REPORT ON PIZZA SALES SQL ANALYSIS

Objective:
The purpose of this analysis was to examine various aspects of pizza sales performance, identify trends, and provide insights to optimize business operations and marketing strategies. This analysis utilized **Tableau** and **MySQL Workbench** for visualizing and interpreting data through the following key performance indicators (KPIs).

SQL QUERIES FOR SALES ANALYSIS

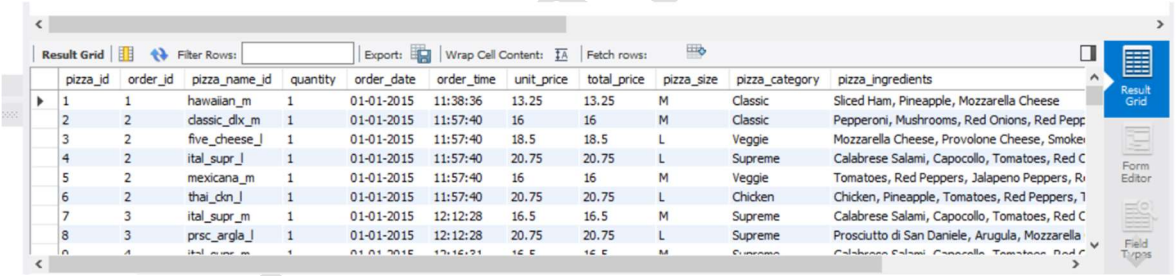
1.Creating a database

```
CREATE DATABASE IF NOT EXISTS pizzasales;

use pizzasales;
```

2.Selecting all features from the Database

```
SELECT * FROM pizza_sales;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

pizza_id	order_id	pizza_name_id	quantity	order_date	order_time	unit_price	total_price	pizza_size	pizza_category	pizza_ingredients
1	1	hawaiian_m	1	01-01-2015	11:38:36	13.25	13.25	M	Classic	Sliced Ham, Pineapple, Mozzarella Cheese
2	2	classic_dlx_m	1	01-01-2015	11:57:40	16	16	M	Classic	Pepperoni, Mushrooms, Red Onions, Red Pepp
3	2	five_cheese_l	1	01-01-2015	11:57:40	18.5	18.5	L	Veggie	Mozzarella Cheese, Provolone Cheese, Smoke
4	2	ital_supr_l	1	01-01-2015	11:57:40	20.75	20.75	L	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red C
5	2	mexicana_m	1	01-01-2015	11:57:40	16	16	M	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, R
6	2	thai_ckn_l	1	01-01-2015	11:57:40	20.75	20.75	L	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, T
7	3	ital_supr_m	1	01-01-2015	12:12:28	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red C
8	3	prsc_argla_l	1	01-01-2015	12:12:28	20.75	20.75	L	Supreme	Prosciutto di San Daniele, Arugula, Mozzarella

Result Grid | Form Editor | Field Types

Comparing Tableau KPIs with SQL Queries and Results

- **TABLEAU RESULTS:**

SQL QUERRY AND RESULT:

1.Finding Total Revenue

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

Result Grid | Filter

Total_Revenue
817860.049999993

2.Finding Average Order value

```
SELECT sum(TOTAL_PRICE)/count(distinct ORDER_ID) AS Avg_Order_Value from pizza_sales
```

Result Grid | Filter Rows:

Avg_Order_Value
38.307262295081635

3.Finding Total Prize Sold

```
SELECT SUM(QUANTITY) AS Total_Pizza_sold FROM pizza_sales;
```

Result Grid | F

Total_Pizza_sold
49574

4.Finding Total Orders

```
select count(distinct order_id) as Total_orders From pizza_sales;
```

Result Grid | Filter

Total_orders
21350

5.Finding Average Pizzas Per Order

```
SELECT  CAST(SUM(QUANTITY) / COUNT(DISTINCT ORDER_ID) AS DECIMAL(10,2))
 AS Avg_pizza_per_order FROM pizza_sales;
```

Result Grid | Filter Row

Avg_pizza_per_order
2.32

Comparing Insights of Tableau With SQL Queries

1.Hourly Trends for Pizza Sold

