



# Pizza Sales Analysis

Using MySQL

# ABOUT THE ANALYST

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Skills: SQL | PowerBI | Advance Excel | Python | ETL | Google Sheet | Pandas | Matplotlib | Seaborn | VBA



Passionate about turning messy datasets  
into meaningful business insights

# PROJECT OVERVIEW



## GOALS:

- Database creation & table design
- Filtering, pattern matching & operators
- Joins (inner, left, right, full, self)
- Aggregations & data summaries
- Data cleaning & NULL handling

# ABOUT THE PIZZA DATASET



THE PROJECT USES 4 RELATIONAL TABLES  
STRUCTURED AS -

1. **pizza\_types** – pizza names, categories, ingredients
2. **pizzas** – size, type, and price
3. **orders** – order timestamps
4. **order\_details** – quantities per order item

# List all the Unique Pizza Category

Query-

```
select distinct category from pizza_types;
```

	category
▶	Chicken
	Classic
	Supreme
	Veggie



**DISPLAY PIZZA TYPE ID,NAME AND INGREDIENTS,  
REPLACING NULL INGREDIENTS WITH "MISSING DATA".  
SHOW FIRST 5**

Query-

```
SELECT pizza_type_id, name,  
COALESCE(ingredients, 'Missing  
Data') AS ingredients FROM  
pizza_types LIMIT 5;
```

	pizza_type_id	name	ingredients
▶	bbq_ckn	The Barbecue Chicken Pizza	Barbecued Chicken, Red Peppers, Green Peppe...
	cali_ckn	The California Chicken Pizza	Chicken, Artichoke, Spinach, Garlic, Jalapeno P...
	ckn_alfredo	The Chicken Alfredo Pizza	Chicken, Red Onions, Red Peppers, Mushrooms...
	ckn_pesto	The Chicken Pesto Pizza	Chicken, Tomatoes, Red Peppers, Spinach, Garl...
	southw_ckn	The Southwest Chicken Pizza	Chicken, Tomatoes, Red Peppers, Red Onions, ...



# CHECK FOR PIZZAS MISSING A PRICE (IS NULL)

Query-

```
SELECT  
*FROM pizzas  
WHERE price  
IS NULL;
```

	pizza_id	pizza_type_id	size	price



# ORDERS PLACED ON '2015-01-01' (SELECT + WHERE)

Query-  
**SELECT \*  
FROM orders  
WHERE date =  
'2015-01-01';**

	order_id	date	time
▶	1	2015-01-01	11:38:36
	2	2015-01-01	11:57:40
	3	2015-01-01	12:12:28
	4	2015-01-01	12:16:31
	5	2015-01-01	12:21:30



# LIST PIZZAS WITH PRICE DESCENDING

Query-

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



	name	price
▶	The Greek Pizza	35.95
	The Greek Pizza	25.5
	The Brie Carre Pizza	23.65
	The Italian Vegetables Pizza	21
	The Spinach Supreme Pizza	20.75
	The Barbecue Chicken Pizza	20.75
	The California Chicken Pizza	20.75
	The Spicy Italian Pizza	20.75
	The Chicken Alfredo Pizza	20.75
	The Chicken Pesto Pizza	20.75
	The Italian Supreme Pizza	20.75
	The Southwest Chicken Pizza	20.75
	The Prosciutto and Arugula...	20.75
	The Pepper Salami Pizza	20.75
	The Thai Chicken Pizza	20.75

# PIZZAS SOLD IN SIZES 'L' OR 'XL'

Query-

```
SELECT pt.name, p.size FROM pizzas AS p JOIN  
pizza_types AS pt ON p.pizza_type_id =  
pt.pizza_type_id WHERE p.size IN ('L', 'XL');
```



	name	size
▶	The Barbecue Chicken Pizza	L
	The California Chicken Pizza	L
	The Chicken Alfredo Pizza	L
	The Chicken Pesto Pizza	L
	The Southwest Chicken Pizza	L
	The Thai Chicken Pizza	L
	The Big Meat Pizza	L
	The Classic Deluxe Pizza	L
	The Hawaiian Pizza	L
	The Italian Capocollo Pizza	L
	The Napolitana Pizza	L
	The Pepperoni, Mushroom, ...	L
	The Pepperoni Pizza	L
	The Greek Pizza	XL
	The Greek Pizza	L

