

Business Data Management Capstone Project Presentation

# **FINANCIAL AND OPERATIONAL OPTIMIZATION OF FOOD PLAZA RESTAURANT**



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# PROJECT OVERVIEW

## Key Objective:

To analyze sales records from Food Plaza and identify patterns in revenue, item performance, and operational inefficiencies.

## Problem Statements:

### Problem 1: Menu Optimization:

The restaurant has a variety of food items, which needs to be optimised by prioritising menu items which may generate more profit.

### Problem 2: Status of Market Presence

In today's digital age, a robust online presence is crucial for any business, including restaurants. The establishment has established an online presence, but it lacks sufficient engagement.

### Problem 3: Low Sales on Certain Days

The restaurant experiences low sales on certain days, indicating a need for strategies to boost customer turnout and sales consistency.

## Significance:

This analysis offers actionable insights for Food Plaza. It highlights key inefficiencies in menu design, sales patterns, and digital outreach, helping the business identify growth opportunities using data-driven decisions.

# FOOD PLAZA RESTAURANT - BACKGROUND



Located in Vasundhara Enclave, East Delhi

Dine-in North Indian and Indo-Chinese cuisine

Uses a basic receipt-generating machine, but billing  
is still manual

Active on Zomato only (4.0★, 4,232 reviews)

Owner: Mr. Prakash Chandra Tiwari

Established: 2016

Employees: 10

Business Model: B2C (walk-in customers only)

Turnover: Approx. ₹18 lakhs annually

Management: Efficiently handled by Mr. Tiwari himself

# DATA COLLECTION AND METHODOLOGY

## Data Collection:

Sales records were manually transcribed from conversations with the owner between May–August 2024. Visits occurred daily or on alternate days.

## Data Sources:

- Daily records
- Owner-shared cost price estimates
- Fixed costs (rent, salaries, maintenance)
- Zomato profile and online reviews
- Simulated Instagram data (4-week model)



## Data Cleaning:

- Refinements Made:
  1. Focused on 15 key dishes (instead of full menu)
  2. Introduced simulated digital marketing engagement to estimate potential
  3. Added weekday-based revenue pattern analysis
- Visualizations: Line charts, bar charts, scatter plots, and trendlines (Excel)
- Trend Analysis: Compared weekday vs weekend revenue; flagged low-sale days
- Correlation Checks: Impressions vs Orders ( $r \approx 0.88$ ) SP vs CP ( $r \approx 0.99$ )
- Engagement Simulation: Dummy 4-week Instagram data; 2+ posts → ~15% more orders



# DATA ANALYSIS

## Tools Used:

Microsoft Excel

- Data cleaning: structured entry, color-coding, outlier flagging
- Formulas: SP - CP, percentage margin, revenue per item

Google Colab

- Generated a few graphs

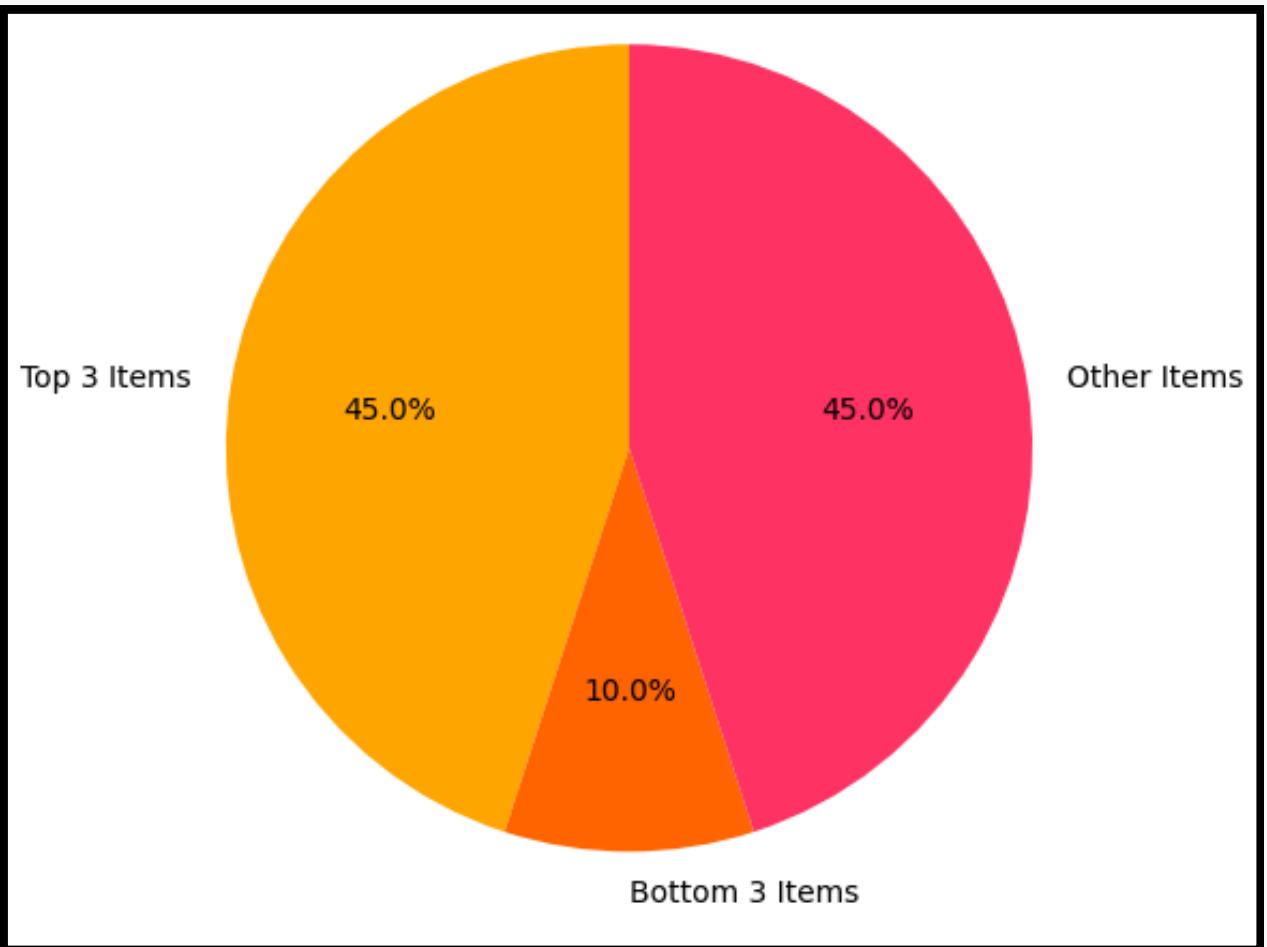
## Methods:

Profit Analysis:

- 15 items analyzed for unit profit, total profit, % margin
- Found fixed 50% markup across all items

Margin-Based Categorization:

