Pizza Sales Portfolio Project – SQL & Power BI

This project comes in 4 CSV files. In this project, I've used Microsoft SQL server 2022 to uncover valuable insights to help the pizza outlet make important decisions to increase sales.

The data is presented using Power BI and includes KPIs and other questions important to uncovering these insights.

The raw data for this project is presented in 4 CSV files. This data represents a year's worth of sales for a pizza outlet, and they need to answer a few questions which will help them make important decisions to increase sales and improve their business.

The project is done in Microsoft SQL server and presented in Power BI. The data was loaded into 4 tables. This project involves the use of simple joins and sub-queries.

Data source:
https://www.kaggle.com/datasets/mysarahmadbhat/pizza-place-sales

The project seeks to answer the following questions:

-- KPIs

-- 1) Total Revenue (How much money did we make this year?)
-- 2) Average Order Value
-- 3) Total Pizzas Sold
-- 4) Total Orders
-- 5) Average Pizzas per Order

-- QUESTIONS TO ANSWER

-- 1) Daily Trends for Total Orders
-- 2) Hourly Trend for Total Orders
-- 3) Percentage of Sales by Pizza Category
-- 4) Percentage of Sales by Pizza Size
-- 5) Total Pizzas Sold by Pizza Category
-- 6) Top 5 Best Sellers by Total Pizzas Sold
-- 7) Bottom 5 Worst Sellers by Total Pizzas Sold

FINDINGS:
-- KPIs

-- 1) Total Revenue for the year was $817,860
-- 2) Average Order Value was $38.31
-- 3) Total Pizzas Sold – 50,000
-- 4) Total Orders – 21,000
-- 5) Average Pizzas per Order – 2

-- QUESTIONS

-- 1) The busiest days are Thursday (3239 orders), Friday (3538 orders) and Saturday (3158 orders). Most sales are recorded on Friday
-- 2) Most orders are placed between 12pm to 1pm, and 5pm to 7pm
-- 3) Classic pizza has the highest percentage sales (26.91%), followed by Supreme (25.46%), Chicken (23.96%) and Veggie (23.68%) pizzas
-- 4) Large size pizzas record the highest sales (45.89%) followed by medium (30.49%), then small (21.77%). XL and XXL only account for 1.72% and 0.12% respectively
-- 5) Classic Pizza accounts for the highest sales (14,888 pizzas) followed by Supreme (11,987 pizzas), Veggie (11,649 pizzas) and Chicken (11,050 pizzas)
-- 6) Top 5 Best Sellers are the Classic Deluxe (2453 pizzas), Barbecue Chicken (2432 pizzas), Hawaiian (2422), Peperoni (2418 pizzas) and Thai Chicken (2371 pizzas)
-- 7) Bottom 5 Worst Sellers are Brie Carre (490 pizzas), Mediterranean (934 pizzas), Calabrese (937 pizzas), Spinach Supreme (950 pizzas) and Soppressata (961).

CONCLUSION:
The outlet should capitalize on Large size Classic, Supreme, Veggie and Chicken pizzas.

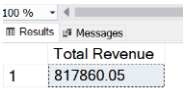
Since XL and XXL pizzas account for such a small percentage of their sales (just 1.94%), they can safely get rid of these pizza sizes.

Even though the Brie Carre pizza is the worst seller, it recorded 490 pizzas sold. It would still be a good idea to keep it in the menu.

QUERIES USED:

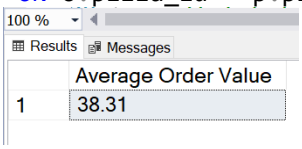
```sql
USE pizza;

SELECT *
from pizzas

-- KPIs

-- 1) Total Revenue
-- a) verify that the price given is for one pizza
SELECT
 *
FROM pizzas
WHERE pizza_id = 'big_meat_s'
ORDER BY price DESC;

-- big_meat_s quantity 4
SELECT
 *
FROM order_details AS o
 JOIN pizzas AS p
 ON o.pizza_id = p.pizza_id
 ORDER BY quantity DESC;

 -- final query
SELECT
 round(SUM(quantity * price), 2)
```

```
FROM order_details AS o
 JOIN pizzas AS p
 ON o.pizza_id = p.pizza_id
```



