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Pizza Sales Analytics: Leveraging SQL for Business Insights



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Introduction

This project analyzes pizza sales data using SQL to gain valuable business insights. The analysis provides a clear view of sales performance by addressing key questions such as the total number of orders, total revenue, highest-priced pizza, and most common pizza size. It also identifies the top 5 most ordered pizza types.

Further analysis includes determining the total quantity of each pizza category ordered, the distribution of orders by hour, and category-wise distribution. Advanced queries calculate the percentage contribution of each pizza type to total revenue, analyze cumulative revenue over time, and find the top pizza types by revenue within each category. This SQL-based analysis supports data-driven decisions to optimize business strategies.



Retrieve the total number of orders placed.

```
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



Calculate the total revenue generated from pizza sales.

```
select count(order_id) as total_orders from orders;
```

	total_orders
▶	21350



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;
```

	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;
```

	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 total_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 total_quantity desc;
```

	category	total_quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050



Determine the distribution of orders by hour of the day.

```
select hour(order_time) as hour, count(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



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



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

```
select round(avg(quantity),0 ) as average_quantity 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;
```

	average_quantity
▶	138



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

```
select pizza_types.name, sum(pizzas.price * order_details.quantity) 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.name order by revenue desc limit 3 ;
```

	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 SUM(order_details.quantity * pizzas.price) FROM order_details
         JOIN pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100, 2
    ) AS revenue_percentage
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_percentage DESC;
```

	category	revenue_percentage
►	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68



Analyze the cumulative revenue generated over time.

```
select 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
```

	cum_revenue
▶	2713.8500000000004
	5445.75
	8108.15
	9863.6
	11929.55
	14358.5
	16560.7
	19399.05
	21526.4
	23990.350000000002
	25862.65
	27781.7
	29831.300000000003



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

```
SELECT name, 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(pizzas.price * order_details.quantity) 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;
```

	name	revenue
►	The Thai Chicken Pizza	43434.25
	The Barbecue Chicken Pizza	42768
	The Classic Deluxe Pizza	38180.5
	The Hawaiian Pizza	32273.25
	The Spicy Italian Pizza	34831.25
	The Italian Supreme Pizza	33476.75
	The Four Cheese Pizza	32265.70000000065
	The Mexicana Pizza	26780.75



Thank you!



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