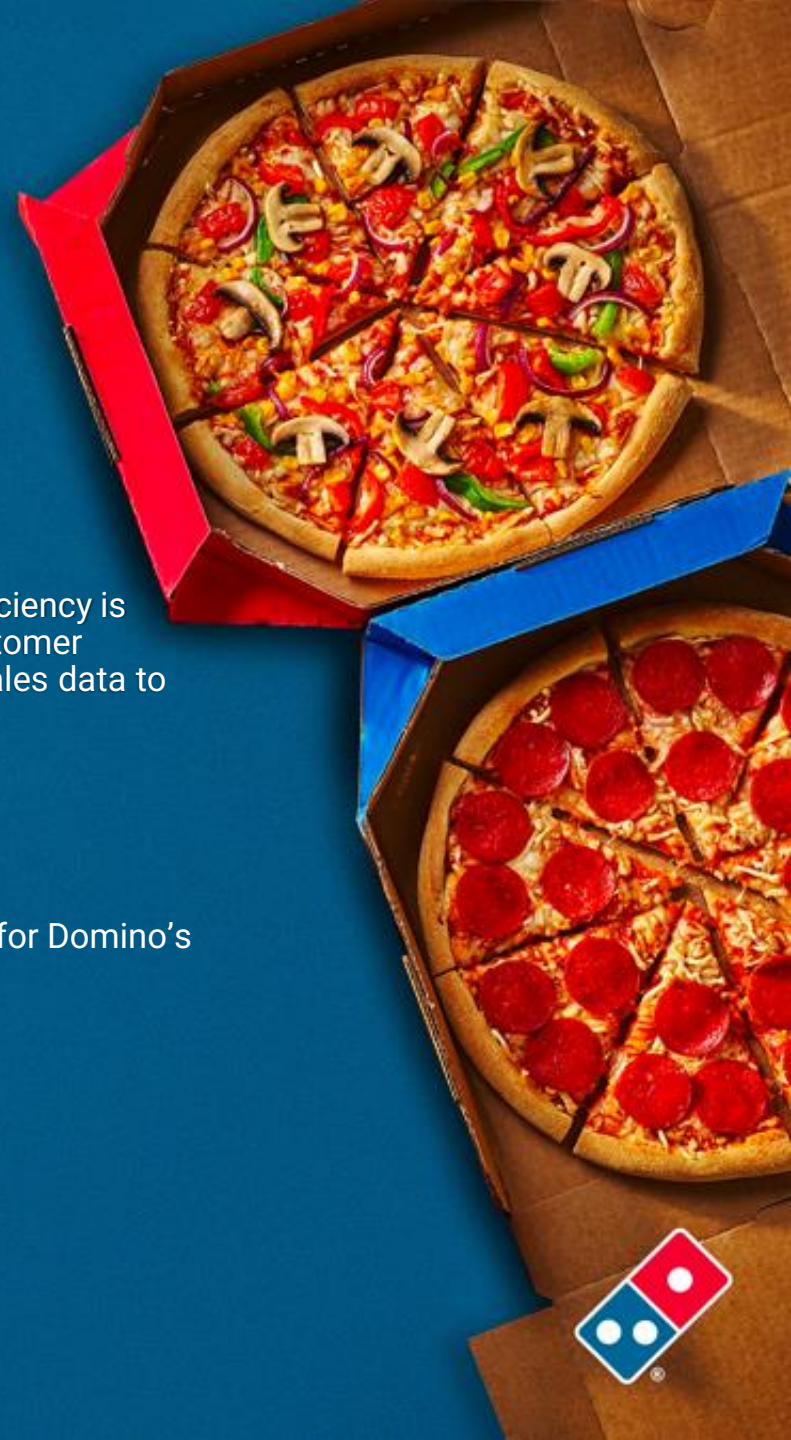
Domino's

Pizza Sale | SQL For Data Analysis Full Portfolio Project | End-to-End SQL Project

Project Title: Optimizing Domino's Pizza Revenue through Data Analysis



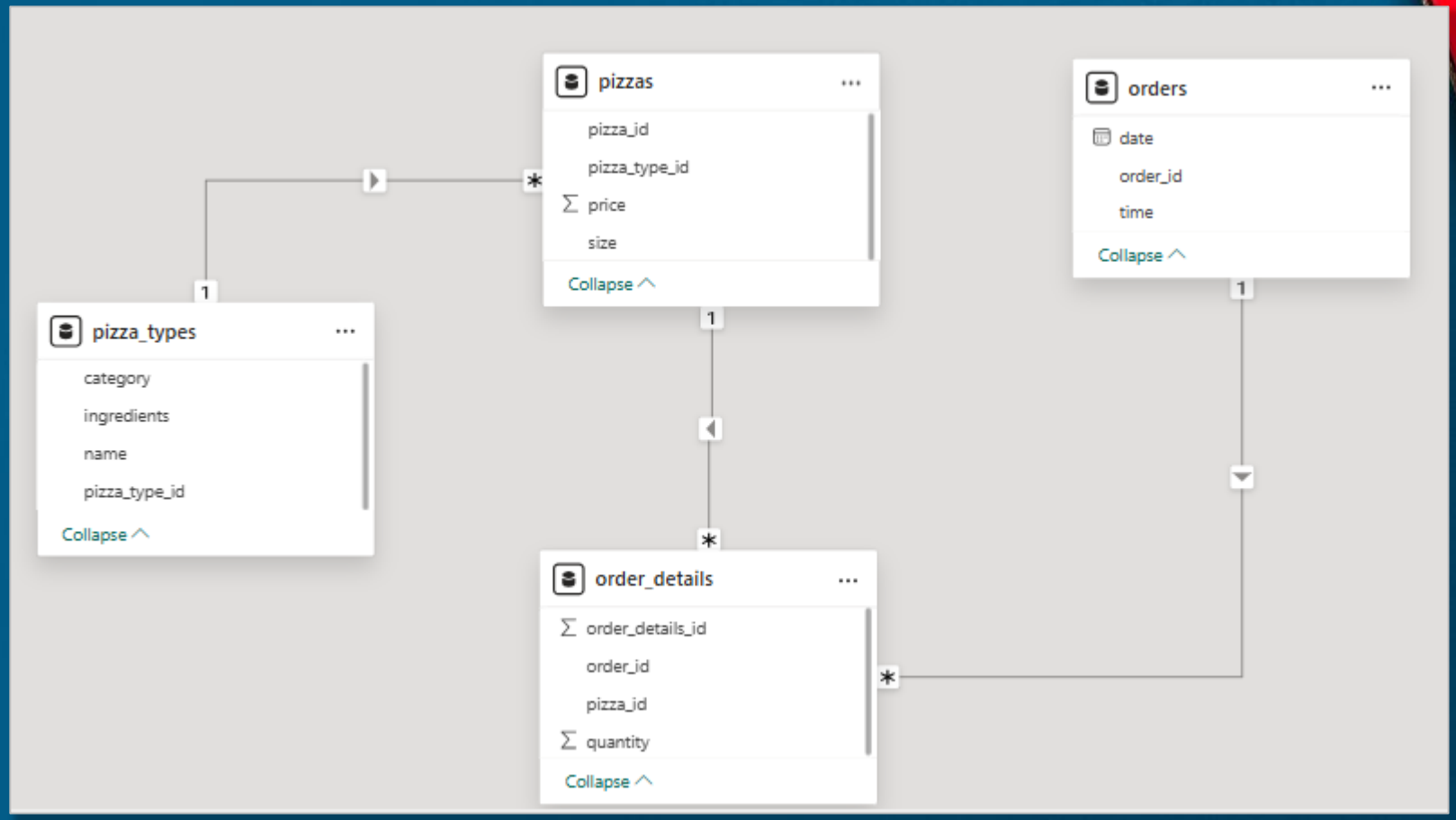
Introduction:

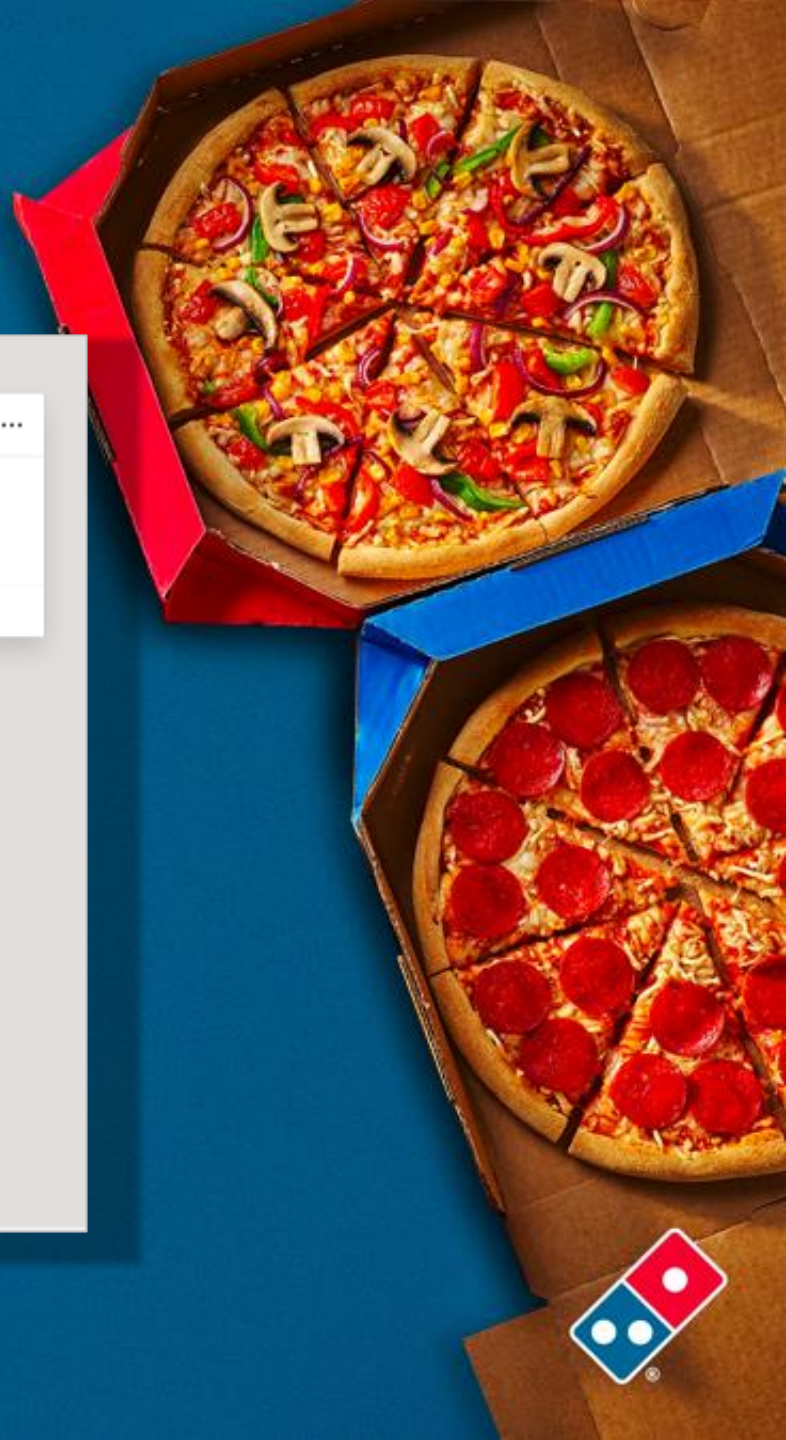
In an increasingly competitive food service industry, optimizing revenue and operational efficiency is crucial for businesses like Domino’s Pizza. Leveraging data analytics can provide deep insights into customer preferences, sales patterns, and operational bottlenecks. This project aims to analyze Domino’s Pizza sales data to identify key revenue drivers and recommend data-driven strategies to maximize profitability.