# ORDERS ON '2015-02-15' OR PLACED AFTER 8 PM

Query-

```
SELECT * FROM orders AS o JOIN order_details AS od ON  
o.order_id = od.order_id WHERE date = '2015-02-15' OR o.time >  
'20:00:00' ORDER BY time ASC;
```

	order_id	date	time	order_details_id	order_id	pizza_id	quantity
▶	2723	2015-02-15	11:35:24	6149	2723	pepperoni_l	1
	2724	2015-02-15	11:48:59	6150	2724	cali_ckn_s	1
	2724	2015-02-15	11:48:59	6151	2724	classic_dlx_m	1
	2724	2015-02-15	11:48:59	6152	2724	veggie_veg_l	1
	2725	2015-02-15	11:52:00	6153	2725	bbq_ckn_l	1
	2725	2015-02-15	11:52:00	6154	2725	calabrese_m	1
	2725	2015-02-15	11:52:00	6155	2725	ckn_alfredo_s	1
	2725	2015-02-15	11:52:00	6156	2725	hawaiian_l	1
	2725	2015-02-15	11:52:00	6157	2725	ital_supr_l	1
	2725	2015-02-15	11:52:00	6158	2725	napolitana_m	1
	2725	2015-02-15	11:52:00	6159	2725	peppr_salami...	1
	2725	2015-02-15	11:52:00	6160	2725	prsc_argla_m	1
	2725	2015-02-15	11:52:00	6161	2725	sicilian_m	1
	2725	2015-02-15	11:52:00	6162	2725	southw_ckn_l	1
	2725	2015-02-15	11:52:00	6163	2725	spicy_ital_l	1



# TOTAL QUANTITY OF PIZZAS SOLD (SUM)

Query-

```
SELECT  
SUM(quantity) AS  
pizza_quantity  
FROM  
order_details;
```

	pizza_quantity
▶	49574



# AVERAGE PIZZA PRICE (AVG)

Query-

```
SELECT ROUND(AVG(price), 2) AS avg_price FROM pizzas;
```

	avg_price
▶	16.44



# TOTAL ORDER VALUE PER ORDER JOIN, SUM, GROUP BY

Query-

```
SELECT o.order_id, SUM(p.price * od.quantity) AS total_value FROM
orders AS o JOIN order_details AS od ON o.order_id = od.order_id
JOIN pizzas AS p ON od.pizza_id = p.pizza_id GROUP BY o.order_id;
```

	order_id	total_value
▶	1	13.25
	2	92
	3	37.25
	4	16.5
	5	16.5
	6	24.75
	7	12.5
	8	12.5
	9	143.25
	10	41
	11	73.5
	12	70.75
	13	20.25
	14	12
	15	63.25



# TOTAL QUANTITY SOLD PER PIZZA CATEGORY (JOIN, GROUP BY)

Query-

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



	category	total_quantity
▶	Classic	14888
	Veggie	11649
	Supreme	11987
	Chicken	11050

# PIZZAS NEVER ORDERED (LEFT/RIGHT JOIN)

Query-

```
SELECT * FROM pizzas AS p LEFT JOIN pizza_types AS pt ON  
p.pizza_type_id = pt.pizza_type_id LEFT JOIN order_details AS od ON  
p.pizza_id = od.pizza_id WHERE od.order_id IS NULL;
```

pizza_id	pizza_type_id	size	price	pizza_type_id	name	category	ingredients	order_details_id	order_id	pizza_
five_cheese_s	five_cheese	S	12.5	five_cheese	The Five Cheese Pizza	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked ...	NULL	NULL	NULL
five_cheese_m	five_cheese	M	15.5	five_cheese	The Five Cheese Pizza	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked ...	NULL	NULL	NULL
big_meat_l	big_meat	L	20.5	big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sau...	NULL	NULL	NULL
four_cheese_s	four_cheese	S	11.75	four_cheese	The Four Cheese Pizza	Veggie	Ricotta Cheese, Gorgonzola Piccante Cheese, ...	NULL	NULL	NULL
big_meat_m	big_meat	M	16	big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sau...	NULL	NULL	NULL

# WHICH PIZZA CATEGORY GENERATES THE HIGHEST TOTAL REVENUE?

Query-

```
SELECT pt.category, SUM(p.price * od.quantity) AS total_revenue
FROM order_details AS od JOIN pizzas AS p ON od.pizza_id =
p.pizza_id JOIN pizza_types AS pt ON p.pizza_type_id =
pt.pizza_type_id GROUP BY pt.category ORDER BY total_revenue DESC
LIMIT 1;
```

	category	total_revenue
▶	Classic	220053.1000213623



# WHAT ARE THE TOP 5 BEST-SELLING PIZZA TYPES BY TOTAL QUANTITY SOLD?

Query-

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

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



# WHICH PIZZA SIZE CONTRIBUTES THE MOST TO TOTAL REVENUE?

Query-

```
SELECT p.size, SUM(p.price * od.quantity) AS total_revenue FROM  
order_details AS od JOIN pizzas AS p ON od.pizza_id = p.pizza_id  
GROUP BY p.size ORDER BY total_revenue DESC;
```

	size	total_revenue
▶	L	375318.7010040283
	M	249382.25
	S	178076.49981307983
	XL	14076
	XXL	1006.6000213623047



# WHAT ARE THE PEAK ORDERING HOURS DURING THE DAY?

Query-

```
SELECT EXTRACT(HOUR FROM time) AS hour_of_day, COUNT(*) AS  
total_orders FROM orders GROUP BY hour_of_day ORDER BY  
total_orders DESC;
```

hour_of_day	total_orders
12	2520
13	2455
18	2399
17	2336
19	2009
16	1920
20	1642
14	1472
15	1468
11	1231
21	1198
22	663
23	28
10	8
9	1



# WHICH PIZZAS ARE SLOW-MOVING (LEAST ORDERED OVERALL)?

Query-

```
SELECT pt.name, SUM(od.quantity) AS total_sold FROM pizza_types  
AS pt JOIN pizzas AS p ON pt.pizza_type_id = p.pizza_type_id LEFT  
JOIN order_details AS od ON p.pizza_id = od.pizza_id GROUP BY  
pt.name ORDER BY total_sold ASC LIMIT 5;
```

name	total_sold
The Brie Carre Pizza	490
The Mediterranean Pizza	934
The Calabrese Pizza	937
The Spinach Supreme Pizza	950
The Soppressata Pizza	961



# WHICH DAY OF THE WEEK HAS THE HIGHEST TOTAL REVENUE?

Query-

```
SELECT DAYNAME(o.date) AS day_of_week, SUM(p.price * od.quantity)
AS total_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
day_of_week ORDER BY total_revenue DESC;
```

day_of_week	total_revenue
Friday	136073.90013313293
Thursday	123528.5001411438
Saturday	123182.40012741089
Wednesday	114408.40013885498
Tuesday	114133.80011367798
Monday	107329.55009651184
Sunday	99203.50008773804



## COLLECTIVE INSIGHTS

1. Pizza sold over 49,000+ pizzas, showing strong demand across categories.
2. Classic & Chicken categories contribute the highest order volumes and revenue
3. Large (L) and Extra Large (XL) sizes are the most frequently ordered across the dataset.
4. Peak order activity occurs around 6 PM–9 PM, indicating strong dinner-time demand
5. Top-selling pizzas belong to the Classic & Supreme categories.
6. Several pizzas showed NULL or missing data, highlighting the need for data validation.
7. A few pizzas were never ordered, indicating either low visibility or low customer interest
8. Most revenue is generated from mid-priced pizzas (\$15–\$20 range).
9. Ingredients analysis shows cheese-based and chicken-based pizzas dominate preferences.
10. Day-wise sales reveal weekends outperform weekdays, especially Saturdays
11. Monthly trends show January and February as high-performing sales months.
12. High-value orders often include multiple large pizzas, boosting overall revenue.

# THANK YOU!!

- Presented By Shubham