

PIZZA SALES REPORT - SQL AND TABLEAU

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KPI's REQUIREMENT

SQL QUERIES:

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.

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

Results		Messages
Total_Revenue		
1	817860.05083847	

2. Average Order Value: The average amount spent per order, calculated by dividing the total revenue by the total number of orders.

```
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: The sum of the quantities of all pizzas sold.

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

Results		Messages
Total_pizza_sold		
1	49574	

4. Total Orders: The total number of orders placed.

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

Results		Messages
Total_Orders		
1	21350	

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.

```
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

Trend Analysis Queries:

1. Hourly Trend for Total Pizzas Sold:

```
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)
```

	order_hours	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. 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
```

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

3. Weekly Trend for Total Orders:

```
SELECT DATEPART(ISO_WEEK, order_date) AS week_number,
       YEAR(order_date) AS order_year,
       COUNT(DISTINCT 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)
```

	WeekNumber	Year	Total_orders				
1	1	2015	254	28	28	2015	417
2	2	2015	427	29	29	2015	420
3	3	2015	400	30	30	2015	433
4	4	2015	415	31	31	2015	419
5	5	2015	436	32	32	2015	426
6	6	2015	422	33	33	2015	435
7	7	2015	423	34	34	2015	407
8	8	2015	393	35	35	2015	394
9	9	2015	409	36	36	2015	397
10	10	2015	420	37	37	2015	435
11	11	2015	404	38	38	2015	423
12	12	2015	416	39	39	2015	288
13	13	2015	427	40	40	2015	433
14	14	2015	433	41	41	2015	334
15	15	2015	408	42	42	2015	386
16	16	2015	414	43	43	2015	352
17	17	2015	437	44	44	2015	371
18	18	2015	423	45	45	2015	394
19	19	2015	399	46	46	2015	400
20	20	2015	458	47	47	2015	392
21	21	2015	414	48	48	2015	491
22	22	2015	390	49	49	2015	424
23	23	2015	423	50	50	2015	417
24	24	2015	418	51	51	2015	430
25	25	2015	410	52	52	2015	298
26	26	2015	416	53	53	2015	171
27	27	2015	474				

4. Percentage 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
```

Results		Messages	
	pizza_size	Total_Sales	PCT
1	L	32399.40	46.42
2	XXL	71.90	0.10
3	M	20943.50	30.01
4	XL	1275.00	1.83
5	S	15103.50	21.64

5. 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
```

Results Messages		
	pizza_category	Total_Quantity_Sold
1	Classic	1178
2	Supreme	964
3	Veggie	944
4	Chicken	875

6. 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
```

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

7. 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

8. 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
```

	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

9. 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
```

	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

10. 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
```

	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

11. Bottom 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
The Brie Carre Pizza	480
The Mediterranean Pizza	912
The Spinach Supreme Pizza	918
The Calabrese Pizza	918
The Chicken Pesto Pizza	938

TABLEAU IMPLEMENTATION

Calculated Fields Created in Tableau:

Replicating SQL KPI Logic:

- Total Revenue = $\text{SUM}([\text{Total Price}])$
- Total Orders = $\text{COUNTD}([\text{Order Id}])$
- Avg Order Value = $[\text{Total Revenue}] / [\text{Total Orders}]$
- Total Pizzas Sold = $\text{SUM}([\text{Quantity}])$
- Avg Pizzas Per Order = $[\text{Total Pizzas Sold}] / [\text{Total Orders}]$



Additional Measures:

- Max Date = $\text{MAX}([\text{Order Date}])$
- Min Date = $\text{MIN}([\text{Order Date}])$
- Neg Total Pizzas Sold = $-[\text{Total Pizzas Sold}]$ (for bi-directional chart)

Data Validation: SQL Results = Tableau Results (KPI consistency verified)

Time Dimension Handling:

- Extracted Hour from Order Time for hourly analysis
- Used ISO Week Numbers for weekly trend analysis
- Custom date range display (01-01-2015 to 31-12-2015)

DASHBOARD OVERVIEW

Home Dashboard

Key Components:

- **Header:** Pizza Sales Report title with date range and filters
- **KPI Banner:** 5 key metrics with icons (Total Revenue, Avg Order Value, Total Pizzas Sold, Total Orders, Avg Pizzas Per Order)
- **Left Panel:** Navigation buttons and business insights text boxes
 - Busiest Hours & Weeks insights
 - Sales Performance insights by Category and Size
- **Main Visualizations:**
 - Hourly Trend for Total Pizzas Sold (Stacked Bar)
 - Weekly Trend for Total Orders (Area Chart)
 - Percentage of Sales by Pizza Category (Donut Chart)
 - Percentage of Sales by Pizza Size (Horizontal Bar)
 - Total Orders & Pizzas Sold by Pizza Category (Bi-directional Bar)



DASHBOARD OVERVIEW

Best/Worst Sellers Dashboard

Key Components:

- **Header:** Pizza Sales Report title with date range and filters

- **KPI Banner:** Same 5 key metrics

- **Left Panel:** Navigation buttons and business insights text boxes

- Revenue insights (Thai Chicken max, Brie Carre min)
- Quantity insights (Classic Deluxe max, Brie Carre min)
- Total Orders insights (Classic Deluxe max, Brie Carre min)

Main Visualizations:

- Top 5 Pizzas by Revenue
- Bottom 5 Pizzas by Revenue
- Top 5 Pizzas by Total Pizzas Sold
- Bottom 5 Pizzas by Total Pizzas Sold
- Top 5 Pizzas by Total Orders
- Bottom 5 Pizzas by Total Orders



DASHBOARD OVERVIEW

