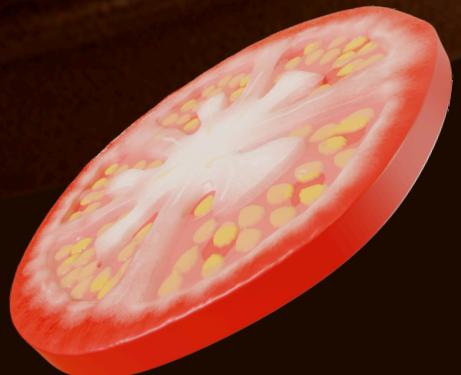
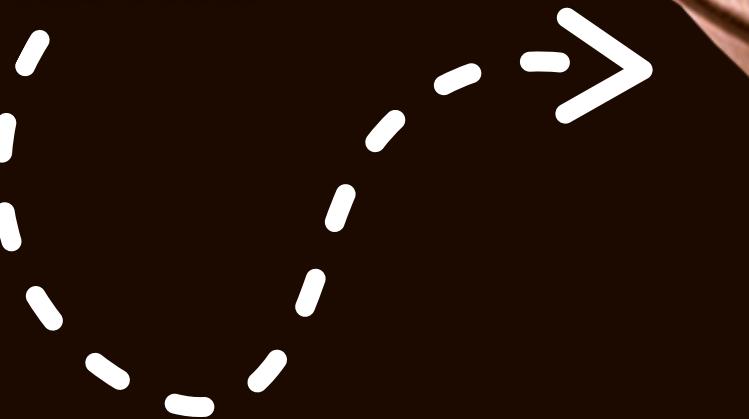


PIZZA HUT ANALYSIS

Presented by - Shraddha Sharma



DATA SOURCE

- *Insights from Kaggle Data*
- *Tables:*
Order Details, Orders, Pizzas, Pizza Types