Objectives

- The primary goal of this project is to utilize data analysis techniques to enhance revenue generation for Domino’s Pizza. The objectives include:
- Analyzing sales trends and customer purchase behavior.
- Identifying the most and least profitable menu items.
- Understanding the impact of pricing, discounts, and promotions on revenue.
- Evaluating operational efficiency, such as order fulfillment time and delivery performance.
- Providing actionable insights to improve customer retention and satisfaction

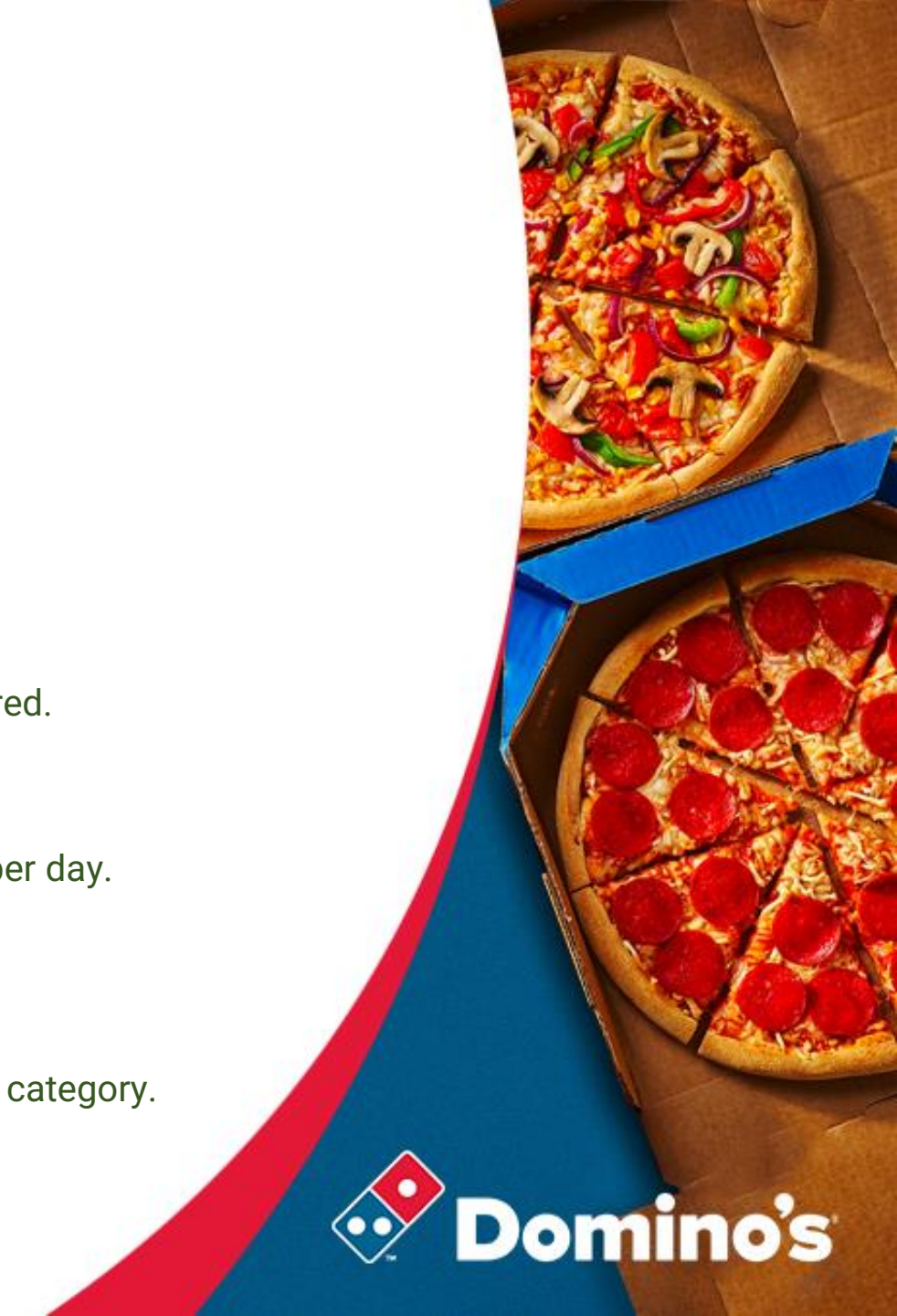
Information about the database used.





