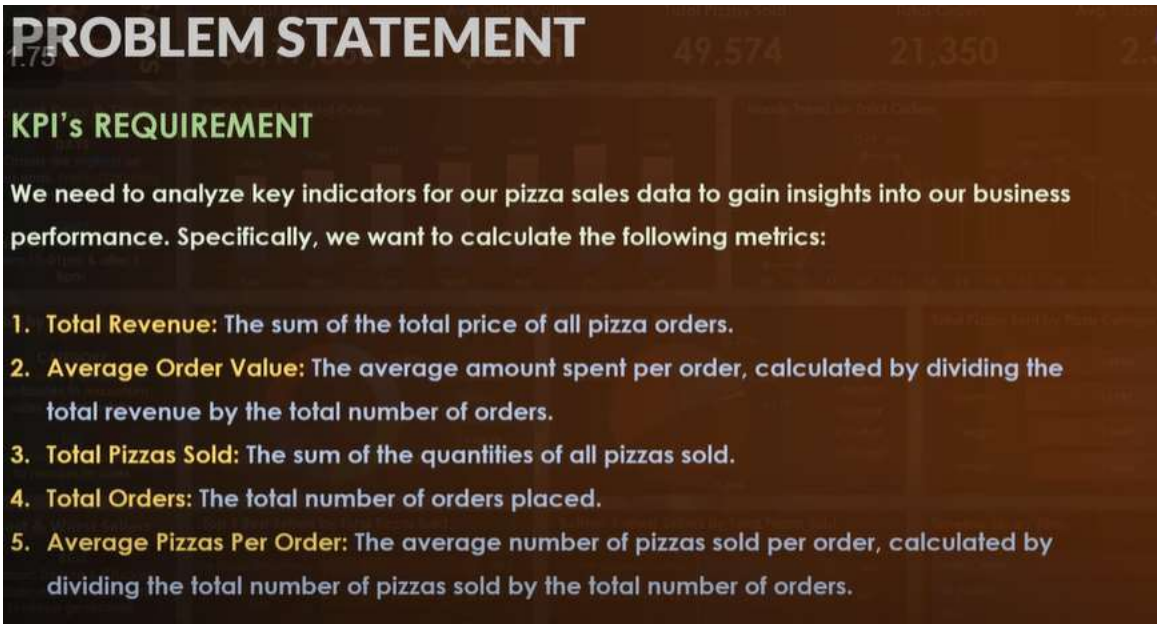
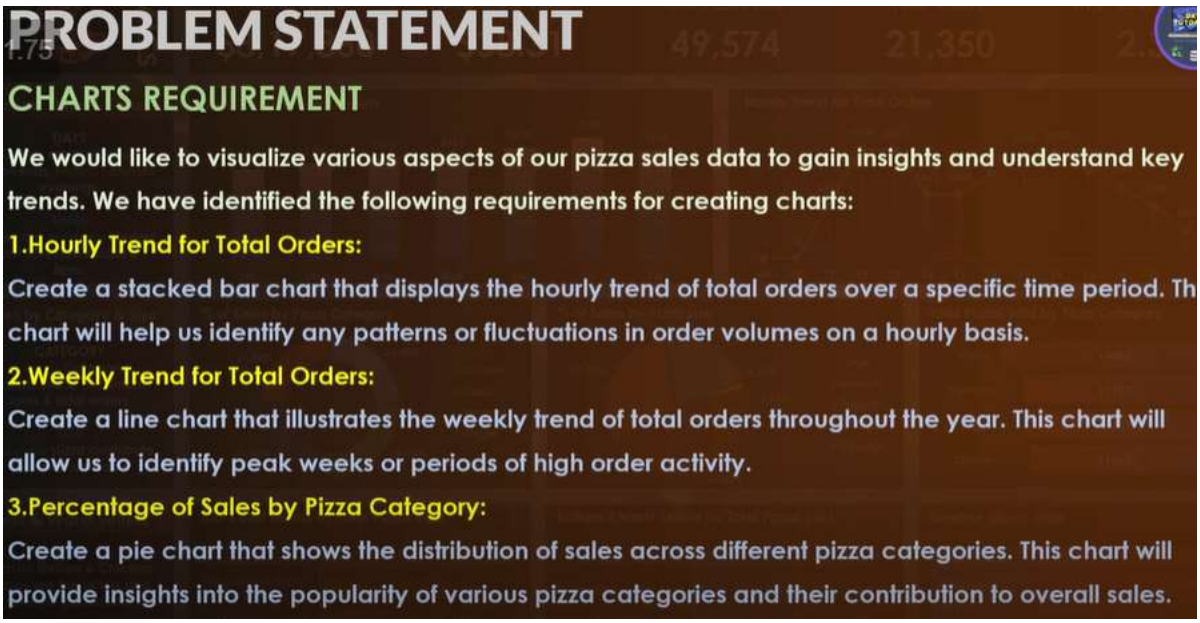
Problem Statement:

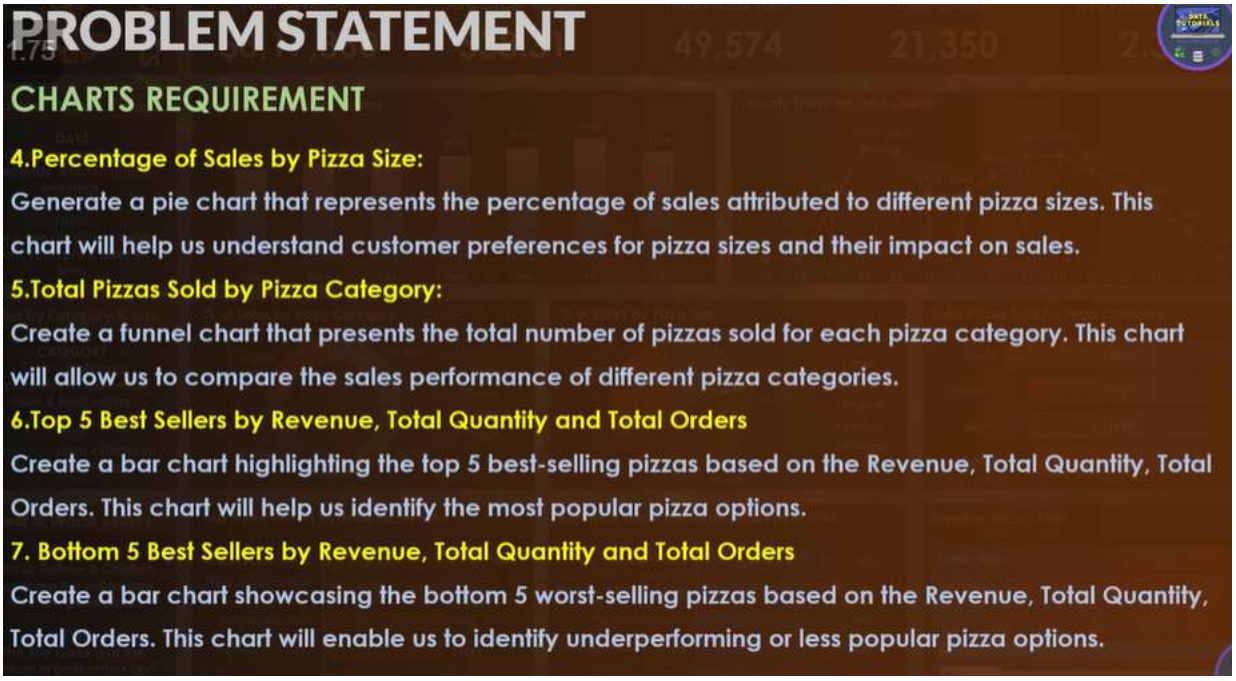
Our pizza business seeks to enhance its performance analysis by leveraging the capabilities of Microsoft SQL and Tableau. Through this initiative, we aim to gain valuable insights into our sales data, enabling us to make informed decisions. Our primary objectives are as follows:

Metrics Calculation: We intend to compute several crucial metrics that shed light on our business performance:



Visual Insights: Our objective is to present data visually through a series of informative charts:

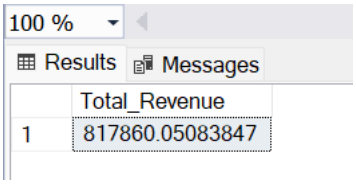




SQL Queries for KPI:

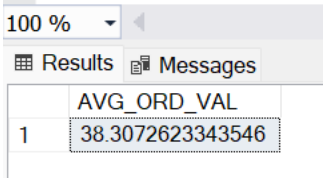
1. Total Revenue:

```
select SUM(total_price) as Total_Revenue from pizza_sales
```



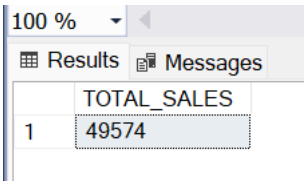
2. Average Order Value:

```
select SUM(total_price)/COUNT(DISTINCT (order_id)) AS AVG_ORD_VAL from pizza_sales
```



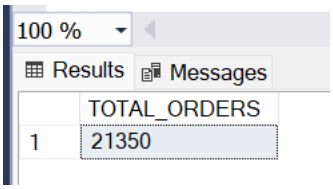
3. TOTAL PIZZAS SOLD

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



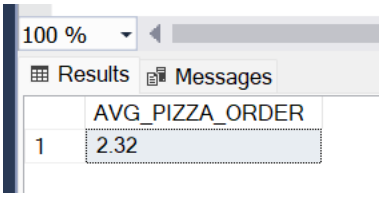
4. TOTAL ORDERS

```
SELECT MAX(order_id) AS TOTAL_ORDERS FROM pizza_sales
```



5. AVG PIZZAS PER ORDER

```
SELECT CAST(CAST(SUM(quantity) AS DECIMAL(10,2)) / CAST(MAX(order_id) AS DECIMAL(10,2))AS
DECIMAL(10,2)) AS AVG_PIZZA_ORDER FROM pizza_sales
```

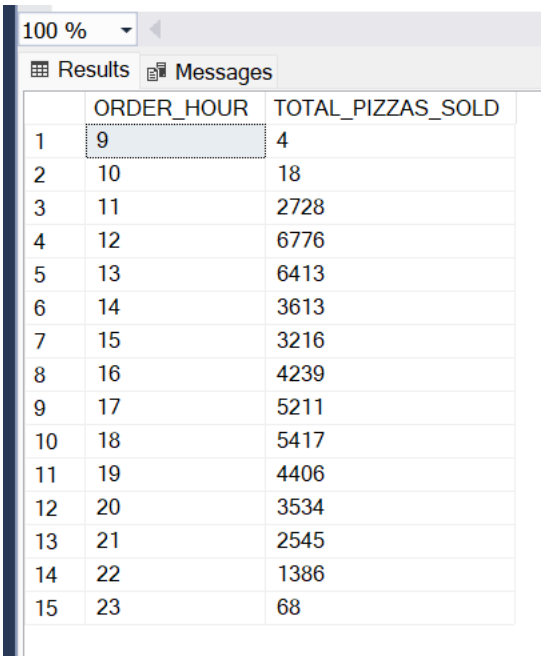


SQL queries for chart requirements:

1. Hourly Trend:

```
-- CATEGORICAL(dimension) WITH AGGREGATION THEN USE GROUPBY

SELECT DATEPART(HOUR, order_time) AS ORDER_HOUR, SUM(quantity) AS TOTAL_PIZZAS_SOLD FROM
pizza_sales
GROUP BY DATEPART(HOUR, order_time)
ORDER BY DATEPART(HOUR, order_time)
```



100 %

Results | Messages

	ORDER_HOUR	TOTAL_PIZZAS_SOLD
1	9	4
2	10	18
3	11	2728
4	12	6776
5	13	6413
6	14	3613
7	15	3216
8	16	4239
9	17	5211
10	18	5417
11	19	4406
12	20	3534
13	21	2545
14	22	1386
15	23	68