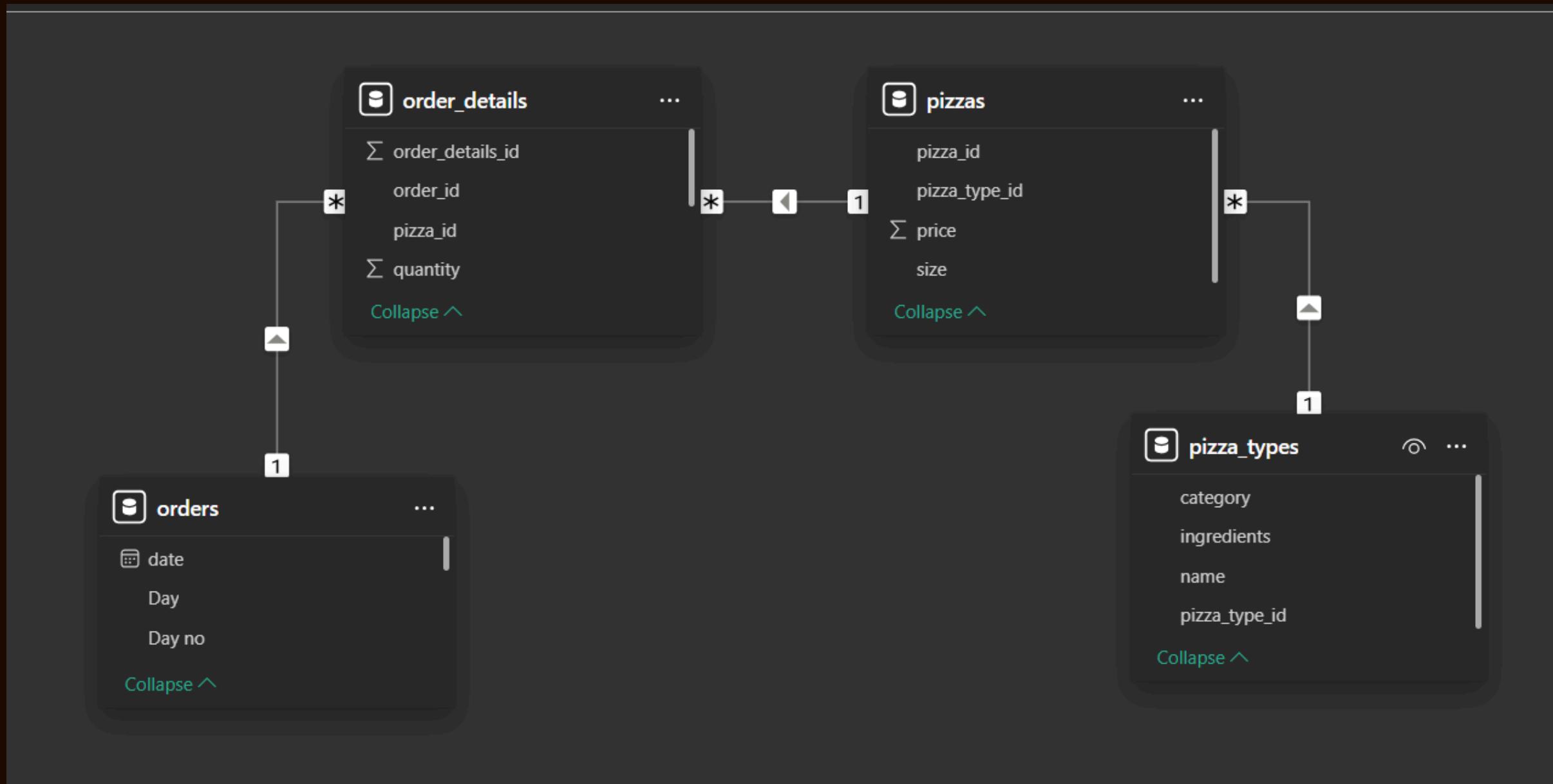
INTRODUCTION

In this project, I conducted a detailed analysis of Pizza Hut sales data using SQL for data retrieval and Power BI for visualization. The main objective was to uncover insights into sales performance and customer preferences. By examining order frequency, revenue generation, and popular pizza choices, I aimed to identify key trends that could inform business strategies.

Using SQL, I extracted valuable information from the dataset, while Power BI enabled me to create interactive visualizations that clearly present these insights. This project highlights the significance of data analysis in understanding consumer behavior and supports the value of data-driven decision-making in the food industry.



MODEL VIEW



BASIC QUESTIONS

Question: Retrieve the total number of orders placed.

```
1 -- Basic:  
2 -- Retrieve the total number of orders placed.  
3 * select count(order_id) as Total_Orders from orders;
```

Total orders are : 21350

	Total_Orders
▶	21350

- Question: Calculate the total revenue generated from pizza sales.

SQL Query:

```
1      -- Calculate the total revenue generated from pizza sales.  
2 *  SELECT  
3     ROUND(SUM(order_details.quantity * pizzas.price),  
4            2) AS Total_Revenue  
5   FROM  
6     order_details  
7   JOIN  
8       pizzas ON order_details.pizza_id = pizzas.pizza_id;
```

Total revenue
generated is
\$817860.05

	Total_Revenue
▶	817860.05

-

Question: Identify the highest-priced pizza.

SQL Query:

```
1  -- Identify the highest-priced pizza.  
2 •  SELECT  
3      pizza_types.name, pizzas.price  
4  FROM  
5      pizza_types  
6      JOIN  
7      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id  
8  ORDER BY pizzas.price DESC  
9  LIMIT 1;
```

The Greek pizza is
the highest priced
pizza . Price is
\$35.95

	name	price
▶	The Greek Pizza	35.95

- Question: Identify the most common pizza size ordered.

SQL Query:

```
1 -- Identify the most common pizza size ordered.  
2 * select pizzas.size, count(order_details.quantity) as order_count from order_details  
3   join pizzas  
4     on order_details.pizza_id = pizzas.pizza_id  
5   group by pizzas.size  
6   order by order_count desc  
7   limit 1;
```

The most common
sized pizza ordered
is size Large “L”

	size	order_count
▶	L	18526

- Question: List the top 5 most ordered pizza types along with their quantities.