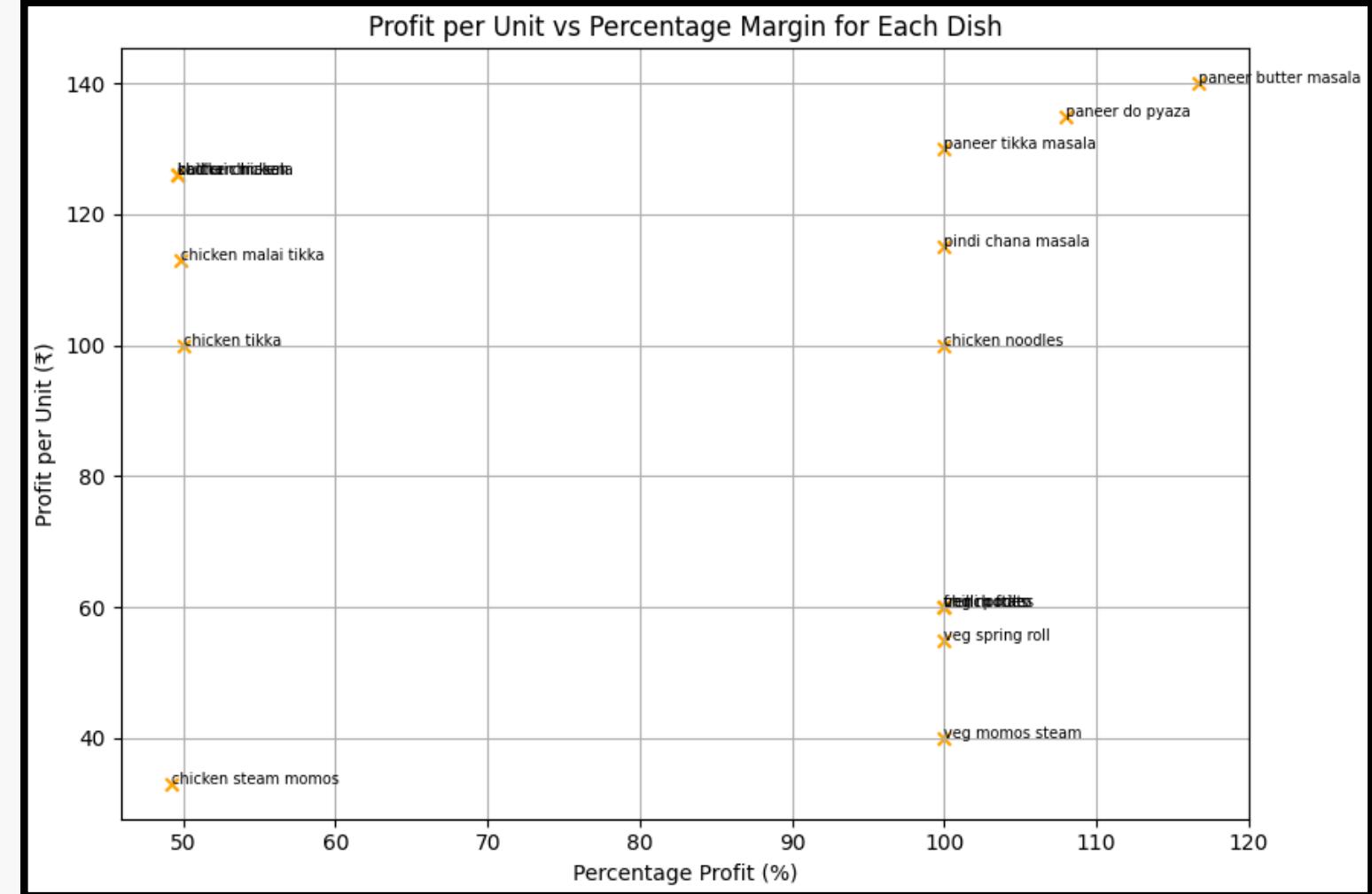
- High Margin:  $\geq 100\%$  (e.g., Paneer Do Pyaza)
- Medium Margin: 60–99% (e.g., Spring Roll)
- Low Margin:  $< 60\%$  (e.g., Butter Chicken)



Top 3 dishes (Butter Chicken, Paneer Butter Masala, and Chicken Biryani) contribute ~45% of total revenue. Bottom 3 dishes (French Fries, Chicken Momos, and Veg Manchurian) together account for only ~10%.

# DATA ANALYSIS: MENU PERFORMANCE

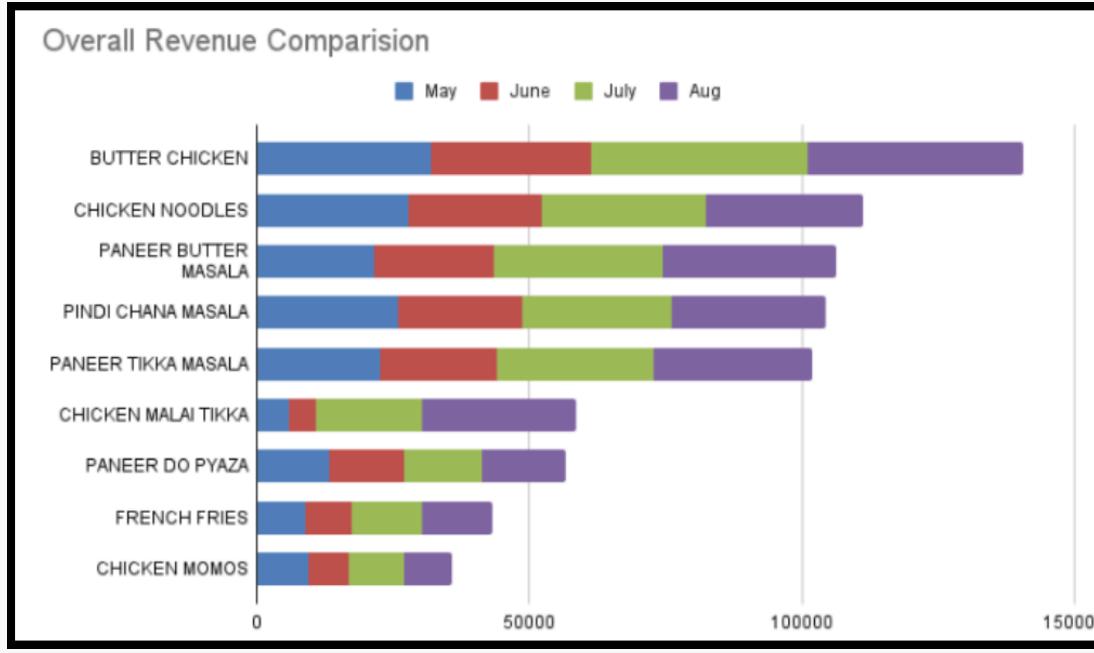
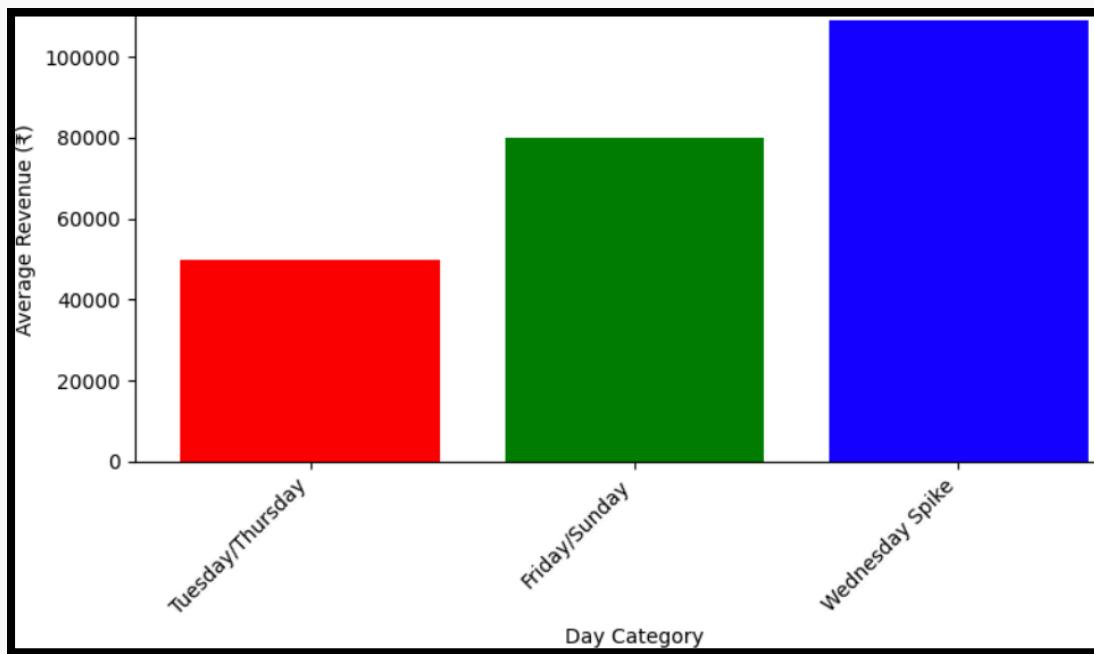
	Selling Price	Cost Price	Profit per Unit	Percentage Profit
veg momos steam	80	40	40	100
chicken steam momos	100	67	33	49.25373134
chilli potato	120	60	60	100
veg spring roll	110	55	55	100
french fries	120	60	60	100
veg noodles	120	60	60	100
chicken noodles	200	100	100	100
paneer butter masala	260	120	140	116.66666667
paneer do pyaza	260	125	135	108
paneer tikka masala	260	130	130	100
pindi chana masala	230	115	115	100
chicken tikka	300	200	100	50
chicken malai tikka	340	227	113	49.77973568
butter chicken	380	254	126	49.60629921
kadhai chicken	380	254	126	49.60629921
chicken masala	380	254	126	49.60629921



