



# Pizza Store Sales Analysis

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This project focuses on analyzing the sales performance of a pizza store using a real-world dataset. The goal of the project is to uncover key business insights through data exploration, visualization, and reporting. By applying data analysis techniques, I examined order details, sales trends, customer preferences, and product performance.

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### 📁 Dataset Columns

The dataset used contains the following fields:

- `order_details_id`, `order_id`, `pizza_id`, `quantity`, `date`, `time`, `pizza_type`, `name`, `size`, `price`, `category`, `ingredients`.
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### 🛠 Tools Used

- **MySQL** – For SQL-based data querying
  - **Power BI** – For visualization and dashboards
  - **Excel** – For data cleaning
  - **Git & GitHub** – For version control and collaboration
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### 🔍 Business Questions & Answers

#### 1. What is the total number of orders placed?

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

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#### 2. Calculate the total revenue generated from pizza sales.

```
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
```

**3. 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;
```

**4. Identify the most common pizza size ordered.**

```
SELECT
    pizzas.size,
    COUNT(order_details.order_details_id) AS order_count
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC
LIMIT 1;
```

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

```
SELECT
    pizza_types.name, SUM(order_details.quantity) AS 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 quantity DESC
LIMIT 5;
```

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

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

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**7. 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 (order_time);
```

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

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

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

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

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

```
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;
```

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

```
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 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.category
ORDER BY revenue DESC;
```

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## 12. 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(order_details.quantity * pizzas.price) 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;
```

### 13. 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((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) as a) as b
  where rn <= 3;
```

## 📌 Key Findings

- **Most ordered pizza-size:** The large(L)-sized pizza is the most frequently ordered option.
- **📅 Busiest hour:** Different hours exhibit distinct sales patterns, particularly between 12:00 PM and 1:00 PM as well as 5:00 PM to 7:00 PM which are typically recognized as peak business hours.
- **📦 Top-5 most ordered pizza types:** The top five most popular pizzas include the Classic Deluxe Pizza, Barbecue Chicken Pizza, Hawaiian Pizza, Pepperoni Pizza, and The Thai Chicken Pizza.
- **Average number of Pizza orders per day:** The typical daily pizza order quantity stands at 138.

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## 📊 Reports & Insights

- **📈 Sales trend:** Sales trends indicate that 12:00 PM to 1:00 PM and 5:00 PM to 7:00 PM are the busiest times, while sales begin to decline after 8:00 PM.
  - **⌚ Category Profitability:** The Thai Chicken Pizza, Barbecue Chicken Pizza and California Pizza stand out as the most profitable offerings.
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## Power BI Dashboard:



