Pizza_sales_analysis

Developed comprehensive SQL queries to analyze and optimize pizza sales at Pizza outlet. Extracted key metrics such as total orders, revenue, top-selling pizzas, and order patterns by size, category, and time. Provided insights on revenue contributions and cumulative revenue trends, aiding strategic decision-making and operational efficiency.

The most common pizza size ordered

```sql
/* Identify the most common pizza size ordered */
select
  size,
  count(quantity) as no_of_times_ordered
from
  pizzas
  inner join orders_details on pizzas.pizza_id = orders_details.pizza_id
group by
  size
order by
  no_of_times_ordered desc
limit
  1;
```

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

```sql
/* List the top 5 most ordered pizza types along with their quantities */
select
  pizzas.pizza_type_id as ordered_pizza_type,
  sum(quantity) as no_of_times_ordered
from
  pizzas
  inner join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id
  inner join orders_details on pizzas.pizza_id = orders_details.pizza_id
group by
  pizzas.pizza_type_id
order by
  no_of_times_ordered desc
limit
  5;
```

The category-wise distribution of pizzas

```sql
/* The category-wise distribution of pizzas */
select
  category as Pizza_Category,
  count(name) as Pizza_count
from
  pizza_types
group by
  Pizza_Category
order by
  Pizza_count;
```

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

```sql
/* Group the orders by date and calculate the average number of pizzas ordered per day */
select
  round(
    avg(no_of_pizzas_ordered_each_day),
    0
  ) as avg_no_of_pizzas_ordered_each_day
from
  (
    select
      order_date,
      sum(quantity) as no_of_pizzas_ordered_each_day
    from
      orders
      inner join orders_details on orders.order_id = orders_details.order_id
    group by
      order_date
  ) as pizza_qty;
```

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

```sql
select
  pizza_types.category as ordered_pizza_type,
  sum(quantity) as total_quantity_of_each_pizza_category_ordered
from
  pizzas
  inner join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id
  inner join orders_details on pizzas.pizza_id = orders_details.pizza_id
group by
  pizza_types.category
order by
  total_quantity_of_each_pizza_category_ordered desc;
/* Determine the distribution of orders by hour of the day */
select
  hour(order_time) as hour_of_the_day,
  count(order_id) as no_of_orders
from
  orders
group by
  hour_of_the_day;
/* Join relevant tables to find the category-wise distribution of pizzas */
select
  category as Pizza_Category,
  count(name) as Pizza_count
from
  pizza_types
group by
  Pizza_Category
order by
  Pizza_count;
```

The top 3 most ordered pizza types based on revenue

```sql
/* The top 3 most ordered pizza types based on revenue */
with cte1 as (
  select pizza_type_id,name
  from pizza_types
),
cte2 as (
  select pizza_id, pizza_type_id,price
  from pizzas
),
cte3 as (
  select pizza_id,quantity
  from orders_details
)
select
  cte1.pizza_type_id as Pizza_Types,
  sum(cte3.quantity * cte2.price) as revenue
from
  cte2
  inner join cte3 on cte2.pizza_id = cte3.pizza_id
  inner join cte1 on cte2.pizza_type_id = cte1.pizza_type_id
group by Pizza_Types
order by revenue desc
limit 3;
```

The percentage contribution of each pizza type to total revenue

```sql
/* The percentage contribution of each pizza category to total revenue */
select ct.category as Pizza_Category,
  round(
    (
      sum(ct.price * ct.quantity) / (
        select
          sum(
            pizzas.price * orders_details.quantity
          )
        from
          pizzas
          inner join orders_details on pizzas.pizza_id = orders_details.pizza_id
      )
    ),
    4
  ) * 100 as Total_contribution
from
  (
    select
      pizza_types.category,
      pizzas.price,
      orders_details.quantity
    from
      pizzas
      inner join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id
      inner join orders_details on pizzas.pizza_id = orders_details.pizza_id
  ) ct
group by Pizza_Category
order by Total_contribution desc;
```

The top 3 most ordered pizza types based on revenue for each pizza category

```sql
/* Determine the top 3 most ordered pizza name based on revenue for each pizza category */
select category, name, Revenue_Generated
from
  (
    select category, name, Revenue_Generated,
      rank() over (
        partition by category
        order by Revenue_Generated desc
      ) as rnk
    from
      (
        select
          pizza_types.category,
          pizza_types.name,
          sum(
            pizzas.price * orders_details.quantity
          ) as Revenue_Generated
        from
          pizzas
          inner join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id
          inner join orders_details on pizzas.pizza_id = orders_details.pizza_id
        group by
          pizza_types.category,
          pizza_types.name
      ) x
  ) y
where rnk < 4;
```

Conclusion

- Conducted in-depth analysis of Pizza outlet sales data to uncover customer preferences and trends.
- Identified top-selling pizzas, revenue distribution by category, and peak ordering times.
- Provided insights to enhance marketing strategies and inventory management.
- Analyzed order patterns by size and category, and tracked cumulative revenue trends.
- Enabled precise forecasting and resource allocation.
- Supported strategic planning and operational optimization.
- Contributed to revenue growth and maintained Pizza outlet’s competitive edge in the food industry.