Pizza Hut Sales Analysis Using SQL

Unlocking Strategic Insights from Sales Data

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Introduction

- PizzaHutisaglobalpizza brand serving millions of customers daily.
- The objective is to analyze sales data using SQL to understand performance trends.
- This study helps convert raw order data into valuable business insights.

Business Objective

- Identify top-sellingpizzas and revenue drivers.
- Analyze order timings and size preferences.
- Evaluate sales performance by category.
- Support data-driven menu and pricing decisions.

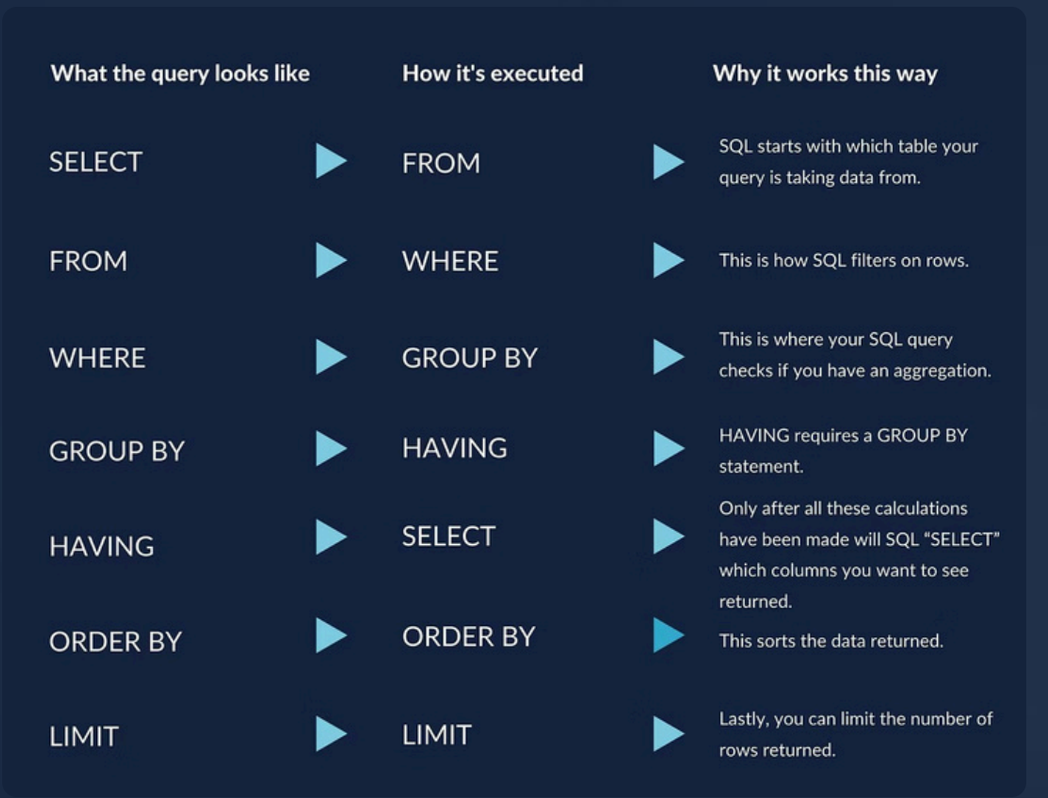
Dataset Overview

Tool Used: MySQL Workbench

Dataset Link:
https://dr ive.google.com/dr ive/folders/14laODHUAeZX548A74cDEunsmNVL6znlc?usp=drive_link

Tables Used:

1. Pizzas
2. Pizza_Types
3. Orders
4. Order_Details



Basic Analysis

1.Total Orders Count

```sql
-- Find the total number of orders placed

USE pizzahut;
SELECT COUNT(order_id) as total_orders
FROM orders;
```

Output

Result Grid

	total_orders
▶	21350

2.Revenue Calculation

```sql
-- Calculate the total revenue from pizza sales

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

Output

Result Grid

	total_revenue
▶	817860.05

3.Most Expensive Pizza