```sql
-- Hourly Trend For Total Pizza Sold--
SELECT HOUR(order_time) AS order_hours,
SUM(quantity) AS Total_Pizza_sold
FROM pizza_sales
GROUP BY HOUR(order_time)
ORDER BY HOUR(order_time) asc
LIMIT 0, 1000;
```

Result Grid | Filter Rows:

order_hours	Total_Pizza_sold
9	4
10	18
11	2728
12	6776
13	6413
14	3613
15	3216
16	4239
17	5211
18	5417
19	4406
20	3534
21	2545
22	1386
23	68

2.Weekly Tends for Pizza Orders

```sql
-- weekly Trend for Total Orders--
SELECT WEEK(STR_TO_DATE(order_date, '%Y-%m-%d'), 1) AS WeekNumber,
YEAR(STR_TO_DATE(order_date, '%Y-%m-%d')) AS Year,
COUNT(DISTINCT order_id) AS Total_orders
FROM pizza_sales
GROUP BY
    WEEK(STR_TO_DATE(order_date, '%Y-%m-%d'), 1),
    YEAR(STR_TO_DATE(order_date, '%Y-%m-%d'))
ORDER BY Year, WeekNumber;
```

Result Grid | Filter Rows:

WeekNumber	Year	Total_orders
3	2001	69
8	2001	87
12	2001	49
16	2001	67
20	2001	75
25	2001	72
29	2001	66
34	2001	74
38	2001	61
42	2001	84
47	2001	55
51	2001	61
3	2002	67
8	2002	63

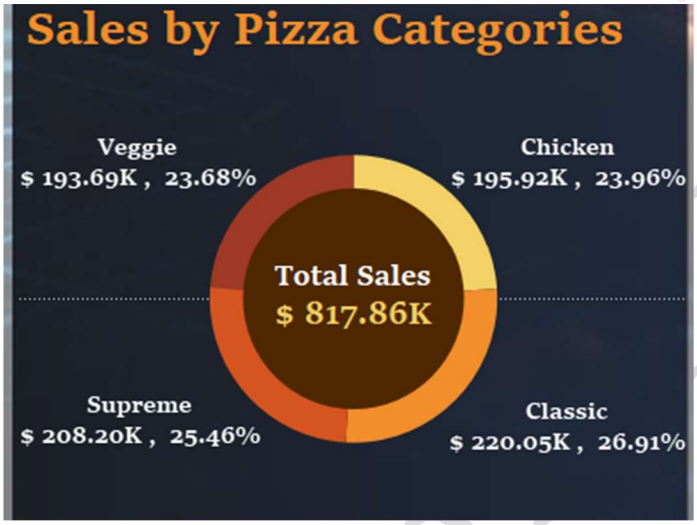
Result 35

3.Percentage of Sales by Pizza Categorizes

```
-- Percentage of sales by Pizza Categiries--
SELECT  pizza_category,
    FORMAT(SUM(total_price), 2) AS total_sales,
    FORMAT(SUM(total_price) * 100 / (SELECT SUM(total_price) FROM pizza_sales), 2) AS percentage
FROM pizza_sales
GROUP BY pizza_category
ORDER BY pizza_category ASC
LIMIT 0, 1000;
```

Result Grid | Filter Rows:

pizza_category	total_sales	percentage
Chicken	195,919.50	23.96
Classic	220,053.10	26.91
Supreme	208,197.00	25.46
Veggie	193,690.45	23.68

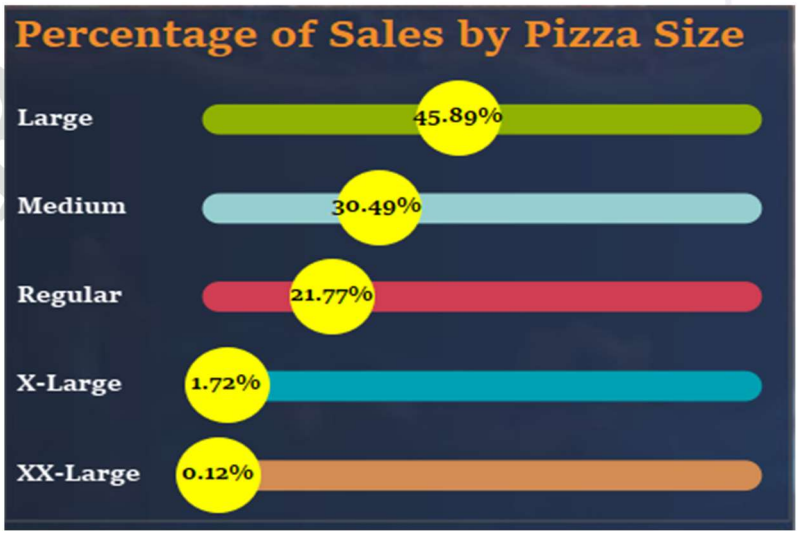


4.Percentage of Sale by Pizza Size

