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Slicing Through Data: Analyzing Pizza Sales with SQL"

Introduction

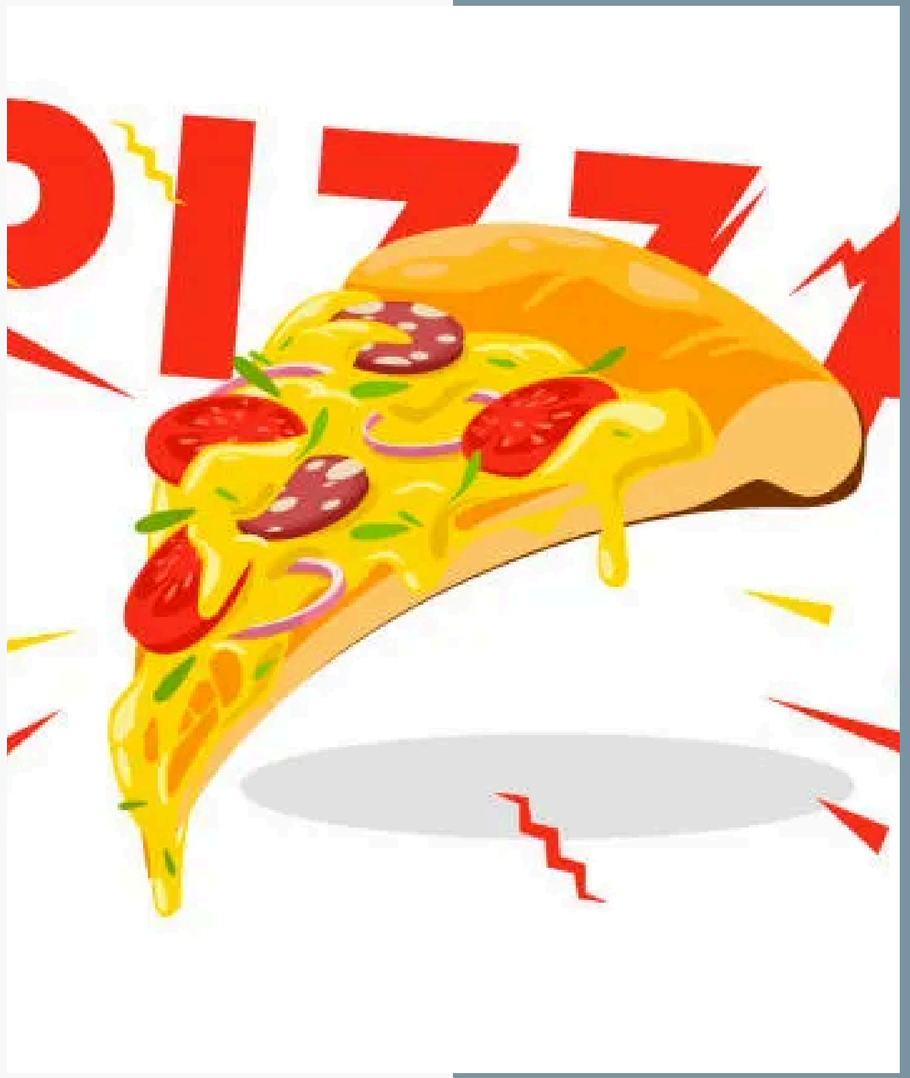
In this project, I explored a dataset on pizza sales using SQL to uncover key business insights. With structured queries, I analyzed various aspects of the data, such as total sales by pizza type, peak sales periods, and customer preferences. By leveraging SQL's powerful querying capabilities, I was able to extract and interpret meaningful patterns directly from the data.

The following slides showcase the SQL queries I developed and the resulting outputs, illustrating each step of the analysis. This approach provides a clear, data-driven perspective on how SQL can support decision-making in a retail environment.

Query objectives:

The Questions:

- Determine the distribution of orders by hour of the day
- Determine the top 3 most ordered pizza types based on revenue
- Calculate the percentage contribution of each pizza type to total revenue
- Analyze the cumulative revenue generated over time
- Determine the top 3 most ordered pizza types based on revenue for each pizza category



Determine the distribution of orders by hour of the day

```sql
1    -- Determine the distribution of orders by hour of the day
2
3    select hour(order_time) as hour, count(order_id) as order_count from orders
4    group by hour(order_time);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920

Determine the top 3 most ordered pizza types based on revenue

```
3 •  select pizza_types.name,
4    sum(orders_details.quantity * pizzas.price) as revenue
5    from pizza_types join pizzas
6    on pizzas.pizza_type_id  = pizza_types.pizza_type_id
7    join orders_details
8    on orders_details.pizza_id = pizzas.pizza_id
9    group by pizza_types.name order by revenue desc limit 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

name	revenue
The Barbecue Chicken Pizza	5829.25
The California Chicken Pizza	5337.25
The Thai Chicken Pizza	5231.25

Calculate the percentage contribution of each pizza type to total revenue

```sql
select pizza_types.category, (sum(orders_details.quantity*pizzas.price) / (SELECT
ROUND(SUM(orders_details.quantity * pizzas.price),2) AS total_sales
from orders_details JOIN pizzas on pizzas.pizza_id = orders_details.pizza_id))*100
as revenue
from pizza_types join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
join orders_details
on orders_details.pizza_id = pizzas.pizza_id
group by pizza_types.category order by revenue desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	revenue
Classic	26.591412847616645
Supreme	25.83738946665407
Veggie	24.266917804557135
Chicken	23.304279881172256

Analyze the cumulative revenue generated over time

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

lt Grid | Filter Rows: | Export: | Wrap Cell Content:

order_date	cum_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

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

```sql
select name, 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((orders_details.quantity ) * pizzas.price) as revenue
from pizza_types join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
join orders_details
on orders_details.pizza_id = pizzas.pizza_id
group by pizza_types.category, pizza_types.name) as a) as b where rn<=3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

name	revenue
The Barbecue Chicken Pizza	5829.25
The California Chicken Pizza	5337.25
The Thai Chicken Pizza	5231.25
The Pepperoni Pizza	4486
The Classic Deluxe Pizza	4430.5
The Hawaiian Pizza	3863.25
The Italian Supreme Pizza	4552.75
The Sicilian Pizza	4511.75

Conclusion

This SQL analysis of pizza sales revealed key insights into order timing, popular pizza types, and revenue distribution. By identifying peak ordering hours and top-performing pizzas by revenue, the analysis supports targeted promotions and optimized inventory. Tracking each pizza type's revenue contribution and growth over time highlights profitability trends, helping to tailor offerings to customer preferences. Overall, SQL proved invaluable in guiding data-driven decisions for better business outcomes.

Thank you