All dishes operate on a ~50% profit margin, but total profit is driven by volume sold, not just margin. The scatter plot shows dishes like Paneer Butter Masala offer both high profit per unit and strong percentage margins, making them ideal to retain and promote. In contrast, items in the lower-left quadrant (low margin, low volume) are candidates for removal.

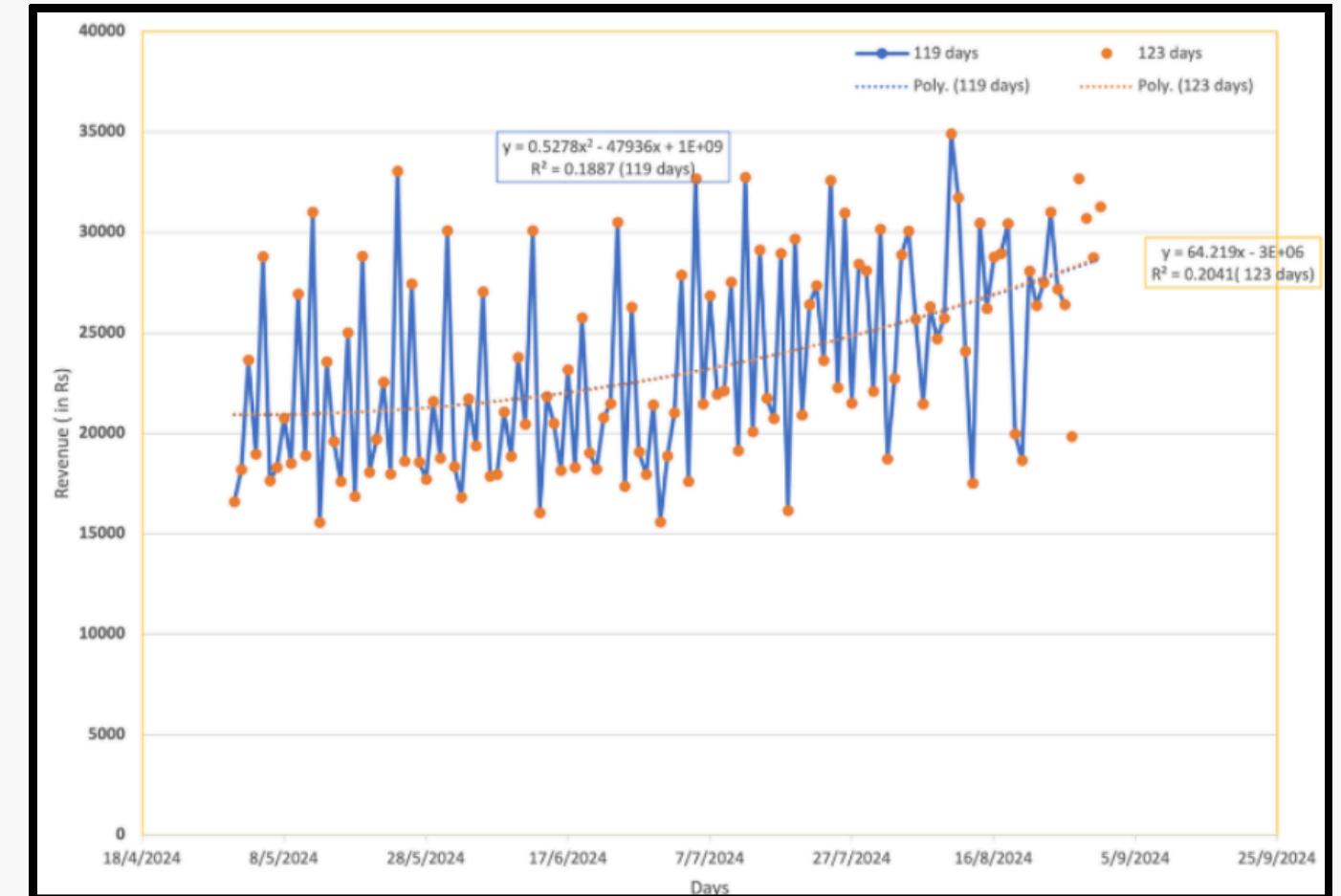
These insights highlight the need to prune the menu and focus on high performers to reduce waste and streamline operations.

