

Pizza Sales Report

Analysing Pizza sales using SQL queries



Introduction

- *Hello my name is Dharshan M*
- *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 analyzed pizza sales data for actionable insights.*
- *Calculated average order value to enhance pricing strategies*
- *Calculated seasonality trends to tailor promotions and menu offerings accordingly, leveraging SQL date functions.*



Project Overview

- *Project Title: Pizza Sales Analysis using SQL Queries*
- *Objective: Gain actionable insights from pizza sales data to inform business decisions and strategies.*
- *Techniques Used: SQL queries, aggregation functions, joins, subqueries, date functions, window functions*
- *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.*
- *Examined sales trends to pinpoint peak hours for staffing and promotions.*





Total number of 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.

```
select count(order_id) as total_orders from orders;
```

	total_orders
▶	21350





total revenue generated from pizza sales

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.

```
select round(sum(order_details.quantity * pizzas.price),2) as revenue_generated
from order_details join pizzas
on pizzas.pizza_id = order_details.pizza_id;
```

	revenue_generated
▶	817860.05





the highest-priced pizza

The Greek Pizza priced at \$35.95. Knowing the highest-priced item can inform pricing strategies and highlight premium offerings.

```
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





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.

```
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





Top 5 most ordered pizza types along with their quantities



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.

```
select pizza_types.name, sum(order_details.quantity) as order_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 order_quantity desc limit 5;
```

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





The 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.

```
select pizza_types.category , sum(order_details.quantity) as total_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.category order by total_quantity desc limit 5;
```

category	total_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.

```
select hour(order_time) as hours, count(order_id) as order_count from orders  
group by hour(order_time);
```

hours	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
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

```
select category, count(name) as count_of_pizza from pizza_types  
group by category;
```

category	count_of_pizza
Chicken	6
Classic	8
Supreme	9
Veggie	9





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.

```
select round(avg(quantity),0) from
(select orders.order_date,sum(order_details.quantity) as quantity
from orders join order_details
on orders.order_id = order_details.order_id
group by orders.order_date) as order_quantity;
```

round(avg(quantity),
138





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

```
select pizza_types.name, sum(order_details.quantity * pizzas.price) as revenue
from pizza_types join pizzas
on pizzas.pizza_type_id = pizza_types.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;
```

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%.

```
SELECT pizza_types.category,  
       round(SUM(order_details.quantity * pizzas.price) /  
             (SELECT ROUND(SUM(order_details.quantity * pizzas.price), 2) AS revenue_generated  
              FROM order_details  
              JOIN pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100, 2) AS percentage_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 category  
ORDER BY percentage_revenue DESC;
```

category	percentage_revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68



cumulative revenue generated 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.

```
select order_date,  
sum(revenue) over(order by order_date) 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;
```




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



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

```
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((order_details.quantity) * pizzas.price) 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, pizza_types.name) as a) as b
where rn<= 3;
```



name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.70000000065
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

KEY Take aways

- *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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