PIZZA SALES ANALYSIS

BUSINESS PROBLEM

A pizza restaurant wants to understand how its sales are performing. They have data about orders, pizzas, prices, and sizes. The goal is to find out what’s working well, where they are losing out, and how they can improve.

PROBLEMS WE FOUND

- We don’t know how many orders customers placed in total.Without this, it’s hard to measure growth or set sales targets.
- There’s no clear view of how much money came in from pizza sales Management needs this number to make financial decisions.Expensive Pizzas.
- The restaurant doesn’t know which pizza is the most expensive.This is important to design premium offers or upsell to customers.
- We don’t know which pizza size (small, medium, large, etc.) people order the most. This makes it hard to plan dough, ingredients, and packaging properly.

BUSINESS PROBLEM

PROBLEMS WE FOUND

- The business isn’t sure which 5 pizzas sell the most.Knowing this would help them focus promotions and stock on the right products.
- There are different categories like Classic, Veggie, Supreme, etc.The restaurant doesn’t know which category customers prefer.
- It’s not clear at what time of the day customers order the most (lunch, evening, late night). Without this, staff scheduling and delivery planning is difficult.
- The restaurant doesn’t know the average number of pizzas sold each day. This leads to overstocking or understocking ingredients.

BUSINESS PROBLEM

PROBLEMS WE FOUND

- The top 3 pizzas that bring in the most money aren’t identified.This makes it difficult to focus on the real money-making items.
- We don’t know how much each pizza type contributes to the total revenue.Some pizzas may be taking up space on the menu but not adding much value.
- There’s no proper tracking of how revenue has grown over time.Management cannot see if the business is improving month by month.
- Within each category (Classic, Veggie, Supreme, etc.), the top 3 revenue-generating pizzas are not identified.This means the restaurant might be missing out on smart category promotions.

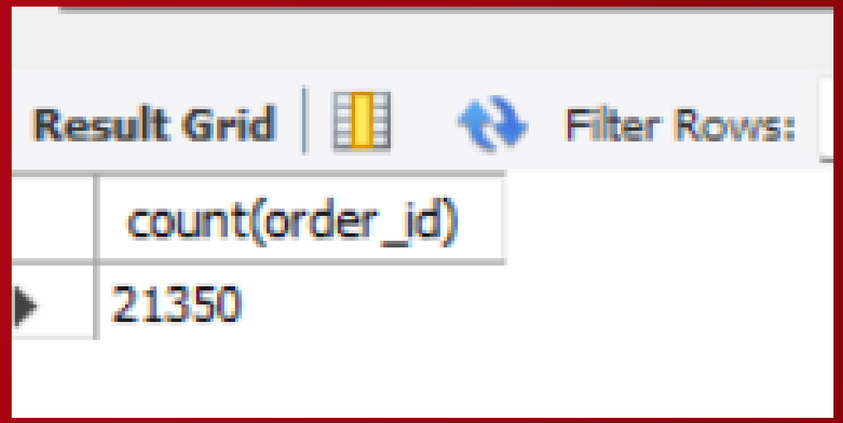
Data Analysis using SQL

```sql
-- Retrieve the total number of orders placed--

select count(order_id)  from orders;
```

Findings-

The restaurant received a large number number of 21350 orders during the period, showing good customer demand.



