Moon PIZZA

Business intelligence
for a Pizza chain

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01

Introduction

Here we introduce the data
and define the problem

Pizza chain data set

Today in our presentation we are going to explore how Business intelligence with data-driven insights can transform Moon pizza chain's operations.

- We use multiple data sets like pizza sales, competitors sales data and customer reviews.
- All the data is taken from Kaggle.com.

Problem

Definition

The pizza chain faces challenges with fluctuating demand and inconsistent customer satisfaction during peak periods. The goal is to accurately forecast high-demand periods, optimize workforce management, and enhance customer satisfaction to improve overall sales and service quality.

Why it matters

- **Maximizing Profitability:**
  Accurately forecasting demand helps the pizza shop prepare for high-sales periods, ensuring that popular items are always in stock.

- **Optimizing Workforce Management:**
  Efficient staffing based on sales data ensures that the shop is well-staffed during peak hours.

- **Improving Customer Satisfaction:**
  By addressing customer complaints related to peak periods (like delays or mistakes), the shop can enhance service quality.

- **Staying Competitive:**
  Benchmarking against competitors helps identify areas for improvement, whether in menu offerings or service strategies.

Data sources

External	Operational
Competitor Data: Sales trends, pricing strategies, and menu offerings from major competitors.	**Sales Data:** • Daily, weekly, and monthly sales by category, size, and type of pizza. • Hourly transaction records to identify peak sales periods.
Economic and Market Data: Market trends and industry reports on the food delivery and pizza industry.	**Customer Data:** • Customer order history, preferences, and loyalty program participation. • Categorized customer reviews (complaints, delivery feedback, menu feedback).

02

Design Process

How we collected data and developed the dashboard

Step 1

Data collection and exploration

- **External Data Collection:**
  Gather competitor sales data, customer reviews from social media and review platforms, local events etc.

- **Operational Data Collection:**
  Extract sales data, inventory records and customer feedback from the pizza shop's internal systems (POS, CRM).

- **Data Integration:**
  Consolidate external and operational data into a unified data warehouse. Ensure data quality through cleaning, validation, and standardization.

Step 2

Dashboard Development:

- **Menu Section:**
  Develop visualizations like pie charts for internal and competitor sales by pizza size and category.

- **Analytics Section:**
  Create interactive charts showing hourly, weekly, and monthly sales trends.

- **Customer Review Section:**
  Implement text analysis to categorize and visualize reviews (e.g., complaints, delivery, menu).

MOON Pizza

Order

Menu

Performance Monitoring

Customer Review

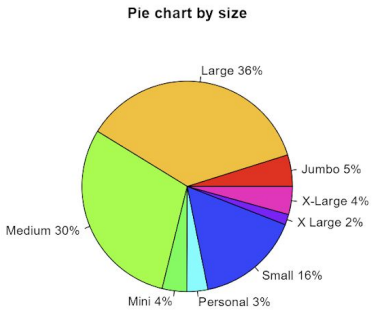
Average Price

Pizza Type: Cheeses Pizza

Pizza Size: Small

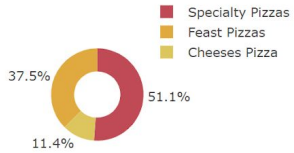
Pizza_Type	Pizza_size	Price
Cheeses Pizza	Small	6.99

