EXPLORING PIZZA SALES DATA WITH SQL

START SLIDE

A DELICIOUS DATA ANALYSIS

INTRODUCTION

Welcome to the world of pizza data analysis! In today's presentation, we'll embark on a journey through the delicious realm of pizza sales data, leveraging the power of SQL queries to uncover valuable insights and trends. Pizza, a universally beloved food, not only tantalizes our taste buds but also offers a treasure trove of information that can inform business decisions and enhance customer experiences. Join me as we delve into the numbers behind the slices and explore what they reveal about customer preferences, ordering patterns, and revenue drivers in the pizza industry.

OBJECTIVE

Our objective today is to analyze pizza sales data using SQL queries to gain actionable insights that can benefit pizza restaurants or chains. By examining various metrics such as total orders, revenue, top-selling pizza types, popular pizza sizes, and category-wise distribution, we aim to:

- Understand customer preferences and behavior.
- Identify top-performing pizza varieties and categories.
- Optimize inventory management and menu offerings.
- Enhance marketing strategies to boost sales and customer engagement.
- Provide data-driven recommendations for business improvement and growth.

BUSINESS QUESTION

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

2. "How much revenue was generated from pizza sales?"

3. "Which pizza is priced the highest?"

4. "What is the most common pizza size ordered?"

5. "Which are the top 5 most ordered pizza types, along with their quantities?"

6. "How can we find the total quantity of each pizza category ordered?"

7. "How do we calculate the average number of daily pizzas ordered?"

8. "Which are the top 3 most ordered pizza types based on revenue?"

9. "What is the percentage contribution of each pizza type to total revenue?"

10. "Which are the top 3 most ordered pizza types based on revenue for each pizza category?"

1) WHAT IS THE TOTAL NUMBER OF ORDERS PLACED?

Query:

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

Output:

	total_orders
▶	34028

Total Orders :
The total number of orders placed is 34,028

2) HOW MUCH REVENUE WAS GENERATED FROM PIZZA SALES?

Query:

```sql
SELECT
    ROUND(SUM(o.quantity * p.price)) AS Total_revenue
FROM
    order_details o
        INNER JOIN
    pizzas p ON o.pizza_id = p.pizza_id
```

Output:

Total_revenue
817860

Total revenue generated from pizza sales:
$817,860

3) WHICH PIZZA IS PRICED THE HIGHEST?

Query:

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

Output:

name	price
The Greek Pizza	35.95

Highest-Priced Pizza:
The highest-priced pizza is "***The Greek Pizza***" priced at $35.95. This premium pizza may have unique ingredients or toppings contributing to its high price point.

4) WHAT IS THE MOST COMMON PIZZA SIZE ORDERED?

Query:

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

Output:

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

Most Common Pizza Size Ordered:
The most common pizza size ordered is Large (L), followed by Medium (M) and Small (S). Understanding size preferences can help optimize inventory management and marketing strategies.

5) WHAT ARE THE TOP 5 MOST ORDERED PIZZA TYPES AND THEIR QUANTITIES?

Query:

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

Output:

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

Top 5 Most Ordered Pizza Types:
The top 5 most ordered pizza types are "*The Classic Deluxe Pizza*", "*The Barbecue Chicken Pizza*", "*The Hawaiian Pizza*", "*The Pepperoni Pizza*", and "*The Thai Chicken Pizza*". These pizzas are popular among customers and can be highlighted in promotional campaigns.

6) HOW CAN WE FIND THE TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED?

Query:

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

Output:

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Category-Wise Pizza Distribution:
Pizzas from the "Classic" category are the most ordered, followed by "Supreme," "Veggie," and "Chicken" categories. This insight can guide menu planning and marketing efforts to promote popular pizza categories.