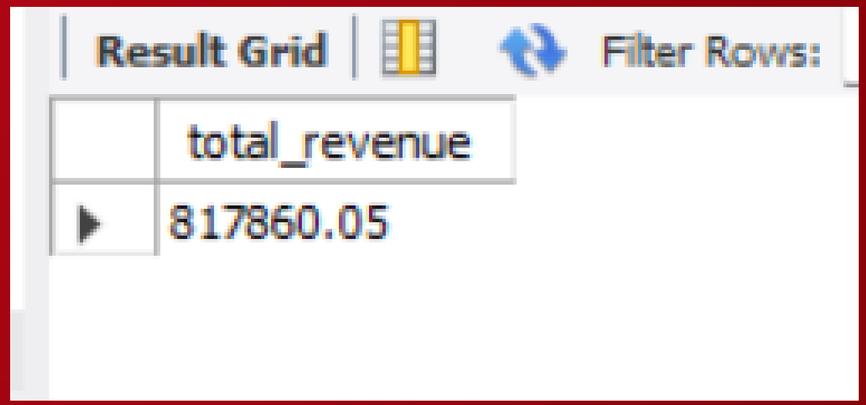
Data Analysis using SQL

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

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

Findings-

Pizza sales generated solid revenue of Rs 817860.05, which is a positive sign for the business.



Data Analysis using SQL

```sql
-- Identify the highest-priced pizza.

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

Findings-

Greek Pizza costs the most. This can be used for upselling to customers who want special items.

Result Grid | Filter Rows:

	name	price
▶	The Greek Pizza	35.95

Data Analysis using SQL

```sql
-- List the top 5 most ordered pizza types along with their quantities
use dominos;
SELECT
    pizza_types.name, SUM(orders_details.quantity) AS quantity
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.name
ORDER BY quantity DESC
LIMIT 5;
```

Result Grid | Filter Rows:

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

Findings-

Classic Deluxe, Barbecue Chicken Pizza, Hawaiin Pizza, Pepperoni Pizza is clearly ordered the most. This shows customer preference.

Data Analysis using SQL

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

SELECT
    pizza_types.category,
    SUM(orders_details.quantity) AS quantity
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 quantity DESC;
```

Findings-

A few pizza types are ordered much more often than others. These are the “stars” of the menu.

Result Grid | Filter

	category	quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050

Data Analysis using SQL

```sql
-- Determine the distribution of orders by hour of the day.

SELECT
    HOUR(order_time), COUNT(order_id)
FROM
    orders
GROUP BY HOUR(order_time);
```

Result Grid | Filter Rows:

HOUR(order_time)	COUNT(order_id)
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198
22	663

Result 1

Findings-

Most orders come in around lunch and dinner time. These are the peak hours.

Data Analysis using SQL

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

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

Result Grid | Filter Rows:

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

Findings-

Some categories, like Classic or Supreme, are more popular, while others have fewer sales.

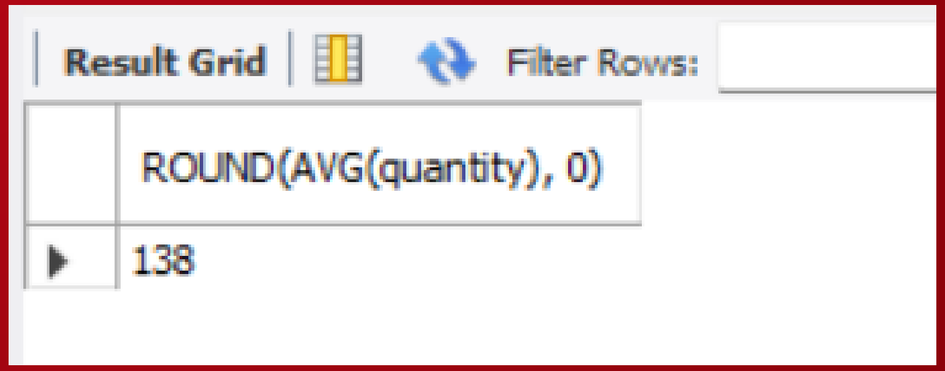
Data Analysis using SQL

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

SELECT
    ROUND(AVG(quantity), 0)
FROM
    (SELECT
        orders.order_date, SUM(orders_details.quantity) AS quantity
    FROM
        orders
    JOIN orders_details ON orders.order_id = orders_details.order_id
    GROUP BY orders.order_date) AS per_order;
```

Findings-

On average, the restaurant sells 138 pizzas each day



Data Analysis using SQL

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

SELECT
    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.name
ORDER BY revenue DESC
LIMIT 3;
```

Result Grid | Filter Rows:

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

Findings-

Thai Chicken pizza, Barbecue Chicken Pizza, California Pizza bring in the highest revenue.

