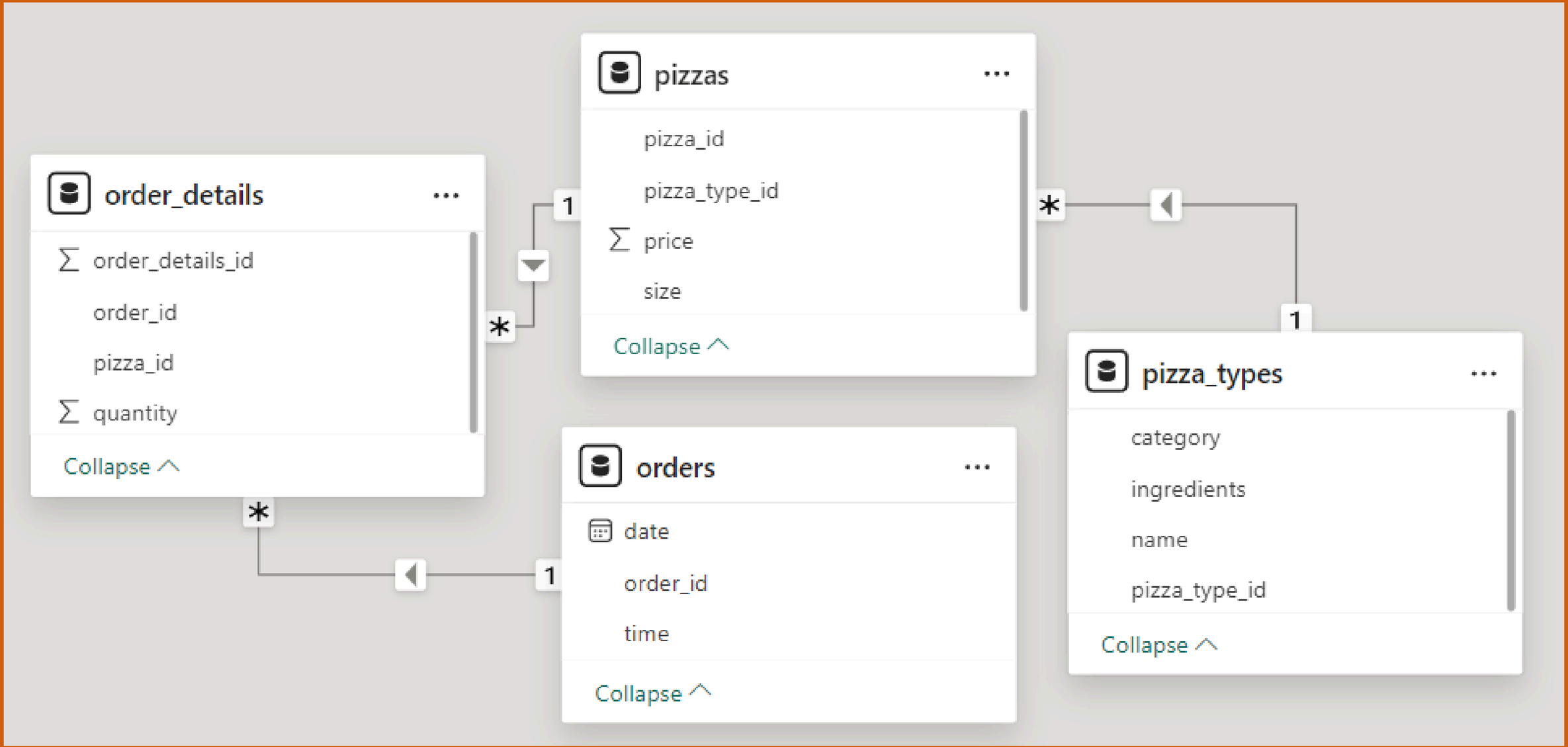
PIZZA SALES ANALYSIS BY SQL

presented by
Boguda Soundarya

INTRODUCTION

This project focuses on analyzing data by using SQL joins, aggregate functions, subqueries, Common Table Expressions (CTEs)
This work demonstrates the application of SQL for real-world business intelligence, emphasizing the ability to process large datasets, optimize query performance, and present insights in a structured and actionable format.

SCHEMA


pizzas
pizza_id
pizza_type_id
price
size
Collapse
order_details
order_details_id
order_id
pizza_id
quantity
Collapse
orders
date
order_id
time
Collapse
pizza_types
category
ingredients
name
pizza_type_id
Collapse
1
*
*
1
*
1

CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES.

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

Result Grid | Filte

	total_revenue
▶	817860.05

RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED.