```
select pizza_size,
format(sum(total_price),2) AS total_sales,
format(sum(total_price)*100/ (select sum(total_price) from pizza_sales),2) AS pecentage
FROM pizza_sales
group by pizza_size
order by pizza_size ASC
LIMIT 0,1000
```

Result Grid | Filter Rows:

pizza_size	total_sales	pecentage
L	375,318.70	45.89
M	249,382.25	30.49
S	178,076.50	21.77
XL	14,076.00	1.72
XXL	1,006.60	0.12



5.Top 5 Pizza by Revenue

```
select  pizza_name,
sum(total_price)  as total_revenue
From pizza_sales
group by pizza_name
order by total_revenue DESC
limit 5;
```

Result Grid | Filter Rows:

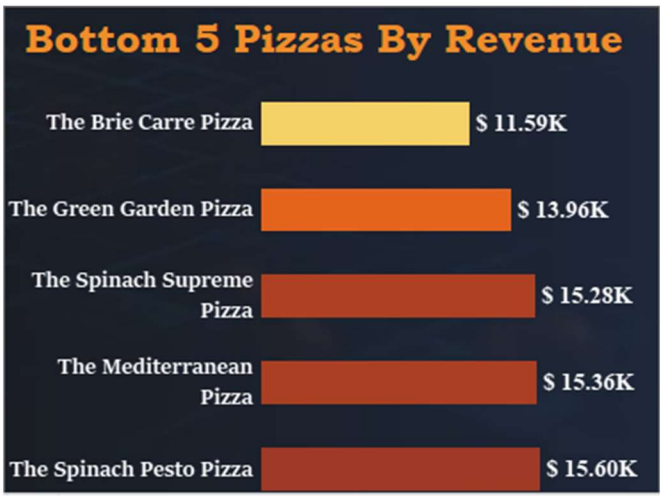
pizza_name	total_revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Spicy Italian Pizza	34831.25

6. Bottom 5 Pizza by Revenue

```
-- Bottom 5 pizzas by revenue--
select pizza_name,
cast(sum(total_price) AS DECIMAL (10,2)) as total_revenue
from pizza_sales
group by pizza_name
order by total_revenue ASC
limit 5;
```

Result Grid | Filter Rows:

pizza_name	total_revenue
The Brie Carre Pizza	11588.50
The Green Garden Pizza	13955.75
The Spinach Supreme Pizza	15277.75
The Mediterranean Pizza	15360.50
The Spinach Pesto Pizza	15596.00

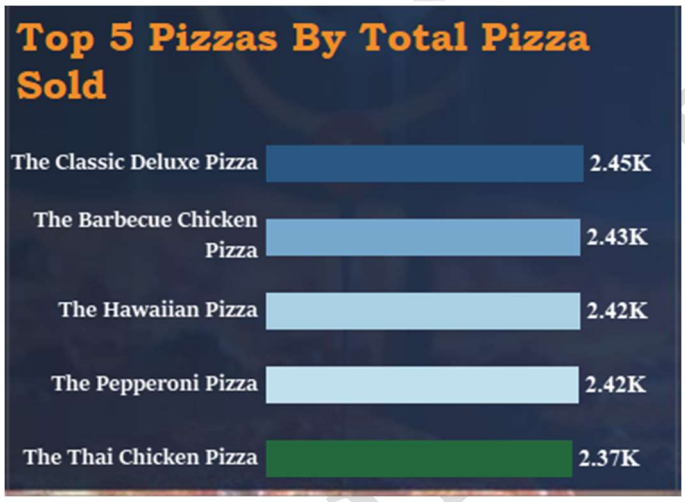


7.Top 5 Pizza by Total Pizza Sold

