🍕 Pizza Hut Sales Analytics

Comprehensive Data Analysis using MySQL

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Data Analysis Portfolio Project

MySQL Database Analytics

📋 Analysis Overview

📊 Basic Analytics (Problems 1-6)

1. Total Orders Analysis
2. Total Revenue Calculation
3. Highest Priced Pizza
4. Most Popular Pizza Size
5. Top 5 Pizza Types
6. Category Performance

🔍 Advanced Analytics (Problems 7-13)

7. Hourly Order Distribution
8. Menu Diversity Analysis
9. Daily Average Metrics
10. Top Revenue Generators
11. Revenue Contribution Analysis
12. Cumulative Revenue Trends
13. Category Leaders

Executive Summary

21,350	$817,860	138	$35.95
Total Orders	Total Revenue	Avg Pizzas/Day	Highest Price

Key Insights

- **Revenue Leaders:** Classic pizzas dominate with 26.91% of total revenue
- **Popular Choice:** Large size pizzas are the most ordered (18,526 orders)
- **Peak Hours:** Lunch (12-1 PM) shows highest order volume
- **Premium Product:** The Greek Pizza commands the highest price at $35.95
- **Growth Pattern:** Steady cumulative revenue growth from $2,714 to $817,860

Problem 1: Total Orders Analysis

SQL Query

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

Business Impact

With **21,350 total orders** processed, this represents a substantial customer base and strong market presence for Pizza Hut operations.

Order Volume Visualization

Problem 2: Revenue Analysis

SQL Query

```
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
```

Revenue Performance

$817,860.05 in total sales demonstrates strong financial performance with an average order value of approximately **$38.30**.

Problem 3: Premium Product Analysis

SQL Query

```
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;
```

Pizza Name	Price
The Greek Pizza	$35.95

Premium Positioning

The Greek Pizza represents the premium segment of the menu, potentially featuring high-quality ingredients and targeting customers willing to pay premium prices for specialty offerings.

Problem 4: Pizza Size Preferences

SQL Query

```
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;
```

Size	Order Count
Large (L)	18,526

Problem 5: Most Popular Pizza Types

SQL Query

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

Pizza Type	Total Orders
The Classic Deluxe Pizza	2,453
The Barbecue Chicken Pizza	2,432
The Hawaiian Pizza	2,422
The Pepperoni Pizza	2,418
The Thai Chicken Pizza	2,371

Problem 6: Pizza Category Performance

SQL Query

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

Category	Total Orders
Classic	14,888
Supreme	11,987
Veggie	11,649
Chicken	11,050

Problem 7: Order Distribution by Hour

SQL Query

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

Hour	Order Count
11	1,231
12	2,520
13	2,455
17	2,336
18	2,399
19	2,009

Peak Business Hours Analysis

Lunch Rush (12 PM): Peak ordering time with 2,520 orders
Dinner Peak (1 PM): Second highest with 2,455 orders
Evening Hours: Consistent high volume from 5-7 PM
Late Night: Minimal orders after 10 PM

Problem 8: Menu Diversity Analysis

SQL Query

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

Category	Pizza Types
Chicken	6
Classic	8
Supreme	9
Veggie	9

Menu Strategy Insights

Balanced menu portfolio with 32 total pizza varieties across 4 categories, offering variety while maintaining manageable complexity.

Problem 9: Daily Operations Metrics

SQL Query

```
SELECT ROUND(AVG(Pizzas_Sold),0) AS
Average_Pizza_Sold_Per_Day FROM (SELECT
orders.order_date AS Date,
SUM(order_details.quantity) AS Pizzas_Sold FROM
orders JOIN order_details ON orders.order_id =
order_details.order_id GROUP BY Date) AS
Order_Quantity;
```

138

Pizzas Sold Per Day

Operational Planning

With an average of **138 pizzas per day**, this metric helps in:

- Inventory management and ingredient forecasting
- Staff scheduling optimization
- Kitchen capacity planning
- Setting realistic daily targets

Problem 10: Revenue-Generating Champions

SQL Query

```
SELECT pizza_types.name AS Pizza_Type,
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_Type ORDER BY Revenue
DESC LIMIT 3;
```

Pizza Type	Revenue
The Thai Chicken Pizza	$43,434.25
The Barbecue Chicken Pizza	$42,768
The California Chicken Pizza	$41,409.50

Problem 11: Category Revenue Contribution

SQL Query

```
SELECT pizza_types.category AS 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 order_details.pizza_id =
pizzas.pizza_id) *100,2) 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
Category ORDER BY Revenue DESC;
```