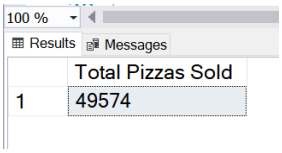
	Total Revenue
1	817860.05

```
-- 2) Average Order Value
-- total order value/order count
SELECT
 SUM(quantity * price)/ COUNT(DISTINCT order_id) AS [Average Order Value]
FROM order_details AS o
 JOIN pizzas AS p
 ON o.pizza_id = p.pizza_id
```



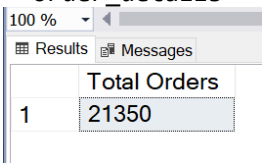
	Average Order Value
1	38.31

```
-- 3) Total pizzas sold

 SELECT
  SUM(quantity) AS [Total Pizzas Sold]
FROM
  order_details
```



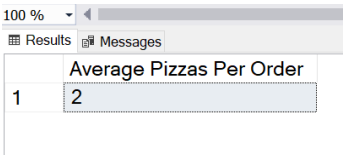
	Total Pizzas Sold
1	49574

```
-- 4) Total Orders

SELECT
  COUNT(DISTINCT order_id) AS [Total Orders]
FROM
  order_details
```



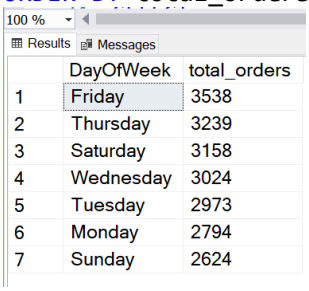
	Total Orders
1	21350

```
-- 5) Average Pizzas Per Order
-- quantity sold/order IDs
SELECT
  ROUND(SUM(quantity)/COUNT(DISTINCT order_id),2) AS [Average Pizzas Per Order]
FROM
  order_details
```



	Average Pizzas Per Order
1	2

```sql
-- Sales analysis

-- 1) Daily Trends for Total Orders

SELECT
 FORMAT(date, 'dddd') AS DayOfWeek
 ,COUNT(DISTINCT order_id) AS total_orders
FROM orders
GROUP BY FORMAT(date, 'dddd')
ORDER BY total_orders DESC
```



	DayOfWeek	total_orders
1	Friday	3538
2	Thursday	3239
3	Saturday	3158
4	Wednesday	3024
5	Tuesday	2973
6	Monday	2794
7	Sunday	2624

```sql
-- 2) Hourly TrendS for Total Orders
SELECT
    DATEPART(HOUR, time) AS [Hour]
      ,COUNT(DISTINCT order_id) AS Total_Orders
FROM orders
GROUP BY DATEPART(HOUR, time)
ORDER BY [Hour]
```

100 %

Results | Messages

	Hour	count
1	9	1
2	10	8
3	11	1231
4	12	2520
5	13	2455
6	14	1472
7	15	1468
8	16	1920
9	17	2336
10	18	2399
11	19	2009
12	20	1642
13	21	1198
14	22	663
15	23	28

```sql
-- 3) Percentage of Sales by Pizza Category
-- a: calculate total revenue per category
-- % sales calculated as (a:/total revenue) * 100

SELECT *
FROM
pizzas

SELECT
    category,
    ROUND(SUM(quantity * price), 2) AS revenue,
    ROUND(SUM(quantity * price) * 100.0 / (SELECT SUM(quantity * price) FROM pizzas
AS p2 JOIN order_details AS od2 ON od2.pizza_id = p2.pizza_id), 2) AS
percentage_of_sales
FROM
    pizzas AS p
JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
JOIN
    order_details AS od ON od.pizza_id = p.pizza_id
GROUP BY
    category;
```

