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# PIZZA PLACE SALE CASE STUDY

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**"Slicing Success: A Case Study of a Pizza Place Sale"**



OCTOBER 6, 2024

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## Problems and background

**Problem:** The management intends to achieve this goal by conducting a comprehensive analysis of customer behavior and order data to identify key patterns and opportunities for improvement.

**Background:** The pizza place needs to analyze sales performance over the past year to make informed decisions about operations, menu optimization, and marketing strategies, identifying customer behavior, peak sales periods, and seasonal trends.

## Solution

Ensure a thorough analysis of the pizza place's sales data to uncover actionable insights for improving operations, optimizing the menu, and enhancing marketing strategies.

**Customer Behavior Analysis:** Using time-series data, I will analyze daily and hourly customer traffic to identify peak sales periods, average order size, and customer preferences.

**Menu Performance:** Analysis of best-selling pizzas, best-selling size, underperforming items, and assess their profitability. It will recommend menu adjustments or targeted promotions to boost sales of high-margin products.

**Revenue & Seasonality:** By analyzing revenue trends on month & year basis, and seasonality decomposition, uncover patterns linked to specific seasons of the year, such as Autumn, Spring, Summer, Winter, to optimize pricing and promotions.

**Stakeholder engagement:** is essential for collecting data, review, their approach and ensuring that data-driven insights are translated into actionable strategies. The process involves clear and continuous communication with management, operations teams, and marketing stakeholders.

These insights will empower the pizza place to make data-driven decisions that enhance profitability.

## Project scope

Understand the Pizza Outlet Data of the year 2015 and get the valuable insights, KPIs, root causes to improve the business from the next year onwards.

The project will focus on understanding the following: **Product, Price, Promotion and Profitability.**

A timeline for the project:

**Day 1:** Data collection and cleaning.

**Day 2:** Exploratory Data Analysis (EDA) and visualization setup.

**Day 3:** Perform deeper analysis on menu items, customer behavior, and revenue patterns.

**day 4:** Create final recommendations, including promotional strategies, and present findings.

### **Stakeholders**

**Management:** Interested in the overall business performance and strategic decisions.

**Operations Team:** Focus on improving daily operations, peak hour staffing, and inventory management.

**Marketing Team:** Responsible for creating promotions and customer engagement based on the insights.

## Methodology

To get insights from this project we have used various methods which are –

### Data sources:

Local data sources : Excel

<https://www.kaggle.com/datasets/mysarahmadbhat/pizza-place-sales>

### Data Cleaning:

- Duplicated entries are removed.
- Addressing missing values and guaranteeing data type compatibility.

### Exploratory data analysis (EDA):

- **Customer Analysis:** Analyzing the count of orders per day to determine peak hours and high-traffic days.
- **Order Trends:** By counting the number of pizzas ordered in a single transaction and will get bestsellers by tracking the most popular pizza types.

### Revenue analysis:

- Adding up the total revenue generated throughout the year/Month.

### Menu performance:

- Analysis of underperforming pizzas based on the lowest orders count.
- To determine profitability, calculate the average revenue per pizza type.

### Data Visualization:

- Created meaningful dashboards using Pivot tables for visual insights into order peak hours, maxim order count day, season wise pizza order and total revenue.

### Promotional Ideas:

- Based on performance analysis, identify any things that could be removed or promoted.

## Goals and KPIs

### Goals:

1. **Improve Sales Performance:** Identify high and low-performing menu items and determine potential for menu optimization to increase overall sales.
2. **Enhance Customer Experience:** Understand peak order times and customer behavior to improve service efficiency and customer satisfaction.
3. **Optimize Marketing Efforts:** Leverage data to create targeted promotions and discounts based on sales trends and seasonality.

### KPIs:

**Daily Sales Volume Target:** Increase daily sales by X% over the next quarter.

**Revenue Growth Target:** Achieve a Y% growth in monthly revenue over the next 6 months.

**Bestseller Contribution Target:** Maintain bestseller pizzas contributing 35-40% of total sales.

**Promotion Effectiveness Target:** Increase sales of underperforming pizzas by Z% during promotional periods.

These KPIs will help track the success of initiatives aimed at optimizing sales, customer service, and marketing strategies.

