Pizza Sales Analysis Project

Welcome to the Pizza Sales Analysis Project, a comprehensive exploration into the world of pizza sales data. This project delves into the intricacies of pizza sales, leveraging data analysis techniques to uncover valuable insights and trends.

Project Overview:

The journey began with raw data stored in Excel, containing crucial information about pizza sales transactions. To unlock the potential of this data, it was imported into a structured SQL database, setting the stage for an in-depth analysis. This meticulous examination sought to provide answers to various key questions regarding sales performance, customer behavior, and product preferences.

Analysis Focus Areas:

The project covered an extensive range of analytical aspects, including:

- **Total Revenue:** Calculating the overall revenue generated from pizza sales.
- **Average Order Value:** Determining the average value of each order.
- **Total Pizza Sold:** Calculating the total quantity of pizzas sold.
- **Total Orders:** Counting the total number of orders placed.
- **Average Pizza per Order:** Finding the average number of pizzas per order.
- **Daily Order Trends:** Analyzing the day-wise distribution of orders using bar graphs.
- **Monthly Order Trends:** Exploring the order trends across months with line graphs.
- **Sales Breakdown by Pizza Category:** Visualizing the percentage of sales attributed to different pizza categories using pie charts.
- **Sales Breakdown by Pizza Size:** Representing the percentage distribution of sales based on pizza sizes.
- **Top and Bottom Performers:** Identifying the top 5 and bottom 5 performers based on revenue, quantity, and total orders. These insights were presented using separate bar graphs.

Step-by-Step Journey: Pizza Sales Analysis

Step 1: Data Collection and Preparation in Excel

1. Data Acquisition: Begin by collecting raw data related to pizza sales. This data include information such as order dates, pizza category, pizza size, quantity sold, and revenue generated.

2. Excel Formatting: Organize the collected data in a structured Excel spreadsheet. Create columns for each relevant data point, ensuring consistency and accuracy in the data entry.

3. Data Cleaning: Review the data for any inconsistencies, missing values, or errors. Clean the data by addressing these issues to ensure accurate analysis later on.

Step 2: Data Import and Analysis in SQL

1. Data Import: Import the cleaned Excel data into the SQL database. This can be done using SQL queries or tools that support data import.

2. Data Exploration: Start by querying the database to understand the basic characteristics of the data. Run queries to retrieve information about total revenue, average order value, total pizza sold, total orders, and more.

3. Analysis Queries: Write SQL queries to perform specific analyses, such as calculating average pizza per order, identifying daily and monthly order trends, categorizing sales by pizza category and size, and ranking products based on revenue, quantity, and total orders.

4. Screenshot Documentation: For each analysis, capture screenshots of relevant SQL query results. Organize these screenshots into a Word document to visually document your findings.

Step 3: Data Visualization in Power BI

1. Data Import: Launch Power BI and create a new project. Import the Excel data into Power BI using the "Get Data" option.

2. Page Creation:

- Home Page:
  - Add visualizations for total revenue, average order value, total pizza sold, total orders, and average pizza per order using appropriate visualization types (e.g., cards, KPIs).
  - Create a bar graph showcasing the daily trend of orders, utilizing the order date and order count data.
  - Construct pie charts to visualize the percentage of sales by pizza category and pizza size.

- Best/Worst Performers:
  - Design separate bar graphs for the top 5 performers and bottom 5 performers based on revenue, quantity, and total orders. These graphs highlight the most and least successful products.

- Details Page:
  - Construct a table or matrix visualization to present the detailed data, including all relevant fields and metrics.

3. Slicer Integration: Add slicers to each page to enable dynamic filtering based on pizza size, pizza category, and order date. This enhances user interactivity and customization.

4. Data Visualization Refinement: Enhance the visual appeal and interactivity of your Power BI project by customizing colors, labels, and formatting.

5. Export and Sharing: Once satisfied with the visualizations, export the Power BI project as a report or dashboard. You can share this report with stakeholders or save it in a suitable format.

In this step-by-step journey, you've progressed from collecting raw data in Excel to importing it into an SQL database for analysis. After documenting analysis results using screenshots in a Word document, you've transitioned to visualizing those findings using Power BI, creating a comprehensive and insightful representation of the pizza sales data. This integrated process empowers decision-makers to derive actionable insights and make informed business decisions.

Conclusion:

The Pizza Sales Analysis project stands as a testament to my data-driven approach and analytical prowess. From meticulous data collection and SQL analysis to dynamic visualization using Power BI, I've showcased my ability to transform raw data into actionable insights. By combining technical expertise with creative data visualization, I've successfully communicated complex findings to inform strategic decision-making. This project not only highlights my proficiency in data manipulation and visualization but also underscores my dedication to continuous learning and impactful problem-solving.