Max Sales Size

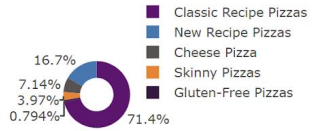


Competitor

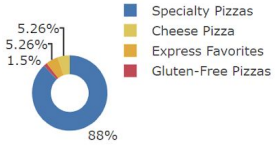
Dominos



Pizza Hut



Godfather



IMO

MOON Pizza

Order

Menu

Performance Monitoring

Customer Review

Select a Date Range

01-01-2023 to 31-12-2023

Number of Days in the Selected Date Range:
364

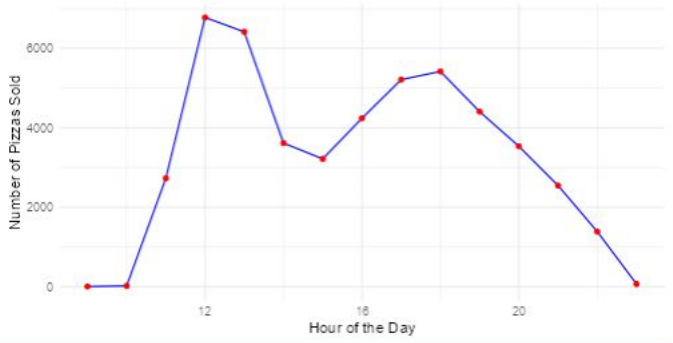
817860.05
Total Revenue

49574
Total Pizza Sales

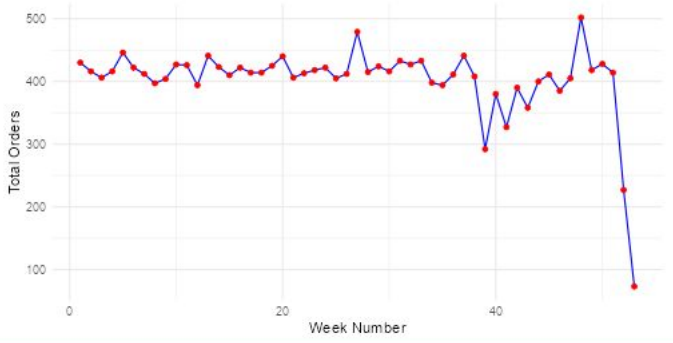
21350
Total Orders

2246.87
Average Order

Hourly trend for total Pizzas sold



Weekly trend for total orders



MOON Pizza

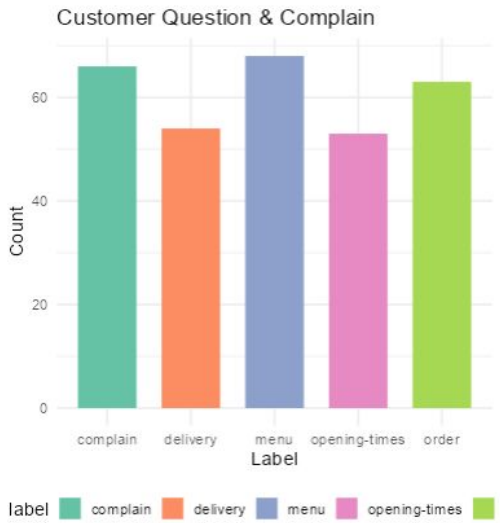
Order

Menu

Performance Monitoring

Customer Review

Customer Question/Review About



Customer Questions & Complains

Select a label

complain

Show 10 entries Search:

	label	text
1	complain	I didn't like the taste of the pizza
2	complain	The pizza had a very bad taste
3	complain	the pizza was cold and the delivery was late.
4	complain	I ordered a pizza without toppings and and got a pepperoni pizza.
5	complain	the pizza had too much cheese, I want a refund now!
6	complain	I'm waiting for the pizza too much time!, I want a refund.
7	complain	First time ordering and the pizza came an hour late and cold. I'll never order from you again!!!
8	complain	the pizza had a bd smell, did not want to eat it. so disappointed.
9	complain	The pizza had too much cheese and didn't taste good
10	complain	The pizza taste is not fresh.

Step 3

Data Analysis and Insights Generation

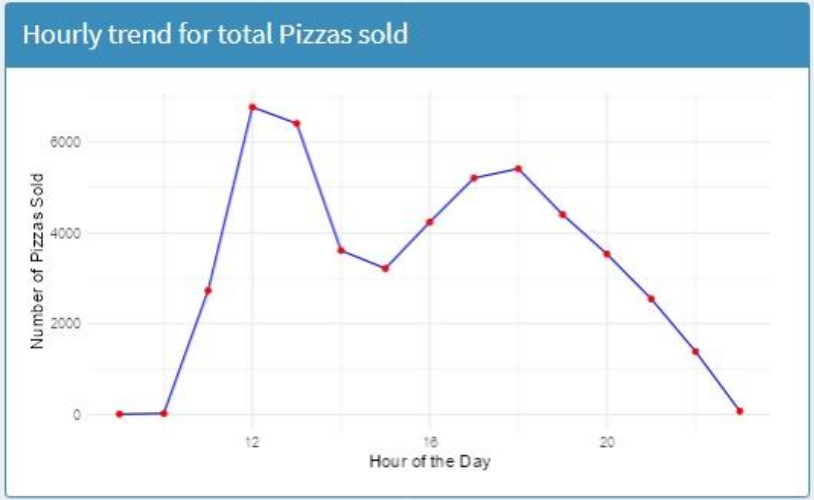
- **Descriptive Analytics:**
  Identify current sales patterns, peak hours, and customer satisfaction levels.