Over View

- Retrieve the total number of orders placed.
- Calculate the total revenue generated from pizza sales.
- Identify the highest-priced pizza.
- Identify the most common pizza size ordered.
- List the top 5 most ordered pizza types along with their quantities.
- Join the necessary tables to find the total quantity of each pizza category ordered.
- Determine the distribution of orders by hour of the day.
- Join relevant tables to find the category-wise distribution of pizzas.
- Group the orders by date and calculate the average number of pizzas ordered per 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.



Retrieve the total number of orders placed

```sql
SELECT
    COUNT(order_id) total_no_orders
FROM
    orders;
```

Result Grid

	total_no_orders
▶	21350

Insights : 21350 of Total number of order is placed

Calculate the total revenue generated from pizza sales

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

Result Grid

	revenue
▶	817860.05

Insights: The total revenue generated from pizza sales was ₹817,860.

Identify the highest-priced pizza.

```sql
SELECT
    pt.name,MAX(price) AS highest_price
FROM
    pizza_types pt
        JOIN
    pizzas p ON p.pizza_type_id = pt.pizza_type_id
GROUP BY pt.name
ORDER BY highest_price DESC
LIMIT 1;
```

Result Grid | Filter Rows:

name	highest_price
The Greek Pizza	35.95

Insights: The highest priced pizza recorded was ‘The Greek Pizza’

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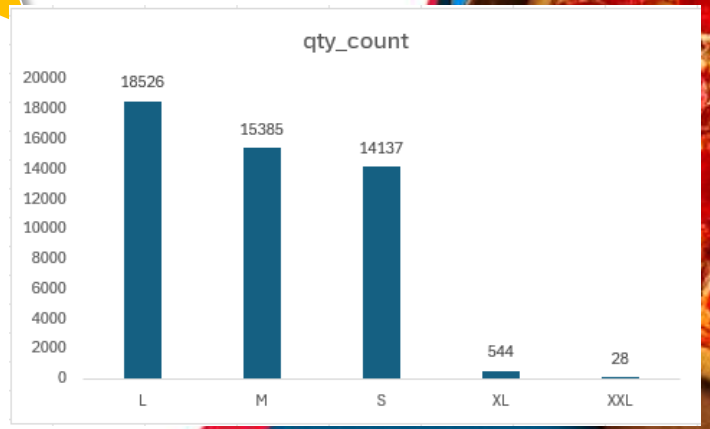
Identify the most common pizza size ordered.

```sql
SELECT
    p.size, COUNT(od.quantity) AS qty_count
FROM
    pizzas p
        JOIN
    order_details od ON p.pizza_id = od.pizza_id
GROUP BY p.size
ORDER BY qty_count DESC;
```

Result Grid | Filter

size	qty_count
L	18526
M	15385
S	14137
XL	544
XXL	28



Insights: 'L' is the most common piza ordered with ordered quantity of 18526, followed by M,S,XL,XXL

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

```sql
SELECT
    name, SUM(quantity) AS Qty
FROM
    order_details od
        JOIN
    pizzas p ON od.pizza_id = p.pizza_id
        JOIN
    pizza_types pt ON p.pizza_type_id = pt.pizza_type_id
GROUP BY name
ORDER BY Qty DESC
LIMIT 5;
```

Result Grid | Filter Rows:

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

Insights: Top 5 most ordered pizza ranked are as follows

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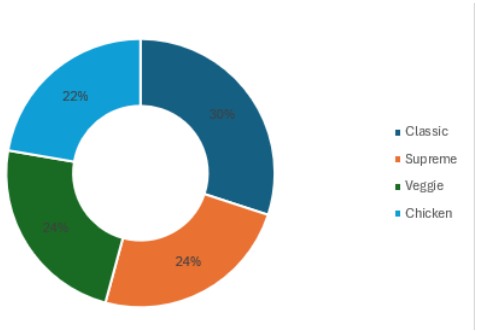
Join the necessary tables to find the total quantity of each pizza category ordered.

```sql
SELECT
    category, SUM(od.quantity) AS total_qty
FROM
    order_details od
        JOIN
    pizzas pz ON od.pizza_id = pz.pizza_id
        JOIN
    pizza_types pt ON pz.pizza_type_id = pt.pizza_type_id
GROUP BY category
ORDER BY total_qty DESC;
```

	category	total_qty
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050



Insight : People are preferring classic over other pizza category which having total order of14888 quantities

