**PROJECT REPORT**

1. **Project Title: Plato’s Pizza Sales Report (2015)**

**Course: Business Analyst Intern**

**Date: 20.07.2025**

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1. **Acknowledgement:**

I would like to thank everyone who supported and guided me during this project. Their help made it possible to complete this work successfully.

1. **Abstract**:

This project presents an interactive Power BI dashboard developed for **Palto's Pizza** to analyze and monitor its sales performance across various locations and time periods. The dashboard consolidates key sales metrics such as total revenue, profit, average order volume, and product-wise sales, offering dynamic insights into customer preferences, regional trends, and peak business periods. By leveraging Power BI’s data visualization and modeling capabilities, the dashboard enhances data-driven decision-making, enabling management to optimize marketing strategies, inventory planning, and operational efficiency.

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2. **Introduction:**

In today’s competitive food and beverage industry, timely insights into sales performance are essential for driving growth and customer satisfaction. This project focuses on developing an interactive **Power BI dashboard for Palto’s Pizza**, designed to visualize and analyse key sales data. By transforming raw transactional data into meaningful metrics and trends, the dashboard offers a centralized platform for understanding sales dynamics across various products, locations, and time periods. The goal is to support data-driven decision-making and operational efficiency using modern business intelligence tools.

1. **Objectives:**

We need to analyse key indicators for our pizza sales data to gain insights into our business performance. Specifically, we want to calculate the following metrics:

**KPIs**

* **Total Revenue:** The sum of the total price of all pizza orders.
* **Average Order Value:** The average amount spent per order, calculated by dividing the total revenue by the total number of orders.
* **Total Pizzas Sold:** The sum of the quantities of all pizzas sold.
* **Total Orders:** The total number of orders placed.
* **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.

**CHARTS REQUIREMENT**

We would like to visualize various aspects of our pizza sales data to gain insights and understand key trends. We have identified the following requirements for creating charts:

* **Daily Trend for Total Orders:**  
  Create a bar chart that displays the daily trend of total orders over a specific time period. This chart will help us identify any patterns or fluctuations in order volumes on a daily basis.
* **Monthly Trend for Total Orders:**  
  Create a line chart that illustrates the hourly trend of total orders throughout the day. This chart will allow us to identify peak hours or periods of high order activity.
* **Percentage of Sales by Pizza Category:**  
  Create a pie chart that shows the distribution of sales across different pizza categories. This chart will provide insights into the popularity of various pizza categories and their contribution to overall sales.
* **Percentage of Sales by Pizza Size:**  
  Generate a pie chart that represents the percentage of sales attributed to different pizza sizes. This chart will help us understand customer preferences for pizza sizes and their impact on sales.
* **Total Pizzas Sold by Pizza Category:**  
  Create a funnel chart that presents the total number of pizzas sold for each pizza category. This chart will allow us to compare the sales performance of different pizza categories.
* **Top 5 Best Sellers by Revenue, Total Quantity, and Total Orders:**  
  Create a bar chart highlighting the top 5 best-selling pizzas based on the Revenue, Total Quantity, and Total Orders. This chart will help us identify the most popular pizza options.
* **Bottom 5 Best Sellers by Revenue, Total Quantity, and Total Orders:**  
  Create a bar chart showcasing the bottom 5 worst-selling pizzas based on the Revenue, Total Quantity, and Total Orders. This chart will enable us to identify underperforming or less popular pizza options.

1. **Tools and Technlogies:**

* **Microsoft Excel:** Potentially used for initial data collation, basic cleaning, or as an interim storage format for raw sales data before more advanced processing. It may have also been used for preliminary analysis or small-scale data manipulation.
* **SQL (Structured Query Language):** Likely employed to extract, transform, and load (ETL) the sales data from a relational database system. SQL queries would have been used to filter specific date ranges, aggregate data, join related tables (e.g., order details with pizza master data), and ensure data integrity before loading into Power BI.
* **Microsoft Power BI:** The primary tool for this project. It was used for:

**Data Import & Connection:** Connecting to the prepared data sources (potentially Excel files or SQL database views/tables).

**Data Transformation (Power Query):** Cleaning, reshaping, and preparing the data for analysis (e.g., handling missing values, changing data types, unpivoting data if necessary).

