

PIZZA SALES ANALYSIS USING SQL

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ABOUT ME

Hello! I am Mrunmayee Naik, a recent graduate with a Bachelor's in Computer Science Engineering, specializing in Data Science. With a strong foundation in Python, SQL, and data analysis, I have honed my skills through various projects and internships.

I have worked extensively with machine learning, data visualization, and analytics tools, including MySQL Workbench, Power BI, and Tableau. My projects, such as Sales Data Analysis and Zomato Data Analysis, showcase my ability to extract actionable insights and drive decision-making through data. I am passionate about leveraging data to solve real-world problems and contribute to impactful business outcomes.



PROJECT OVERVIEW

Objective: To analyze pizza sales data to uncover trends, optimize operations, and enhance business strategies. The analysis aims to provide insights into order counts, revenue, pizza categories, and order distributions.

Key Highlights:

- **Order Counts:** Tracked total orders and peak sales periods.
- **Revenue Analysis:** Assessed revenue to determine top-selling products.
- **Category Insights:** Analyzed pizza categories to understand customer preferences.
- **Order Distribution:** Identified patterns in order times.

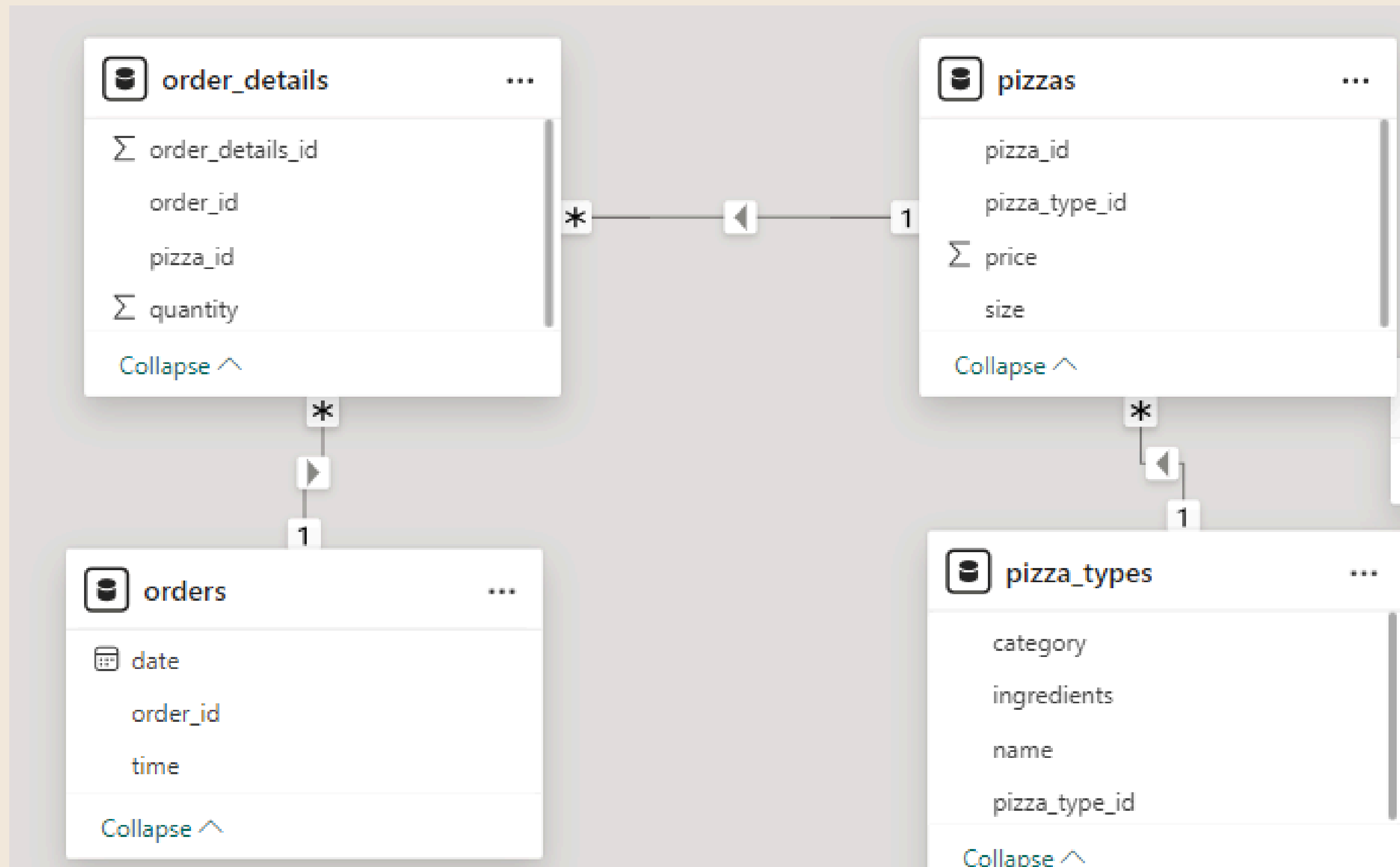
Tools Utilized:

- SQL for data queries
- MySQL Workbench for database management



DATA MODEL

The Dataset consists of 4 tables namely:
Orders , Order_detail , Pizzas , Pizza_type.



BASIC QUERIES

1.Retrieve the total number of orders placed.

```
SELECT Count(order_id) as total_orders  
from orders;
```

	total_orders
▶	21350

2.Calculate the total revenue generated from pizza sales.

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

	total_revenue
▶	817860.05

BASIC QUERIES

3. Identify the highest-priced pizza.

```
select pizza_types.name,pizzas.price
FROM pizza_types INNER JOIN pizzas
ON pizza_types.pizza_type_id=pizzas.pizza_type_id
order by  pizzas.price desc limit 1;
```

	name	price
▶	The Greek Pizza	35.95

4. Identify the most common pizza size ordered.

```
SELECT pizzas.size,count(order_details.quantity) as order_count
FROM pizzas INNER JOIN order_details
ON pizzas.pizza_id=order_details.pizza_id
GROUP BY pizzas.size order by order_count desc;
```

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

BASIC QUERIES

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

```
SELECT pizza_types.name,sum(order_details.quantity) as quantity
FROM pizza_types INNER JOIN pizzas
ON pizza_types.pizza_type_id=pizzas.pizza_type_id
INNER JOIN order_details
ON order_details.pizza_id=pizzas.pizza_id
group by pizza_types.name order by quantity desc limit 5;
```

	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

INTERMEDIATE QUERIES

1. 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 INNER JOIN pizzas
ON pizza_types.pizza_type_id=pizzas.pizza_type_id
INNER JOIN order_details
ON order_details.pizza_id=pizzas.pizza_id
group by pizza_types.category order by quantity desc limit 5;
```

	category	quantity
	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050

2. Determine the distribution of orders by hour of the day.

```
select hour(order_time) as Hour ,count(orders.order_id)
as order_count FROM orders GROUP BY hour(order_time);
```

Hour	order_count
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
10	8

INTERMEDIATE QUERIES

3. Join relevant tables to find the category-wise distribution of pizzas.

```
select category, count(name)
from pizza_types
group by category;
```

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

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

```
SELECT round(avg(quantity),0) as average_order_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 order_date) as order_quantity;
```

average_order_per_day
138

INTERMEDIATE QUERIES

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

```
SELECT pizza_types.name as top_category,SUM(order_details.quantity * pizzas.price) AS total_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 top_category ORDER BY total_revenue DESC limit 3;
```

top_category	total_revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

ADVANCED QUERIES

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

```
select pizza_types.category as category,  
ROUND((SUM(order_details.quantity*pizzas.price)/(SELECT ROUND(SUM(order_details.quantity * pizzas.price),2)  
FROM order_details JOIN pizzas  
ON pizzas.pizza_id = order_details.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 ;
```

	category	revenue
	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68

ADVANCED QUERIES

2. Analyze the cumulative revenue generated over time.

```
SELECT order_date, sum(revenue) over (order by order_date) as cummulative_reward
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 ;
```

order_date	cummulative_reward
2015-01-01	2713.85000000000004
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
2015-01-07	16560.7
2015-01-08	19399.05
2015-01-09	21526.4
2015-01-10	23990.3500000000002
2015-01-11	25862.65
2015-01-12	27781.7
2015-01-13	29831.3000000000003

ADVANCED QUERIES

3. Determine the top 3 most ordered pizza types based on revenue for each pizza category.

```
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;
```

category	name	revenue	rn
Chicken	The Thai Chicken Pizza	43434.25	1
Chicken	The Barbecue Chicken Pizza	42768	2
Chicken	The California Chicken Pizza	41409.5	3
Chicken	The Southwest Chicken Pizza	34705.75	4
Chicken	The Chicken Alfredo Pizza	16900.25	5
Chicken	The Chicken Pesto Pizza	16701.75	6
Classic	The Classic Deluxe Pizza	38180.5	1
Classic	The Hawaiian Pizza	32273.25	2
Classic	The Pepperoni Pizza	30161.75	3
Classic	The Greek Pizza	28454.10000000000013	4
Classic	The Italian Capocollo Pizza	25094	5
Classic	The Napolitana Pizza	24087	6
Classic	The Big Meat Pizza	22968	7
Classic	The Pepperoni, Mushroom, ...	18834.5	8
Supreme	The Spicy Italian Pizza	34831.25	1
Supreme	The Italian Supreme Pizza	33476.75	2
Supreme	The Sicilian Pizza	30940.5	3
Supreme	The Pepper Salami Pizza	25529	4
Supreme	The Prosciutto and Arugula ...	24193.25	5
Supreme	The Soppressata Pizza	16425.75	6

KEY FINDINGS

Our analysis of pizza sales data reveals crucial insights into customer behavior and sales patterns. These findings can guide strategies for better inventory management, targeted marketing, and overall business enhancement.

Key Findings:

- **Best-Selling Pizza:** The Classic Delux Pizza stands out as both the most popular and highest revenue-generating pizza.
- **Peak Sales Periods:** Sales surged during 11 am to 7 pm.
- **Category Preferences:** Classic was favored by customers, while Veggie had lower sales.

The background is a light beige color. It is decorated with several dark brown, organic, blob-like shapes of various sizes and orientations. There is a large one in the top left, a medium one in the top center, a medium one in the top right, a medium one in the middle right, a medium one in the bottom left, a medium one in the bottom center, a large one in the bottom right, and a long horizontal one in the bottom left corner.

THANK YOU

Hope We Can Work Together
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