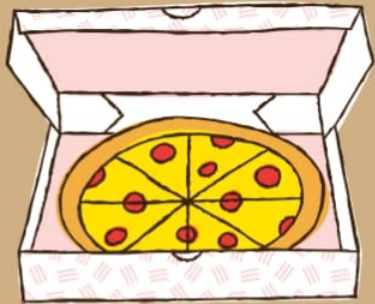# PIZZA SALES ANALYSIS
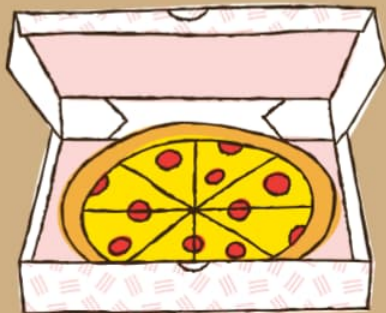
Hi i'm Lavanya Andole.
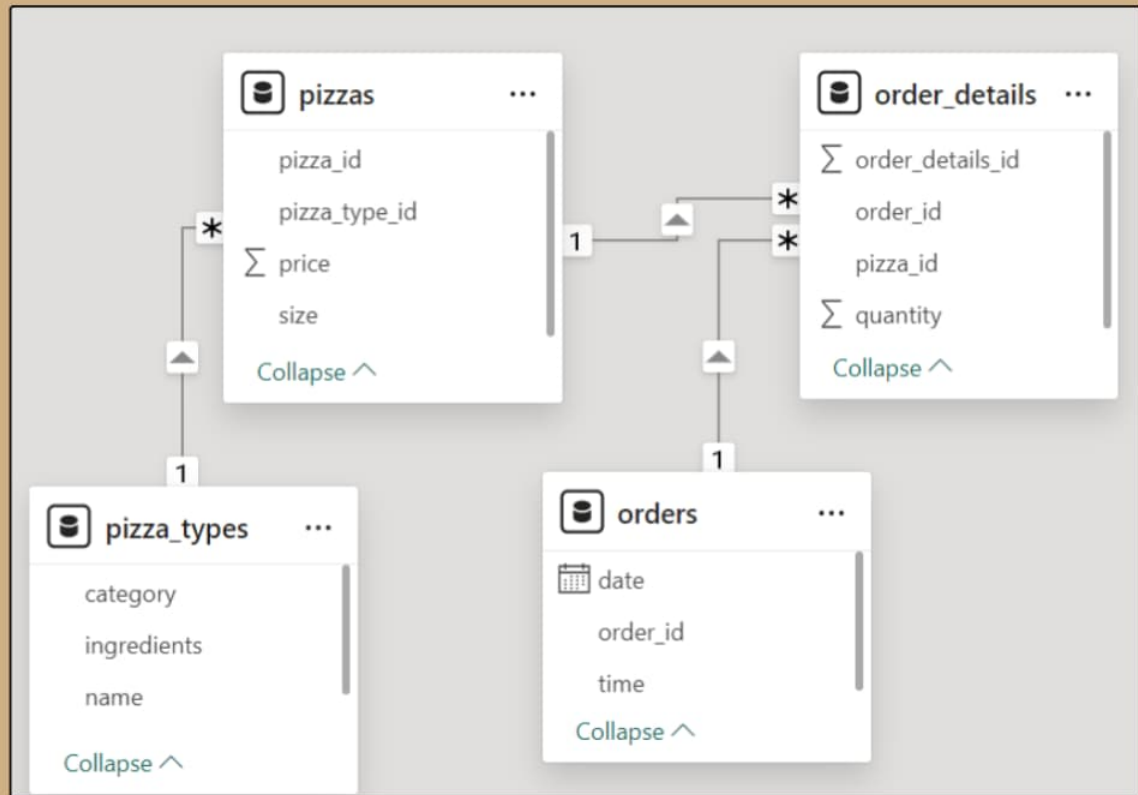In this Project, I utilized SQL queries including Joins, ranking and subqueries. These database contains four tables:Pizzas, Pizza_types, orders, order_details. Using this data I extracted Detailed information on Total sales , Highest Ordered Pizza, The most ordered pizza type and many.