SQL Query:

```
9 *  select pizza_types.name, sum(order_details.quantity) as total_quantity from pizza_types
10 join pizzas
11 on pizza_types.pizza_type_id = pizzas.pizza_type_id
12 join order_details
13 on order_details.pizza_id = pizzas.pizza_id
14 group by pizza_types.name
15 order by total_quantity desc
16 limit 5;
```

	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

Top 5 most ordered pizza are The classic deluxe pizza , The barbecue chicken pizza, The hawaiian pizza, The pepperoni pizza. The thai chicken pizza.

INTERMEDIATE QUESTIONS

- Question: Total quantity of each pizza category ordered.

SQL Query:

```
1  -- Intermediate:  
2  
3  -- Join the necessary tables to find the total quantity of each pizza category ordered.  
4 * select pizza_types.category, sum(order_details.quantity) as quantity from pizza_types  
5   join pizzas  
6   on pizza_types.pizza_type_id = pizzas.pizza_type_id  
7   join order_details  
8   on pizzas.pizza_id = order_details.pizza_id  
9   group by pizza_types.category  
10  order by quantity;
```

category	quantity
Chicken	11050
Veggie	11649
Supreme	11987
Classic	14888

- Question: Determine the distribution of orders by hour of the day.

SQL Query:

```
1  -- Determine the distribution of orders by hour of the day.  
2 * SELECT  
3      HOUR(order_time), COUNT(order_id) AS order_count  
4  FROM  
5      orders  
6  GROUP BY HOUR(order_time)  
7  ORDER BY order_count DESC  
8  LIMIT 1;
```

	HOUR(order_time)	order_count
▶	12	2520

-

Question: Category-wise distribution of pizzas.

SQL Query:

```
1 -- Join relevant tables to find the category-wise distribution of pizzas.  
2 * select category, count(name) from pizza_types  
3 group by category;
```

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

- Question: Group the orders by date and calculate the average number of pizzas ordered per day.

SQL Query:

```
1    -- Group the orders by date and calculate the average number of pizzas ordered per day.  
2 *  SELECT  
3      ROUND(AVG(quantity), 0) as Avg_pizzas_order  
4  FROM  
5    (SELECT  
6        orders.order_date, SUM(order_details.quantity) AS quantity  
7      FROM  
8        orders  
9      JOIN order_details ON orders.order_id = order_details.order_id  
10     GROUP BY orders.order_date) AS order_info;
```

Avg_pizzas_order
138

- Question: Top 3 most ordered pizza types based on revenue.

SQL Query:

```
1  -- Determine the top 3 most ordered pizza types based on revenue.  
2 * select pizza_types.name, sum(order_details.quantity * pizzas.price) AS Revenue from pizza_types  
3   join pizzas  
4   on pizza_types.pizza_type_id = pizzas.pizza_type_id  
5   join order_details  
6   on pizzas.pizza_id = order_details.pizza_id  
7   group by pizza_types.name  
8   order by Revenue desc  
9   limit 3;
```

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

ADVANCED QUESTIONS

- Question: Calculate the percentage contribution of each pizza type to total revenue.

SQL Query:

```
1      -- Advanced:  
2      -- Calculate the percentage contribution of each pizza type to total revenue.  
3 •  SELECT pizza_types.category,  
4          round((SUM(order_details.quantity * pizzas.price) /  
5          (SELECT ROUND(SUM(order_details.quantity * pizzas.price), 2) AS total_sales  
6          FROM order_details  
7          JOIN pizzas ON pizzas.pizza_id = order_details.pizza_id))*100,2) as Revenue  
8      FROM pizzas  
9      JOIN pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id  
10     JOIN order_details ON pizzas.pizza_id = order_details.pizza_id  
11     GROUP BY pizza_types.category;
```

	category	Revenue
▶	Classic	26.91
	Veggie	23.68
	Supreme	25.46
	Chicken	23.96

- Question: Analyze the cumulative revenue generated over time.