**Data Modeling (DAX):** Establishing relationships between different tables and creating calculated columns and measures (using Data Analysis Expressions or DAX) to derive KPIs like Total Revenue, Average Order Value, etc.

**Visualization & Dashboard Design:** Creating the interactive charts, graphs, and cards seen in the report, allowing for dynamic exploration of sales data.

1. **Methodology:**

The "Plato's Pizza Sales Report" Power BI dashboard was developed to provide a comprehensive view of pizza sales data for the year 2015 (January 1st to December 31st). The dashboard leverages various visualizations to present key performance indicators (KPIs), sales trends, and detailed breakdowns of pizza performance by category, size, and individual pizza name.

* **Data Sources:** The report is based on sales transaction data, likely including details such as order date, pizza name, category, size, quantity, and price.
* **Tools Used:** Microsoft Power BI was used for data import, transformation, modeling, and visualization.
* **Key Metrics Tracked:**

Total Revenue

Average Order Value

Total Pizzas Sold

Total Orders

Average Pizzas Per Order

* **Analysis Approach:** The analysis involved examining overall sales performance, identifying daily and monthly trends, understanding sales distribution across different dimensions (category, size), and pinpointing top and bottom performing pizzas based on revenue, quantity, and total orders.

1. **Analysis & Findings:**

**SQL codes:**

1. **KPIs**

**A. Total\_Revenue**

select SUM(total\_price) as Total\_Revenue

from pizza\_sales



**B. Avg\_order\_value**

select SUM(total\_price) / COUNT(distinct order\_id) as Avg\_order\_value from pizza\_sales

**D. Total\_Pizza\_Sold**

select SUM(quantity) as Total\_Pizza\_Sold from pizza\_sales

**E. Total**\_**Orders**

select COUNT(distinct order\_id) as Total\_Orders from pizza\_sales



**F. Avg\_Pizzas\_per\_order**

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

1. **Daily Trend for Total Orders**

SELECT DATENAME(DW, order\_date) AS order\_day, COUNT(DISTINCT order\_id) AS total\_orders

FROM pizza\_sales

GROUP BY DATENAME(DW, order\_date)

A screenshot of a table

AI-generated content may be incorrect.

3. **Monthly Trend for Orders**

select DATENAME(MONTH, order\_date) as Month\_Name, COUNT(DISTINCT order\_id) as Total\_Orders

from pizza\_sales

GROUP BY DATENAME(MONTH, order\_date)

A screenshot of a calendar

AI-generated content may be incorrect.

4. **% of Sales by Pizza Category**

SELECT pizza\_category, 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\_category

A white rectangular box with black text

AI-generated content may be incorrect.

5. **% 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

A table with numbers and letters

AI-generated content may be incorrect.

6. **Total Pizzas Sold by Pizza Category**

SELECT pizza\_category, SUM(quantity) as Total\_Quantity\_Sold

FROM pizza\_sales

GROUP BY pizza\_category

ORDER BY Total\_Quantity\_Sold DESC

A table with numbers and text

AI-generated content may be incorrect.

7. **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

A list of food items

AI-generated content may be incorrect.

8. **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

A list of pizzas with text

AI-generated content may be incorrect.

9. **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

A list of pizzas with black text

AI-generated content may be incorrect.

10. **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

A table with a list of pizzas

AI-generated content may be incorrect.

11. **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

A menu of a pizza

AI-generated content may be incorrect.

12.**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

A list of food items

AI-generated content may be incorrect.

13.1. **Pizza Total sales by Category ‘Classic’**

SELECT pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders

FROM pizza\_sales

WHERE pizza\_category = 'Classic'

GROUP BY pizza\_name

ORDER BY Total\_Orders desc

A menu with black text

AI-generated content may be incorrect.

