

PIZZA SALES ANALYSIS

USING SQL AND POWERBI





CONTENT

- *Overview*
- *Dataset and methodology*
- *Dataset Details*
- *Project Details*
- *PowerBI Dashboard*
- *Insights*
- *Recommendations*
- *Conclusion*

OVERVIEW

The project on pizza sales analysis aims to utilize SQL and PowerBI to analyze and visualize a comprehensive dataset of pizza sales. By utilizing SQL queries, the project aims to uncover meaningful insights into popular pizza types, sales trends and overall performance where as PowerBI transforms this data into interactive dashboards so user can easily enable to visualize trends, track performance by sales channel and assess marketing effectiveness.



Data Source & Methodology

Data Source

The dataset used in this project consists of pizza sales data obtained from [Kaggle](#). It includes information such as order id, order date, quantity, pizza price, pizza size and so on.

Methodology

The analysis is performed using SQL queries to extract, transform and analyze the data, with various SQL functions and techniques used to derive key metrics and perform statistical analysis where as PowerBI created interactive dashboards to make it visible.



Dataset details:

order_details

- order_details_id: Unique identifier for each pizza placed within each order
- order_id: Unique identifier for each order placed by a table
- pizza_id: Unique key identifier that ties the pizza ordered to its details, like size and price
- quantity: Quantity ordered for each pizza of the same type and size

orders

- order_id: Unique identifier for each order placed by a table
- date: Date the order was placed
- time: Time the order was placed

pizzas

- pizza_id: Unique key identifier that ties the pizza ordered to its details, like size and price
- pizza_type_id: Unique identifier for the pizza type
- size: Size of the pizza (Small, Medium, Large, X Large, or XX Large)
- price: Price of the pizza

pizza_types

- pizza_type_id: Unique identifier for the pizza type
- name: Name of the pizza as shown in the menu
- category: Category of the pizza (eg. vegetarian, meat etc.)
- ingredients: ingredients used in the pizza

PROJECT DETAILS

Total number of order placed

```
select count(distinct order_id) as Total_orders  
from order_details;
```

	Total_orders
▶	21350



Total Revenue generated from pizza sales

```
select cast(sum(order_details.quantity*pizzas.price) as decimal(10,2)) as  
total_revenue  
from order_details  
join pizzas on order_details.pizza_id = pizzas.pizza_id;
```

	total_revenue
▶	817860.05



The highest priced pizza

```
select pizza_types.name, pizzas.price as price  
from pizzas  
join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id  
order by pizzas.price desc  
limit 1;
```

	name	price
▶	The Greek Pizza	35.95



Average order value

```
select cast((sum(pizzas.price)/count(distinct order_details.order_id)) as  
decimal(10,2)) as Average_order_value  
from order_details  
join pizzas on order_details.pizza_id = pizzas.pizza_id;
```

	Average_order_value
▶	37.56



Top 5 most ordered pizza types along their quantities

```
select pizza_types.name, sum(order_details.quantity) as Total_Ordered  
from order_details  
join pizzas on order_details.pizza_id = pizzas.pizza_id  
join pizza_types on pizza_types.pizza_type_id = pizzas.pizza_type_id  
group by pizza_types.name  
order by sum(order_details.quantity) desc  
limit 5;
```

	name	Total_Ordered
▶	The Classic Deluxe Pizza	2453
	The Barbecue Chicken Pizza	2432
	The Hawaiian Pizza	2422
	The Pepperoni Pizza	2418
	The Thai Chicken Pizza	2371



Most common pizza size ordered

```
select pizzas.size as size , count(order_details.order_id) as Total_order  
from pizzas  
join order_details on pizzas.pizza_id = order_details.pizza_id  
group by pizzas.size  
order by count(order_details.order_id) desc  
limit 1;
```

	size	Total_order
▶	L	18526



The average no. of pizzas ordered per day

```
select avg(Daily_pizzas) as Average_pizzas_per_day  
from (select orders.date, sum(order_details.quantity) as Daily_pizzas  
from orders  
join order_details on orders.order_id = order_details.order_id  
group by orders.date)  
as Daily_order;
```