```sql
-- Identify the highest-priced pizza

SELECT p.pizza_id, pt.name, p.size, p.price
FROM pizzas p
JOIN pizza_types pt ON p.pizza_type_id = pt.pizza_type_id
WHERE p.price = (SELECT MAX(price) FROM pizzas);
```

Output

Result Grid | Filter Rows:

	pizza_id	name	size	price
▶	the_greek_xxl	The Greek Pizza	XXL	35.95

4.Most Ordered Pizza Size

```sql
-- Determine the most frequently ordered pizza size

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

Output

Result Grid

	size	total_quantity
▶	L	18956

5.Top 5 Popular Pizzas

```sql
-- List the top 5 pizzas by order quantity

SELECT pt.name, SUM(od.quantity) as total_quantity
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 pt.name
ORDER BY total_quantity DESC
LIMIT 5;
```

Output

Result Grid | Filter Rows:

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

Basic Analysis Insights

- Large-size pizzasand classic flavors dominate total sales.
- Top 5 pizzas contribute major portion of total revenue.
- Premium pizzas have high price but limited orders.
- Demand is consistent 4 Pizza Hut maintains strong daily sales volume.

Intermediate Analysis

1.Pizza Quantity by Category

```sql
-- Calculate the total quantity ordered for each pizza category

SELECT pt.category, SUM(od.quantity) as total_quantity
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 pt.category
ORDER BY total_quantity DESC;
```

Output

Result Grid | Filter R

category	total_quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

2.Order Trends by Hour

```sql
-- Analyze the distribution of orders by hour of day

SELECT HOUR(time) as hour_of_day, COUNT(order_id) as order_count
FROM orders
GROUP BY HOUR(time)
ORDER BY hour_of_day;
```

Output

Result Grid | Filter Ro

hour_of_day	order_count
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

3.Pizza Distribution by Category

```sql
-- Determine the order distribution of pizzas by category

SELECT category,
COUNT(NAME) AS distribution_of_pizza
FROM pizza_types
GROUP BY category;
```

Output

Result Grid | Filter Rows:

category	distribution_of_pizza
Chicken	6
Classic	8
Supreme	9
Veggie	9

4.Average Daily Pizza Orders

```sql
-- Calculate the average number of pizzas ordered each day

SELECT ROUND(AVG(daily_quantity), 2) as avg_daily_pizzas
FROM (
    SELECT o.date, SUM(od.quantity) as daily_quantity
    FROM orders o
    JOIN order_details od ON o.order_id = od.order_id
    GROUP BY o.date
) as daily_totals;
```

Output

Result Grid

avg_daily_pizzas
138.47

5.Top Pizza Types by Revenue

```sql
-- Identify the top 3 pizzas based on revenue

SELECT pt.name, ROUND(SUM(od.quantity * p.price), 2) as revenue
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 pt.name
ORDER BY revenue DESC
LIMIT 3;
```

