Power BI & SQL Analysis Project

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01

KPI

We need to analyze key indicators for our pizza sales data to gain insights into our business performance. Specifically, we want to calculate the following metrics:

1. Total Revenue: The sum of the total price of all pizza orders.
2. Average Order Value: The average amount spent per order, calculated by dividing the total revenue by the total number of orders.
3. Total Pizzas Sold: The sum of the quantities of all pizzas sold.
4. Total Orders: The total number of orders placed.
5. Average Pizzas Per Order: The average number of pizzas sold per order, calculated by dividing the total number of pizzas sold by the total number of orders.

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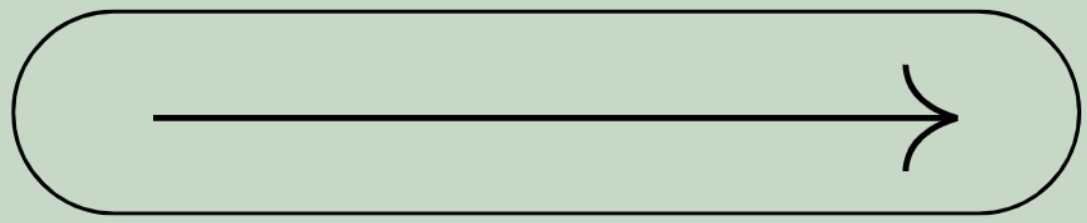

PROBLEM STATEMENTCHARTS REQUIREMENT

We would like to visualize various aspects ofour pizza sales data to gain insights and understand key trends. We have identified the following requirements for creating charts:

1.Daily Trend for Total Orders:

Create a bar chart that displays the daily trend of total orders over a specific time period. This chart will help us identify any patterns or fluctuations in order volumes on a daily basis.

2.Monthly Trend for Total Orders:

Create a line chart that illustrates the hourly trend of total orders throughout the day. This chart will allow us to identify peak hours or periods of high order activity.

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3.Percentage of Sales by Pizza Category: Create a pie chart that shows the distribution of sales across different pizza categories. This chart will provide insights into the popularity of various pizza categories and their contribution to overall sales.

4.Percentage of Sales by Pizza Size: Generate a pie chart that represents the percentage of sales attributed to different pizza sizes. This chart will help us understand customer preferences for pizza sizes and their impact on sales.

5.Total Pizzas Sold by Pizza Category:
Create a funnel chart that presents the total number of pizzas sold for each pizza category. This chart will allow us to compare the sales performance of different pizza categories.

6.Top 5 Best Sellers by Revenue, Total Quantity and Total Orders
Create a bar chart highlighting the top 5 best-selling pizzas based on the Revenue, Total Quantity, Total Orders. This chart will help us identify the most popular pizza options.

7. Bottom 5 Best Sellers by Revenue, Total Quantity and Total Orders

Create a bar chart showcasing the bottom 5 worst-selling pizzas based on the Revenue, Total Quantity Total Orders. This chart will enable us to identify underperforming or less popular pizza options.

PIZZA SALES SQL QUERIES

A. KPI's

1. Total Revenue:

```
SELECT SUM(total_price) AS Total_Revenue FROM pizza_sales;
```

Results | Messages

	Total_Revenue
1	817860.05083847

2. Average Order Value

```
SELECT (SUM(total_price) / COUNT(DISTINCT order_id)) AS Avg_order_Value
FROM pizza_sales
```

Results | Messages

	Avg_order_Value
1	38.3072623343546

3. Total Pizzas Sold

```
SELECT SUM(quantity) AS Total_pizza_sold FROM pizza_sales
```

Results | Messages

	Total_pizza_sold
1	49574

4. Total Orders

```
SELECT COUNT(DISTINCT order_id) AS Total_Orders FROM pizza_sales
```

Results | Messages

	Total_Orders
1	21350

5. Average Pizzas Per Order

```
SELECT CAST(CAST(SUM(quantity) AS DECIMAL(10,2)) /
CAST(COUNT(DISTINCT order_id) AS DECIMAL(10,2)) AS DECIMAL(10,2))
AS Avg_Pizzas_per_order
FROM pizza_sales
```

