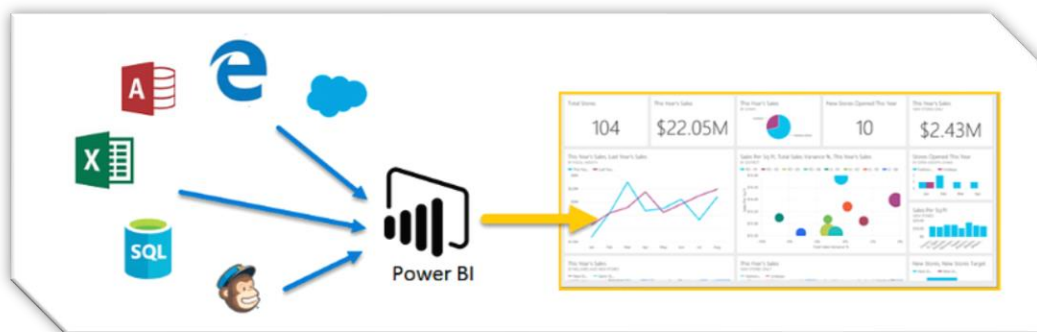


Unlocking Pizza Sales Insights:

A Descriptive Analytics Approach to Uncover Customer Preferences and Drive Business Growth for XYZ Company using:

- SQL
- Power BI



BY: Simran Kaur

1. Introduction:

The purpose of this report is to provide a comprehensive summary and description of pizza sales for XYZ Company. The analysis involves the use of a dummy dataset, and the data cleaning process was conducted using SQL. The visualization of the cleaned data was achieved through Power BI.

2. Dataset Description:

The dummy dataset used for this analysis contains information about pizza sales, including details such as pizza id, Order id, Pizza name id, quantity, order date, order time, unit price, total price, Pizza size, pizza category, pizza ingredients, pizza name.

3. SQL Data Cleaning:

SQL was employed for data cleaning and to perform analysis to ensure the dataset's integrity and reliability.

- **Analysis and Findings:**

3.1 Total Number of Orders, Average Quantity, and Total Revenue:

The total number of orders is 21350.

The average quantity per order is 1.01962155491567.

The total revenue generated is 817860.049999992.

```

SELECT
    COUNT(DISTINCT order_id) AS total_orders,
    AVG(quantity) AS avg_order_quantity,
    SUM(total_price) AS total_revenue
FROM pizza_sales$

```

Result:

	total_orders	avg_order_quantity	total_revenue
1	21350	1.01962155491567	817860.049999992

3.2 Most Popular Pizza:

The most popular pizza, based on the sum of quantity ordered, is.

The Classic Deluxe Pizza with 2453 units sold.

```

SELECT
    pizza_name,
    SUM(quantity) AS total_quantity_ordered
FROM pizza_sales$
GROUP BY pizza_name
ORDER BY total_quantity_ordered DESC;

```

	pizza_name	total_quantity_ordered
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
6	The California Chicken Pizza	2370
7	The Sicilian Pizza	1938
8	The Spicy Italian Pizza	1924

3.3 Revenue Distribution by Pizza Size:

The revenue distribution across pizza sizes is as follows:

Small: 178076.4999999998

Medium: 249382.25

Large: 375318.7000000009

XL: 14076

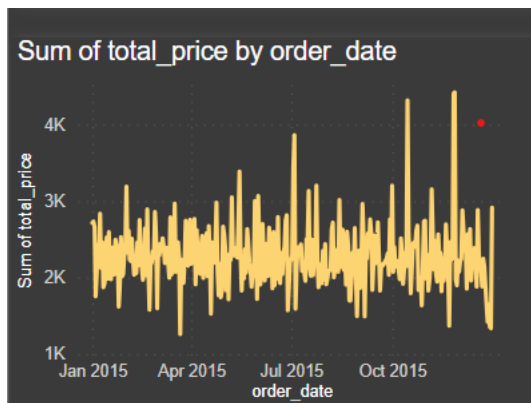
XXL: 1006.6

```
SELECT
    pizza_size,
    SUM(total_price) AS total_revenue
FROM pizza_sales$
GROUP BY pizza_size;
```

	pizza_size	total_revenue
1	S	178076.4999999998
2	L	375318.7000000009
3	XL	14076
4	XXL	1006.6
5	M	249382.25