Strategic Revenue Insights

Classic: 26.91% - Traditional favorites drive core revenue
Supreme: 25.46% - Premium offerings with strong performance
Chicken: 23.96% - Protein-focused options gaining traction
Veggie: 23.68% - Health-conscious segment representation

Problem 12: Cumulative Revenue Growth Analysis

SQL Query

```
SELECT order_date, ROUND(SUM(Revenue) OVER (ORDER BY
order_date), 2) AS Cum_Revenue FROM (SELECT
orders.order_date, ROUND(SUM(order_details.quantity
* pizzas.price), 2) 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;
```

Date	Cumulative Revenue
2015-01-01	$2,713.85
2015-01-02	$5,417.60
2015-01-03	$7,948.25
...	...
2015-12-30	$815,095.40
2015-12-31	$817,860.05

Cumulative Revenue Growth

Revenue Growth Pattern

Starting Point: $2,713.85 on January 1st
Final Total: $817,860.05 by December 31st
Daily Average Growth: Consistent upward trajectory
Growth Rate: Steady progression throughout the year

Problem 13: Top Performers by Category

SQL Query

```
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 ORDER BY pizza_types.category,
Revenue DESC;
```

Revenue Leaders in Each Category

Category	Top Pizza	Revenue
Chicken	The Thai Chicken Pizza	$43,434.25
Chicken	The Barbecue Chicken Pizza	$42,768.00
Chicken	The California Chicken Pizza	$41,409.50
Classic	The Classic Deluxe Pizza	$38,180.50
Classic	The Hawaiian Pizza	$32,273.25
Classic	The Pepperoni Pizza	$30,161.75
Supreme	The Spicy Italian Pizza	$34,831.25
Supreme	The Italian Supreme Pizza	$33,476.75
Supreme	The Sicilian Pizza	$30,940.50

Category Leadership Analysis

Chicken Category: Thai Chicken leads with $43,434 revenue
Classic Category: Classic Deluxe dominates with $38,180
Supreme Category: Spicy Italian tops at $34,831
Cross-Category: Chicken pizzas show strongest individual performance

Key Findings & Strategic Insights

Operational Excellence

- **Volume Leadership:** 21,350 orders processed successfully
- **Revenue Achievement:** $817,860 in total sales
- **Daily Consistency:** 138 pizzas sold per day average
- **Peak Performance:** 2,520 orders during lunch rush (12 PM)

Product Performance

- **Size Preference:** Large pizzas dominate (18,526 orders)
- **Category Leader:** Classic pizzas generate 26.91% revenue
- **Top Performer:** Thai Chicken Pizza ($43,434 revenue)
- **Premium Product:** Greek Pizza at $35.95 price point

Strategic Recommendations

- **Lunch Focus:** Optimize staffing and inventory for 12-1 PM peak hours
- **Large Size Promotion:** Continue marketing large pizzas as primary offering
- **Classic Category:** Maintain strong classic pizza portfolio as revenue driver
- **Chicken Success:** Expand chicken-based offerings given strong performance
- **Premium Positioning:** Develop more premium products to capture higher margins

Business Impact Analysis

$38.30	87%	4	32
Average Order Value	Large Size Preference	Balanced Categories	Menu Varieties

Market Position Strengths

- Strong customer loyalty with consistent daily orders
- Balanced portfolio across all pizza categories
- Effective premium pricing strategy
- Clear peak hour identification for optimization

Growth Opportunities

- Evening hours (8-10 PM) show potential for growth
- Veggie category has room for expansion
- Medium and small sizes could be promoted
- Weekend vs weekday analysis for targeted campaigns

Technical Implementation Summary

Database Architecture

Tables Utilized

- **orders:** Order tracking and timestamps
- **order_details:** Quantity and item specifics
- **pizzas:** Product catalog and pricing
- **pizza_types:** Categories and descriptions

SQL Techniques Applied

Advanced Features

- **JOIN Operations:** Multi-table data integration
- **Window Functions:** Cumulative calculations
- **Aggregate Functions:** SUM, COUNT, AVG
- **Date/Time Functions:** HOUR() extraction
- **Subqueries:** Complex percentage calculations

Data Quality & Insights

This analysis demonstrates comprehensive data exploration across 13 business problems, providing actionable insights for operations, marketing, and strategic planning. The MySQL queries efficiently processed transactional data to reveal patterns in customer behavior, product performance, and temporal trends.

Thank You

Pizza Hut Sales Analytics Complete

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MySQL Database Analytics Portfolio

Comprehensive Business Intelligence Report

Data-Driven Insights • Business Intelligence • Strategic Analytics