Results | Messages

	Avg_Pizzas_per_order
1	2.32

Part 2 (B). Daily Trend for Total Orders

```
SELECT DATENAME(DW, order_date) AS order_day, COUNT(DISTINCT order_id) AS
total_orders
FROM pizza_sales
GROUP BY DATENAME(DW, order_date)
YOU Can Also use this
SELECT TO_CHAR(order_date, 'Day') AS Order_day, COUNT(DISTINCT order_id) AS Total_order
FROM PizzaSale
GROUP BY TO_CHAR(order_date, 'Day');
```

Output:

Results | Messages

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

C. Monthly Trend for Orders

```
select DATENAME(MONTH, order_date) as Month_Name, COUNT(DISTINCT order_id)
as Total_Orders
from pizza_sales
GROUP BY DATENAME(MONTH, order_date)Output
```

Same as day for the month

	Month_Name	Total_Orders
1	February	1685
2	June	1773
3	August	1841
4	April	1799
5	May	1853
6	December	1680
7	January	1845
8	September	1661
9	October	1646
10	July	1935
11	November	1792
12	March	1840

D. % of Sales by Pizza Category

```
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)
AS DECIMAL(10,2)) AS PCT
FROM pizza_sales
GROUP BY pizza_category
```

Output

Results Messages

	pizza_category	total_revenue	PCT
1	Classic	220053.10	26.91
2	Chicken	195919.50	23.96
3	Veggie	193690.45	23.68
4	Supreme	208197.00	25.46

E. % of Sales by Pizza Size

```
SELECT pizza_size, CAST(SUM(total_price) AS DECIMAL(10,2)) as
total_revenue,
CAST(SUM(total_price) * 100 / (SELECT SUM(total_price) from pizza_sales)
AS DECIMAL(10,2)) AS PCT
FROM pizza_sales
GROUP BY pizza_size
ORDER BY pizza_size
```

Output

Results Messages

	pizza_size	total_revenue	PCT
1	L	375318.70	45.89
2	M	249382.25	30.49
3	S	178076.50	21.77
4	XL	14076.00	1.72
5	XXL	1006.60	0.12

F. Total Pizzas Sold by Pizza Category

```
SELECT pizza_category, SUM(quantity) as Total_Quantity_Sold
FROM pizza_sales
WHERE MONTH(order_date) = 2
GROUP BY pizza_category
ORDER BY Total_Quantity_Sold DESC
```

Output

Results | Messages

	pizza_category	Total_Quantity_Sold
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

G. Top 5 Pizzas by Revenue

```
SELECT Top 5 pizza_name, SUM(total_price) AS Total_Revenue
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Revenue DESC (# use Limit)
```

Results | Messages

	pizza_name	Total_Revenue
1	The Thai Chicken Pizza	43434.25
2	The Barbecue Chicken Pizza	42768
3	The California Chicken Pizza	41409.5
4	The Classic Deluxe Pizza	38180.5
5	The Spicy Italian Pizza	34831.25

H. Bottom 5 Pizzas by Revenue

```
SELECT Top 5 pizza_name, SUM(total_price) AS Total_Revenue
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Revenue ASC
```

	pizza_name	Total_Revenue
1	The Brie Carre Pizza	11588.4998130798
2	The Green Garden Pizza	13955.75
3	The Spinach Supreme Pizza	15277.75
4	The Mediterranean Pizza	15360.5
5	The Spinach Pesto Pizza	15596

I. Top 5 Pizzas by Quantity

```
SELECT Top 5 pizza_name, SUM(quantity) AS Total_Pizza_Sold
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Pizza_Sold DESC (# Limit )
```

Output

	pizza_name	Total_Pizza_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

J. Bottom 5 Pizzas by Quantity

```
SELECT TOP 5 pizza_name, SUM(quantity) AS Total_Pizza_Sold

FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Pizza_Sold ASC
```

Output

Results Messages

	pizza_name	Total_Pizza_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

K. Top 5 Pizzas by Total Orders

```
SELECT Top 5 pizza_name, COUNT(DISTINCT order_id) AS Total_Orders
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Orders DESC
```

Results | Messages

	pizza_name	Total_Orders
1	The Classic Deluxe Pizza	2329
2	The Hawaiian Pizza	2280
3	The Pepperoni Pizza	2278
4	The Barbecue Chicken Pizza	2273
5	The Thai Chicken Pizza	2225

