

SQL PROJECT ON PIZZA SALES



By Nishant sahu

Introduction

Hello everyone,

My name is Nishant sahu. I have created an SQL portfolio project to analyze pizza sales data using MySQL, identifying key sales trends and popular pizza types. The goal is to uncover insights into customer behavior and support data-driven business decisions to optimize sales strategies.

Schema: pizzahut

Table: order_details

Columns:

<u>order_details_id</u>	int PK
order_id	int
pizza_id	text
quantity	int

Table: pizza_types

Columns:

pizza_type_id	text
name	text
category	text
ingredients	text

Table: orders

Columns:

<u>order_id</u>	int PK
order_date	date
order_time	time

Table: pizzas

Columns:

pizza_id	text
pizza_type_id	text
size	text
price	double


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(od.quantity * p.price), 2) AS total_revenue
FROM
    order_details od
    JOIN
    Pizzas p ON od.pizza_id = p.pizza_id;
```

Result Grid 	
	total_revenue
▶	817860.05

Identify the highest-priced pizza

```
SELECT
    pt.name, p.price AS highest_price
FROM
    pizza_types pt
    JOIN
        pizzas AS p ON pt.pizza_type_id = p.pizza_type_id
ORDER BY price DESC
LIMIT 1;
```

name	highest_price
The Greek Pizza	35.95

Identify the most common pizza size ordered

```
SELECT
    p.size, COUNT(od.order_details_id) AS order_count
FROM
    pizzas p
    JOIN
        order_details od ON p.pizza_id = od.pizza_id
GROUP BY p.size
ORDER BY order_count DESC
LIMIT 1;
```

size	order_count
L	18526

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

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

pizza_type_id	total_quantity
classic_dlx	2453
bbq_ckn	2432
hawaiian	2422
pepperoni	2418
thai_ckn	2371

Join the necessary tables to find the total quantity of each pizza category ordered

```
SELECT
    pt.category, SUM(od.quantity) AS total_quantity
FROM
    pizza_types pt
    JOIN
    order_details od
    JOIN
    pizzas p ON pt.pizza_type_id = p.pizza_type_id
    AND p.pizza_id = od.pizza_id
GROUP BY pt.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
    COUNT(order_id), HOUR(order_time) AS order_hour
FROM
    orders
GROUP BY order_hour;
```

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

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 avg_pizza_ordered_per_day
FROM
    (SELECT
        o.order_date, SUM(od.quantity) AS quantity
    FROM
        orders o
    JOIN order_details od ON o.order_id = od.Order_id
    GROUP BY o.order_date) AS order_quantity;
```

avg_pizza_ordered_per_day

138

Determine the top 3 most ordered pizza types based on revenue

```
SELECT
    pt.name, ROUND(SUM(od.quantity * p.price), 2) AS revenue
FROM
    pizza_types pt
    JOIN
        pizzas p ON pt.pizza_type_id = p.pizza_type_id
    JOIN
        order_details od ON p.pizza_id = od.pizza_id
GROUP BY pt.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
    pt.category,
    ROUND(SUM(od.quantity * p.price) / (SELECT
        ROUND(SUM(od.quantity * p.price), 2) AS total_revenue
        FROM
            order_details od
            JOIN
                Pizzas p ON od.pizza_id = p.pizza_id) * 100,
        2) AS revenue
FROM
    pizza_types pt
    JOIN
        pizzas p ON pt.pizza_type_id = p.pizza_type_id
    JOIN
        order_details od ON p.pizza_id = od.pizza_id
GROUP BY pt.category
ORDER BY revenue DESC;
```

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Analyze the cumulative revenue generated over time

```
SELECT order_date,  
ROUND(sum(revenue) OVER (ORDER BY order_date),2) AS cum_revenue  
FROM  
(SELECT  
    o.order_date, SUM(od.quantity * p.price) AS revenue  
FROM  
    order_details od  
    JOIN  
    pizzas p ON od.pizza_id = p.pizza_id  
    JOIN  
    orders o ON o.order_id = od.order_id  
GROUP BY o.order_date) as sales;
```

order_date	cum_revenue
2015-01-01	2713.85
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	23990.35
2015-01-11	25862.65
2015-01-12	27781.7
2015-01-13	29831.3
2015-01-14	32358.7

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
    pt.category, pt.name,
    round(SUM((od.quantity) * p.price),2) AS revenue
FROM
    pizza_types pt
    JOIN
    pizzas p ON pt.pizza_type_id = p.pizza_type_id
    JOIN
    order_details od ON p.pizza_id = od.pizza_id
GROUP BY pt.category, pt.name) as a) as b
where rn <= 3;
```


Output on above query

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	32265.7
The Mexicana Pizza	Veggie	26780.75
The Five Cheese Pizza	Veggie	26066.5

Insights

- **As per the analysis A total of 21,230 orders were booked, generating a total revenue of \$817,860.05.**
- **Large size is the most commonly ordered pizza and The Greek Pizza is the highest rated pizza at \$35.95.**
- **classic_dlx-2,453, bbq_ckn-2,432, hawaiian-2,422, pepperoni-2,418, thai_ckn-2371 are the most ordered pizza types along with their quantities.**
- **The average number of pizzas ordered per day is 138.**
- **The highest revenue is generated from The Thai Chicken Pizza \$43,434.25, The Barbecue Chicken Pizza \$42,768, The California Chicken Pizza \$41,409.5.**
- **Revenue percentage based on pizza category are Classic-26.91%, Supreme-25.46%, Chicken-23.96%, Veggie-23.68%.**



Conclusion

The analysis of the pizza sales data help tailor marketing strategies, optimize inventory management, and improve customer satisfaction by focusing on popular and high-revenue-generating items. Overall, this project underscores the importance of data-driven decision-making in enhancing business performance and customer experience.



THANK YOU