13.2. **Pizza Total sales by Category ‘Supreme’**

A table with a list of pizzas

AI-generated content may be incorrect.SELECT pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders

FROM pizza\_sales

WHERE pizza\_category = 'Supreme'

GROUP BY pizza\_name

ORDER BY Total\_Orders desc

13.3. **Pizza Total sales by Category ‘Veggie’**

SELECT pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders

FROM pizza\_sales

WHERE pizza\_category = 'Veggie'

GROUP BY pizza\_name

A table with numbers and text

AI-generated content may be incorrect.ORDER BY Total\_Orders desc

13.4. **Pizza Total sales by Category ‘Chicken’**

SELECT pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders

FROM pizza\_sales

WHERE pizza\_category = 'Chicken'

GROUP BY pizza\_name

A table with a list of food

AI-generated content may be incorrect.ORDER BY Total\_Orders desc

**Power Bi Report:**

**Overall Performance Summary**

* **Total Revenue:** $818K
* **Average Order Value:** $38.31
* **Total Pizzas Sold:** 49.574K
* **Total Orders:** 21.35K
* **Average Pizzas Per Order:** 2.32

These core metrics demonstrate a robust sales volume for Plato's Pizza in 2015. The average order value and pizzas per order suggest that customers frequently purchase multiple items or larger orders.

**Sales Trends**

* **Daily Trend for Total Orders:**
  + Sales are lowest on Sunday (2.6K orders) and generally increase throughout the week.
  + Peak sales occur on Thursday, Friday, and Saturday (3.2K orders each).
  + Monday (2.8K), Tuesday (3.0K), and Wednesday (3.0K) show moderate but consistent sales.
  + **Finding:** Weekends (Thursday-Saturday) are the busiest days, indicating higher customer demand during these periods. Sundays are the slowest.
* **Monthly Trend for Total Orders:**
  + The year starts strong (Jan & Feb around 1845-1840 orders).
  + There's a dip in March (1605 orders), followed by a peak in April (1935 orders).
  + Sales fluctuate mid-year, with a noticeable dip around July (1773 orders) and August (1661 orders).
  + Another strong period is observed around October (1792 orders), followed by a decline towards the end of the year (Dec 1680 orders).
  + **Finding:** Sales exhibit seasonal patterns with peaks in early spring (April) and mid-autumn (October), and troughs in late winter/early spring (March), mid-summer (July/August), and end of year (December).

**Sales Distribution**

* **% Sale by Pizza Category:**
  + Classic: 26.91%
  + Supreme: 25.46%
  + Veggie: 23.96%
  + Chicken: 23.68%
  + **Finding:** Sales are well-distributed across all four major pizza categories, with Classic pizzas slightly leading. This indicates a balanced demand across the menu.
* **% Sale by Pizza Size:**
  + Medium: 45.89% (Largest share)
  + X-Large: 30.49%
  + Large: 21.77%
  + Small: 1.72%
  + XX-Large: (Implicitly very low, not explicitly shown but visually minimal)
  + **Finding:** Medium and X-Large pizzas are overwhelmingly popular, accounting for over 75% of sales. Small and XX-Large sizes have negligible contribution.
* **Total Pizza Sold by Pizza Category:**
  + Classic: 14888 pizzas
  + Supreme: 11987 pizzas
  + Veggie: 11649 pizzas
  + Chicken: 11050 pizzas
  + **Finding:** Confirms Classic as the top-selling category by volume, followed by Supreme, Veggie, and Chicken.