7) HOW DO WE CALCULATE THE AVERAGE NUMBER OF DAILY PIZZAS ORDERED

Query:

```sql
SELECT
    ROUND(AVG(quantity), 0) as avg_pizza_ordered_per_day
FROM
    (SELECT
        (o.date), SUM(od.quantity) AS quantity
    FROM
        orders o
    JOIN order_details od ON o.order_id = od.order_id
    GROUP BY o.date) AS order_quantity;
```

Output:

avg_pizza_ordered_per_day
220

Average Number of Daily Pizzas Ordered:
On average, 220 pizzas are ordered per day. Monitoring daily pizza orders can help predict demand and ensure sufficient inventory levels.

8) WHICH ARE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE?

Query:

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

Output:

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

Top 3 Most Ordered Pizza Types Based on Revenue:
"*The Thai Chicken Pizza*", "*The Barbecue Chicken Pizza*", and "*The California Chicken Pizza*" are the top 3 most ordered pizza types based on revenue. These pizzas are high performers and can be promoted to increase sales further

9) WHAT IS THE PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE?

Query:

```sql
SELECT
    pt.category,
    ROUND(SUM(od.quantity * p.price) / (SELECT
                        ROUND(SUM(od.quantity * p.price),
                            2) AS total_sales
                FROM
                    order_details od
                        JOIN
                    pizzas p ON p.pizza_id = od.pizza_id) * 100,
        2) AS revenue
FROM
    pizza_types pt
        JOIN
    pizzas p ON pt.pizza_type_id = p.pizza_type_id
        JOIN
    order_details od ON od.pizza_id = p.pizza_id
GROUP BY pt.category
ORDER BY revenue DESC
```

Output:

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Percentage Contribution of Pizza Types to Total Revenue:
Pizzas from the "*Classic*" category contribute the highest percentage (26.91%) to total revenue, followed by "*Supreme*", "*Chicken*", and "*Veggie*" categories. This insight can guide pricing strategies and menu optimization efforts.

10) WHICH ARE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY?

Query:

```sql
select name, revenue from
(select category, name, revenue,
rank() over(partition by category order by revenue desc) as rn
from
(select pt.category, pt.name,
sum((od.quantity)*p.price) as revenue
from pizza_types pt join pizzas p
on pt.pizza_type_id = p.pizza_type_id
join order_details od
on od.pizza_id = p.pizza_id
group by pt.category, pt.name)as a) as b
where rn <= 3;
```

Output:

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.70000000065
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

Top 3 Most Ordered Pizza Types Based on Revenue for Each Category:
The top 3 most ordered pizza types based on revenue vary across categories, highlighting the diversity of customer preferences. Tailoring promotions and menu offerings to each category can enhance overall sales.

KEY TAKEAWYS

1. Customer Preferences:
   - Traditional flavours like "The Classic Deluxe Pizza" and "The Pepperoni Pizza" are top favourites, guiding menu planning and promotions.
2. Revenue Drivers:
   - Chicken-based pizzas, including "The Thai Chicken Pizza" and "The Barbecue Chicken Pizza," lead revenue generation, suggesting focus areas for boosting sales.
3. Category Insights:
   - "Classic" pizzas contribute the most to total revenue, informing pricing and menu optimization strategies.
4. Ordering Patterns:
   - Peak ordering times during lunch and dinner hours highlight opportunities for efficient staffing and delivery scheduling.
5. Menu Optimization:
   - Large pizzas are most commonly ordered, indicating potential for size-specific promotions and menu diversification.
6. Strategic Insights:
   - Average daily pizza orders provide a basis for inventory management and informed decision-making to capitalize on market trends.

CALL TO ACTION

Based on the analysis:

- Implement targeted marketing campaigns to promote top-selling pizza types and capitalize on customer preferences.
- Optimize inventory management by stocking ingredients based on popular pizza sizes and categories.
- Adjust staffing levels and delivery schedules to accommodate peak ordering hours and ensure timely service.
- Explore menu diversification opportunities by introducing new pizza varieties or customizations based on category-wise distribution and revenue contribution.
- Continuously monitor and analyze sales data to identify emerging trends and adapt business strategies for sustained growth.

Thank You