PIZZAHUT SALES ANALYSIS USING SQL

By Gurinder Singh

PROJECT OVERVIEW

- **Objective**: Analyze PizzaHut sales data to extract valuable business insights.
- **Tools Used**: SQL for data retrieval, analysis, and reporting.

KEY QUESTIONS ADDRESSED

- **Basic**: Total orders, revenue, highest-priced pizza, most common pizza size, top 5 pizza types.
- **Intermediate**: Pizza category quantities, hourly order distribution, average pizzas ordered per day, revenue-based rankings.
- **Advanced**: Revenue contribution by pizza type, cumulative revenue, top pizzas by category.

RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED

```sql
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_revenue
FROM
    order_details
        JOIN
    pizzas ON pizzas.pizza_id = order_details.pizza_id;
```

Result Grid

total_revenue
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.

```sql
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
LIMIT 1;
```

Result Grid | Filte

	size	order_count
▶	L	18526

LIST THE TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES.

```sql
SELECT
    pizza_types.name,
    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.name
ORDER BY total_quantity DESC
LIMIT 5;
```

Result Grid | Filter Rows:

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

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 | Filte

category	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;
```

Result Grid | Filte

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

FIND THE CATEGORY-WISE DISTRIBUTION OF PIZZAS

```
SELECT
    category, COUNT(name)
FROM
    pizza_types
GROUP BY category;
```

Result Grid | Filter Ro

	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.

```sql
SELECT
    ROUND(AVG(quantity), 0) as avg_pizzas_orderded_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_pizzas_orderded_per_day
138

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE

```sql
SELECT
    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.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.

```sql
SELECT
    pizza_types.category,
    ROUND(SUM(order_details.quantity * pizzas.price) / (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) * 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 | Filte

	category	revenue
▶	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68

ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME

```sql
Select order_date,
sum(revenue) over(order by order_date) as cum_revenu
from
(Select orders.order_date,
sum(order_details.quantity * pizzas.price) as revenu
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:

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

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY

```sql
Select category,name,revenue, rn 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: | Wrap

category	name	revenue	rn
Chicken	The Thai Chicken Pizza	43434.25	1
Chicken	The Barbecue Chicken Pizza	42768	2
Chicken	The California Chicken Pizza	41409.5	3
Classic	The Classic Deluxe Pizza	38180.5	1
Classic	The Hawaiian Pizza	32273.25	2
Classic	The Pepperoni Pizza	30161.75	3
Supreme	The Spicy Italian Pizza	34831.25	1

KEY TAKEAWAYS

ORDER VOLUME AND TRENDS

RESULT:

"A TOTAL OF 21,350 ORDERS WERE PLACED."

INSIGHT:

"THIS HIGH VOLUME SHOWS STRONG CUSTOMER DEMAND."

ACTION:

"USE THIS DATA TO OPTIMIZE STAFFING AND INVENTORY DURING PEAK PERIODS."

KEY TAKEAWAYS

REVENUE DRIVERS

RESULT:

"THE TOTAL REVENUE GENERATED FROM PIZZA SALES IS $817860".

INSIGHT:

"REVENUE FROM PIZZA SALES INDICATES HEALTHY BUSINESS PERFORMANCE. THE TOP 5 PIZZA TYPES CONTRIBUTE MAXIMUM OF TOTAL REVENUE."

ACTION:

"FOCUS PROMOTIONS ON THESE TOP SELLERS TO INCREASE REVENUE FURTHER."

KEY TAKEAWAYS

HIGH-PRICED PRODUCTS

- RESULT:
- "THE HIGHEST-PRICED PIZZA IS THE 'THE GREEK PIZZA' AT $35.95."
- INSIGHT:
- "HIGH-PRICED ITEMS MAY OFFER PREMIUM MARGINS, BUT THEIR SALES VOLUME MAY BE LOWER COMPARED TO OTHER PIZZAS."
- ACTION:
- "MARKET THESE PREMIUM PIZZAS EFFECTIVELY TO MAXIMIZE PROFIT."

KEY TAKEAWAYS

CUSTOMER PREFERENCES

- RESULT: THE MOST COMMON PIZZA SIZE ORDERED IS LARGE .
- INSIGHT: LARGE PIZZAS ARE THE MOST POPULAR SIZE, INDICATING CUSTOMER PREFERENCE FOR MID-TIER OFFERINGS.
- ACTION: ENSURE SUFFICIENT STOCK OF INGREDIENTS FOR LARGE-SIZED PIZZAS TO MEET DEMAND.

KEY TAKEAWAYS

CATEGORY & HOURLY PATTERNS

- RESULT: MAXIMUM ORDERS ARE PLACED BETWEEN 12 PM TO 1 PM AND 4 PM TO 7 PM, THE PEAK ORDERING HOURS.
- INSIGHT: MOST ORDERS OCCUR IN THE AFTERNOON AND EVENING, SIGNALING PEAK DEMAND.
- ACTION: STAFF MORE EMPLOYEES AND PREPARE FOR HIGH DEMAND DURING THESE HOURS.

KEY TAKEAWAYS

PIZZA CATEGORIES & REVENUE DISTRIBUTION

- RESULT: CATEGORY 'CLASSIC' ACCOUNTS FOR 26.91% WHILE CATEGORY 'SUPREME' CONTRIBUTES 25.46% OF REVENUE.
- INSIGHT: CATEGORY 'CLASSIC' AND 'SUPREME' PIZZAS ARE THE MOST PROFITABLE.
- ACTION: PROMOTE CATEGORY 'CLASSIC' AND 'SUPREME' MORE OR BUNDLE THEM WITH OTHER ITEMS.

KEY TAKEAWAYS

CUMULATIVE REVENUE GROWTH

- RESULT: OVER THE LAST 1 YEAR, CUMULATIVE REVENUE HAS INCREASED.
- INSIGHT: REVENUE GROWTH SHOWS CONSISTENT PERFORMANCE WITH POSSIBLE SEASONALITY.
- ACTION: PLAN MARKETING CAMPAIGNS TO BOOST GROWTH DURING OFF-PEAK SEASONS.

KEY TAKEAWAYS

REVENUE CONTRIBUTION BY PIZZA TYPE

- RESULT: THE TOP 3 PIZZAS CONTRIBUTING TO TOTAL REVENUE ARE 'THE THAI CHICKEN PIZZA' 'THE BARBECUE CHICKEN PIZZA' AND 'THE CALIFORNIA CHICKEN PIZZA'
-
- INSIGHT: THESE PIZZA TYPES ARE CRUCIAL TO REVENUE GENERATION.
- ACTION: RUN SPECIAL PROMOTIONS FOR THESE TOP SELLERS.

THANK YOU!