PIZZA SALES

SQL PROJECT

by Nakul

OVERVIEW

Pizza Sales Analysis Using SQL

This SQL project analyzes pizza sales data using multiple tables: orders, order_details, pizzas, and pizza_types. It includes 13 queries categorized into basic, intermediate, and advanced levels to extract insights such as total sales, most popular pizzas, revenue trends, and customer preferences. The project utilizes SQL operations like JOINs, GROUP BY, sub queries etc to generate meaningful business insights. This analysis helps in understanding sales performance, optimizing inventory, and improving decision-making.

DATA BASE :- PIZZA HUT

4 TABLES

Table Name	Description	Key Columns
Orders	Stores order details, including date and customer info.	`order_id`, `order_date`, `customer_id`
Order_Details	Links orders to pizzas with quantity and total price.	`order_id`, `pizza_id`, `quantity`
Pizzas	Contains pizza details like size and price.	`pizza_id`, `size`, `price`
Pizza_Types	Stores pizza varieties with name, category & ingredients.	`type_id`, `name`, `category`

MY INTRODUCTION

"Hello everyone,
My name is Nakul Bagri, and today I'm excited to present my SQL project titled 'Pizza Sales Analysis'. As a fresher with a strong foundation in data analysis tools like SQL, Python, and MS Excel, I've always been passionate about uncovering insights from data to drive better decision-making.
In this project, I analyzed pizza sales data to identify trends, top-selling pizzas, and customer preferences. Using SQL queries, I performed operations like filtering, sorting, and aggregation to extract key insights, such as peak sales hours, popular pizza categories, and revenue trends. These insights can help businesses optimize their menu, improve marketing strategies, and boost overall sales.

Basic questions

Q1 Retrieve the total number of orders placed

```sql
SELECT * FROM pizzahut.pizzas;
-- 1 Retrieve the total number of orders placed
select count(order_id) as total_orders
from orders;
```

output

	total_orders
▶	21350

Basic questions

Q2 Calculate the total revenue generated from pizza sales

```
select round(sum(p.price*od.quantity),2) as total_revenue
from pizzas p
join order_details od
on p.pizza_id = od.pizza_id;
```

output

	total_revenue
▶	817860.05

Basic questions

Q3 Identify the highest-priced pizza.

```
select p.price, pt.name
from pizzas p join
pizza_types pt
on p.pizza_type_id = pt.pizza_type_id
order by p.price desc limit 1;
```

output

price	name
35.95	The Greek Pizza

Basic questions

Q4 Identify the most common pizza size ordered

```
select p.size, count(od.order_details_id) as common_pizzas
from pizzas p
join order_details od
on p.pizza_id = od.pizza_id
group by p.size order by common_pizzas desc limit 1;
```

output

size	common_pizzas
L	18526

Basic questions

Q5 List the top 5 most ordered pizza types along with their quantities

```
select pt.name, count(od.order_details_id) as most_ordered_pizza
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 most_ordered_pizza desc limit 5;
```

output

name	most_ordered_pizza
The Classic Deluxe Pizza	2416
The Barbecue Chicken Pizza	2372
The Hawaiian Pizza	2370
The Pepperoni Pizza	2369
The Thai Chicken Pizza	2315

Intermediate questions

Q1 Join the necessary tables to find the total quantity of each pizza category ordered

```
select pt.category , sum(od.quantity) as category_ordered
from pizza_types pt
join pizzas p
on pt.pizza_type_id = p.pizza_type_id
join order_details od
on od.pizza_id = p.pizza_id
group by pt.category;
```

output

category	category_ordered
Classic	14888
Veggie	11649
Supreme	11987
Chicken	11050

Intermediate questions

Q2 Determine the distribution of orders by hour of the day

```
select hour(order_time) , count(order_id) as order_distribution
from orders group by hour(order_time);
```

output

hour(order_time)	order_distribution
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

Intermediate questions

Q3 Join relevant tables to find the category-wise distribution of pizzas

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

output

category	distribution_of_pizzas
Chicken	6
Classic	8
Supreme	9
Veggie	9

Intermediate questions

Q4 Group the orders by date and calculate the average number of pizzas ordered per day

```
select round(avg(quantity_order),0) from
(select o.order_date , sum(od.quantity) as quantity_order
from orders o
join order_details od
on o.order_id = od.order_id
group by o.order_date) as order_quantity;
```

output

	round(avg(quantity_order),0)
▶	138

Intermediate questions

Q5 Determine the top 3 most ordered pizza types based on revenue

```sql
select  pt.name, sum(od.quantity*p.price) as revenue
from pizza_types pt
join pizzas p
on pt.pizza_type_id = p.pizza_type_id
join order_details od
on od.pizza_id = p.pizza_id
group by pt.name
order by revenue desc limit 3;
```

output

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

Advance Questions

Q1 Analyze the cumulative revenue generated over time

```
select order_date, sum(revenue) over(order by order_date) 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 order by revenue) as sales;
```

output

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
2015-01-20	45763.65000000001
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
2015-01-27	61043.85000000001
2015-01-28	63059.85000000001
2015-01-29	65105.150000000016
2015-01-30	67375.45000000001
2015-01-31	69793.30000000002
2015-02-01	72982.50000000001

Result 5

Advance Questions

Q2 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 rnk
from
(select pt.category, pt.name,
sum(od.quantity*p.price) as revenue
from pizza_types pt
join pizzas p
on pt.pizza_type_id = p.pizza_type_id
join order_details od
on od.pizza_id = p.pizza_id
group by pt.category, pt.name) as a) as b
where rnk <=3;
```

output

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.70000000065
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

Advance Questions

Q3 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_sales
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 od.pizza_id = p.pizza_id
group by pt.category order by revenue desc;
```

output

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Conclusion

This SQL project on pizza sales provides valuable insights into order patterns, customer preferences, and revenue trends. By using various SQL queries, we analyzed key metrics like total sales, popular pizza types, and peak ordering times. The project demonstrates the power of SQL in data analysis and business decision-making. These findings can help optimize inventory, improve marketing strategies, and enhance overall sales performance.

THANK YOU!