**Tables:**

1) Pizzas
2) Orders
3) pizza_types
4) Order_details

**pizzas**  ...

- pizza_id
- pizza_type_id
- Σ price
- size

Collapse ∧

**order_details**  ...

- Σ order_details_id
- order_id
- pizza_id
- Σ quantity

Collapse ∧

**pizza_types**  ...

- category
- ingredients
- name

Collapse ∧

**orders**  ...

- date
- order_id
- time

Collapse ∧

1) Retrieve the total number of orders placed.

2) Calculate the total revenue generated from pizza sales.

3) Identify the highest-priced pizza.

4) Identify the most common pizza size ordered.

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

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

7) Determine the distribution of orders by hour of the day.

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

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

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

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

12) Analyze the cumulative revenue generated over time.

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

# Total Orders Placed

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

*The above Query returns total number of orders placed, which is 21350.*

| Result Grid | |
| --- | --- |
| | total_orders |
| ▶ | 21350 |

# Total Revenue Generated From Pizza Sales.

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

*The above query  Calculates The Total Revenue Generated from the Pizza Sales,Which is 817860.05.*

| Result Grid |
| --- |
| total_revenue |
| 817860.05 |

# Highest-Priced Pizza.

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

*The above query  Calculates The Highest Priced Pizza from the Pizza sales ,Which is 35.95.*

Result Grid | Filter Row

| name | price |
| --- | --- |
| The Greek Pizza | 35.95 |

# Most Common Pizza Size Ordered

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

*The above query tells the distribution of pizza sales ordered, with Large(L),followed by Medium(M) and Small(S).*

| size | pizza_count |
|------|-------------|
| L    | 18526       |
| M    | 15385       |
| S    | 14137       |
| XL   | 544         |
| XXL  | 28          |

# Top 5 Most Ordered Pizza Types

```sql
select pizza_types.name,
sum(order_details.quantity) as pizza_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 pizza_quantity desc
limit 5;
```

*The above query Reveals the Top 5 most ordered Pizza types along with respective quantities.*

| name | 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

```sql
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;
```

| category | total_quantity |
|----------|----------------|
| Classic  | 14888          |
| Supreme  | 11987          |
| Veggie   | 11649          |
| Chicken  | 11050          |

*The above query gives the total quantity of each pizza category ordered.The Classic Pizzas are most popular category followed by supreme,veggie and chicken.*

# Distribution of the Orders by Hours of the Day



```
SELECT
    HOUR(order_time) AS order_hour,
    COUNT(order_id) AS order_count
FROM
    orders
GROUP BY order_hour
ORDER BY order_count DESC;
```

| order_hour | order_count |
|---|---|
| 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 |

*The above query Shows the Peak hours for Order placement around 12PM showing the highest no.of orders (2520),followed by 1PM(2455).Order volume decreases after the lunch time and it increases again in the  dinner hours.*

# Category-Wise Distribution of Pizzas

```sql
SELECT
    category, COUNT(name) AS Pizza_Types
FROM
    pizza_types
GROUP BY category
order by Pizza_Types Desc;
```

*The above query Shows the Category wise Distribution of the Pizzas. The Supreme and Category have the highest diversity of pizza types, and each contains 9 varieties each,followed by Classic with 8 and Chicken with 6.*

| category | Pizza_Types |
|----------|-------------|
| Supreme  | 9           |
| Veggie   | 9           |
| Classic  | 8           |
| Chicken  | 6           |

# Average number of Pizzas Ordered Per Day

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

*The above query gives the Average number of pizza ordered perday, which is 138.*

| avg_pizza_ordered_perday |
|---|
| 138 |

# Top 3 Most Ordered Pizza Type based on Revenue

```sql
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
;
```

*The above query gives the Top 3 Most ordered Pizza type Based On Revenue. The Thai Chicken Pizza having Highest revenue of 43434.25 followed by Barbecue Chicken pizza with 42768 and The California Chicken pizza with 41409.5 .*

| name | revenue |
|------|---------|
| The Thai Chicken Pizza | 43434.25 |
| The Barbecue Chicken Pizza | 42768 |
| The California Chicken Pizza | 41409.5 |

