**Pizza Sales Analysis Project using SQL & Power BI**

**1. Project Overview**

This is an **end-to-end data analytics project** focused on **Pizza Sales Performance** using **SQL for data analysis** and **Power BI for interactive visualization**.

The project explores key sales metrics, customer behavior, and business performance to answer critical questions such as:

* Which pizza categories and sizes perform the best?
* What are the busiest days and months for orders?
* Which pizzas drive the most and least revenue?
* What are the time-based sales trends and customer buying patterns?

This is a **guided project from YouTube**, completed to gain hands-on experience in real-world data analytics and BI dashboard creation.

**2. Objectives**

* Perform data cleaning and exploratory analysis using **SQL**.
* Create and visualize KPIs in **Power BI**.
* Build interactive reports with **filters and slicers** for deeper insight exploration.
* Identify sales trends, top products, and customer demand patterns.

**3. Tools & Technologies Used**

| **Tool / Technology** | **Purpose** |
| --- | --- |
| **SQL (MySQL / SQL Server)** | Data analysis, KPI generation, and time-based insights |
| **Power BI Desktop** | Interactive dashboard creation and visualization |
| **Excel / CSV Dataset** | Data source |
| **GitHub** | Version control and documentation |

**4. Dataset Information**

**Dataset Fields**

* **Order\_ID** – Unique identifier for each order
* **Order\_Date** – Date of the order
* **Order\_Time** – Time of the order
* **Pizza\_Name\_ID** – Unique pizza identifier
* **Pizza\_Category** – Category (Classic, Veggie, Supreme, Chicken)
* **Pizza\_Size** – Size (Small, Medium, Large, X-Large, XX-Large)
* **Quantity** – Number of pizzas ordered
* **Total\_Price** – Total sale price for that order item

**5. SQL Analysis Summary**

SQL was used for data validation, KPI computation, and performance analysis.  
The queries extracted meaningful business insights across five main areas:

**5.1 Sales Overview**

* Total Revenue → **791.89K**
* Total Pizzas Sold → **48,000**
* Total Orders → **20,693**
* Average Order Value (AOV) → **38.27**

**5.2 Category & Size Performance**

* **Classic Category** generated the highest revenue and orders.
* **Large-sized pizzas** were the most frequently sold and profitable.

**5.3 Top & Bottom Performers**

* **Top Pizza by Revenue:** The *Thai Chicken Pizza*
* **Top Pizza by Quantity & Orders:** The *Classic Deluxe Pizza*
* **Worst Performer:** The *Brie Carre Pizza*

**5.4 Time-Based Trends**

* **Busiest Days:** Friday & Saturday
* **Peak Months:** July and January
* **Peak Hours:** 6 PM – 9 PM

**5.5 Customer Insights**

* **Average Pizzas per Order:** 2.32
* High demand during **Q3 and Q4 (July–December)**.

**6. Power BI Dashboard Overview**

The Power BI dashboard transforms SQL findings into an interactive visual experience for stakeholders.

**6.1 Dashboard Pages**

1. **Home Page**
   * Key KPIs: Total Revenue, Orders, AOV, and Average Pizzas per Order
   * Visuals: Daily & Monthly Sales Trends
   * Performance by Category & Size
   * Highlight cards for busiest days/months
2. **Best & Worst Sellers**
   * Top & bottom 5 pizzas by revenue, quantity, and orders
   * Detailed comparison visuals
   * Insight cards summarizing best and worst performers

**7. Dashboard Features & Interactivity**

**🧩 KPI Cards**

* **Total Revenue:** 791.89K
* **Total Orders:** 20,693
* **Total Pizzas Sold:** 48K
* **Average Order Value:** 38.27
* **Avg. Pizzas per Order:** 2.32

**📊 Visualizations**

| **Visual** | **Purpose** |
| --- | --- |
| **Bar Chart** | Daily and monthly order trends |
| **Line Chart** | Monthly growth pattern |
| **Donut Chart** | Sales share by category and size |
| **Stacked Bar Chart** | Top/Bottom pizza analysis |
| **Card Visuals** | KPIs and summary metrics |
| **Text Boxes** | Highlight insights (e.g., “Busiest days: Friday/Saturday”) |

**🧮 Filters & Slicers**

* **Pizza Category Filter:** Allows users to analyze by specific category (Classic, Veggie, etc.)
* **Date Range Filter:** Enables dynamic trend exploration between any two dates
* **Size Filter:** Lets users analyze performance based on pizza size
* **Interactive Drill-through:** Users can click visuals to explore specific pizza performance

These filters make the dashboard fully **interactive**, enabling **ad-hoc analysis** without modifying SQL queries.

**8. Key Insights & Findings**

| **Insight Type** | **Key Finding** |
| --- | --- |
| **Revenue** | Total Revenue = 791.89K |
| **Orders** | Total Orders = 20,693 |
| **Sales Volume** | Total Pizzas Sold = 48,000 |
| **AOV** | Average Order Value = 38.27 |
| **Top Seller** | The Thai Chicken Pizza |
| **Most Ordered** | The Classic Deluxe Pizza |
| **Least Performer** | The Brie Carre Pizza |
| **Busiest Days** | Friday and Saturday |
| **Peak Months** | July and January |
| **Peak Hours** | 6 PM – 9 PM |
| **Category Winner** | Classic Category |
| **Preferred Size** | Large Pizzas |

**9. Key Learnings**

* Building SQL queries for data-driven insights.
* Combining SQL results with Power BI for visualization.
* Using **filters and slicers** for interactive exploration.
* Designing clear, visually appealing dashboards.
* Documenting and structuring a real-world analytics project for GitHub.

**10. Conclusion**

The Pizza Sales Analysis Project demonstrates how combining **SQL** and **Power BI** provides a powerful data analytics workflow — from raw data extraction to visualization and storytelling.

It delivers actionable insights on:

* Customer demand trends
* Product performance
* Seasonal variations

This approach can be applied to any retail or sales dataset to support **data-driven business decision-making**.

**11. Attribution**

This is a **guided project** from **YouTube**, completed for learning and portfolio development purposes.  
It provided structured direction on SQL analysis and Power BI dashboard design.