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

Result Grid

total_orders
21350

IDENTIFY THE HIGHEST-PRICED PIZZA.

```sql
SELECT
    pizza_type_id, MAX(price) AS costlistP
FROM
    pizzas
GROUP BY pizza_type_id
ORDER BY costlistP DESC
LIMIT 5;
```

Result Grid | Filter Rows

pizza_type_id	costlistP
the_greek	35.95
brie_carre	23.65
ital_veggie	21
bbq_ckn	20.75
cali_ckn	20.75

IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED.

```sql
SELECT
    p.size AS popular_size, SUM(od.quantity) AS total_quantity
FROM
    pizzas AS p
        JOIN
    orders_details AS od ON p.pizza_id = od.pizza_id
GROUP BY popular_size
ORDER BY total_quantity DESC
LIMIT 1;
```

Result Grid | Filter Rows:

popular_size	total_quantity
L	18956

LIST THE TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES.

```sql
SELECT
    p.pizza_type_id AS pizza_model,
    SUM(od.quantity) AS total_quantity
FROM
    pizzas AS p
        JOIN
    orders_details AS od ON p.pizza_id = od.pizza_id
GROUP BY pizza_model
ORDER BY total_quantity DESC
LIMIT 5;
```

Result Grid | Filter Rows:

pizza_model	total_quantity
classic_dlx	2453
bbq_ckn	2432
hawaiian	2422
pepperoni	2418
thai_ckn	2371

2432

JOIN THE NECESSARY TABLES TO FIND THE TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED.

```sql
SELECT
    pt.category AS pizza_category,
    SUM(od.quantity) AS total_quantity
FROM
    orders_details AS od
        JOIN
    pizzas AS p ON od.pizza_id = p.pizza_id
        JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
GROUP BY pizza_category
ORDER BY total_quantity DESC;
```

Result Grid | Filter Rows:

pizza_category	total_quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

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

hour	COUNT(order_id)
9	1
10	8
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

JOIN RELEVANT TABLES TO FIND THE CATEGORY-WISE DISTRIBUTION OF PIZZAS.

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

category	distributions
Chicken	6
Classic	8
Supreme	9
Veggie	9

GROUP THE ORDERS BY DATE AND CALCULATE THE AVERAGE NUMBER OF PIZZAS ORDERED PER DAY.

```
SELECT
    ROUND(AVG(total_quantity), 0)
FROM
    (SELECT
        SUM(od.quantity) AS total_quantity, o.order_date AS odate
    FROM
        orders_details AS od
    JOIN orders AS o ON od.order_id = o.order_id
    GROUP BY odate) AS orders_quantity;
```

	ROUND(AVG(total_quantity),
▶	138

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE.

```sql
SELECT
    pt.name, ROUND(SUM(p.price * od.quantity), 2) AS revenue
FROM
    pizza_types AS pt
        JOIN
    pizzas AS p ON pt.pizza_type_id = p.pizza_type_id
        JOIN
    orders_details AS od ON p.pizza_id = od.pizza_id
GROUP BY pt.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

CALCULATE THE PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE.

```sql
SELECT
    pt.category,
    ROUND(ROUND(SUM(p.price * od.quantity), 2) / (SELECT
                    ROUND(SUM(od.quantity * p.price), 2) AS total_revenue
                FROM
                    orders_details AS od
                        JOIN
                    pizzas AS p ON od.pizza_id = p.pizza_id) * 100,
            2) AS revenue_percentage
FROM
    pizza_types AS pt
        JOIN
    pizzas AS p ON pt.pizza_type_id = p.pizza_type_id
        JOIN
    orders_details AS od ON p.pizza_id = od.pizza_id
GROUP BY pt.category;
```

category	revenue_percentage
Classic	26.91
Veggie	23.68
Supreme	25.46
Chicken	23.96

ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

```
select order_date,sum(total_revenue) over (order by order_date) as cum_revenue
from
(select o.order_date, round(sum(p.price*od.quantity),2) as total_revenue
from orders as o
join orders_details as od
on o.order_id=od.order_id
join pizzas as p
on od.pizza_id=p.pizza_id
group by  o.order_date) as sales;
```

order_date	cum_revenue
2015-01-01	2713.85
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY.

```
select name, category, rnk, total_revenue
from (select category, name,total_revenue,
rank() over (partition by category order by total_revenue desc) as rnk
from
(select pt.category,pt.name, round(sum(p.price*od.quantity),2) as total_revenue
from pizza_types as pt
join pizzas as p
on pt.pizza_type_id=p.pizza_type_id
join orders_details as od
on p.pizza_id=od.pizza_id
group by pt.category, pt.name) as tr) as new_table
where rnk<=3
```

name	category	rnk	total_revenue
The Thai Chicken Pizza	Chicken	1	43434.25
The Barbecue Chicken Pizza	Chicken	2	42768
The California Chicken Pizza	Chicken	3	41409.5
The Classic Deluxe Pizza	Classic	1	38180.5
The Hawaiian Pizza	Classic	2	32273.25
The Pepperoni Pizza	Classic	3	30161.75
The Spicy Italian Pizza	Supreme	1	34831.25
The Italian Supreme Pizza	Supreme	2	33476.75
The Sicilian Pizza	Supreme	3	30940.5
The Four Cheese Pizza	Veggie	1	32265.7
The Mexicana Pizza	Veggie	2	26780.75
The Five Cheese Pizza	Veggie	3	26066.5

THANK YOU!