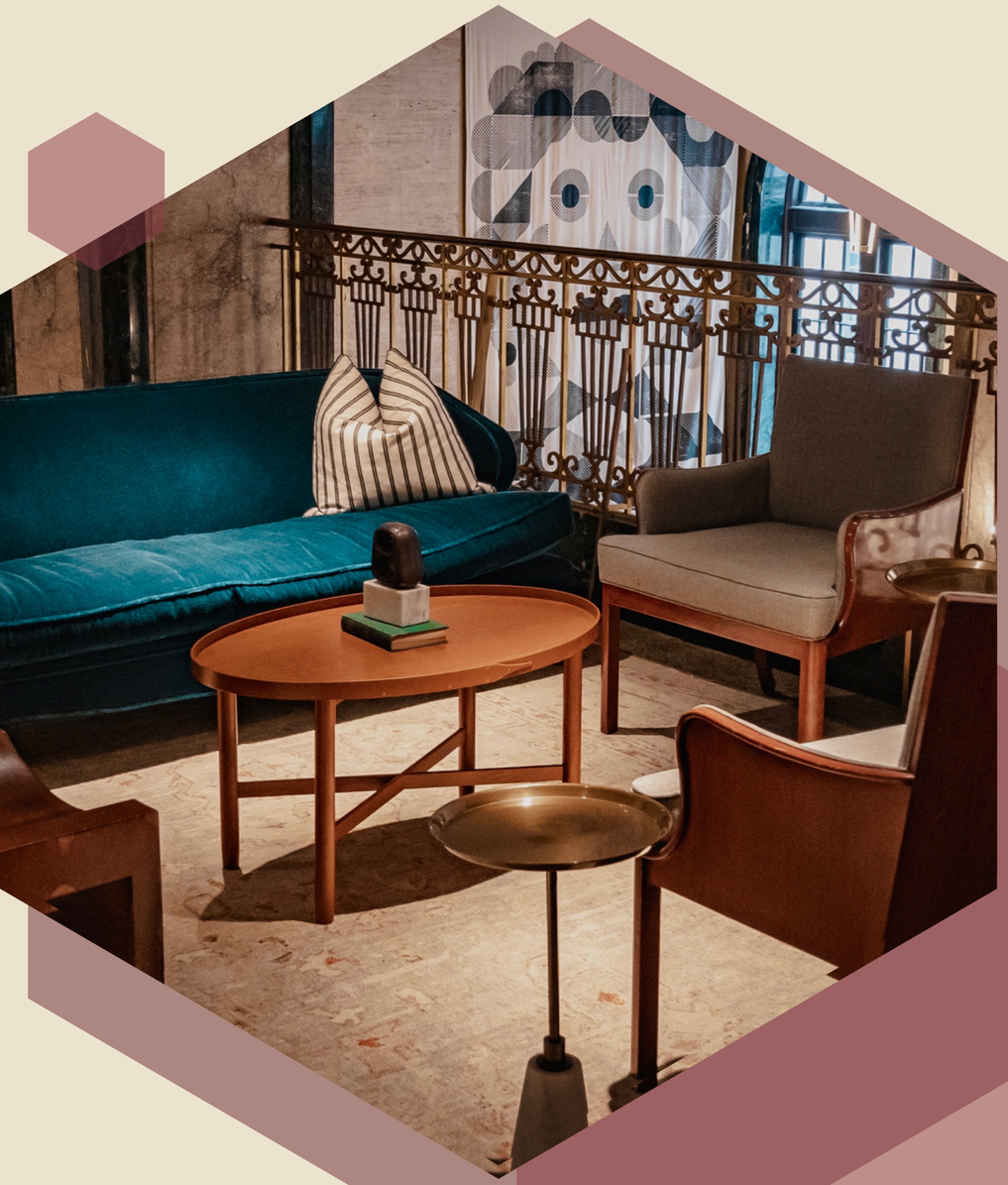
Aditya Gaur

📊 Pizza Sales Analysis Using SQL
Unlocking Insights from Data-Driven Decisions

Aditya Gaur



PROJECT OVERVIEW

In this project, I leveraged SQL to analyze pizza sales data, uncovering key business insights to optimize sales strategies and improve customer satisfaction. By exploring various aspects of the sales data—from basic order counts to advanced revenue breakdowns—I provided actionable insights that can help drive business growth and operational efficiency.