2. Weekly Trend:

```
--Weekly trend (iso weeks: MON-SUN)
SELECT DATEPART(ISO_WEEK,order_date) AS WEEK_NO, YEAR(order_date) AS ORDER_YEAR,
MAX(order_id) AS TOTAL_ORDERS FROM pizza_sales
GROUP BY DATEPART(ISO_WEEK,order_date),YEAR(order_date)
ORDER BY DATEPART(ISO_WEEK,order_date),YEAR(order_date)
```

100 %

Results Messages

	WEEK_NO	ORDER_YEAR	TOTAL_ORDERS
1	1	2015	254
2	2	2015	681
3	3	2015	1081
4	4	2015	1496
5	5	2015	1932
6	6	2015	2354
7	7	2015	2777
8	8	2015	3170
9	9	2015	3579
10	10	2015	3999
11	11	2015	4403
12	12	2015	4819
13	13	2015	5246
14	14	2015	5679
15	15	2015	6087
16	16	2015	6501
17	17	2015	6938
18	18	2015	7361
19	19	2015	7760
20	20	2015	8218
21	21	2015	8632
22	22	2015	9022
23	23	2015	9445
24	24	2015	9863
25	25	2015	10273

100 %

Results Messages

	WEEK_NO	ORDER_YEAR	TOTAL_ORDERS
29	29	2015	12000
30	30	2015	12433
31	31	2015	12852
32	32	2015	13278
33	33	2015	13713
34	34	2015	14120
35	35	2015	14514
36	36	2015	14911
37	37	2015	15346
38	38	2015	15769
39	39	2015	16057
40	40	2015	16490
41	41	2015	16824
42	42	2015	17210
43	43	2015	17562
44	44	2015	17933
45	45	2015	18327
46	46	2015	18727
47	47	2015	19119
48	48	2015	19610
49	49	2015	20034
50	50	2015	20451
51	51	2015	20881
52	52	2015	21179
53	53	2015	21350

3. Percentage of sales by pizza category:

```
select
pizza_category,
CAST (sum(total_price)AS DECIMAL (10,2))  AS TOTAL_SALES,
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
```

100 %

Results Messages

	pizza_category	TOTAL_SALES	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

USING A FILTER FOR MONTH:

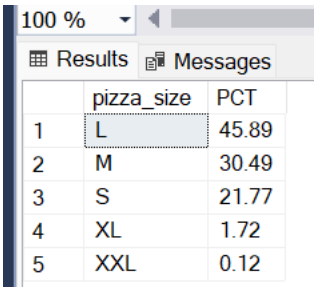
```
-- (SUBQUERIES FOR CALCULATING %)
-- WHILE USING A FILTER IN SUBQUERY APPLY IT TO BOTH

select
pizza_category,
```

```
CAST (sum(total_price)AS DECIMAL (10,2))  AS TOTAL_SALES,
CAST (sum(total_price)*100/(select SUM(total_price) from pizza_sales WHERE MONTH(order_date)
= 1) AS DECIMAL(10,2)) AS PCT
FROM pizza_sales
WHERE MONTH(order_date) = 1
GROUP BY pizza_category
```

4. PCT by pizza size:

```
select
pizza_size,
CAST (sum(total_price)*100/(select SUM(total_price) from pizza_sales ) AS DECIMAL(10,2)) AS
PCT
FROM pizza_sales
--WHERE DATEPART(QUARTER,order_date)=2
GROUP BY pizza_size
order by PCT desc
```