# FINDINGS

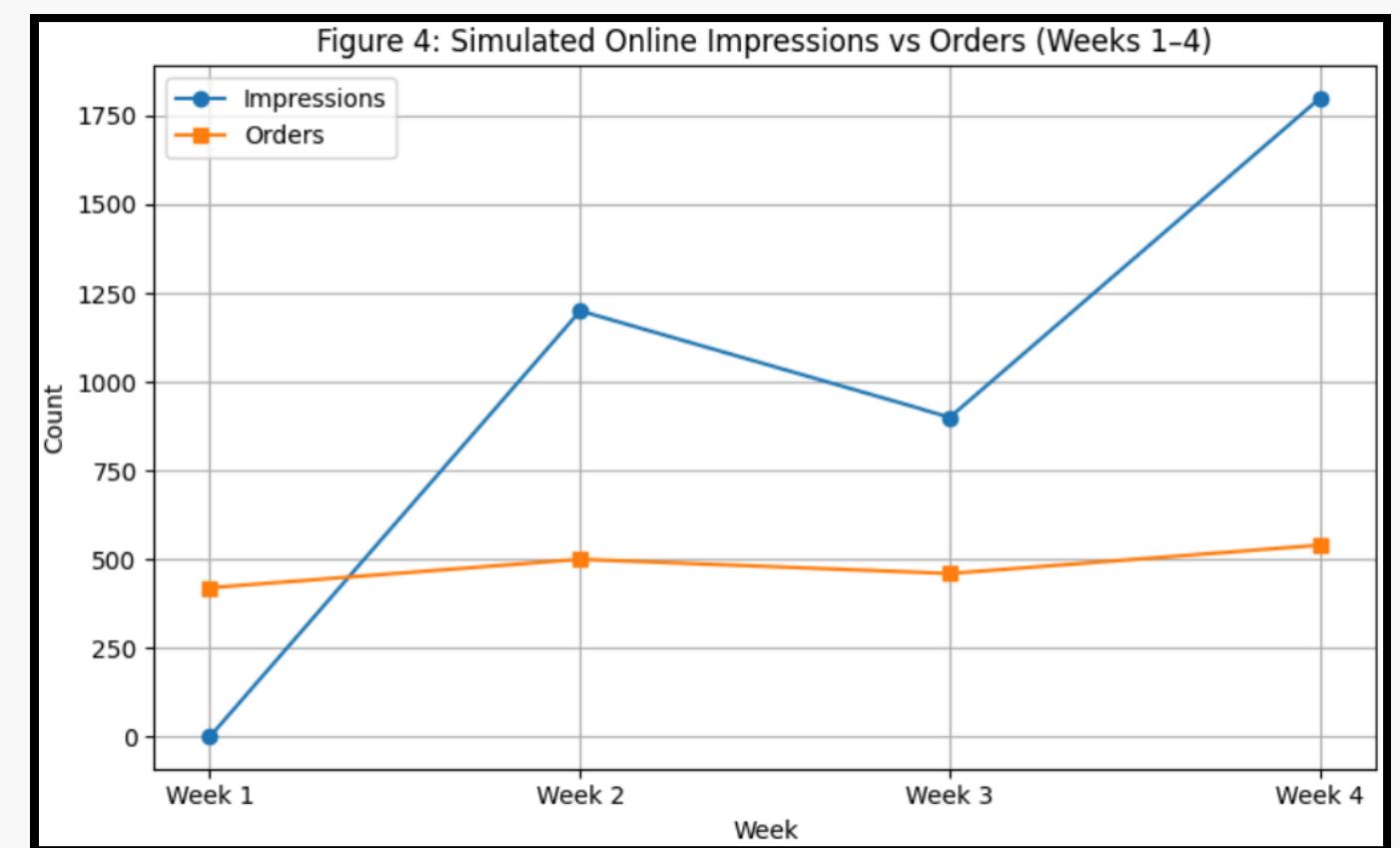


Weekday revenue patterns show a clear dip on Tuesdays and Thursdays, with average revenue around ₹50,000. In contrast, Fridays and Sundays perform well, averaging close to ₹80,000.

An exceptional Wednesday spike (~₹1.09 lakh) in June was due to a exception, proving midweek potential when strategically targeted.



The revenue fluctuated significantly day-to-day, but a gradual upward trend is visible over the 4-month period.



**Instagram Simulation:** Posting 2+ times/week led to a ~15% increase in orders, with a strong correlation between impressions and orders ( $r \approx 0.88$ )—proving even basic online activity can drive real sales.

# RECOMMENDATIONS

## Menu Optimization

- Retain top 8–10 revenue-driving dishes like Butter Chicken, Paneer Butter Masala, and Chicken Biryani.
- Phase out low-volume dishes like Veg Afghani Momos and Veg Manchurian via a “Farewell Specials” campaign.
- Pilot a reduced menu over 4 weeks and reinvest savings into promoting signature items.

## Digital Engagement

- Launch Instagram with 2–3 posts/week (dish highlights & behind-the-scenes).
- Run “Weekday Warriors” promo code for Tuesday/Thursday discounts.
- Track weekly Instagram metrics and link to order data (based on  $r \approx 0.88$  correlation found in simulated test).