```sql
-- top 5 pizzas by Total Pizza Sold--
select pizza_name,
sum(quantity) as total_quantity
from pizza_sales
group by pizza_name
order by total_quantity DESC
limit 5;
```

Result Grid | Filter Rows:

pizza_name	total_quantity
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

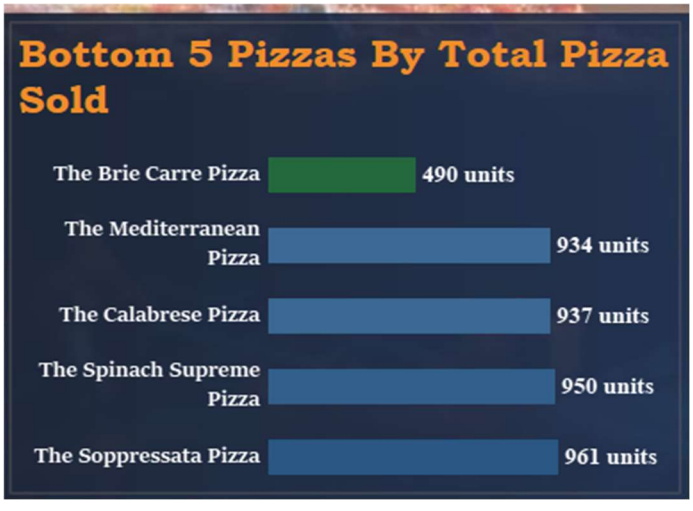


8.Bottom 5 pizzas by Total Pizza Sold

```sql
-- Bottom 5 Pizzas by Total Pizza Sold--
select pizza_name,
sum(quantity) as total_quantity
from pizza_sales
group by pizza_name
order by total_quantity ASC
limit 5;
```

Result Grid | Filter Rows:

pizza_name	total_quantity
The Brie Carre Pizza	490
The Mediterranean Pizza	934
The Calabrese Pizza	937
The Spinach Supreme Pizza	950
The Soppressata Pizza	961

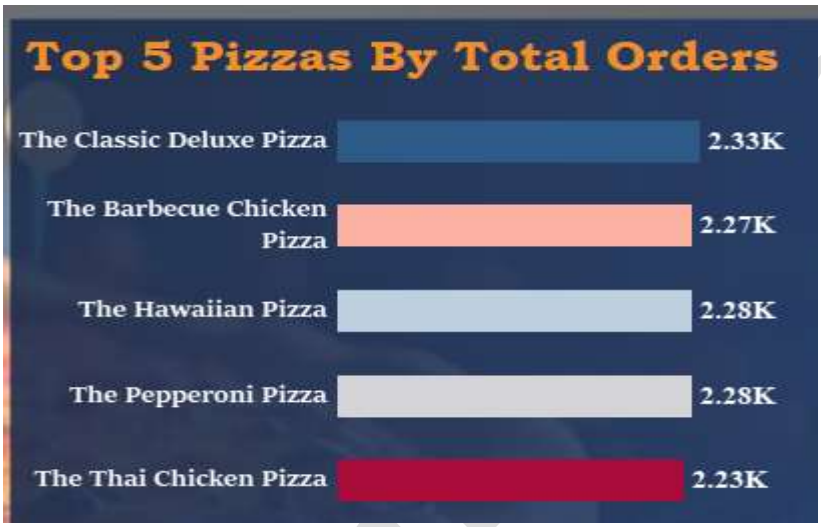


9.Top 5 pizzas by Total Orders

```sql
-- top 5 pizza by total orders --
select pizza_name,
count(distinct order_id) as total_orders
from pizza_sales
group by pizza_name
order by total_orders DESC
limit 5;
```

Result Grid | Filter Rows:

pizza_name	total_orders
The Classic Deluxe Pizza	2329
The Hawaiian Pizza	2280
The Pepperoni Pizza	2278
The Barbecue Chicken Pizza	2273
The Thai Chicken Pizza	2225

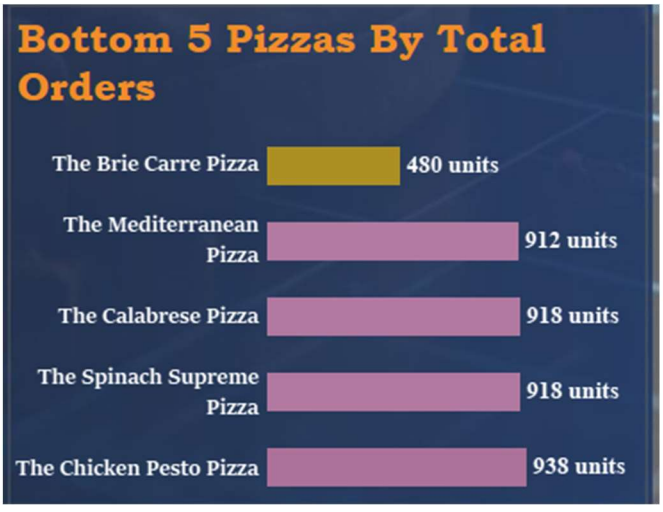


10.Bottom 5 pizzas by Total Orders