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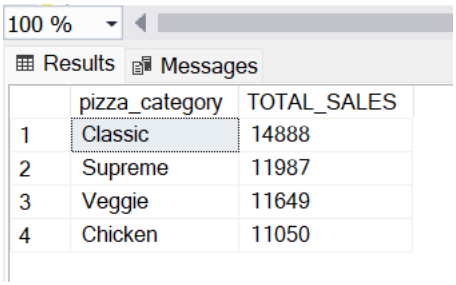
Results | Messages

	pizza_size	PCT
1	L	45.89
2	M	30.49
3	S	21.77
4	XL	1.72
5	XXL	0.12

5. Total Sales by category

```
-- pizza sold by category
select
pizza_category,
sum(quantity) AS TOTAL_SALES
FROM pizza_sales
GROUP BY pizza_category
order by TOTAL_SALES desc
```



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Results | Messages

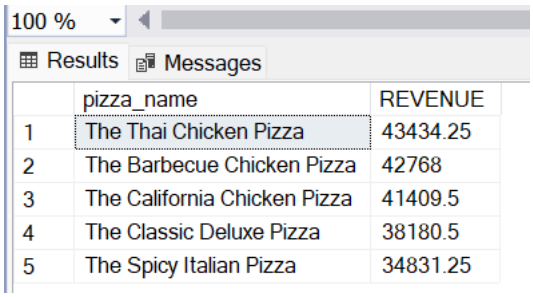
	pizza_category	TOTAL_SALES
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

6. Top 5 pizzas by revenue, pizzas sold and orders

```
-- top 5 pizza by REVENUE

SELECT TOP 5 pizza_name, SUM(total_price) AS REVENUE FROM pizza_sales
GROUP BY PIZZA_NAME
```

```
ORDER BY REVENUE DESC
```



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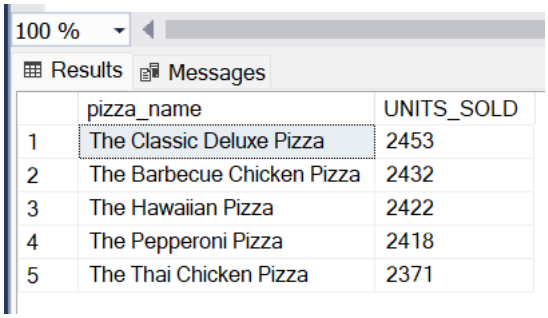
Results | Messages

	pizza_name	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

```
-- TOP 5 BY QUANTITY
SELECT TOP 5 pizza_name,SUM(quantity) AS UNITS_SOLD FROM pizza_sales
GROUP BY PIZZA_NAME
ORDER BY UNITS_SOLD DESC
```



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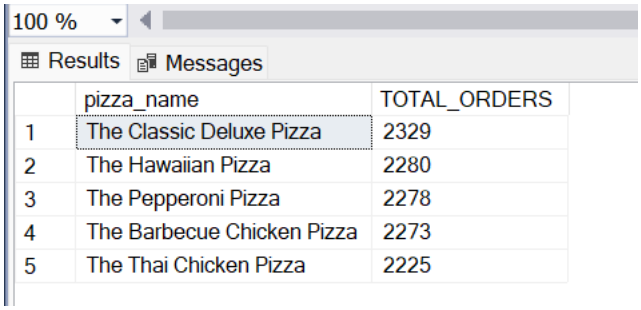
Results | Messages

	pizza_name	UNITS_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

```
--TOP 5 BY 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
```



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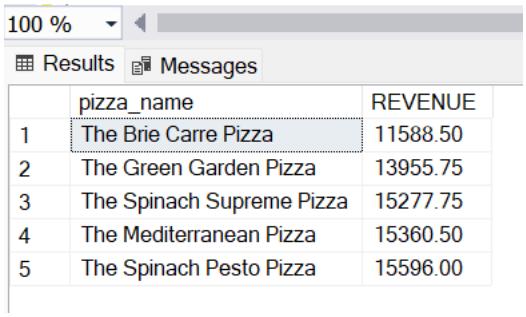
Results | Messages

	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

7. Bottom5 pizzas by revenue, pizzas sold and orders

```
-- BOTTOM 5 by revenue
SELECT TOP 5 pizza_name,
CAST(SUM(total_price) AS DECIMAL (10,2)) AS REVENUE
FROM pizza_sales
GROUP BY PIZZA_NAME
```

```
ORDER BY REVENUE
```