SQL Query:

```
1  -- Analyze the cumulative revenue generated over time.  
2 * select order_date, sum(revenue) over(order by order_date) as cum_revenue from  
3   (select orders.order_date, sum(order_details.quantity * pizzas.price) as revenue  
4    from order_details join pizzas  
5     on order_details.pizza_id = pizzas.pizza_id  
6    join orders  
7     on orders.order_id=order_details.order_id  
8    group by orders.order_date) as sales;
```

	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

- Question: Top 3 most ordered pizza types based on revenue for each pizza category.

SQL Query:

```

2 •   SELECT name, revenue
3
4   • (SELECT category, name, revenue,
5       RANK() OVER(PARTITION BY category ORDER BY revenue DESC) AS rn
6
7   • (SELECT pizza_types.category, pizza_types.name,
8       SUM(order_details.quantity * pizzas.price) AS revenue
9   FROM pizza_types
10  JOIN pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
11  JOIN order_details ON order_details.pizza_id = pizzas.pizza_id
12  GROUP BY pizza_types.category, pizza_types.name) AS a) AS b
13 WHERE rn <= 3;

```

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

Power BI Dashboard

Pizza Hut Sales Analysis

Category: All Day: All Month: All

Top 3 Pizza based on Revenue

The Thai Chicken Pizza
\$43,434.25
The Barbecue Chicken Pizza
\$42,768
The California Chicken Pizza
\$41,409.5

Busiest Day and Time

According to the data analysis, the busiest day for orders is Friday, and the peak time when the maximum number of customers arrive is 12 P.M.

Total Quantity

50K

Total Order

21.35K

Avg. Price

\$16.44

Total Revenue

\$817.86k

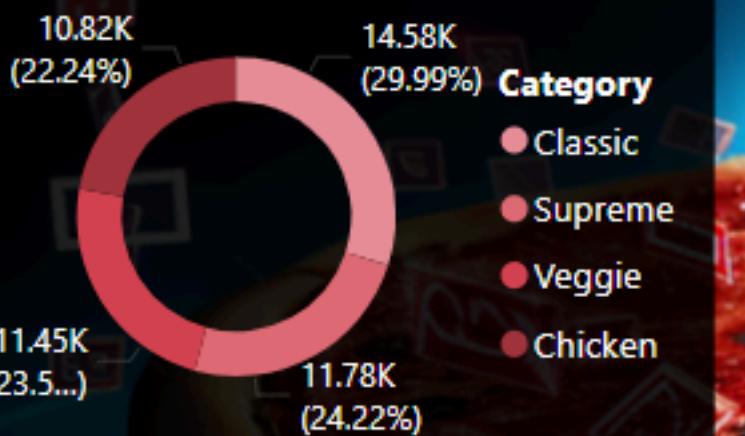
Avg. Quantity Order Per Day

138

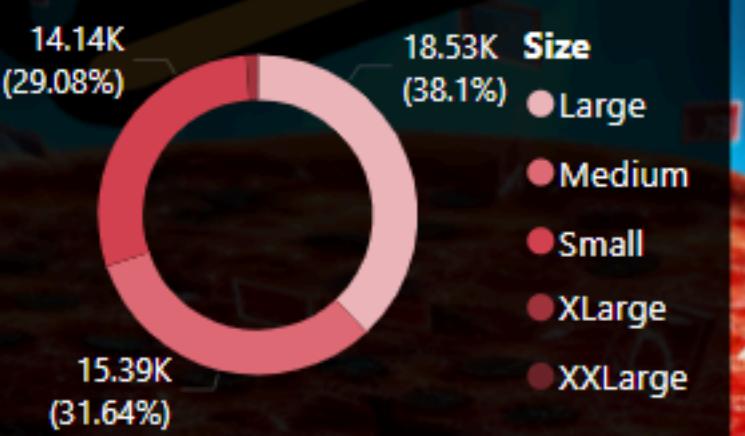
Friday	\$1,36,073.9
Thursday	\$1,23,528.5
Saturday	\$1,23,182.4
Wednesday	\$1,14,408.39...
Tuesday	\$1,14,133.79...
Monday	\$1,07,329.55
Sunday	\$99,203.499...