Data Analysis using SQL

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

SELECT
    pizza_types.category,
    ROUND(SUM(orders_details.quantity * pizzas.price) / (SELECT
                    ROUND(SUM(orders_details.quantity * pizzas.price),
                                2) AS total_revenue
                FROM
                    orders_details
                        JOIN
                    pizzas ON pizzas.pizza_id = orders_details.pizza_id) * 100,
            2) 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 | Filte

	category	revenue
▶	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68

Findings-

Classic, Supereme, Chicken, Veggie pizzas contribute a large share of the total revenue.

Data Analysis using SQL

```sql
-- Analyze the cumulative revenue generated over time.

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 total_sales;
```

Result Grid | Filter Rows:

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
2015-01-09	21526.4
2015-01-10	23990.350000000002
2015-01-11	25862.65
2015-01-12	27781.7
2015-01-13	29831.300000000003
2015-01-14	32358.700000000004
2015-01-15	34343.50000000001
2015-01-16	36937.65000000001
2015-01-17	39001.75000000001
2015-01-18	40978.600000000006
2015-01-19	43365.75000000001
2015-01-20	45763.65000000001
2015-01-21	47804.20000000001
2015-01-22	50300.90000000001

Result 1

Findings-

Revenue has been steadily growing over time, showing healthy business growth.

Data Analysis using SQL

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

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 total_sales) as b
where rn >= 3;
```

name	revenue
The California Chicken Pizza	41409.5
The Southwest Chicken Pizza	34705.75
The Chicken Alfredo Pizza	16900.25
The Chicken Pesto Pizza	16701.75
The Pepperoni Pizza	30161.75
The Greek Pizza	28454.100000000013
The Italian Capocollo Pizza	25094
The Napolitana Pizza	24087
The Big Meat Pizza	22968
The Pepperoni, Mushroom, and Peppers Pizza	18834.5
The Sicilian Pizza	30940.5
The Pepper Salami Pizza	25529
The Prosciutto and Arugula Pizza	24193.25
The Soppressata Pizza	16425.75
The Calabrese Pizza	15934.25
The Spinach Supreme Pizza	15277.75
The Brie Carre Pizza	11588.4999999999
The Five Cheese Pizza	26066.5
The Vegetables + Vegetables Pizza	24374.75
The Spinach and Feta Pizza	23271.25
The Italian Vegetables Pizza	16019.25
The Spinach Pesto Pizza	15596
The Mediterranean Pizza	15360.5
The Green Garden Pizza	13955.75

Result 1

Findings-

Within each category, there are clear winners that drive most of the sales and revenue.

Recommendation :

Focus on Best-Sellers:

Keep promoting the pizzas that sell the most and bring in the highest revenue. They should always be in stock.

Improve Weak Performers:

Look at pizzas with very few sales. Either improve their recipes/marketing or consider removing them from the menu.

Inventory and Staff Planning:

Since most customers prefer a certain size, stock ingredients and packaging for that size in larger quantities.

Schedule more staff during lunch and dinner peak hours.

Upselling Premium Pizzas:

Promote the most expensive Greek pizza as a “special experience” to increase sales from premium customers.

Category Promotions:

Bundle popular pizzas with weaker ones (e.g., Classic + Veggie deal) to balance demand across categories.

Targeted Marketing:

Offer discounts or deals during slow hours to spread demand.

Run campaigns around the top 3 revenue-generating pizzas (California, Southwest Chicken Alfredo) to boost overall income.

Track Growth Regularly:

Keep monitoring monthly revenue trends to check if business is improving and where changes are needed.

THANK YOU!

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