**Power BI End-to-End Project: Pizza Place Sales**

**Introduction:**

The Power BI project aimed to analyze a year's worth of sales data from a fictional pizza place. The dataset included details such as date, time, type, size, quantity, price, and ingredients of each order.

**Data source:** Maven Analytics

**Link:** <https://www.mavenanalytics.io/data-playground?dataStructure=2lXwWbWANQgI727tVx3DRC&search=pizza%20place%20sales>

**Recommended Analysis:**

How many customers do we have each day? Are there any peak hours?

How many pizzas are typically in an order? Do we have any bestsellers?

How much money did we make this year? Can we identify any seasonality in the sales?

Are there any pizzas we should take of the menu, or any promotions we could leverage?

**Process:**

Data Import and Transformation:

Imported four CSV files: order\_details, orders, pizza\_types, and pizzas.

Renamed tables and columns to match the reporting format.

Promoted rows to headers and performed data type checks.

Replaced null values with 0.

**DAX Measures:**

Created four measures using DAX:

**1.Average orders in a day:**

Avg orders in a day =

DIVIDE(

    DISTINCTCOUNT('Order Details'[Order Id]),

    DISTINCTCOUNT(Orders[Date])

)

**2.Average pizzas in an order:**

Avg Pizzas in an order =

DIVIDE(

    DISTINCTCOUNT('Order Details'[Order Details Id]),

    DISTINCTCOUNT(Orders[Order Id])

)

**3.Total orders:**

Orders = DISTINCTCOUNT('Order Details'[Order Id])

**4.Total sales:**

Total Sales =

SUMX(

    'Order Details',

    'Order Details'[Quantity] \* RELATED(Pizzas[Price])

)

**Data Modeling:**

Treated the order\_details table as the fact table and others as dimension tables.

Created a Date table using DAX for time-based analysis.

Date Table = ADDCOLUMNS(CALENDAR(MIN(Orders[Date]),MAX(Orders[Date])),

    "Year", YEAR([Date]),

    "Month",FORMAT([Date],"mmm"),

    "Month No",MONTH([Date]),

    "Quarter", FORMAT([Date],"\QQ"),

    "Day",FORMAT([Date],"ddd"),

    "Day no", WEEKDAY([Date])

)

**Visualization:**

Developed visualizations including:

1.Sales by month line chart (X-axis: Year and Month, Y-axis: Orders)

This chart shows the variation in sales across different months, helping identify seasonal trends.

2.Busy days stacked bar chart (X-axis: Day, Y-axis: Orders)

This graph indicates which days are busier in terms of pizza orders, aiding in resource allocation.

3.Peak hours stacked bar chart (X-axis: Time slot, Y-axis: Orders)

It displays the peak hours for pizza orders, assisting in optimizing delivery or pickup processes.

4.Preferred category and size donut charts (X-axis: Category/Size, Y-axis: Orders)

These charts highlight the preferred category and size of pizzas based on order volumes.

5.Top and bottom 5 pizzas table visualizations

These tables list the least and most popular pizza types, guiding promotional and inventory strategies.

6.Multi-row cards for key metrics

These cards display key metrics such as total sales, average orders, average pizzas, and total orders.

7.Slicers for category and size filters

These slicers allow users to filter data by pizza category and size for customized analysis.

**Publication:**

Published the dashboard on Power BI Service for accessibility.

**Results:**

Total Sales: $817,860.05

Average Orders in a Day: 60

Average Pizzas in an Order: 2

Total Orders: 21,350

**Key Insights:**

Seasonality: Sales peaked in July 2015 and dipped in October of the same year, indicating seasonal trends.

Busy Days: Fridays recorded the highest number of orders, with 3,538 orders.

Peak Hours: The hours between 12-3 pm were identified as peak hours for pizza orders.

**Recommendations:**

Promotional Strategies: Offer promotions or discounts on the least popular pizza types to boost sales.

Inventory Management: Optimize inventory based on the preferred category (classic) and size (large) of pizzas.

Marketing Focus: Allocate marketing efforts towards the top 5 pizzas to maximize sales potential.