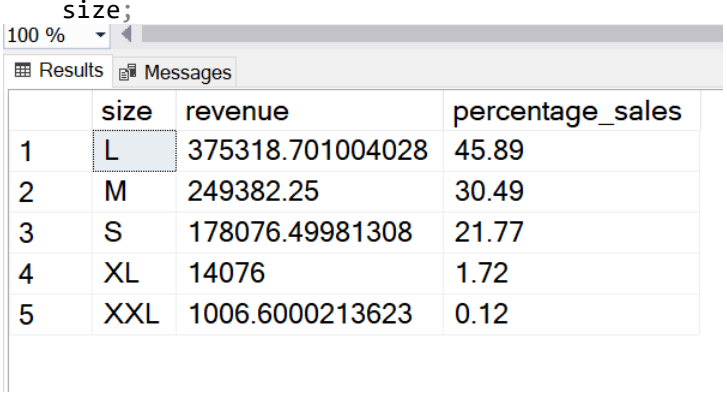
100 %

Results | Messages

	category	revenue	percentage_sales
1	Classic	220053.100021362	26.91
2	Supreme	208196.99981308	25.46
3	Chicken	195919.5	23.96
4	Veggie	193690.451004028	23.68

```sql
-- 4) Percentage of Sales by Pizza Size

SELECT
    size
    ,ROUND(SUM(quantity * price), 2) AS revenue
```

```
    ,ROUND(SUM(quantity * price) * 100.0 / (SELECT SUM(quantity * price) FROM pizzas
AS p2 JOIN order_details AS od2 ON od2.pizza_id = p2.pizza_id), 2) AS
percentage_of_sales
FROM
    pizzas AS p
JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
JOIN
    order_details AS od ON od.pizza_id = p.pizza_id
GROUP BY
    size;
```

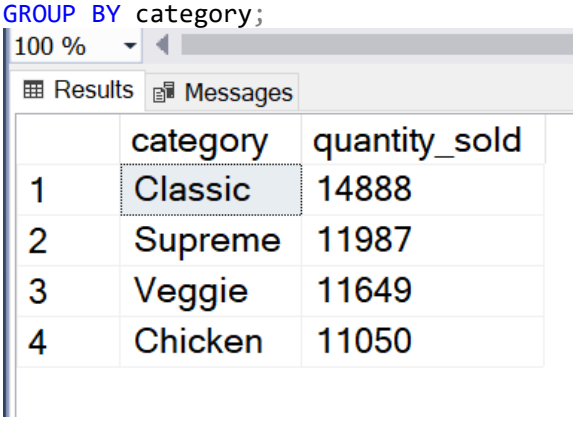


100 %

Results | Messages

	size	revenue	percentage_sales
1	L	375318.701004028	45.89
2	M	249382.25	30.49
3	S	178076.49981308	21.77
4	XL	14076	1.72
5	XXL	1006.6000213623	0.12

```
-- 5) Total Pizzas Sold by Pizza Category
SELECT
 category
 ,SUM(quantity) AS quantity_sold
FROM
    pizzas AS p
JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
JOIN
    order_details AS od ON od.pizza_id = p.pizza_id
GROUP BY category;
```



100 %

Results | Messages

	category	quantity_sold
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

```
-- 6) Top 5 Best Sellers by Total Pizzas Sold
SELECT top 5
  name
  ,SUM(quantity) AS total_quantity_sold
```

```
FROM
    pizzas AS p
JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
JOIN
    order_details AS od ON od.pizza_id = p.pizza_id
GROUP BY name
ORDER BY total_quantity_sold DESC;
```

100 %

Results | Messages

	name	total_pizzas_sold
1	The Classic Deluxe Pizza	2453
2	The Barbecue Chicken Pizza	2432
3	The Hawaiian Pizza	2422
4	The Pepperoni Pizza	2418
5	The Thai Chicken Pizza	2371

```
-- 7) Bottom 5 Best Sellers by Total Pizzas Sold
SELECT top 5
  name
  ,SUM(quantity) AS total_quantity_sold
FROM
    pizzas AS p
JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
JOIN
    order_details AS od ON od.pizza_id = p.pizza_id
GROUP BY name
ORDER BY total_quantity_sold ASC;
```

100 %

Results | Messages

	name	total_pizzas_sold
1	The Brie Carre Pizza	490
2	The Mediterranean Pizza	934
3	The Calabrese Pizza	937
4	The Spinach Supreme Pizza	950
5	The Soppressata Pizza	961