



Pizza Sales Analysis with SQL



Use Case:

In this project, I utilized SQL to analyze pizza sales data, aiming to extract valuable insights to inform business decisions and strategies. By leveraging SQL queries, I explored various aspects of the pizza sales dataset, including total orders placed, revenue generated, popular pizza types, and more. The analysis provided actionable insights that can help optimize inventory management, pricing strategies, and marketing efforts in the pizza business.





Data Sources:

- a. Order Details: Contains specifics of each order including order ID, Pizza ID and quantity
- a. Orders: Record the date and time of each order
- b. Pizzas: Details about each pizza including size and price.
- c. Pizza Types: Information about pizza categories, names and ingredients



Retrieve the total number of orders placed.

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

Result Grid	
	Total_orders
▶	21350

Calculate the total revenue generated from pizza sales.

```
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
```

Result Grid	
	Total_sales
▶	817860.05

Identify the highest-priced pizza.

```
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;
```

Result Grid			Filter Rows:	
	name	price		
▶	The Greek Pizza	35.95		

Identify the most common pizza size ordered.

```
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;
```

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

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
    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 quantity desc
LIMIT 5;
```

Result Grid			Filter Rows:
	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	

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
    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 quantity desc;
```

Result Grid			Filter Rows:
	category	quantity	
▶	Classic	14888	
	Supreme	11987	
	Veggie	11649	
	Chicken	11050	



Determine the distribution of orders by hour of the day.

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

Result Grid		
	hour(order_time)	count(order_id)
▶	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
	9	1



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

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

Result Grid		
	category	count
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

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

```
SELECT
    ROUND(AVG(quantity), 0) AS avg_pizza_ordered_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 orders.order_date) AS order_quantity;
```

Result Grid		Filter Rows:
	avg_pizza_ordered_per_day	
▶	138	



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

```
SELECT
    pizza_types.name,
    SUM(order_details.quantity * pizzas.price) AS revenue
FROM
    pizza_types
    JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
    JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY revenue DESC
LIMIT 3;
```

Result Grid			Filter Rows:
	name	revenue	
▶	The Thai Chicken Pizza	43434.25	
	The Barbecue Chicken Pizza	42768	
	The California Chicken Pizza	41409.5	

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


```
SELECT
  pizza_types.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 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 pizza_types.category
ORDER BY revenue DESC;
```

Result Grid			Filter Rows
	category	revenue	
▶	Classic	26.91	
	Supreme	25.46	
	Chicken	23.96	
	Veggie	23.68	







Analyze the cumulative revenue generated over time.



```
Select order_date, sum(revenue) over(order by order_date) as cum_revenue
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;
```



Result Grid   Filter Rows: <input type="text"/>		
	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
	2015-01-07	16560.7
	2015-01-08	19399.05
	2015-01-09	21526.4
	2015-01-10	23990.350000000002
	2015-01-11	25862.65
	2015-01-12	27781.7
	2015-01-13	29831.300000000003
	2015-01-14	32358.700000000004
	2015-01-15	34343.50000000001
	2015-01-16	36937.65000000001
	2015-01-17	39001.75000000001
	2015-01-18	40978.600000000006
	2015-01-19	43365.75000000001
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	2015-01-21	47804.20000000001
	2015-01-22	50300.90000000001
	2015-01-23	52724.600000000006
	2015-01-24	55013.850000000006
	2015-01-25	56631.40000000001
	2015-01-26	58515.80000000001

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2015-02-04	80159.80000000002
2015-02-05	82375.60000000002
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2015-02-09	91353.55000000002
2015-02-10	93410.05000000002
2015-02-11	95870.05000000002
2015-02-12	98028.85000000002
2015-02-13	100783.35000000002
2015-02-14	103102.50000000001
2015-02-15	105243.75000000001
2015-02-16	107212.55000000002
2015-02-17	109334.45000000001
2015-02-18	111977.30000000002
2015-02-19	114007.55000000002