L. Borrom 5 Pizzas by Total Orders

```
SELECT Top 5 pizza_name, COUNT(DISTINCT order_id) AS Total_Orders
FROM pizza_sales
GROUP BY pizza_name
ORDER BY Total_Orders ASC
```

	pizza_name	Total_Orders
1	The Brie Carre Pizza	480
2	The Mediterranean Pizza	912
3	The Spinach Supreme Pizza	918
4	The Calabrese Pizza	918
5	The Chicken Pesto Pizza	938

NOTE

If you want to apply the pizza_category or pizza_size filters to the above queries you can use WHERE clause. Follow some of below examples

```
SELECT Top 5 pizza_name, COUNT(DISTINCT order_id) AS Total_Orders
FROM pizza_sales
WHERE pizza_category = 'Classic'
GROUP BY pizza_name
ORDER BY Total_Orders ASC
```

Option 1(D). % of Sales by Pizza Category

For the Specific month

```
SELECT pizza_category, SUM(total_price) AS Total_sale, SUM(total_price) * 100 / (
   SELECT SUM(total_price) FROM PizzaSale WHERE EXTRACT(MONTH FROM order_date) = 1
) AS Total
FROM PizzaSale
WHERE EXTRACT(MONTH FROM order_date) = 1
GROUP BY pizza_category;
```

PIZZA SALES REPORT

Jan/15 - Dec/15

Pizza_category: All

01-01-2015 — 31-12-2015

Home

Best/Worst

BUSIEST DAYS & TIMES

DAYS

Orders are Highest on Weekends, Friday/Saturday Evenings.

MONTHLY

There are Maximum Orders From Month of July & January

SALES PERFORMANCE

CATEGORY

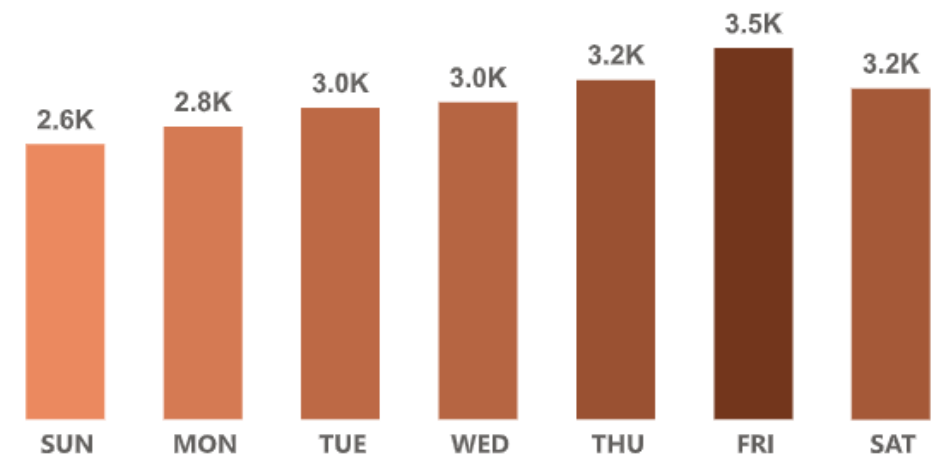
Classic Category contributes to maximum sales & total Orders.

SIZE

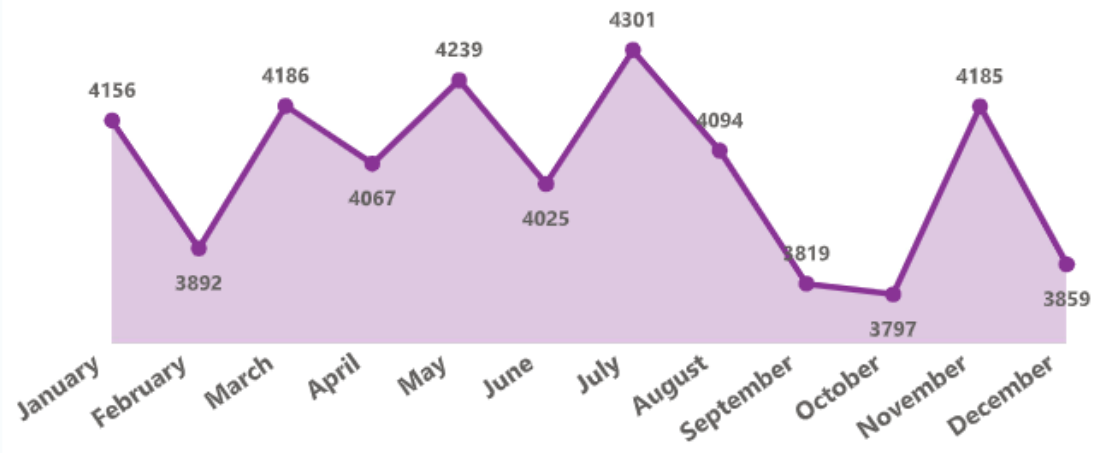
Large Size Pizza Contributes to Maximum Sales

