**Pizza Sales Report – Power BI Dashboard**

**This report is based on the data of a pizza company sales and orders in 2015. The goal is to analyze the data and gain insights on the given year following the metrics below. This project is completed using Power BI with Dax calculations.**

**KPIs**

Key indicators are analyzed within the pizza data to understand the business performance. Specifically, the following metrics are computed:

* Total Sales – The sum of the total price of all pizza orders
* Average Monthly Sales – The average of monthly sale prices, calculated by dividing the total sales by the count of distinct order months
* Last Quarterly Sale Growth –The quarter-to-date sales growth, calculated by subtracting the total sales of the previous quarter from the total sales of the current quarter.
* Total Orders – The total number of orders placed.
* Average Order Value – The average amount spent per order, calculated by dividing the total sales by the total distinct number of orders
* Total Pizzas Sold – The sum of the quantities of all pizzas sold
* 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.
* Total Pizza Type – The total number of pizza types in the menu

**Charts**

For discovering key trends and obtaining perspectives, the following charts are created to visualize various aspects of pizza sales data:

Pizza Analysis

* Total Pizzas Sold by Pizza Category – Created a funnel chart illustrating the overall pizza sales count for each pizza category. This visual representation enables us to assess and compare the business performance across various pizza categories.
* Top 3 Best and Worst Sellers by Total Quantity – Created a donut pie charts highlighting the top 3 best- and worst-selling pizzas based on Total Quantity. These charts help us identify the most and the least popular pizza options.
* Pizza Size and Price Comparison – Created a bar chart that displays the preference of the pizza size. This chart helps us identify customer preferences along with max and min prices of each size.
* The Most Expensive Small (*Tooltip Page*) – Created a line chart that shows monthly pizza numbers of the most expensive small pizza, and a text box that gives information about this pizza. These charts allow us to further investigate that pizza type.
* Pizza Frequency per Order – Created a bar chart that shows the preference of a pizza number in an order. This chart allows us identify the customer preferences for a pizza number in an order.
* Time Slot Trend for Total Pizzas Sold, Total Orders and Total Sales – Created a line and clustered column chart that displays the trends over a specific time period. This chart helps us identify any peak time period in the order volumes on a time period basis.

Sales Analysis

* Monthly and Quarterly trends for Total Sales – Created a Zebra BI chart that shows the total sales over months and quarters. This chart allows us to identify any patterns or fluctuations in the sales.
* Avg Pizzas Sales by Pizza Category – Created a simple waterfall chart illustrating the average pizza sales for each pizza category. This chart enables us investigate the contribution of each category into total sales.
* Total Sales by Pizza Category – Created a donut pie chart that shows the distribution of sales across different pizza sizes. This chart provides insights into the popularity of various pizza size categories and their contribution to overall sales.
* Daily Trend for Total Sales – Created a bar chart that displays the daily trend of total sales over day of weeks. This chart helps us identify any patterns or fluctuations in the order volumes on a specific day.
* Total Sales by Pizza Name – Created an animated bar chart to show pizza names by different pizza names and also by different pizza categories. This chart allows us to discover total sales for a specific category and a pizza name.

Order Analysis

* Pizza Price Size Comparison – Created a matrix table chart that displays the pizza names and corresponding the most expensive and the cheapest price, and total order. This chart helps us look each pizza name at once to gain more depth insight.
* Total Order by Category and Name – Created a sankey chart that shows pizza categories and names by total order. This interactive chart allows us to gaze through customer preference over different categories and pizza names considering total order.
* Orders and Sales Metrics by Category – Created a line and stacked column chart to display total orders by category and names along with a line to show average sales. This chart provides us to distinguish pizza names and categories considering total orders in each.
* Size Slicer – Created a slicer for pizza size to provide more interactivity. This allows us to change other charts based on a chosen pizza size.
* Category play axis – Created a play axis by category that enables us to change other charts based on a category.

AI visuals

* Pizza Decomposition Tree – Created a decomposition tree chart that shows hierarchical pizza sales information by each category, pizza name and ingredients. This chart helps us to compare sales for different perspectives.
* Sales Forecasting and Anomaly Detection – Created a forecasting and anomaly detection charts that display future 3-month sales forecast and anomalies in the current sales analysis.
* Key Influencers of Orders per Month – Created a key influencers of orders based on months that shows what influences order to increase or decrease per month.

Insights

* Peak hours and days are determined. This helps us to manage employee numbers and hours, and ingredients stock optimally.
* Customers prefer to order a single pizza mostly. To increase multiple pizza orders in the future, promotions about multiple pizza orders should be considered.
* Small size pizza prices have the biggest interval and small pizzas have more varieties.
* For the above reason, the most expensive small pizza is further investigated. Although it seems as an outlier, it is ordered regularly through the year. It is only offered in small size under the Supreme Category. The price of the most expensive small pizza, The Brie Carre is $23.65 which contains Brie Carre Cheese, prosciutto, caramelized onions, pears, thyme and garlic.
* The data has no location information about order, so geographical insights cannot be provided but the prices indicate that the store is located in a big city.
* Peak time periods suggest this store is close to a plaza or a working centre since most orders have made during lunch hours.
* The data has no customer identifiers; thus, this report is unsuitable for testing customer loyalty or churn analysis.
* XL and XXL pizzas are ordered very low compared to other sizes.
* Forecasting is done for the next 3 months but the results are not very conclusive since the data is only for 1 year.
* Quarterly and monthly analyses have been conducted to guide sales and inventory planning, considering the variations in seasonal sales.