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2015-02-22	120589.65000000001
2015-02-23	122758.20000000001
2015-02-24	124952.75000000001
2015-02-25	127294.05000000002
2015-02-26	129555.35000000002
2015-02-27	132413.30000000002
2015-02-28	134952.90000000002
2015-03-01	136551.45
2015-03-02	138930.5
2015-03-03	141218.4
2015-03-04	143662.69999999998
2015-03-05	146013.34999999998
2015-03-06	148527.3
2015-03-07	150927.75
2015-03-08	153115.9
2015-03-09	155450.44999999998
2015-03-10	157839.15
2015-03-11	160046.85
2015-03-12	162041.75
2015-03-13	164828.4

2015-03-14	166867.85
2015-03-15	168936.45
2015-03-16	171231.5
2015-03-17	174196.8
2015-03-18	176272.19999999998
2015-03-19	178660.8
2015-03-20	181122.05
2015-03-21	183389.44999999998
2015-03-22	184648.69999999998
2015-03-23	186881.24999999997
2015-03-24	189043.54999999996
2015-03-25	190971.29999999996
2015-03-26	193186.79999999996
2015-03-27	195931.59999999995
2015-03-28	198183.69999999995
2015-03-29	200337.94999999995
2015-03-30	202593.39999999997
2015-03-31	205349.99999999997
2015-04-01	207526.84999999998
2015-04-02	210073.99999999997

2015-04-03	212612.19999999998
2015-04-04	215379.74999999997
2015-04-05	217289.59999999998
2015-04-06	219911.94999999998
2015-04-07	222146.19999999998
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2015-04-10	228912.4
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2015-04-14	238452.35
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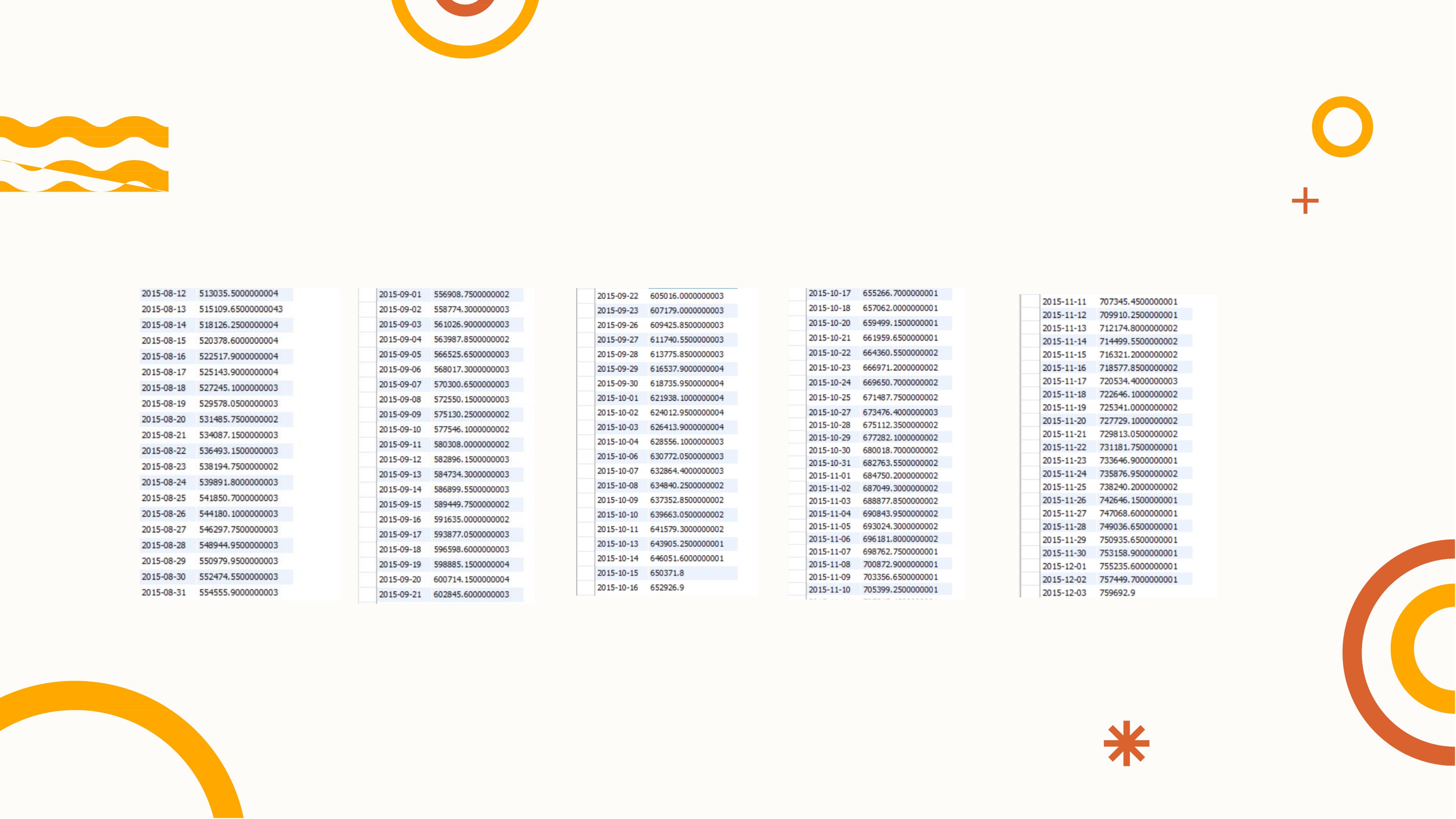
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2015-12-15	787777
2015-12-16	790011.8
2015-12-17	791892.55
2015-12-18	794778.8500000001
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2015-12-20	799187.9500000001
2015-12-21	801288.65
2015-12-22	803171.6
2015-12-23	805415.9
2015-12-24	807553.75
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2015-12-27	810615.8
2015-12-28	812253

