PIZZA SALES ANALYSIS USING MYSQL

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PROJECT OVERVIEW

Objective:

To analyze pizza sales data using SQL and extract meaningful business insights from it. 🍕

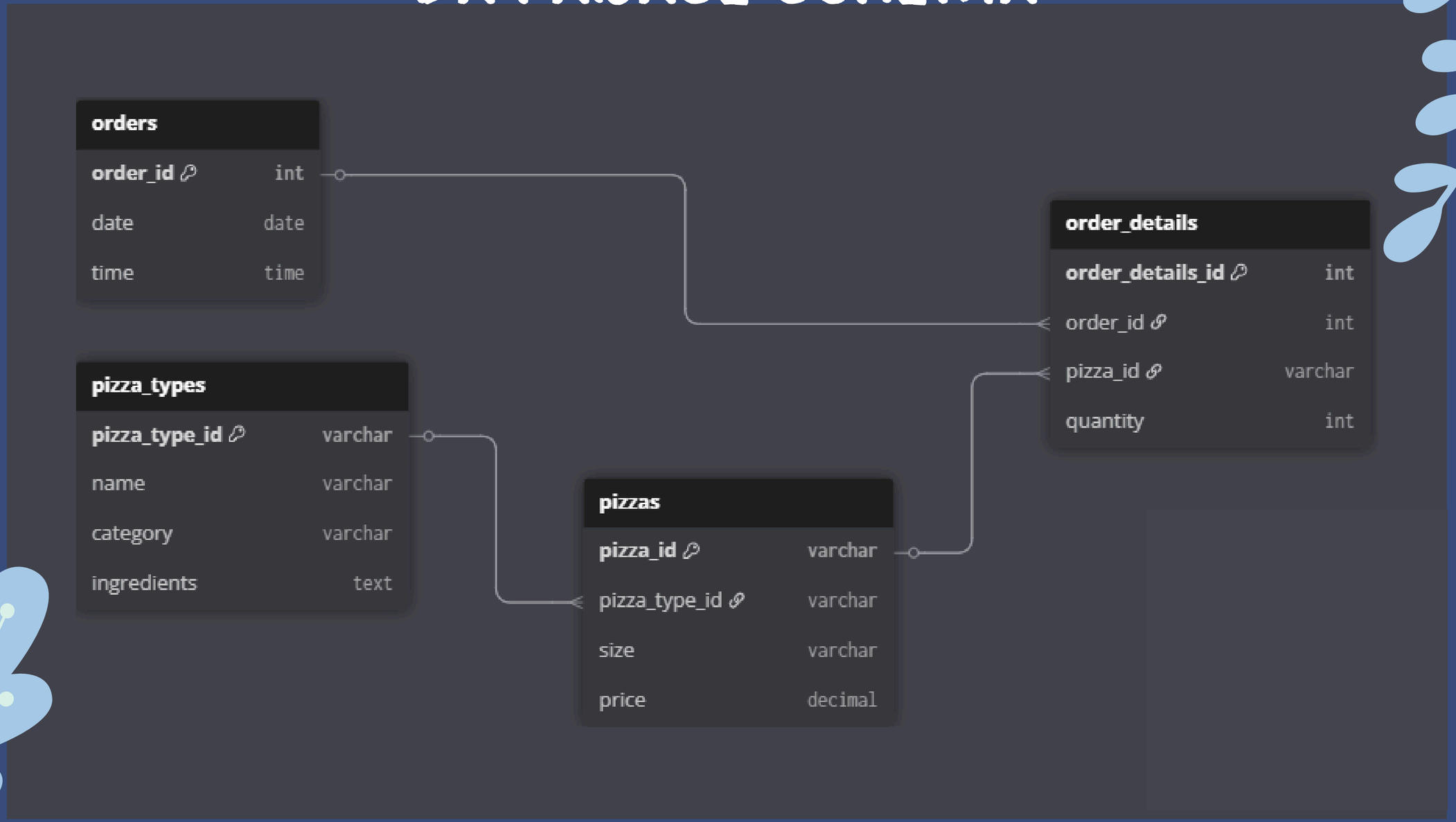
Tools Used:

MySQL 🐬, Microsoft Excel 📊, Canva 🎨

Dataset:

Includes 4 CSV files — Orders, Order Details, Pizzas, Pizza Types 📄

DATABASE SCHEMA



BUSINESS QUESTIONS ANSWERED

WE EXPLORED AND ANSWERED 15+ REAL BUSINESS QUESTIONS USING SQL, GROUPED BY DIFFICULTY LEVEL

🟢 BASIC LEVEL QUESTIONS

- **Total number of orders** placed 📦
- **Total revenue** generated from pizza sales 💰
- **Highest-priced pizza** 🍕
- **Most common pizza** size ordered 📏
- **Top 5 most ordered pizza** types (with quantities) 🔝