817.86K	38.31	49574	21350	2.32
Total_Revenue	Avg_Order_Value	Total_Pizza_Sold	Total_Order	Avg_Pizza_Per_order

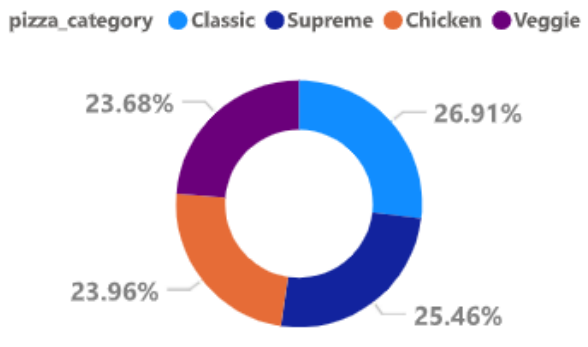
Daily Trends For Total Order



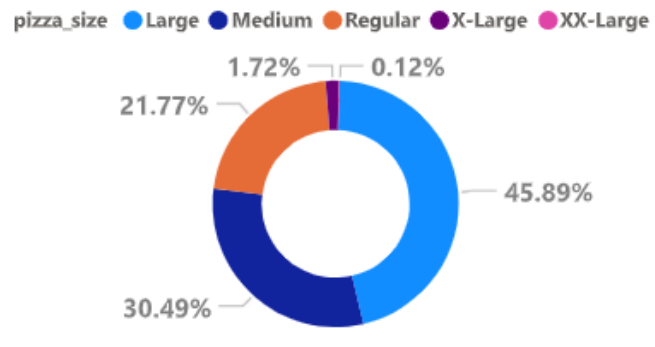
Monthly Trends For Total Order



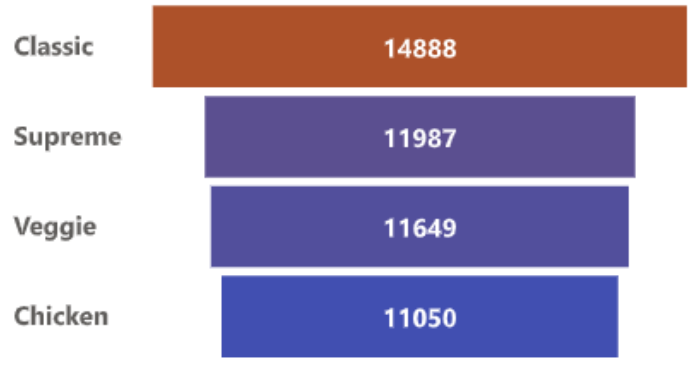
% of Sales by Pizza Category



% of Sales by Pizza Size



Total_Pizza_Sold by pizza_category



PIZZA SALES REPORT

Jan/15 - Dec/15

Pizza_category: All

01-01-2015 — 31-12-2015

Home

Best/Worst

BEST SELLERS

REVENUE

The Thai Chicken Pizza Highest on Revenue

QUANTITY

The Classic Deluxe Pizza Maximum Total Quantity

WORST SELLERS

REVENUE

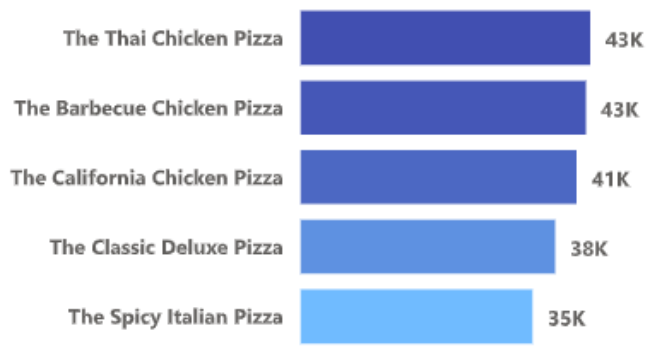
The Brie Carre contributes to minimum Revenue.