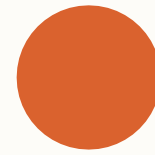
Result Grid			Filter Rows:	
	order_date	cum_revenue		
	2015-12-05	765199.2		
	2015-12-06	767549.45		
	2015-12-07	769964.25		
	2015-12-08	771820.5		
	2015-12-09	774392.05		
	2015-12-10	776377.65		
	2015-12-11	779011.65		
	2015-12-12	780971.8		
	2015-12-13	783216.9500000001		
	2015-12-14	785389.55		
	2015-12-15	787777		
	2015-12-16	790011.8		
	2015-12-17	791892.55		
	2015-12-18	794778.8500000001		
	2015-12-19	797083.05		
	2015-12-20	799187.9500000001		
	2015-12-21	801288.65		
	2015-12-22	803171.6		
	2015-12-23	805415.9		
	2015-12-24	807553.75		
	2015-12-26	809196.8		
	2015-12-27	810615.8		
▶	2015-12-28	812253		
	2015-12-29	813606.25		
	2015-12-30	814944.05		
	2015-12-31	817860.05		



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

```
Select name,category, revenue from
(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) as b
where rn <= 3;
```

Result Grid	Filter Rows:	Export:
name	category	revenue
The Thai Chicken Pizza	Chicken	43434.25
The Barbecue Chicken Pizza	Chicken	42768
The California Chicken Pizza	Chicken	41409.5
The Classic Deluxe Pizza	Classic	38180.5
The Hawaiian Pizza	Classic	32273.25
The Pepperoni Pizza	Classic	30161.75
The Spicy Italian Pizza	Supreme	34831.25
The Italian Supreme Pizza	Supreme	33476.75
The Sicilian Pizza	Supreme	30940.5
The Four Cheese Pizza	Veggie	32265.700000000065
The Mexicana Pizza	Veggie	26780.75
The Five Cheese Pizza	Veggie	26066.5



* Conclusion

Thank you for your time and attention. I hope you found this presentation insightful. If you have any further questions or would like to discuss this project in more detail, please feel free to reach out to me. I look forward to connecting with you!