Average_pizzas_per_day
138.4749



Top 5 most order pizza type based on revenue for each pizza category

```
select pizza_types.name, pizza_types.category, sum(order_details.quantity*pizzas.price) as total_revenue  
from order_details  
join pizzas on order_details.pizza_id = pizzas.pizza_id  
join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id  
group by pizza_types.name,pizza_types.category  
order by total_revenue desc  
limit 5;
```

	name	category	total_revenue
▶	The Thai Chicken Pizza	Chicken	43434.25
	The Barbecue Chicken Pizza	Chicken	42768
	The California Chicken Pizza	Chicken	41409.5
	The Classic Deluxe Pizza	Classic	38180.5
	The Spicy Italian Pizza	Supreme	34831.25



The percentage contribution of each pizza type of revenue

with *Total_Revenue* as (

```
select sum(order_details.quantity * pizzas.price) as total_revenue
from order_details
join pizzas on order_details.pizza_id = pizzas.pizza_id
),
```

Category_Revenue as (

```
select pizza_types.category,
       sum(order_details.quantity * pizzas.price) as category_revenue
from order_details
join pizzas on order_details.pizza_id = pizzas.pizza_id
join pizza_types on pizzas.pizza_type_id = pizza_types.pizza_type_id
group by pizza_types.category
)
```

```
select category,
       concat(cast(category_revenue / total_revenue * 100) as decimal(10,2)), '%' as revenue_contribution
from Category_Revenue, Total_Revenue
order by revenue_contribution desc;
```

	category	revenue_contribution
▶	Classic	26.91%
	Supreme	25.46%
	Chicken	23.96%
	Veggie	23.68%