QUANTITY

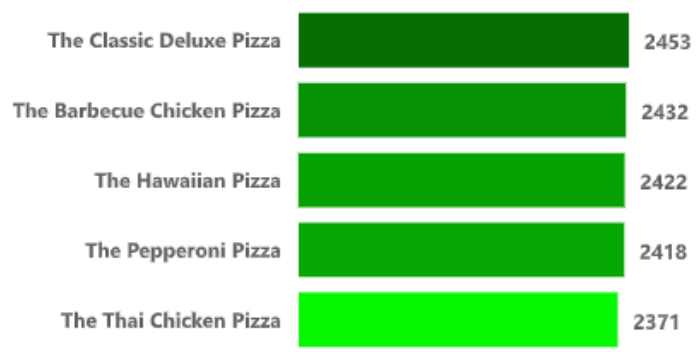
The Brie Carre Pizza Contributes to Minimum Total Quantities

817.86K	38.31	49574	21350	2.32
Total_Revenue	Avg_Order_Value	Total_Pizza_Sold	Total_Order	Avg_Pizza_Per_order

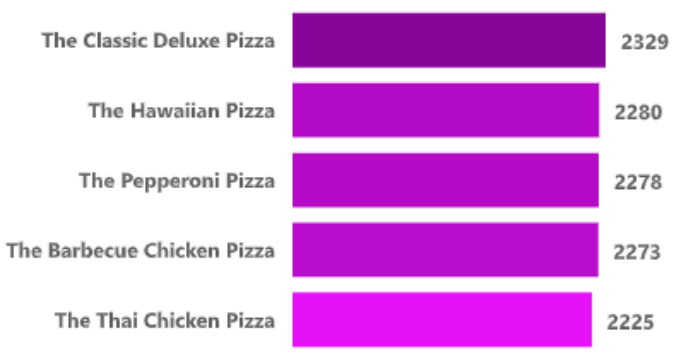
Top 5 Pizza Name By Revenue



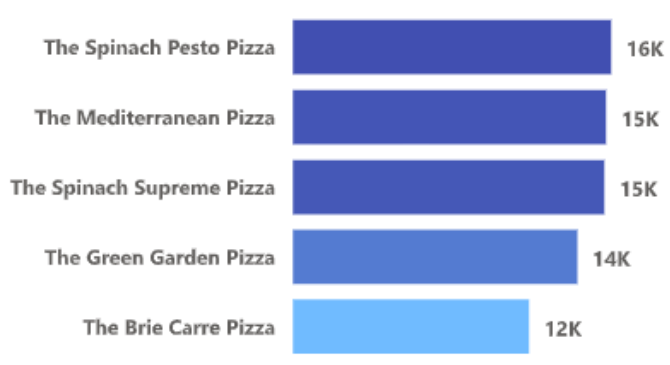
Top 5 Pizza Name By Quantity



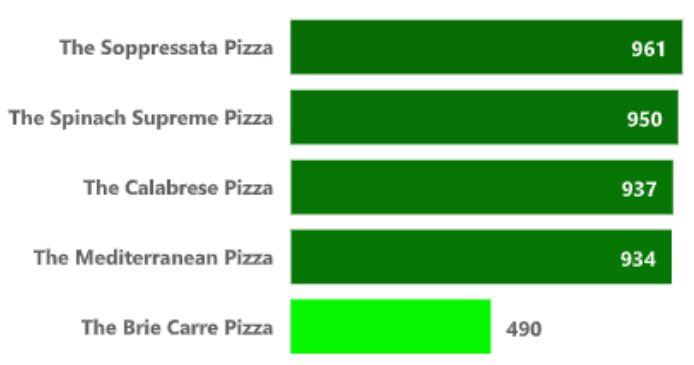
Top 5 Pizza Name By Total Orders



Bottom 5 Pizza Name By Revenue



Bottom 5 Pizza Name By Quantity



Bottom 5 Pizza Name By Total Orders