## Boosting Weekday Revenue

- Introduce “Midweek Combos” bundling bestsellers and drinks at ₹100 discount.
- Partner with nearby offices for bulk lunch orders (20+ plates).
- Host events like Trivia Tuesdays or Throwback Thursdays to increase footfall.

# CONCLUSION

- Significant skew observed for a few popular dishes (Butter Chicken, Paneer Butter Masala, etc.) that generate the bulk of profit, while many low-selling items (French Fries, Chicken Momos, and Veg Manchurian) add little value and raise operational costs.
- Sporadic social media postings and outdated online menus hinder brand visibility. Occasional correlation with footfall suggests potential for growth if the digital strategy is strengthened.
- Marked gap in midweek revenue, with limited promotions and staff scheduling possibly contributing to subpar sales compared to peak weekend days. However, singular event-driven revenue spikes indicate the viability of targeted weekday marketing.

## Strategic Solutions

- Refine the menu to emphasize bestsellers, reduce complexity, and repurpose resources toward consistent quality.
- Enhance digital presence through regular, engaging social media content, accurate online menus, and loyalty programs that encourage customer retention.
- Deploy weekday-specific promotions such as discounted combos, themed evenings, or corporate lunch deals to boost Tuesday/Thursday activity.

# **THANK YOU**

Any questions?