```sql
-- bottom 5 pizzas by total order--
select pizza_name,
count(distinct order_id) as total_order
from pizza_sales
group by pizza_name
order by total_order ASC
limit 5;
```

Result Grid | Filter Rows:

pizza_name	total_order
The Brie Carre Pizza	480
The Mediterranean Pizza	912
The Calabrese Pizza	918
The Spinach Supreme Pizza	918
The Chicken Pesto Pizza	938

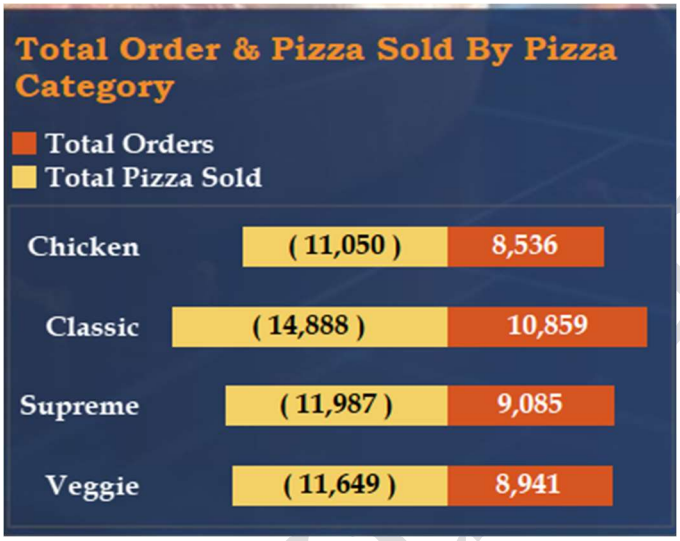


11.Total Orders and Pizza By Pizza Category