- **Predictive Analytics:**
  Use historical data to for predicting high-demand periods. Forecast staffing needs based on expected sales volumes.

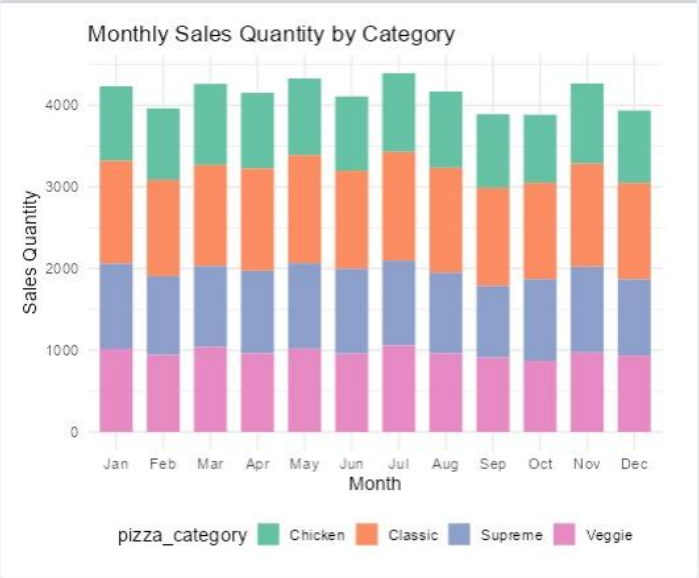
03

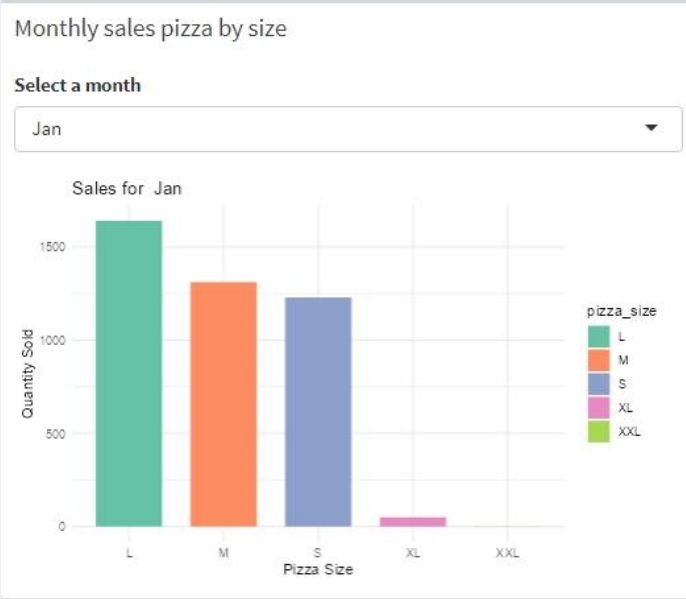
Results and Insights

Getting insights from the dashboard



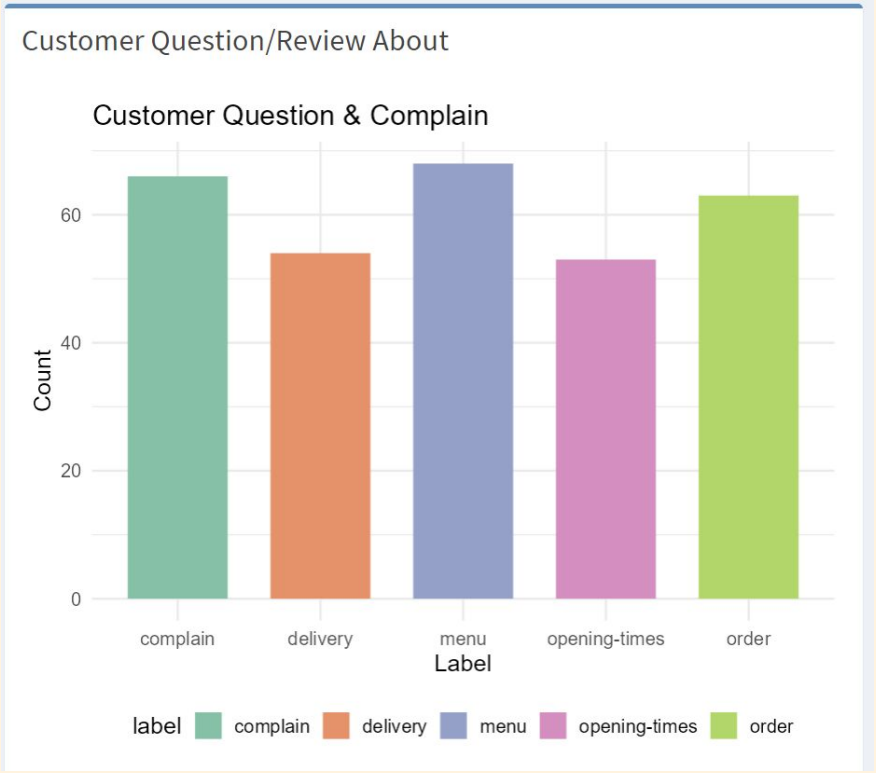
- Sales peak between 12 p.m to 1 p.m and 5 p.m during the day.
- After 5 p.m sales slowly starts to decrease each hour.
- Sales generally stay at a consistent range until the December month. Sales gets lower at the last weeks of the December month.





- Demand for each category of pizzas are divided roughly in equal amounts for all months with most high sales for classic.
- Demand for XXL, XL size pizzas are very low.

- Competitors have higher sales for their specialty pizzas and classic pizzas.
- For example, Pizza hut has higher sales for their classic recipe pizza.



- Lots of complaints and questions about the menu.
- Others questions about order, delivery times are also generally high.

04

Solutions and Conclusion

Solutions to our problem

Solutions

1. **Address Peak Hour Challenges:**

Observation:
- Sales peak between 12 PM–1 PM and 5 PM, then decrease.

Solution:
- Staffing: Schedule more staff during peak hours to ensure efficient service and reduce wait times.
- Promotions: Introduce "Happy Hour" discounts from 1 PM to 2 PM or after 5 PM to extend peak sales.
- Inventory Management: Ensure popular ingredients are well-stocked before peak hours to avoid running out.

Solutions

2. **Improve Late December Sales:**

Observation:
- Sales drop significantly in the last weeks of December.

Solution:
- Seasonal Promotions: Launch special holiday deals or limited-time offers to attract customers.
- Holiday-Themed Pizzas: Introduce festive-themed pizzas or combo deals.