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KEY OBJECTIVES

01 Understand Sales Performance: Analyze total orders, revenue, and popular pizza types.

02 Identify Customer Preferences: Examine trends in pizza sizes, categories, and peak ordering times.

03 Revenue Optimization: Determine top-performing pizzas by revenue and their contribution to overall sales.

04 Data-Driven Strategies: Use insights to inform marketing, inventory management, and sales forecasting.

Retrieve the total number of orders placed.

```sql
SELECT
    COUNT(order_id) AS total_orders
FROM
    orders;
```

total_orders
21350

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Calculate the total revenue generated from pizza sales.

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

Result Grid

total_revenue
817860.05

Identify the highest-priced pizza.

```
SELECT
    pizza_types.name, pizzas.price
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

	name	price
▶	The Greek Pizza	35.95

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IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED.

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

size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

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

```sql
SELECT
    pizza_types.name, SUM(order_details.quantity) AS Quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY Quantity DESC
LIMIT 5;
```

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

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

```
SELECT
    SUM(order_details.quantity) AS Total_Quantity,
    pizza_types.category
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 pizza_types.category
ORDER BY Total_Quantity DESC
```

	Total_Quantity	category
▶	14888	Classic
	11987	Supreme
	11649	Veggie
	11050	Chicken

Determine the distribution of orders by hour of the day.

```sql
SELECT
    HOUR(order_time) AS hour, COUNT(order_id) AS order_count
FROM
    orders
GROUP BY HOUR(order_time);
```

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

```
SELECT
    COUNT(name), category
FROM
    pizza_types
GROUP BY category
```

COUNT(name)	category
6	Chicken
8	Classic
9	Supreme
9	Veggie

Group the orders by date and calculate the average number of pizzas ordered per day.

```sql
SELECT
    ROUND(AVG(quantity), 0) as avg_pizza_ordered_per_day
FROM
    (SELECT
        orders.order_date, SUM(order_details.quantity) quantity
    FROM
        orders
    JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY orders.order_date) AS order_quantity;
```

avg_pizza_ordered_per_day
138

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

```sql
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS Revenue,
    pizza_types.name
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY revenue DESC
LIMIT 3;
```

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

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

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

	category	Revenue
▶	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68

Analyze the cumulative revenue generated over time.

```sql
select order_date, round(sum(revenue) over(order by order_date),2) as cum_revenue
from
(select orders.order_date,sum(order_details.quantity * pizzas.price) as Revenue
from order_details join pizzas
on order_details.pizza_id = pizzas.pizza_id
join orders
on orders.order_id = order_details.order_id
group by orders.order_date) as Sales;
```

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

```sql
select name,round(revenue,0) as Revenue from
(select category,name,revenue,rank() over(partition by category order by revenue desc) as rn
from
(select pizza_types.category,pizza_types.name,sum(order_details.quantity * pizzas.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 pizza_types.name,pizza_types.category) as a) as b
where rn <= 3;
```

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🍕 CONCLUSION & KEY TAKEAWAYS

🔍 Business Implications:

1. Optimize Inventory: Focus on stocking high-demand pizza types and sizes.
2. Targeted Marketing: Promote top-selling pizzas and create offers during peak order hours.
3. Revenue Growth: Leverage data insights to maximize sales in underperforming categories.
4. Strategic Planning: Use cumulative revenue analysis for accurate forecasting and planning.

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THANK YOU