**Pizza Sales**

The aim of the project is to provide insights into customer behaviour and preferences. This project will inform the business owner about which days are most profitable and whether there are any seasonal or monthly trends. The insights gained will support business decision-making and improve customer satisfaction. Identifying the most popular pizzas will also assist with planning and managing stock more effectively.

**Dataset**

Below is a table of the original dataset received with detailed information about every column.

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| pizza\_id | float | A unique identifier assigned to each distinct pizza variant available for ordering. |
| order\_id | float | A unique identifier for each order made, which links to multiple pizzas. |
| pizza\_name\_id | nvarchar(50) | An identifier linking to a specific name of the pizza. |
| quantity | float | The number of units of a specific pizza variant ordered within an order. |
| order\_date | date | The date when the order was placed. |
| order\_time | time(7) | The time when the order was placed. |
| unit\_price | float | The cost of a single unit of the specific pizza variant. |
| total\_price | float | The aggregated cost of all units of a specific pizza variant in an order. |
| pizza\_size | nvarchar(50) | Represents the size of the pizza (e.g., small, medium, large). |
| pizza\_category | nvarchar(50) | Indicates the category of the pizza, such as vegetarian, non-vegetarian, etc. |
| pizza\_ingredients | nvarchar(100) | Provides a list or description of the ingredients used in the pizza. |
| pizza\_name | nvarchar(50) | Specifies the name of the specific pizza variant ordered. |

**KPI’s**:

Analysis of the key performance indicators give us an insight on how the business is doing.

* Total Revenue
* Total Orders
* Total Pizzas Sold
* Average Order Value
* Average Pizzas per Order

**Analysis Methods:**

* SQL
* Power BI

**SQL:**

* Total Revenue

|  |  |
| --- | --- |
| SELECT  SUM(total\_price)  AS  Total\_Revenue  FROM  pizza\_sales\_converted; |  |

* Total Orders

|  |  |
| --- | --- |
| SELECT  COUNT(DISTINCT(order\_id))  AS  Total\_Orders  FROM  pizza\_sales\_converted; |  |

* Total Pizzas Sold

|  |  |
| --- | --- |
| SELECT  SUM(quantity)  AS  Total\_pizza\_sold  FROM  pizza\_sales\_converted; |  |

* Average Order Value

|  |  |
| --- | --- |
| SELECT  (SUM(total\_price) / COUNT(DISTINCT order\_id))  AS  Avg\_order\_Value  FROM  pizza\_sales\_converted; |  |

* Average Pizzas per Order

|  |  |
| --- | --- |
| SELECT  ROUND(CAST(SUM(quantity) AS FLOAT) / CAST(COUNT(DISTINCT order\_id) AS FLOAT),2)  AS  Avg\_Pizzas\_per\_order  FROM  pizza\_sales\_converted; |  |

* Total Orders by Month

|  |  |
| --- | --- |
| SELECT  DATENAME(MM, order\_date) AS order\_month,  COUNT(DISTINCT(order\_id)) AS total\_orders  FROM  pizza\_sales\_converted  GROUP BY  DATENAME(MM, order\_date)  ORDER BY  total\_orders DESC |  |
|  |  |

* Revenue of Orders by Month

|  |  |
| --- | --- |
| SELECT  DATENAME(MM, order\_date) AS order\_month,  ROUND(SUM(total\_price),2) AS Total\_Revenue  FROM  pizza\_sales\_converted  GROUP BY  DATENAME(MM, order\_date)  ORDER BY  Total\_Revenue DESC |  |
|  |  |

* Total Pizzas Orders per Weekday

|  |  |
| --- | --- |
| SELECT  DATENAME(W, order\_date) AS order\_day,  COUNT(DISTINCT(order\_id)) AS total\_orders  FROM  pizza\_sales\_converted  GROUP BY  DATENAME(W, order\_date)  ORDER BY  total\_orders DESC; |  |
|  |  |

* Total Pizzas Orders per Hour

|  |  |
| --- | --- |
| SELECT  DATENAME(hh, order\_time) AS order\_time,  COUNT(DISTINCT(order\_id)) AS total\_orders  FROM  pizza\_sales\_converted  GROUP BY  DATENAME(hh, order\_time)  ORDER BY  total\_orders DESC; |  |

* Total Orders per Pizza Category

|  |  |
| --- | --- |
| SELECT  pizza\_category AS category,  COUNT(DISTINCT(order\_id)) AS total\_orders  FROM  pizza\_sales\_converted  GROUP BY  pizza\_category  ORDER BY  total\_orders DESC |  |
|  |  |

* Quantity of Pizzas sold per Category

|  |  |
| --- | --- |
| SELECT  pizza\_category AS Category,  SUM(quantity) AS Total\_quantity\_sold  FROM  pizza\_sales\_converted  GROUP BY  pizza\_category  ORDER BY  Total\_quantity\_sold DESC |  |