POWERBI DASHBOARD





Pizza Sales Analysis

category

All

Date

01-01-2015

31-12-2015

Overview



Total Products

32

Orders



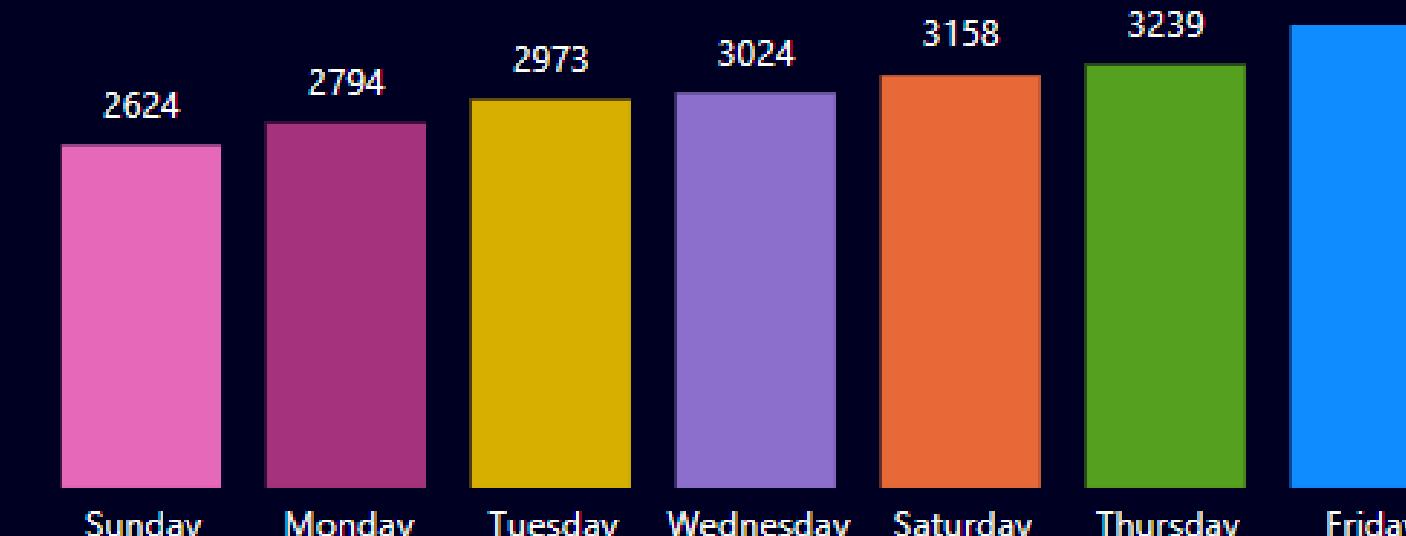
Total Pizza Category

4

Sales



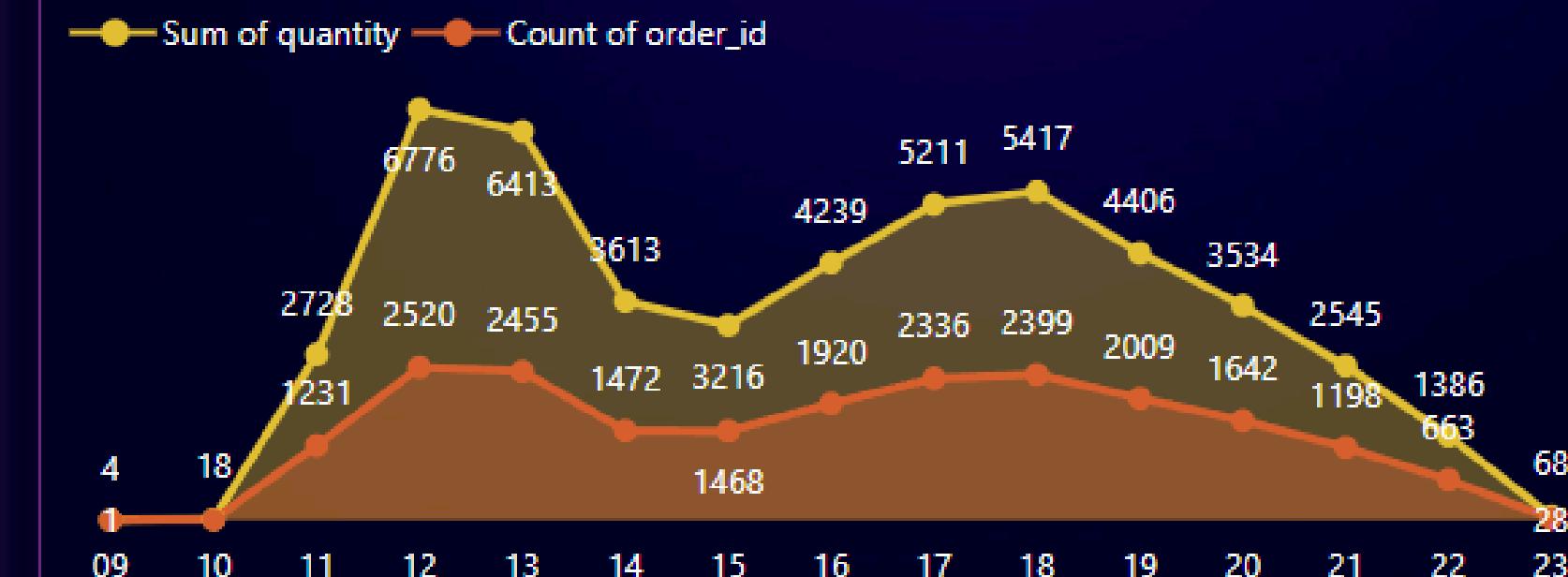
Peak Day



Pizza Made per Hour

Day	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Sunday	2	227	580	653	510	481	615	702	728	569	403	301	142	4	5917	
Monday	3	461	1101	774	450	407	534	708	654	529	357	277	110	4	6369	
Tuesday	4	419	1068	988	471	417	618	663	632	590	470	268	145	4	6753	
Wednesday	4	522	1021	907	501	457	563	757	750	512	389	269	145	4	6797	
Thursday	5	459	1106	1095	563	460	642	840	796	580	447	216	111	3	7323	
Saturday	3	205	603	766	513	516	641	721	873	834	726	584	339	31	7355	
Friday		379	1064	1020	513	432	572	752	926	736	695	613	378	26	8106	
Total	4	17	2672	6543	6203	3521	3170	4185	5143	5359	4350	3487	2528	1370	68	48620