3.4 Monthly Revenue Trend:

The monthly revenue trend indicates variations in sales throughout the year, with



```
SELECT
    MONTH(order_date) AS month,
    SUM(total_price) AS monthly_revenue
FROM pizza_sales$
GROUP BY MONTH(order_date)
ORDER BY month;
```

	month	monthly_revenue
1	1	69793.29999999999
2	2	65159.59999999999
3	3	70397.09999999999
4	4	68736.79999999999
5	5	71402.74999999999
6	6	68230.19999999999
7	7	72557.89999999999
8	8	68278.24999999999
9	9	64180.04999999999
10	10	64027.59999999999
11	11	70395.34999999999
12	12	64701.14999999999

3.5 Pizza Categories and Ingredients:

Pizza categories and their unique ingredients are explored, providing valuable insights into the diversity of the product offerings.

```
SELECT
    pizza_category,
    STRING_AGG(pizza_ingredients, ', ') AS unique_ingredients
FROM (
    SELECT DISTINCT pizza_category, pizza_ingredients
    FROM pizza_sales$
) AS distinct_pizzas
GROUP BY pizza_category;
```

	pizza_category	unique_ingredients
1	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic,...
2	Classic	Mozzarella Cheese, Pepperoni, Bacon, Pepperoni, ...
3	Supreme	Genoa Salami, Capocollo, Pepperoni, Tomatoes, A...
4	Veggie	Eggplant, Artichokes, Tomatoes, Zucchini, Red Pe...

3.6 Customer Segmentation:

Customers are segmented based on order frequency, allowing for targeted marketing strategies.

```
SELECT
    order_id,
    COUNT(order_id) AS order_frequency
FROM pizza_sales$
GROUP BY order_id
ORDER BY order_frequency DESC
```

	order_id	order_frequency
1	18845	21
2	10760	21
3	17464	15
4	21158	15
5	20163	15
6	13906	15
7	20710	15
8	18280	15

3.7 Average Unit Price:

The average unit price for each pizza is calculated, providing insights into pricing strategies.

```
SELECT
    pizza_name,
    AVG(unit_price) AS avg_unit_price
FROM pizza_sales$
GROUP BY pizza_name;
```

	pizza_name	avg_unit_price
1	The Napolitana Pizza	16.4372846312888
2	The Barbecue Chicken Pizza	17.572934232715
3	The Pepper Salami Pizza	17.6378340365682
4	The Five Cheese Pizza	18.5
5	The Mexicana Pizza	18.0240384615385
6	The Brie Carre Pizza	23.6499999999998
7	The Classic Deluxe Pizza	15.575951986755
8	The Italian Vegetables Pizza	16.3392307692308

3.8 Peak Hours and Busiest Hour of the Day:

The analysis of peak hours reveals, and the busiest hour of the day is identified as 12 Noon.

```
SELECT
    DATEPART(HOUR, order_time) AS hour,
    COUNT(order_id) AS order_count
FROM pizza_sales$
GROUP BY DATEPART(HOUR, order_time)
ORDER BY hour;
```

	hour	order_count
1	9	4
2	10	17
3	11	2672
4	12	6543
5	13	6203
6	14	3521
7	15	3170
8	16	4185
9	17	5143
10	18	5359
11	19	4350
12	20	3487
13	21	2528
14	22	1370
15	23	68

3.9 Customers with the Highest Order Frequency:

```
SELECT
  order_id,
  COUNT(order_id) AS order_frequency
FROM pizza_sales$
GROUP BY order_id
ORDER BY order_frequency DESC
```

	order_id	order_frequency
1	18845	21
2	10760	21
3	17464	15
4	21158	15
5	20163	15
6	13906	15
7	20710	15
8	18280	15
9	14304	15
10	3473	14
11	16127	14
12	18891	14
13	18110	14
14	9331	14
15	13481	14
16	443	14

3.10 Revenue by Day of the Week:

Revenue distribution across days of the week offers insights into weekly sales patterns.