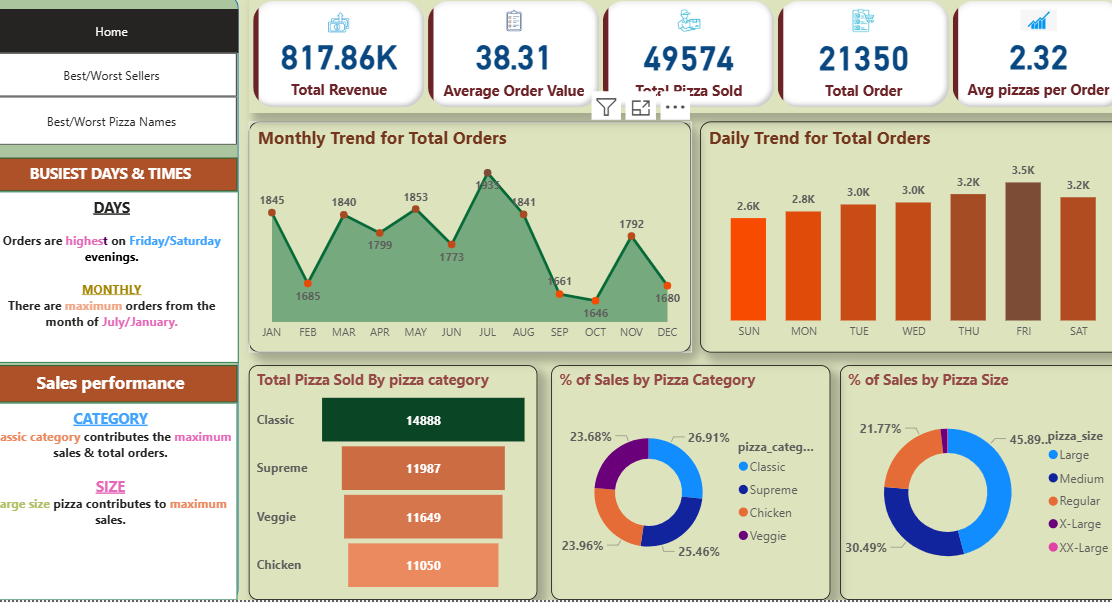
**2.4. Top & Bottom 5 Pizzas Performance (by Revenue, Quantity, and Total Orders)**

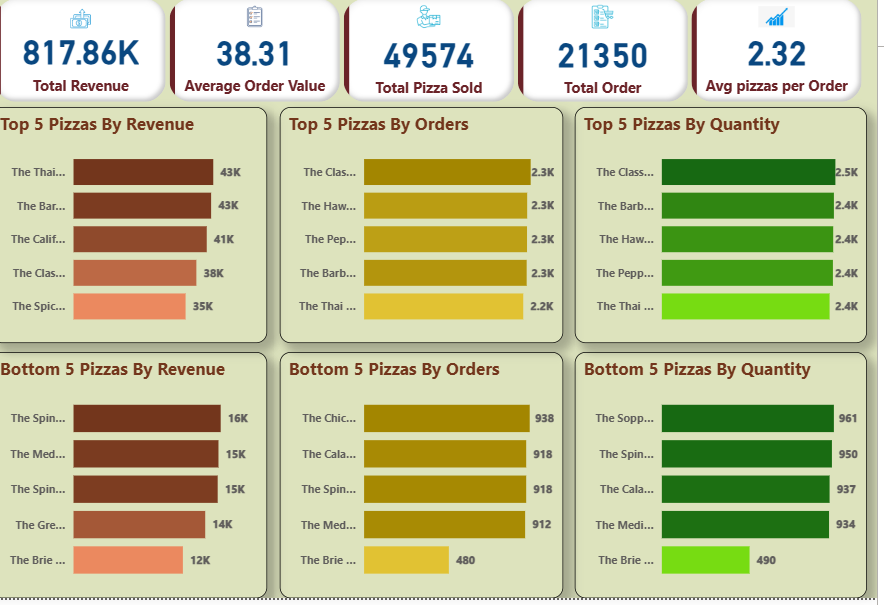
This section provides crucial insights into individual pizza performance.