* Pizza popularity by size

|  |  |
| --- | --- |
| SELECT  pizza\_size AS Pizza\_Size,  COUNT(quantity) AS Quantity  FROM  pizza\_sales\_converted  GROUP BY  Pizza\_Size  ORDER BY  Quantity DESC |  |

* Pizza popularity by Revenue

|  |  |
| --- | --- |
| SELECT  pizza\_category,  CAST(SUM(total\_price) AS DECIMAL(10,2)) as Total\_Revenue,  CAST(SUM(total\_price) \* 100 / (SELECT SUM(total\_price) from pizza\_sales\_converted) AS DECIMAL(10,2)) AS Percentage  FROM  pizza\_sales\_converted  GROUP BY  pizza\_category |  |

|  |  |
| --- | --- |
| SELECT  Top 5  pizza\_name,  SUM(total\_price) AS Total\_Revenue  FROM  pizza\_sales\_converted  GROUP BY  pizza\_name  ORDER BY  Total\_Revenue DESC |  |

* Top 5 Pizzas by Revenue
* Bottom 5 Pizzas by Revenue

|  |  |
| --- | --- |
| SELECT  Top 5  pizza\_name,  ROUND(SUM(total\_price),2) AS Total\_Revenue  FROM  pizza\_sales\_converted  GROUP BY  pizza\_name  ORDER BY  Total\_Revenue ASC |  |

* Top 5 Pizzas by Quantity

|  |  |
| --- | --- |
| SELECT  Top 5  pizza\_name,  SUM(quantity) AS Quantity  FROM  pizza\_sales\_converted  GROUP BY  pizza\_name  ORDER BY  Quantity DESC |  |

* Bottom 5 Pizzas by Quantity

|  |  |
| --- | --- |
| SELECT  Top 5  pizza\_name,  SUM(quantity) AS Quantity  FROM  pizza\_sales\_converted  GROUP BY  pizza\_name  ORDER BY  Quantity ASC |  |

* Top 5 Pizzas by Total Orders

|  |  |
| --- | --- |
| SELECT  Top 5  pizza\_name,  SUM(DISTINCT(order\_id)) AS Total\_orders  FROM  pizza\_sales\_converted  GROUP BY  pizza\_name  ORDER BY  Total\_orders DESC |  |

* Bottom 5 Pizzas by Total Orders

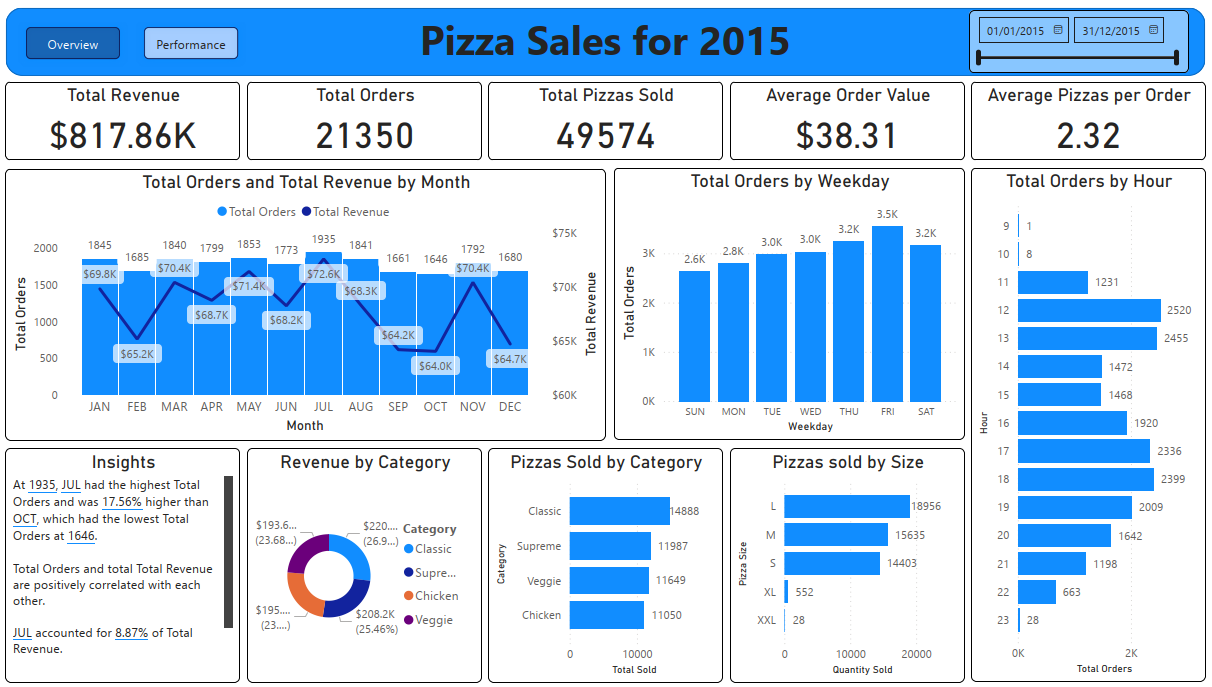
|  |  |
| --- | --- |
| SELECT  Top 5  pizza\_name,  SUM(DISTINCT(order\_id)) AS Total\_orders  FROM  pizza\_sales\_converted  GROUP BY  pizza\_name  ORDER BY  Total\_orders ASC |  |