- Delivery Discounts: Offer delivery discounts to encourage orders when customers are busy with holiday preparations.

Solutions

3. **Enhance Customer Satisfaction:**

Observation:

- Many customer complaints and questions about the menu.

Solution:

- Menu Clarity: Redesign the menu to make it more informative and user-friendly, possibly adding visuals or descriptions.
- Training: Train staff to handle customer inquiries efficiently.

Solutions

- **4. Increase XXL and XL Pizza Sales:**

  Observation:
  - Low demand for XXL and XL pizzas.

  Solution:
  - Combo Deals: Create family meal deals that include XXL or XL pizzas with sides.
  - Value Promotions: Offer discounts on larger pizzas during weekends or special occasions.

Solutions

5. Competitive Strategy Improvement:

Observation:

- Competitors excel in specific pizza types (Pizza Hut: classic pizzas; Domino's and Godfather’s: specialty pizzas).

Solution:

- Enhance Classic and Specialty Lines: Improve recipes or launch premium classic pizzas. For specialty Pizzas we can introduce unique specialty pizzas or limited-time "chef’s specials" to attract new customers.
- Competitive Promotions: Offer direct promotions targeting competitor strengths (e.g., discounts on classic pizzas during key competitor promotions).

Conclusion

- Optimizing staffing during peak hours ensures smoother operations and reduces customer wait times.
- Targeted promotions can sustain sales beyond traditional peaks and during seasonal slumps. Improving menu clarity and addressing customer feedback directly enhance satisfaction and loyalty.
- Focusing on high-demand toppings and underperforming XXL/XL pizzas through strategic promotions and custom offers can boost sales.

THANKS!

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