Day Wise Total Revenue

Category Wise Pizza Sales



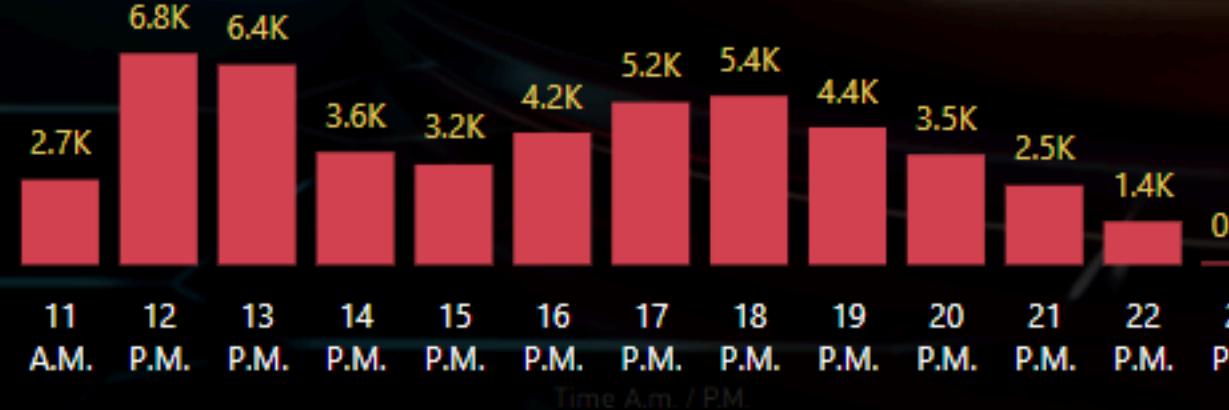
Pizza Sales According to Size



Category Wise Revenue



Sum of Quantity by Time



Quarter and Month Wise Sale



Summary of Analysis:

1. Top Pizzas by Revenue:

- The top three pizzas based on revenue are:
 - The Barbecue Chicken Pizza
 - The California Chicken Pizza
 - The Thai Chicken Pizza

2. Busiest Day and Time:

- The busiest day for orders is Friday.
- The peak ordering times are at 12 PM and 1 PM.

3. Pizza Categories:

- The Classic category is the most preferred, generating the highest revenue.
- In terms of size, Large pizzas are the most ordered, followed by Medium and Small.

Summary of Analysis:

4. Sales Metrics:

- Total quantity sold: 50,000 pizzas
- Total orders: 21,350
- Average price per order: \$16.44
- Total revenue generated: \$817,860
- Average quantity ordered per day: 138 pizzas

5. Monthly Sales Trends:

- The month with the highest sales is July.
- Other peak sales months include May, November, March, and January.

Suggestions for Increasing Sales:

1. Promote Top-Selling Pizzas: Create marketing campaigns focused on the top three pizzas to boost their visibility and encourage more orders. Consider limited-time offers or combo deals featuring these pizzas.
2. Maximize Friday Sales: Since Friday is the busiest day, consider implementing special promotions, such as "Friday Feast" deals or discounts for large orders to attract more customers.
3. Optimize Peak Hours: Given that the peak ordering times are at noon, ensure that staff and resources are adequately prepared to handle the influx of orders during these times. Consider offering pre-order options for lunchtime to streamline operations.

Suggestions for Increasing Sales:

4. Leverage Popular Sizes: Since large pizzas are the most popular, consider offering family-sized deals or sharing platters that encourage customers to order larger sizes for gatherings.
5. Seasonal Promotions: With July being the highest sales month, develop seasonal promotions or themed pizzas during summer months to capitalize on the increased demand. Use social media to promote these offerings.
6. Engage Customers on Slower Days: To boost sales on slower days, consider introducing "Midweek Specials" or loyalty programs that reward customers for ordering on Tuesdays and Wednesdays.

THANK YOU