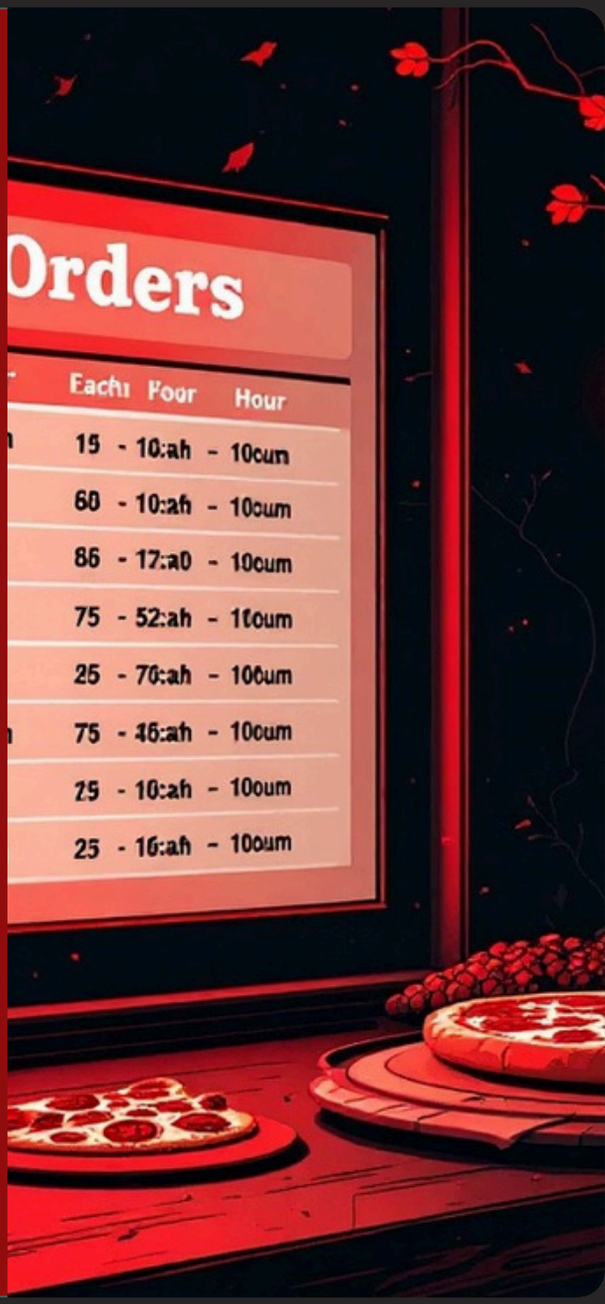
Output

Result Grid | Filter Rows:

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

Intermediate Analysis Insights

- Orders peakbetween*6PM 3 8PM*,showingevening demand.
- Veg and Classic categories sell more in quantity than Non-Veg ones.
- Average daily orders remain stable 4 loyal customers.
- Certain pizza types perform better at specific hours (for time-based offers).



Advanced Analysis

1.Revenue Contribution by Pizza Type

```sql
-- Calculate each pizza type's percentage contribution to total revenue

SELECT pt.name,
       ROUND(SUM(od.quantity * p.price), 2) as revenue,
       ROUND((SUM(od.quantity * p.price) * 100.0 /
             (SELECT SUM(od2.quantity * p2.price)
              FROM order_details od2
              JOIN pizzas p2 ON od2.pizza_id = p2.pizza_id)), 2) as percentage_contribution
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 pt.name
ORDER BY revenue DESC;
```

Output

Result Grid | Filter Rows: | Export:

name	revenue	percentage_contribution
The Thai Chicken Pizza	43434.25	5.31
The Barbecue Chicken Pizza	42768	5.23
The California Chicken Pizza	41409.5	5.06
The Classic Deluxe Pizza	38180.5	4.67
The Spicy Italian Pizza	34831.25	4.26
The Southwest Chicken Pizza	34705.75	4.24
The Italian Supreme Pizza	33476.75	4.09
The Hawaiian Pizza	32273.25	3.95
The Four Cheese Pizza	32265.7	3.95
The Sicilian Pizza	30940.5	3.78
The Pepperoni Pizza	30161.75	3.69
The Greek Pizza	28454.1	3.48
The Mexicana Pizza	26780.75	3.27
The Five Cheese Pizza	26066.5	3.19
The Pepper Salami Pizza	25529	3.12
The Italian Capocollo Pizza	25094	3.07
The Vegetables + Vegetable...	24374.75	2.98
The Prosciutto and Arugula ...	24193.25	2.96
The Napolitana Pizza	24087	2.95
The Spinach and Feta Pizza	23271.25	2.85
The Big Meat Pizza	22968	2.81
The Pepperoni, Mushroom, ...	18834.5	2.3
The Chicken Alfredo Pizza	16900.25	2.07
The Chicken Pesto Pizza	16701.75	2.04
The Soppressata Pizza	16425.75	2.01

2.Cumulative Revenue Over Time

```sql
-- Track cumulative revenue growth over time

SELECT date,
       daily_revenue,
       SUM(daily_revenue) OVER (ORDER BY date) as cumulative_revenue
FROM (
    SELECT o.date,
           ROUND(SUM(od.quantity * p.price), 2) as daily_revenue
    FROM orders o
    JOIN order_details od ON o.order_id = od.order_id
    JOIN pizzas p ON od.pizza_id = p.pizza_id
    GROUP BY o.date
    ORDER BY o.date
) as daily_revenue_table;
```