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

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

hours	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
23	28
10	8
9	1

Insight : People are preferring classic over other pizza category which having total order of14888 quantities

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

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

	category	count
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

Insight : Category wise distribution of pizzas

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

```
with cte as
(SELECT order_date ,sum(od.quantity) as total_qty
 FROM orders os
 join order_details od on os.order_id = od.order_id
group by order_date)
select round(avg(total_qty),0) as Avg_order_per_day
from cte;
```

	Avg_order_per_day
▶	138

Insight : The average number of pizzas ordered per day is 138.

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

```sql
SELECT
    pt.name, ROUND(SUM(od.quantity * pz.price), 0) AS revenue
FROM
    pizza_types pt
        JOIN
    pizzas pz ON pz.pizza_type_id = pt.pizza_type_id
        JOIN
    order_details od ON od.pizza_id = pz.pizza_id
GROUP BY pt.name
ORDER BY revenue DESC
LIMIT 3;
```

name	revenue
The Thai Chicken Pizza	43434
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41410

Insight : Most ordered pizza is ‘The thai chicken pizza’ with revenue of 43434/- followed by ’ The Barbecue chicken pizza’ and the ‘California pizza’

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

```sql
WITH PizzaSales AS (
    SELECT
        pizza_types.category,
        SUM(order_details.quantity * pizzas.price) AS category_sales
    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
),
TotalSales AS (
    SELECT SUM(category_sales) AS total_sales
    FROM PizzaSales
)
SELECT
    PizzaSales.category,
    CONCAT(ROUND((PizzaSales.category_sales / TotalSales.total_sales) * 100, 2), '%') AS revenue_percentage
FROM PizzaSales, TotalSales
ORDER BY revenue_percentage DESC;
```

	category	revenue_percentage
▶	Classic	26.91%
	Supreme	25.46%
	Chicken	23.96%
	Veggie	23.68%

Insight : The percentage contribution of each pizza by category to total revenue, where classic contributes around 26.91% followed by supreme , chicken ,veggie.

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Analyze the cumulative revenue generated over time.

```sql
with cum_rev as (
    select ord.order_date, sum(od.quantity * pz.price) as revenue
from order_details od
join pizzas pz on od.pizza_id = pz.pizza_id
join orders ord on ord.order_id = od.order_id
group by ord.order_date )
select order_date, round(sum(revenue) over(order by order_date ),0) as cum_revenue
from cum_rev;
```

order_date	cum_revenue
2015-01-01	2714
2015-01-02	5446
2015-01-03	8108
2015-01-04	9864
2015-01-05	11930
2015-01-06	14358
2015-01-07	16561
2015-01-08	19399
2015-01-09	21526
2015-01-10	23990
2015-01-11	25863
2015-01-12	27782
2015-01-13	29831
2015-01-14	32359
2015-01-15	34344
2015-01-16	36938
2015-01-17	39002
2015-01-18	40979
2015-01-19	43366

Insight : Cumulative revenue generated over time as shown above report

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

```sql
WITH PizzaRevenue AS (
    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
),
RankedPizzaRevenue AS (
    SELECT
        category,
        name,
        revenue,
        RANK() OVER (PARTITION BY category ORDER BY revenue DESC) AS rn
    FROM PizzaRevenue
)SELECT name, revenue
FROM RankedPizzaRevenue
WHERE rn <= 3;
```

name	revenue
The Thai Chicken Pizza	43434
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41410
The Classic Deluxe Pizza	38180
The Hawaiian Pizza	32273
The Pepperoni Pizza	30162
The Spicy Italian Pizza	34831
The Italian Supreme Pizza	33477
The Sicilian Pizza	30940
The Four Cheese Pizza	32266
The Mexicana Pizza	26781
The Five Cheese Pizza	26066

Insight : Report showing top 3 most ordered pizza based on revenue for each pizza category .