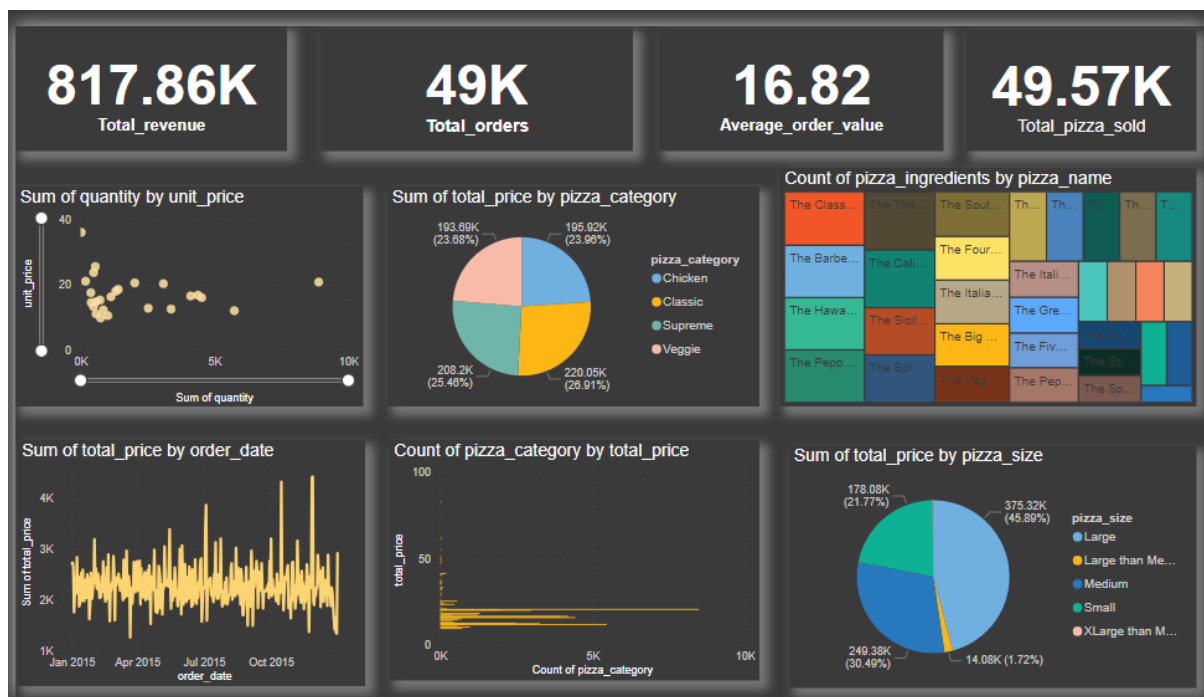
```
SELECT DATEPART(DW, order_date) AS day_of_week, SUM(total_price) AS daily_revenue
FROM pizza_sales$
GROUP BY DATEPART(DW, order_date)
ORDER BY day_of_week;
```

	day_of_week	daily_revenue
1	1	99203.4999999996
2	2	107329.55
3	3	114133.8
4	4	114408.3999999999
5	5	123528.4999999999
6	6	136073.9
7	7	123182.3999999999

4. Power BI Visualization:

Power BI was utilized to create interactive and insightful visualizations based on the cleaned dataset. The following visualizations were generated:

- Sales Trends Over Time: A line chart depicting the trend in pizza sales over time, allowing for identification of peak sales periods and potential seasonality.
- Pizza Type Distribution: A pie chart illustrating the distribution of sales across different pizza types, providing insights into customer preferences.
- Revenue Analysis: Bar charts and tables displaying revenue generated from pizza sales, facilitating a comparison of revenue contribution from each pizza type.
- Customer Segmentation: Utilized Power BI's features to segment customers based on purchasing behaviour, facilitating targeted marketing strategies.



5. Key Findings:

- Identify the top-selling pizza types and focus marketing efforts on these products.
- Pinpoint peak sales periods to optimize inventory management and staffing.
- Understand customer preferences through segmentation for targeted promotions.

6. Conclusion:

This report presents a thorough analysis of pizza sales for XYZ Company, leveraging a dummy dataset, SQL for data cleaning, and Power BI for visualization. The insights gained from this analysis can guide strategic decisions, enhance marketing strategies, and ultimately contribute to the company's success in the competitive pizza industry.

7. Recommendations:

Regularly update and analyse sales data to adapt strategies to changing market conditions.

Explore additional data sources for a more comprehensive understanding of customer behaviour.

Provide training to relevant staff on interpreting Power BI visualizations for informed decision-making.

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