## Technical Processes

1. Data Cleaning and Preparation
2. Pivot Tables for Data Aggregation
3. Data Analysis with Formulas (VLOOKUP, pivot table, count, sum, avg, min, max, sorting, filter)
4. Revenue Analysis
5. Data Visualization

## Business Concepts Used

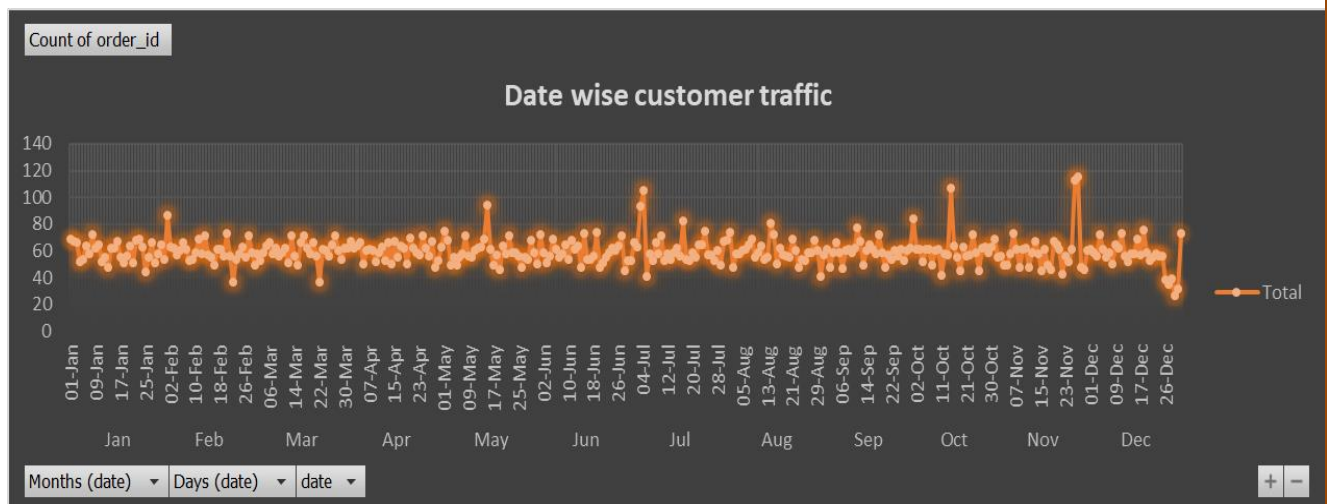
Business processes or concepts used in the project

- Market Understanding
  - Customer Demographic
  - Customer Behavior
  - Customer Retention
  - New Customer Acquisition
1. **Market Understanding:** In this project we realized that the market is working on the seasonally and occasionally pizza sale count. We analyzed in the project that the summer season has the highest sales and on a daily basis at the time of snaking we had great sales. In the summer season customers used to order veggies loaded pizza and, in the rains, they used to order classic pizza and supreme pizza, and in winters & Spring supreme category and chicken pizza was mostly loved by the customers.
  2. **Customer Demographic:** Based on customer demographic understanding we realized that season wise customers used to choose the type of the pizza based on the ingredients that what ingredients he wants in his pizza. In the summer season customers used to order veggie loaded pizza and in the rain they used to order classic pizza and supreme pizza, and in winter & Spring supreme category and chicken pizza was mostly loved by the customers.
  3. **Customer Behavior:** No. of customer count and their ordered pizza count with quantities will also let us know how we can improve our business. In this project we found that we have a lot of common customers for the pizza sales.
  4. **New Customer Acquisition:** For new and more customer acquisition we need to get the feedback from the customers. We need to understand their taste and as we saw based on occasion and season, we have the highest sale count. We will increase the varieties at that time and the least sold pizzas we will improve their quality and prices.

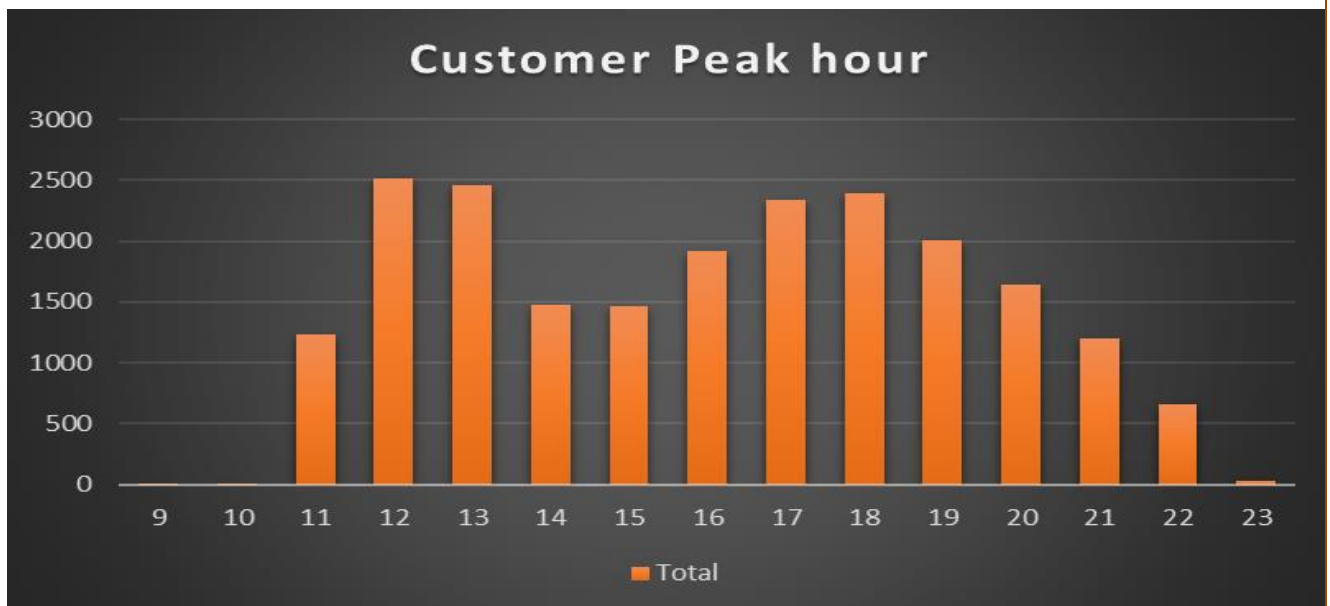
## Recommended Analysis:

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

Using 'order' data, analyze daily and hourly customer traffic to identify average customer count, total customer in year, peak sales periods and customer peak hour. After analysis, we have 50 to 70 customers each day and there are two pick hours in a day. **Total Customer in 2015: 21350**



Average customer count per day :60



There are two pick hours in a day : 12:00 PM to 1:00 PM & 5:00 PM to 7:00 PM

## 2. How many pizzas are typically in order? Do we have any bestsellers?

Avg. Count of Pizza per order: 3

Best Pizza Saler is: BIG\_MEAT\_S



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

Total Yearly Revenue: \$817860.05

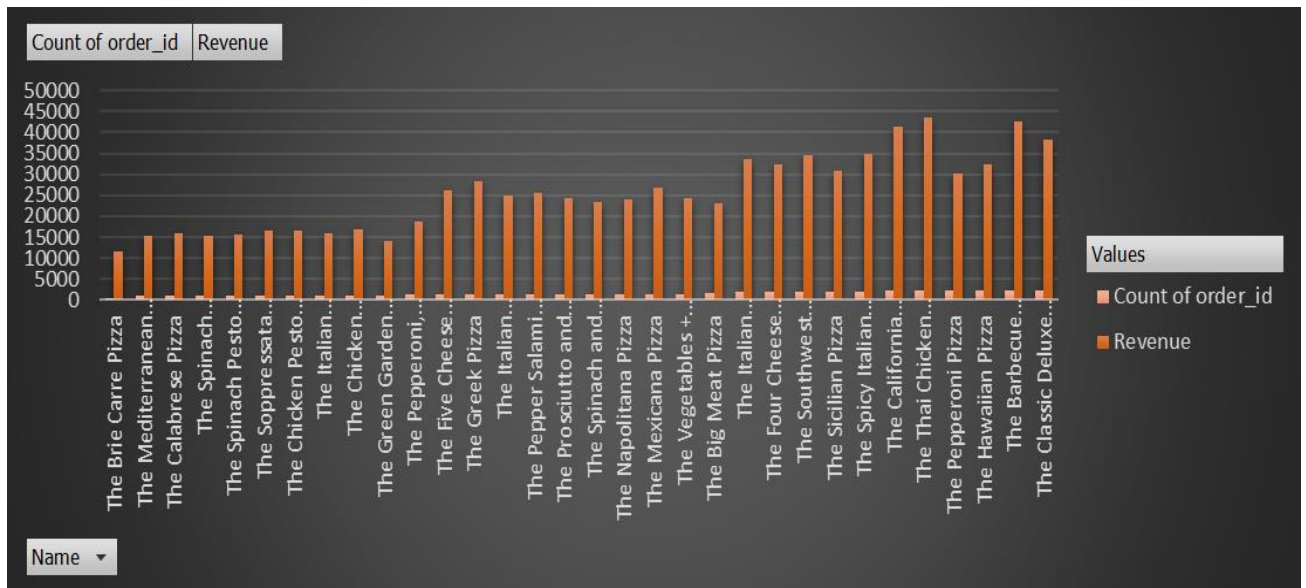


Yes we have identified seasonality in sales.  
Maximum pizza sales increase in Summer season.



#### 4. Are there any pizzas we should take off the menu, or any promotions we could leverage?

The '**Brie Carre Pizza**' can take off from menu, it has lowest sale & revenue in year 2015.  
We should promote '**Thai Chicken pizza**' due to highest revenue (AS higher the revenue higher the profit).



We should promote "Thai Chicken pizza" due to highest revenue (As higher the revenue higher the profit)

As we have analyzed, sales count has increased in summer, which means pizza orders can be increased if we do seasonal offers or promotions.

## Project owner

Name: Ruchi Kumari

Date: October 5th, 2024



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