**Visualizations:**

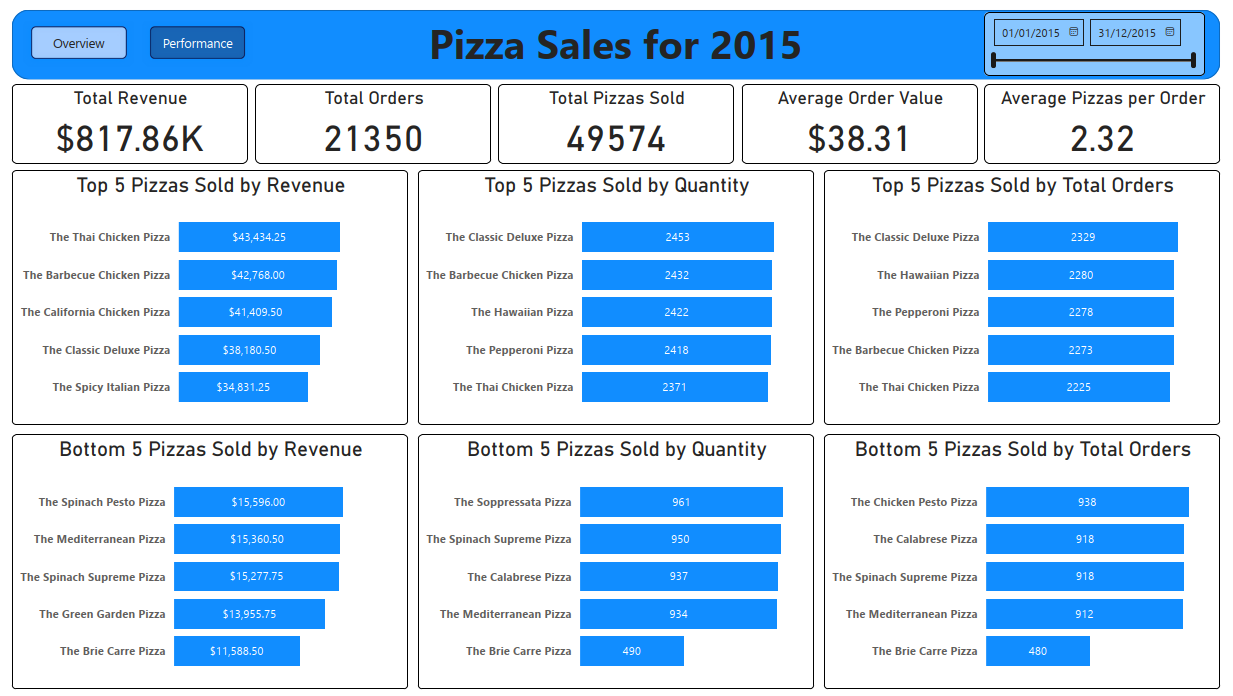
The pizza sales database can be found at:

<https://app.powerbi.com/view?r=eyJrIjoiYzE2Mzg1NGMtZWFhZS00YzAxLTkyMzEtYjRmYzk0MjJlZjc2IiwidCI6ImNhOWE4YjhjLTNlYTMtNDc5OS1hNDNlLTU1MTAzOThlN2EzYiIsImMiOjh9>

Power BI is used to make an interactive dashboard with an overview tab and a performance tab. Each tab gives the KPI’s so that every selection clearly shows the influence on the KPI’s.



The second performance tab shows the 5 best and worst performing pizzas by revenue, quantity and total orders.



**Business Insights Summary (2015)**

* Best Performing Month: July
* Busiest Day: Friday
* Peak Hours: Lunch (12 PM–2 PM) and Dinner (5 PM–7 PM)

**Sales Insights**

* The Classic pizza category was the most popular and generated the highest revenue.
* Large pizzas were the most frequently ordered size, while XXL pizzas were the least ordered, with only 28 sold in 2015.
* The Thai Chicken pizza generated the highest revenue overall, but the Classic Deluxe pizza had the highest number of orders and quantity sold.
* The Brie Carre pizza was the worst performing in both sales and popularity.