Output

Result Grid | Filter Rows:

date	daily_revenue	cumulative_revenue
2015-01-01	2713.85	2713.85
2015-01-02	2731.9	5445.75
2015-01-03	2662.4	8108.15
2015-01-04	1755.45	9863.6
2015-01-05	2065.95	11929.55
2015-01-06	2428.95	14358.5
2015-01-07	2202.2	16560.7
2015-01-08	2838.35	19399.05
2015-01-09	2127.35	21526.399999999998
2015-01-10	2463.95	23990.35
2015-01-11	1872.3	25862.649999999998
2015-01-12	1919.05	27781.699999999997
2015-01-13	2049.6	29831.299999999996
2015-01-14	2527.4	32358.699999999997
2015-01-15	1984.8	34343.5
2015-01-16	2594.15	36937.65
2015-01-17	2064.1	39001.75
2015-01-18	1976.85	40978.6
2015-01-19	2387.15	43365.75
2015-01-20	2397.9	45763.65
2015-01-21	2040.55	47804.200000000004
2015-01-22	2496.7	50300.9
2015-01-23	2423.7	52724.6
2015-01-24	2289.25	55013.85
2015-01-25	1617.55	56631.4

3.Top 3 Pizza Types by Revenue in Each Category

```sql
-- Determine the top 3 pizzas by revenue within each category

SELECT category, name, revenue, rank_in_category
FROM (
    SELECT pt.category,
           pt.name,
           ROUND(SUM(od.quantity * p.price), 2) as revenue,
           ROW_NUMBER() OVER (PARTITION BY pt.category ORDER BY SUM(od.quantity * p.price) DESC) as rank_in_category
    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 pt.category, pt.name
) as ranked_pizzas
WHERE rank_in_category <= 3
ORDER BY category, rank_in_category;
```

Output

Result Grid | Filter Rows: | Export: | Wrap

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

Advanced Analysis Insights

- Revenuemainlydrivenby a fewtop pizzasacross categories.
- Cumulative revenue shows steady growth.
- Large and premium pizzas generate higher revenue share.
- SQL joins uncover detailed insights for decision-making.

Key Findings & Insights Summar y

Sales Performance

- **Total Revenue:** The total revenue from pizza sales is **$817,860.05**.
- **Total Orders:** There were **21,350** total orders placed.
- **Average Daily Orders:** The average number of pizzas ordered each day is **138.47**.
- **Revenue Drivers:** Revenue is mainly driven by a **few top pizzas** across categories, and the top 5 pizzas contribute a major portion of the total revenue.
- **Growth:** The cumulative revenue shows **steady growth**, and the revenue growth trend remains consistent month-to-month.

Pizza Preferences

- **Most Ordered Size:**The most frequently ordered size is **Large (L)**, with a total quantity of 18,956.
- **Top 5 Popular Pizzas (by Quantity):**
  a. The Classic Deluxe Pizza (2,453)
  b.The Barbecue Chicken Pizza (2,432)
  c.The Hawaiian Pizza (2,422)
  d. The Pepperoni Pizza (2,418)
  e. The Thai Chicken Pizza (2,371)
- **Top Pizza Categories (by Quantity):Classic** and **Veg** categories sell more in quantity than Non-Veg ones.
  - Classic: 14,888 total quantity
  - Supreme: 11,987 total quantity
  - Veggie: 11,649 total quantity
  - Chicken: 11,050 total quantity
- **Most Expensive Pizza:** The highest-priced pizza is **The Greek Pizza (XXL size)**at **$35.95**.

Order Timing

- **PeakHours:**Orders peak between **6 PM and 8 PM**, showing strong evening demand.

Recommendations

- Introduce eveningcombooffers to maximize peak-hour sales.
- Promote top 5 pizzas through social media and ads.
- Increase stock of Large-size pizzas during weekends.
- Offer discounts on slow-selling premium pizzas.
- Use data analytics to plan future promotions.

Conclusion

- SQL analysis helped uncover customer preferences and sales trends.
- Data reveals strong evening sales and category performance patterns.
- Insights can improve marketing, menu design, and pricing strategies.

Thank You