# Percenage 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 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 pizza_types.category
order by Percentage revenue desc;
```

*The Above Query tells that Classic Pizza contributes The highest percentage at 26.91%,floowed by supreme at 25.46%,Chicken at 23.96% and Veggie at 23.68%*

| category | Percentage_revenue |
|----------|-------------------|
| Classic  | 26.91             |
| Supreme  | 25.46             |
| Chicken  | 23.96             |
| Veggie   | 23.68             |

# Cumulative Revenue Generated Over Time

```sql
select order_date,revenue,
sum(revenue) over(order by order_date) as cum_revenue
from
(select orders.order_date,
round(sum(order_details.quantity*pizzas.price),2) 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 | revenue | cum_revenue |
|---|---|---|
| 2015-01-01 | 2713.85 | 2713.85 |
| 2015-01-02 | 2731.9 | 5445.75 |
| 2015-01-03 | 2662.4 | 8108.15 |
| 2015-01-04 | 1755.45 | 9863.6 |
| 2015-01-05 | 2065.95 | 11929.55 |
| 2015-01-06 | 2428.95 | 14358.5 |
| 2015-01-07 | 2202.2 | 16560.7 |
| 2015-01-08 | 2838.35 | 19399.05 |
| 2015-01-09 | 2127.35 | 21526.399999999998 |
| 2015-01-10 | 2463.95 | 23990.35 |
| 2015-01-11 | 1872.3 | 25862.649999999998 |

*The Above Query gives the Cumulative Revenue Over Time, Providing insights into the Revenue Trend.*

# Top 3 Most Ordered Pizza Type Based On Revenue for each Pizza Category

```sql
select name,category,revenue,rank_over_revenue from
(select name,category,revenue,
rank() over(partition by category order by revenue desc) as rank_over_revenue
from
(select pizza_types.name,pizza_types.category,
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
order by revenue desc) as sales_a) as sales_b
where rank_over_revenue<=3;
```

*The Above Query gives the Ranking the pizza types within the respective categories based on Revenue.*

| name | category | revenue | rank_o |
|------|----------|---------|--------|
| The Thai Chicken Pizza | Chicken | 43434.25 | 1 |
| The Barbecue Chicken Pizza | Chicken | 42768 | 2 |
| The California Chicken Pizza | Chicken | 41409.5 | 3 |
| The Classic Deluxe Pizza | Classic | 38180.5 | 1 |
| The Hawaiian Pizza | Classic | 32273.25 | 2 |
| The Pepperoni Pizza | Classic | 30161.75 | 3 |
| The Spicy Italian Pizza | Supreme | 34831.25 | 1 |
| The Italian Supreme Pizza | Supreme | 33476.75 | 2 |
| The Sicilian Pizza | Supreme | 30940.5 | 3 |
| The Four Cheese Pizza | Veggie | 32265.70000000065 | 1 |
| The Mexicana Pizza | Veggie | 26780.75 | 2 |
| The Five Cheese Pizza | Veggie | 26066.5 | 3 |

# Conclusion



- **Total Pizzas Ordered** : 21,350.
- **Total Revenue** : $8,17,860 From Pizza Sales.
- **Common Pizza Size**: Large(L)  and Medium(M) are the most most ordered Pizza Sizes.
- **High Demand Pizzas**: The Classic Deluxe pizza and Barbecue Chicken Pizza have high Demand.
- **Popular Varieties**: Strong Demand for Classic and supreme   Pizza .
- **Peak Orderings Times**: During lunch and dinner times.
- **Top Revenue Generator**: Thai Chicken Pizza generates highest revenue compare to others.
- **Pizza Contribution:** Classic pizza contributes significantly to sales, with 29% of total orders
- **Revenue Growth**: Revenue has been increasing over time, indicating consistent growth.

# Thank you!

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