```
-- total orders and pizza sold by pizza category--
select pizza_category,
count(distinct order_id) as total_orders,
sum(quantity) as number_pizza_sold
from pizza_sales
group by pizza_category
order by number_pizza_sold
limit 1000;
```

Result Grid | Filter Rows:

pizza_category	total_orders	number_pizza_sold
Chicken	8536	11050
Veggie	8941	11649
Supreme	9085	11987
Classic	10859	14888



Key Findings:

1. **Hourly Trends for Pizzas Sold**:
   Sales data showed a significant increase in pizza orders during lunch and dinner hours, with peaks between 12:00 PM – 1:00 PM and 4:00 PM – 7:00 PM. These findings suggest optimizing staffing and inventory levels during these periods to meet demand.
2. **Weekly Trends for Total Orders**:
   Weekly analysis highlighted those weekends, particularly 48th week from December Months onwards, account for the highest number of orders, while weekdays see a moderate but consistent level of activity. Special promotions on these days could further boost sales.

3. **Sales by Pizza Categories**:
   Traditional pizza categories such as **Classic Category** led in terms of 27.06% sales. **Chicken And Supreme** pizzas, though less popular, contributed more to the average order value may be due to their higher price point.
4. **Percentage of Sales by Pizza Size**:
   Large-sized pizzas were the most popular, accounting for 45.94% of total sales. **Medium-size pizzas** followed at 30.52%, while **Regular-size pizzas** made up the remaining 21.74%.**X-large and XX-large are** quite less popular.
5. **Total Orders and Pizza Sales by Category**:
   Classic pizza varieties consistently drove higher sales volume compared to other categories, indicating that customer preferences lean towards traditional flavours. Experimenting with limited-time offers on new flavours could expand customer choices.
6. **Top 5 and Bottom 5 Pizzas by Revenue**:
   The highest revenue-generating pizzas included **Thai Chicken Pizza**, **The Barbecue Chicken**, **The California Chicken Pizza, The Classic Deluxe Pizza and The spicy Italian Pizza**, while less popular varieties, such as **The Brie Carre Pizza, The Green Garden Pizza and others** contributed the least to overall revenue. A targeted review of the underperforming pizzas could help improve sales or remove them from the menu.
7. **Top 5 and Bottom 5 Pizzas by Total Orders**:
   The **Top 5 Pizzas** by total sales and orders are led by classic and popular varieties such as the **Classic Deluxe**, **Barbecue Chicken**, **Hawaiian**, and **Pepperoni** pizzas. These pizzas dominate both total units sold and customer orders, showcasing their widespread appeal. On the other hand, the **Bottom 5 Pizzas** include less popular options like the **Brie Carre**, **Mediterranean**, and **Calabrese** pizzas, which struggled to gain traction with customers. These pizzas recorded the fewest sales and orders, indicating a potential need for revising or promoting these offerings.

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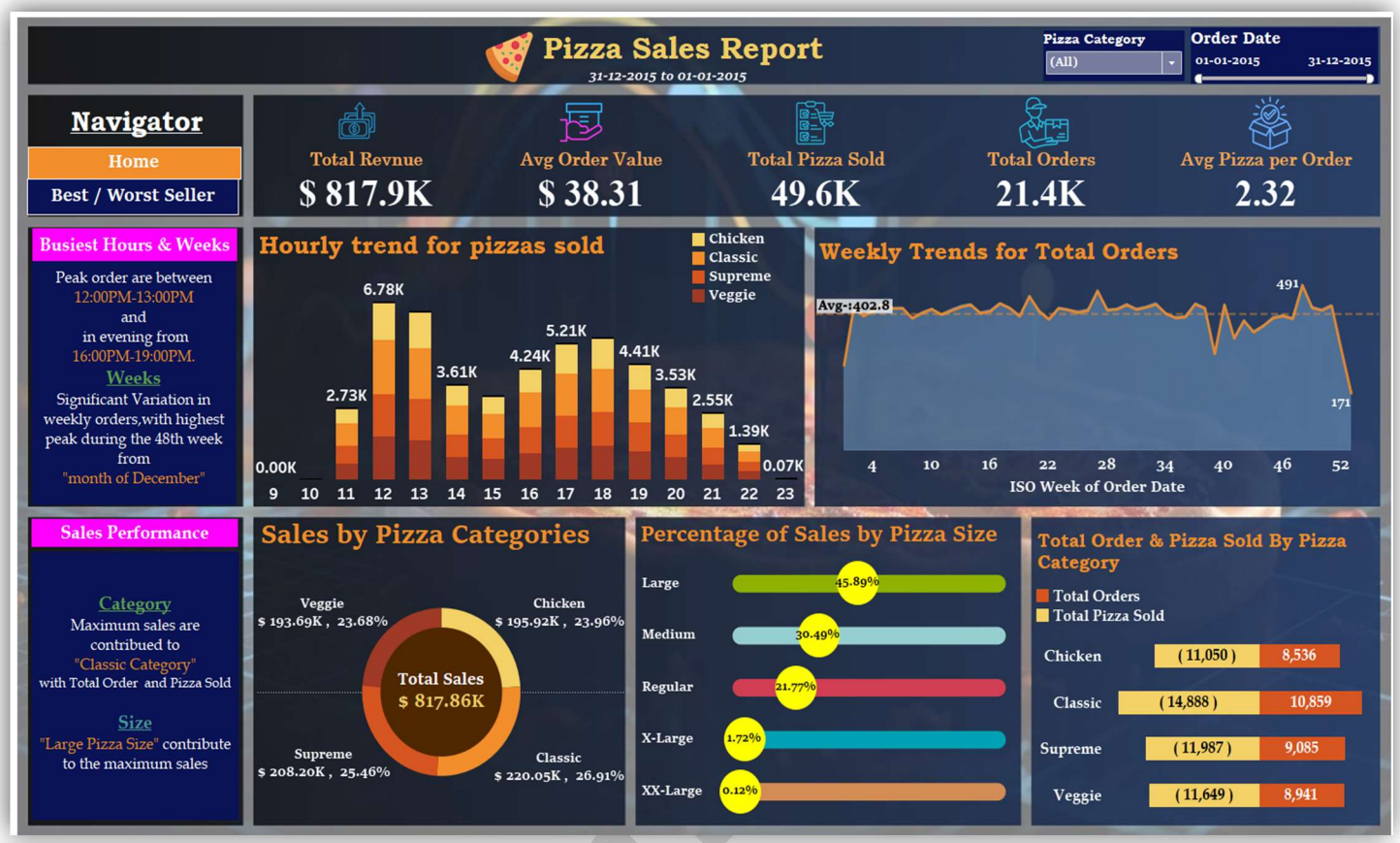
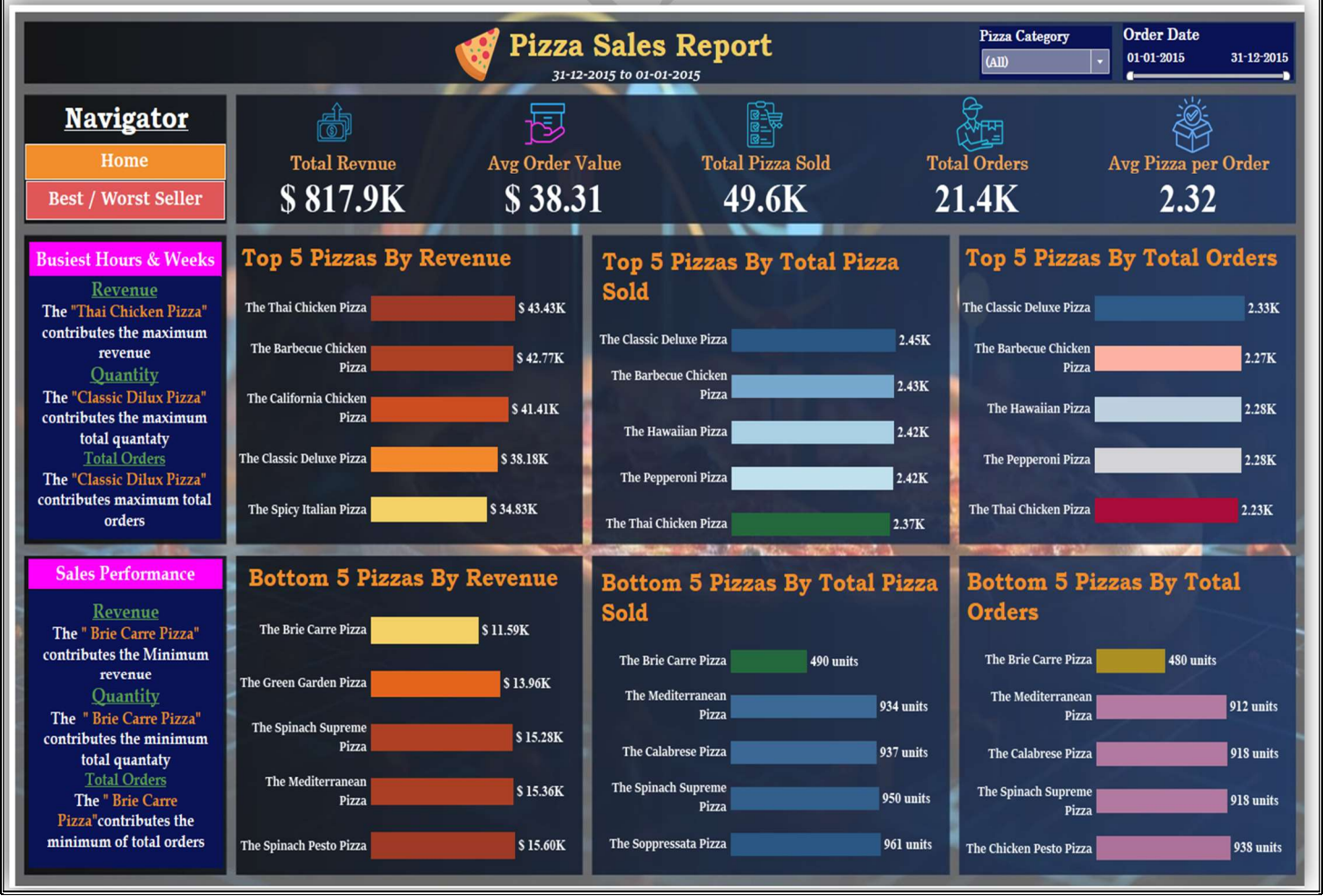

Pizza Sales Report
31-12-2015 to 01-01-2015
Pizza Category
(All)
Order Date
01-01-2015
31-12-2015
Navigator
Home
Best / Worst Seller
Total Revnue
$ 817.9K
Avg Order Value
$ 38.31
Total Pizza Sold
49.6K
Total Orders
21.4K
Avg Pizza per Order
2.32
Busiest Hours & Weeks
Peak order are between 12:00PM-13:00PM and in evening from 16:00PM-19:00PM.
Weeks
Significant Variation in weekly orders,with highest peak during the 48th week from "month of December"
Hourly trend for pizzas sold
Chicken
Classic
Supreme
Veggie
0.00K
2.73K
6.78K
3.61K
4.24K
5.21K
4.41K
3.53K
2.55K
1.39K
0.07K
9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Weekly Trends for Total Orders
Avg-1402.8
491
171
4 10 16 22 28 34 40 46 52
ISO Week of Order Date
Sales Performance
Category
Maximum sales are contribued to "Classic Category" with Total Order and Pizza Sold
Size
"Large Pizza Size" contribute to the maximum sales
Sales by Pizza Categories
Veggie
$ 193.69K , 23.68%
Chicken
$ 195.92K , 23.96%
Total Sales
$ 817.86K
Supreme
$ 208.20K , 25.46%
Classic
$ 220.05K , 26.91%
Percentage of Sales by Pizza Size
Large
45.89%
Medium
30.49%
Regular
21.77%
X-Large
1.72%
XX-Large
0.12%
Total Order & Pizza Sold By Pizza Category
Total Orders
Total Pizza Sold
Chicken (11,050) 8,536
Classic (14,888) 10,859
Supreme (11,987) 9,085
Veggie (11,649) 8,941


Pizza Sales Report
31-12-2015 to 01-01-2015
Pizza Category
(All)
Order Date
01-01-2015
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Total Revnue
$ 817.9K
Avg Order Value
$ 38.31
Total Pizza Sold
49.6K
Total Orders
21.4K
Avg Pizza per Order
2.32
Busiest Hours & Weeks
Revenue
The "Thai Chicken Pizza" contributes the maximum revenue
Quantity
The "Classic Dilux Pizza" contributes the maximum total quantaty
Total Orders
The "Classic Dilux Pizza" contributes maximum total orders