🟡 INTERMEDIATE QUESTIONS

- **Total quantity of pizzas ordered** per category (via JOIN) 🔄
- **Distribution** of orders by hour of the day 🕒
- **Category-wise** pizza distribution (**using JOINs**) 🧩
- **Average number of pizzas** ordered per day 📅
- **Top 3 most ordered** pizza types based on revenue 💸

🔴 ADVANCED QUESTIONS

- **% Contribution of each pizza** type to total revenue 📊
- **Cumulative revenue** over time (monthly/weekly trend) 📈
- **Top 3 pizzas** (by revenue) in each pizza category 🥇

INSIGHTS & TAKEAWAYS

BASIC LEVEL QUESTIONS

1) RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED.

```
SELECT COUNT(order_id) as Total_orders FROM orders;
```

2) CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES.

```
SELECT
round(sum(orders_details.quantity * pizzas.price),2) as total_sales
FROM orders_details JOIN pizzas
ON pizzas.pizza_id = orders_details.pizza_id;
```

3) IDENTIFY THE 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 pizzas.price desc limit 1;
```

4) IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED

```sql
SELECT COUNT(orders_details.order_details_id) as Order_count, pizzas.size
FROM pizzas JOIN orders_details
ON orders_details.pizza_id = pizzas.pizza_id
GROUP BY pizzas.size
ORDER BY Order_count desc;
```

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

```
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;
```

INTERMEDIATE QUESTIONS

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

```
SELECT pizza_types.category AS 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 Category
ORDER BY quantity DESC;
```

2) DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

```
SELECT hour(order_time) AS hour, COUNT(order_id) AS Order_Count FROM orders
GROUP BY hour(order_time);
```

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

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

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

```
SELECT round(avg(AVG_No),0) AS avg_pizza_ordered_per_day from
(SELECT orders.order_date AS Date, SUM(orders_details.quantity) AS AVG_No
FROM orders join orders_details
ON orders.order_id = orders_details.order_id
GROUP BY Date) AS order_quantity;
```

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

```sql
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;
```

ADVANCED QUESTIONS

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

```
SELECT pizza_types.category,
ROUND(SUM(pizzas.price * orders_details.quantity) / (SELECT
round(sum(orders_details.quantity * pizzas.price),2) as total_sales
FROM orders_details JOIN pizzas
ON pizzas.pizza_id = orders_details.pizza_id) * 100 ,0) 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;
```

2) 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 Sales;
```

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

```sql
SELECT category, 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 a) as b
where rn <= 3;
```

VISUALS & SQL RESULTS

📌 REVENUE BREAKDOWN BY PIZZA TYPE

category	Revenue
Classic	27
Supreme	25
Veggie	24
Chicken	24

PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE

category	name	revenue
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Barbecue Chicken Pizza	42768
Chicken	The California Chicken Pizza	41409.5
Classic	The Classic Deluxe Pizza	38180.5
Classic	The Hawaiian Pizza	32273.25
Classic	The Pepperoni Pizza	30161.75
Supreme	The Spicy Italian Pizza	34831.25
Supreme	The Italian Supreme Pizza	33476.75
Supreme	The Sicilian Pizza	30940.5

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

VISUALS & SQL RESULTS

📌 CUMULATIVE REVENUE OVER TIME

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

THE CUMULATIVE REVENUE
GENERATED OVER TIME

VISUALS & SQL RESULTS

📌 CATEGORY-WISE REVENUE TABLE

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

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

category	name	revenue
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Barbecue Chicken Pizza	42768
Chicken	The California Chicken Pizza	41409.5
Classic	The Classic Deluxe Pizza	38180.5
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THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY

VISUALS & SQL RESULTS

📌 TIME-BASED ORDERING PATTERN

hour	Order_Count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336

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

18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

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

CONCLUSION & LEARNINGS

✅ **Key Conclusions:**

- Top 3 Pizzas by Revenue: Thai Chicken, Barbecue Chicken, California Chicken.
- Highest Revenue Category: Classic (27%), but Chicken dominates top earners.
- Peak Order Hours: 12 PM and 6–8 PM.
- Avg. Daily Orders: 138 pizzas.
- Strong Revenue Growth: Steady rise over time.
- Pizza Type Distribution: Chicken (6), Classic (8), Veggie & Supreme (9 each).

CONCLUSION & LEARNINGS

🧠 **What I Learned:**

- Mastered SQL joins, aggregations, and date-based queries.
- Gained real-world insight extraction from raw sales data.
- Understood revenue trends, top sellers, and customer behavior.
- Improved data storytelling and presentation skills.

Thank You

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