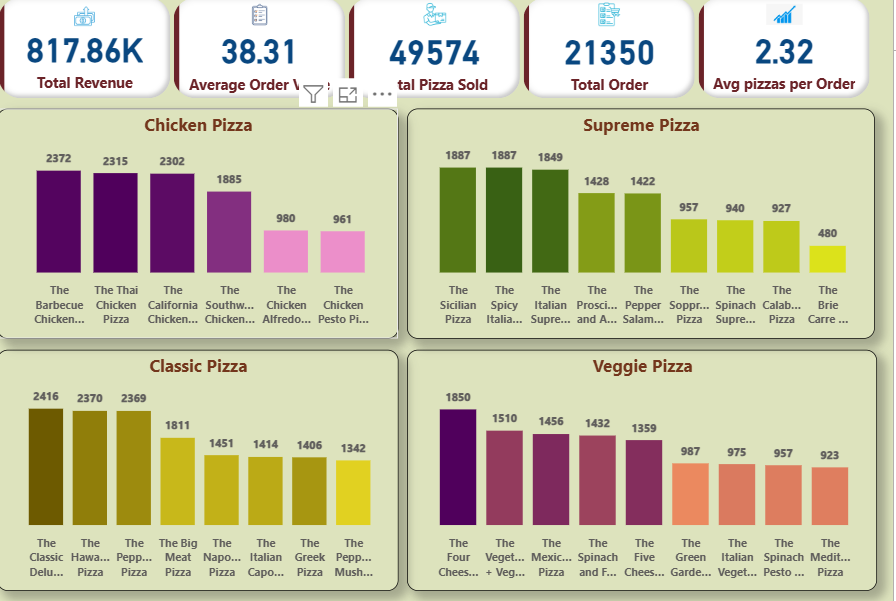
* **Top 5 Pizzas by Revenue:**
  + The Thai Chicken Pizza...: 43K
  + The Barbeque Chicken Pizza...: 43K
  + The California Chicken Pizza...: 41K
  + The Classic Deluxe Pizza...: 38K
  + The Spicy Italian Pizza ...: 35K
  + **Finding:** These pizzas are the highest revenue generators, indicating strong customer preference and potentially higher pricing.
* **Top 5 Pizzas by Quantity:**
  + The Classic Deluxe Pizza...: 2.5K
  + The Barbeque Chicken Pizza...: 2.4K
  + The Hawaiian Pizza...: 2.4K
  + The Pepperoni Pizza...: 2.4K
  + The Thai Chicken Pizza...: 2.4K
  + **Finding:** These are the most frequently sold pizzas. There's overlap with top revenue earners, suggesting both popularity and good pricing.
* **Top 5 Pizzas by Total Order:**
  + The Classic Deluxe Pizza...: 2.3K
  + The Hawaiian Pizza...: 2.3K
  + The Pepperoni Pizza...: 2.3K
  + The Barbeque Chicken Pizza...: 2.2K
  + The Thai Chicken Pizza...: 2.2K
  + **Finding:** These pizzas are part of the most orders placed. High order counts suggest they are staples for many customers.
* **Bottom 5 Pizzas by Revenue:**
  + The Spinach Pesto Pizza...: 16K
  + The Mediterranean Pizza...: 15K
  + The Spinach Supreme Pizza...: 15K
  + The Green Garden Pizza...: 14K
  + The Brie Carre Pizza...: 12K
  + **Finding:** These pizzas generate the least revenue.
* **Bottom 5 Pizzas by Quantity:**
  + The Soppressata Pizza...: 961
  + The Spinach Supreme Pizza...: 950
  + The Calabrese Pizza...: 937
  + The Mediterranean Pizza...: 934
  + The Brie Carre Pizza...: 490
  + **Finding:** These are the least sold pizzas by volume. " The Brie Carre Pizza " pizza stands out with significantly lower sales (490 units) compared to others in this category.
* **Bottom 5 Pizzas by Total Order:**
  + The Chicken Pesto Pizza...: 938
  + The Calabrese Pizza...: 918
  + The Spinach Supreme Pizza...: 918
  + The Mediterranean Pizza...: 912
  + The Brie Carre Pizza...: 480
  + **Finding:** These pizzas are included in the fewest orders, with The Brie Carre Pizza again being the outlier at 480 orders.

**2.5. Category Specific Pizza Performance (by Quantity)**

* **Supreme Pizza by pizza\_name:** "The Spicy Sicilian Pizza" (1.9K), "The Italian Supreme Pizza" (1.9K), "The Prosciutto e Fungi Pizza" (1.8K) are top sellers. "The Brie Carre Pizza" (0.5K) is significantly lower.
* **Classic Pizza by pizza\_name:** "The Classic Deluxe Pizza" (2.4K), "The Hawaiian Pizza" (2.4K), "The Pepperoni Pizza" (2.4K) are top sellers.
* **Veggie Pizza by pizza\_name:** "The Four Cheese Pizza" (1850), "The Vegetarian Pizza" (1510), "The Mexicana Pizza" (1456) are top sellers.
* **Chicken Pizza by pizza\_name:** "The Barbecue Chicken Pizza" (2.4K), "The Thai Chicken Pizza" (2.3K), "The California Chicken Pizza" (1.9K) are top sellers. "The Chicken Alfredo Pizza" and "Pesto Pizza" are lowest at 1.0K.
  + **Finding:** Confirms specific pizza performance within each category, reinforcing which individual items drive sales. The "Brie Carre Pizza" across supreme, and "Chicken Alfredo/Pesto" in chicken categories, consistently underperform.