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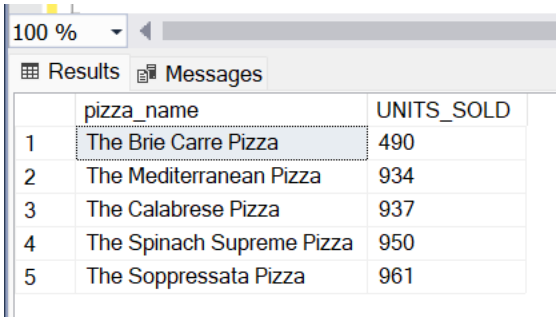
Results | Messages

	pizza_name	REVENUE
1	The Brie Carre Pizza	11588.50
2	The Green Garden Pizza	13955.75
3	The Spinach Supreme Pizza	15277.75
4	The Mediterranean Pizza	15360.50
5	The Spinach Pesto Pizza	15596.00

```
--BOTTOM 5 by quantity
SELECT TOP 5 pizza_name,SUM(quantity) AS UNITS_SOLD FROM pizza_sales
GROUP BY PIZZA_NAME
ORDER BY UNITS_SOLD
```



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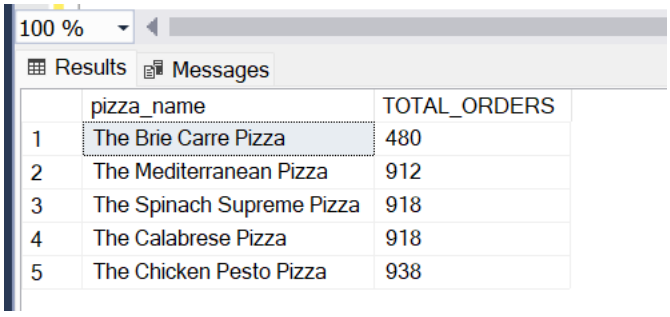
Results | Messages

	pizza_name	UNITS_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

```
--BOTTOM 5 BY ORDERS
SELECT TOP 5 pizza_name,COUNT(DISTINCT order_id) AS TOTAL_ORDERS FROM pizza_sales
GROUP BY PIZZA_NAME
ORDER BY TOTAL_ORDERS
```



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Results | Messages

	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

Tableau Dashboard screenshort:

Findings/Insights:

- **Business Performance**: The KPI analysis indicates a positive business performance, with approximately 21.35K orders. The average order value stands at $38.3, while each order averages 2.32 pizzas. This translates to a significant 49.57K pizzas sold, resulting in substantial revenue of $817.9K.
- **Peak Ordering Hours**: The hourly trend reveals peak ordering times between 12 PM to 1 PM and 5 PM to 6 PM. This pattern highlights customer preference for our pizzas during lunch and dinner hours, showcasing their popularity for both meals.
- **Seasonal Variation:** The 48th week (December) emerges as the best-selling week, coinciding with vacation periods. Conversely, a noticeable decline occurs in the last week of December to January, likely due to resolutions for healthier eating.
- **Pizza Category Performance:** All four pizza categories contribute roughly equally to sales, with the "Classic" category taking the lead in terms of performance.
- **Preferred Pizza Sizes:** Among pizza sizes, the preferred sequence is Large, followed by Medium, and then Small/Regular, indicating customer size preferences.
- **Revenue Leader:** The "Thai Pizza" significantly contributes to the overall revenue, indicating its strong appeal to customers.
- **Quantity Leader:** The "Classic Deluxe" pizza stands out as the best-selling option in terms of quantity.
- **Popular Choice:** "Classic Deluxe" pizza also ranks highest in total orders, reaffirming its popularity among customers.
- **Underperforming Pizzas:** "The Brie Carre Pizza," "The Spinach Supreme Pizza," and "The Mediterranean" exhibit poor performance and may warrant consideration for discontinuation due to their lower sales figures.