Top 5 Pizzas By Revenue
The Thai Chicken Pizza $ 43.43K
The Barbecue Chicken Pizza $ 42.77K
The California Chicken Pizza $ 41.41K
The Classic Deluxe Pizza $ 38.18K
The Spicy Italian Pizza $ 34.83K
Top 5 Pizzas By Total Pizza Sold
The Classic Deluxe Pizza 2.45K
The Barbecue Chicken Pizza 2.43K
The Hawaiian Pizza 2.42K
The Pepperoni Pizza 2.42K
The Thai Chicken Pizza 2.37K
Top 5 Pizzas By Total Orders
The Classic Deluxe Pizza 2.33K
The Barbecue Chicken Pizza 2.27K
The Hawaiian Pizza 2.28K
The Pepperoni Pizza 2.28K
The Thai Chicken Pizza 2.23K
Sales Performance
Revenue
The " Brie Carre Pizza" contributes the Minimum revenue
Quantity
The " Brie Carre Pizza" contributes the minimum total quantaty
Total Orders
The " Brie Carre Pizza"contributes the minimum of total orders
Bottom 5 Pizzas By Revenue
The Brie Carre Pizza $ 11.59K
The Green Garden Pizza $ 13.96K
The Spinach Supreme Pizza $ 15.28K
The Mediterranean Pizza $ 15.36K
The Spinach Pesto Pizza $ 15.60K
Bottom 5 Pizzas By Total Pizza Sold
The Brie Carre Pizza 490 units
The Mediterranean Pizza 934 units
The Calabrese Pizza 937 units
The Spinach Supreme Pizza 950 units
The Soppressata Pizza 961 units
Bottom 5 Pizzas By Total Orders
The Brie Carre Pizza 480 units
The Mediterranean Pizza 912 units
The Calabrese Pizza 918 units
The Spinach Supreme Pizza 918 units
The Chicken Pesto Pizza 938 units

Recommendations:

- **Optimize Peak Hours**: Focus on high-demand hours (lunch and dinner) for promotions, staffing, and inventory management.
- **Weekend Promotions**: Since weekends see the highest orders, special offers, combo deals, and targeted advertising could further enhance weekend sales.
- **Menu Adjustments**: Re-evaluate the less popular pizzas to determine if they should be reformulated or removed from the menu, and consider launching new seasonal or limited-time pizzas to attract customers.
- **Focus on Upselling**: Encourage upselling by offering attractive deals on larger pizza sizes or including premium ingredients for a higher average order value.

Conclusion:

This pizza sales analysis provides a comprehensive overview of business performance across various dimensions, enabling data-driven decisions for optimizing operations, marketing, and menu offerings. Focusing on the highest-performing categories, capitalizing on peak hours, and addressing underperforming products can significantly enhance overall sales and customer satisfaction.

…Thank You…