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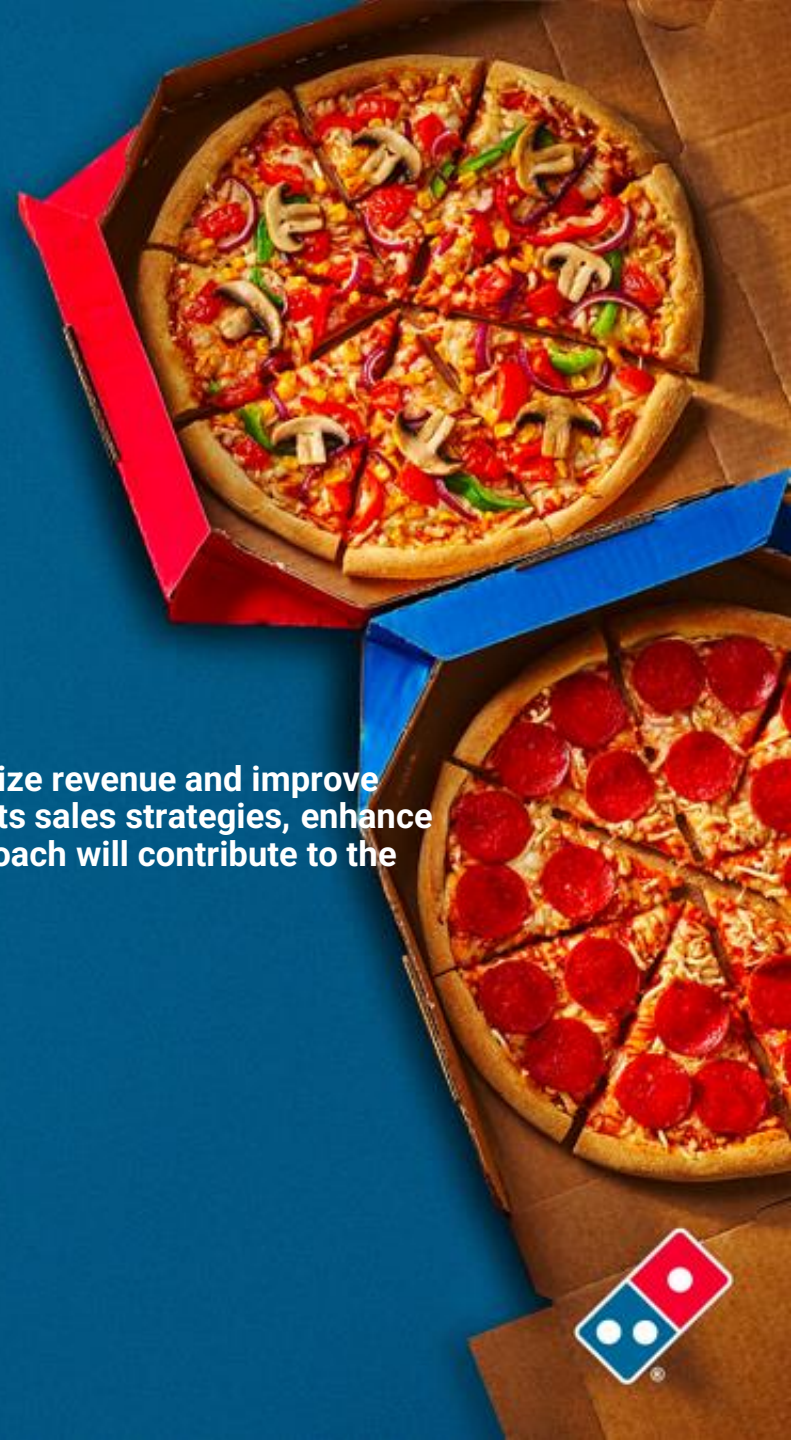
Conclusion:

By leveraging data analytics, this project will help Domino's Pizza make informed decisions to maximize revenue and improve overall business performance. The insights derived from this analysis will enable the company to refine its sales strategies, enhance customer satisfaction, and achieve a competitive edge in the market. Ultimately, this data-driven approach will contribute to the sustainable growth and profitability of Domino's Pizza.



Thank You.. !