Peak Hours





Pizza Sales Analysis

category

All

Date

01-01-2015

31-12-2015

Overview



Total Orders

21.35K

Orders



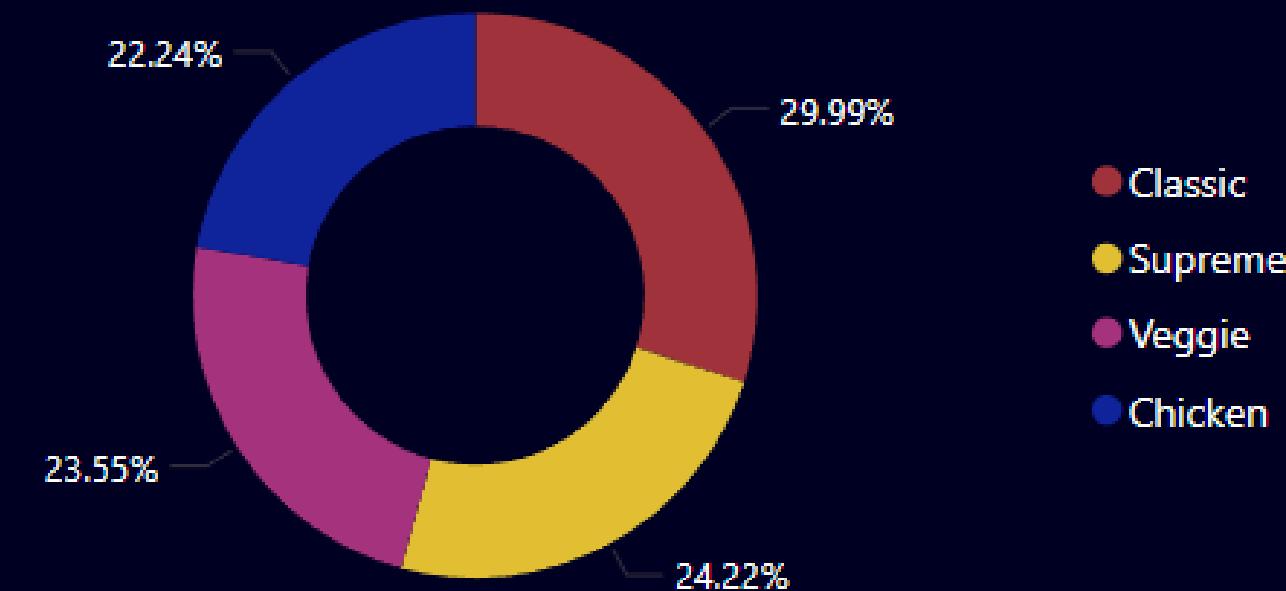
Avg. Pizzas Per Order

2.32

Sales



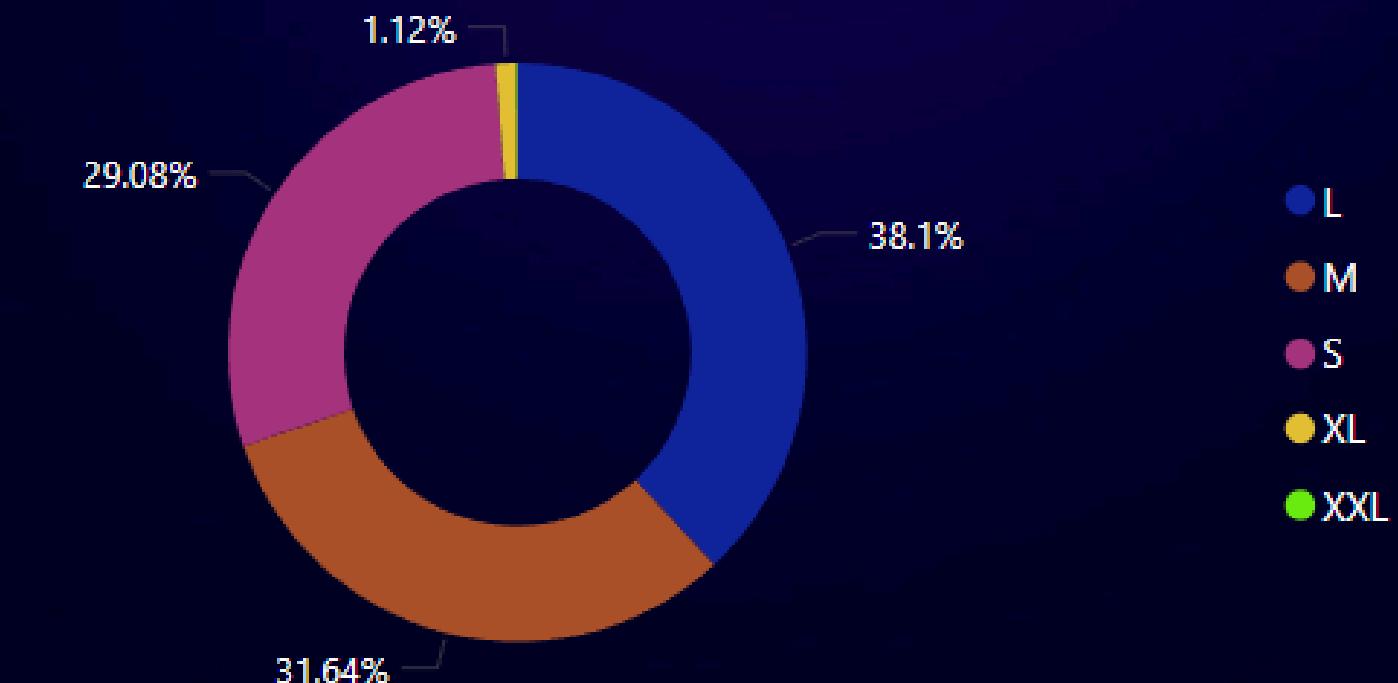
Orders by Pizza Category



Total Orders by Day and Time

Day	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Sunday	1	95	210	261	214	222	278	322	324	281	197	147	70	2	2624	
Monday		1	226	398	331	182	192	247	317	303	235	174	134	53	1	2794
Tuesday	1		188	421	371	196	191	295	309	301	274	214	131	81		2973
Wednesday	2	231	420	381	201	210	259	343	335	238	193	139	72			3024
Saturday	1	85	222	260	225	235	294	325	388	371	328	265	147	12		3158
Thursday	3	214	434	438	233	228	289	376	361	270	217	114	60	2		3239
Friday		192	415	413	221	190	258	344	387	340	319	268	180	11		3538
Total	1	8	1231	2520	2455	1472	1468	1920	2336	2399	2009	1642	1198	663	28	21350