**F. Implementation:**

The insights from this report can be directly implemented through various business strategies:

* **Marketing & Promotions:**
  + Focus promotional campaigns on Thursday-Saturday to maximize peak sales.
  + Introduce special deals or discounts on Sundays and Mondays to drive traffic during slower periods.
  + Tailor monthly promotions to coincide with anticipated sales dips (e.g., March, July, August, December) to stabilize revenue.
  + Feature top-performing pizzas (e.g., The Thai C..., The Barbecue Chicken, The Classic Deluxe) prominently in marketing materials and special offers.
* **Menu Optimization:**
  + Consider reviewing the performance of consistently low-selling pizzas like "The Brie Carre Pizza" and "The Chicken Alfredo/Pesto Pizza." Options include:
    - Revising ingredients or recipes.
    - Adjusting pricing.
    - Bundling with popular items.
    - Potentially removing them from the menu if profitability is low and demand is consistently poor.
  + Ensure adequate stock and preparation for popular Medium and X-Large pizza sizes.
* **Operational Efficiency:**
  + Adjust staffing levels to match daily and monthly sales trends. More staff might be needed on weekends and during peak months like April and October.
  + Optimize ingredient procurement and inventory management based on individual pizza sales data to reduce waste and ensure availability of popular items.
* **Customer Engagement:**
  + Utilize insights from average order value and average pizzas per order to encourage upselling (e.g., suggesting adding a side or drink to smaller orders) or cross-selling (e.g., promoting a popular pizza alongside a less popular one).

**G. Conclusion:**

The Plato's Pizza Sales Report for 2015 provides a clear and actionable overview of the business's performance. The company generates substantial revenue and processes a high volume of orders and pizzas. Key conclusions include:

* **Weekend Dominance:** Fridays and Saturdays are the strongest sales days, while Sundays are the weakest.
* **Seasonal Fluctuations:** Sales are subject to identifiable monthly variations, with clear peaks and troughs.
* **Balanced Category Mix:** All major pizza categories contribute significantly to sales, indicating a diverse customer base.
* **Size Preference:** Medium and X-Large pizzas are overwhelmingly preferred by customers.
* **Clear Top & Bottom Performers:** Specific pizzas consistently drive the most revenue and quantity, while others consistently underperform, notably "The Brie Carre Pizza."

By understanding these patterns and individual product performances, Plato's Pizza can make data-driven decisions to enhance profitability and customer satisfaction.

* + 1. **Future Scope:**

To further enhance the sales analysis and reporting, the following areas are recommended for future development:

* **Customer Segmentation:** Integrate customer data to analyze sales by customer demographics, loyalty status, or purchase history to enable more personalized marketing.
* **Promotional Effectiveness Analysis:** Track the impact of specific promotions or marketing campaigns on sales metrics to understand ROI and refine future strategies.
* **Cost Analysis Integration:** Incorporate cost data for ingredients and labor to calculate profit margins per pizza, category, or order, providing a more complete financial picture.
* **Time of Day Analysis:** Break down sales by hour of the day to optimize staffing and delivery schedules even further.
* **Geographic Analysis (if applicable):** If multiple store locations exist, analyze sales performance by location to identify regional trends or areas for expansion/improvement.
* **Predictive Analytics:** Utilize historical data to forecast future sales more accurately, aiding in inventory planning, staffing, and financial projections.
* **Competitor Analysis:** Incorporate market data to benchmark Plato's Pizza's performance against competitors.
* **Feedback Integration:** Link sales data with customer feedback or reviews to understand the "why" behind certain sales trends (e.g., why a certain pizza is popular or unpopular).
* **Interactive Drill-Throughs:** Develop more interactive drill-throughs in the Power BI dashboard to allow users to explore data at a more granular level (e.g., click on a pizza to see its sales by day/month).