Orders by Pizza Size



Pizza Sales Analysis

Overview



Total Revenue

817.86K

Orders



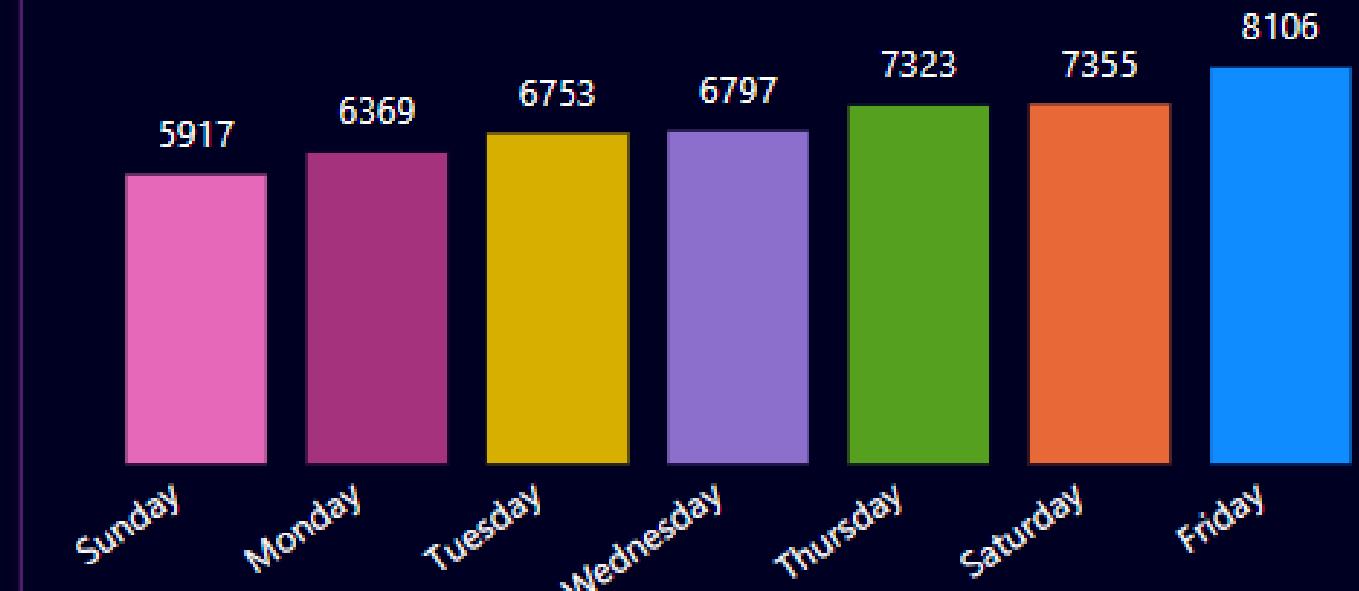
Total Pizzas Sold

48.62K

Sales



Daily Sales Trends



category

All

Date

01-01-2015

31-12-2015

Top 5 sold Pizzas

2416 2372 2370 2369 2315

The
Classic
Deluxe P...
The
Barbecue
Chicken ...
The
Hawaiian
Pizza
The
Pepperoni
Pizza
The Thai
Chicken
Pizza

Bottom 5 sold Pizzas

957 957 940 927 923
480

The
Soppres...
Pizza
The
Spinach
Pesto Piz...
The
Spinach
Supreme...
The
Calabrese
Pizza
The
Mediterr...
The Brie
Carre
Pizza

Monthly Sales Trends





INSIGHTS:

- The total number of orders received was 21,350. The Classic Deluxe Pizza was the best selling pizza, with 2416 orders and The Brie Carre Pizza was the lowest selling pizza with 480 orders, generating the lowest number of orders.
- In July, we had the highest order with a count of 1935, while the lowest order count is 1646 in October.
- We have peak hours between 12:00PM with 2520 orders and 1:00PM with 2455 orders.
- We reached the peak order of 3538 on Fridays and 3239 on Thursdays, marking that Fridays are the most busy days.
- The busiest hours for pizza orders are between 12:00 PM to 1:00 PM and 5:00 PM to 6:00 PM, indicating high demand during lunch time and in the evening.



INSIGHTS:

- The total revenue was 817.86K.
- Large sized pizzas are the most popular preference among clients, representing approximately 38% of total sales, followed by medium sized pizzas at 32% and small sized pizzas at 29%.
- The total sales by all four Pizza Categories is almost same, with classic category leading, followed closely by supreme category.
- Among pizzas, Thai Chicken Pizza generates the best sales, while Classic Deluxe Pizza is the most frequently ordered by customers. Brie Carre Pizza is the least favored option.

RECOMMENDATIONS:

- The Brie Carre Pizza is the lowest selling pizza. We should conduct a survey to understand the customers point of view about this pizza. This will help to identify and resolve the issues behind The Brie Carre Pizza being the lowest selling pizza whether through rebranding, changing recipes or any other strategies.
- We should improve our delivery channels to increase the delivery rate during peak days and hours. We should also implement online ordering channel for the customers, who prefer to be in their comfort zone to place order seamlessly and have their pizza delivered.
- It is recommended to offer a seasonal promotion during Valentine, mother's day, Christmas, Eid, etc. with low sales and revenue to boost business.



CONCLUSION

Our analysis reveals that large sized pizzas are the most popular, with Thai Chicken Pizza leading the market and Brie Carre Pizza as the least popular. Fridays are the peak days, which means we need to improve delivery performance and offer online ordering options. Promotions and seasonal offers should be offered to increase bottom line sales. These strategies will enhance client pleasure and drive overall sales growth.



THANK YOU

