Pizza Sales Insights & Business Analysis

Understanding demand, product performance, and seating utilisation through data

We analysed pizza sales data using Python to uncover when we are busiest, how many pizzas we produce during peak hours, which pizzas perform best and worst, our average order value, and how efficiently we use our seating capacity.

Data & Methodology

Dataset Overview

Pizza sales transaction data including order ID, date, time, quantity, pizza type, and revenue. We grouped data by day, hour, and product type to extract meaningful patterns.

Tools & Technology

- Python for data processing
- Pandas for grouping & aggregations
- Matplotlib/Seaborn for visualisations

1

Raw Data

Sales transactions

2

Cleaning

Data validation

3

Aggregation

Pattern extraction

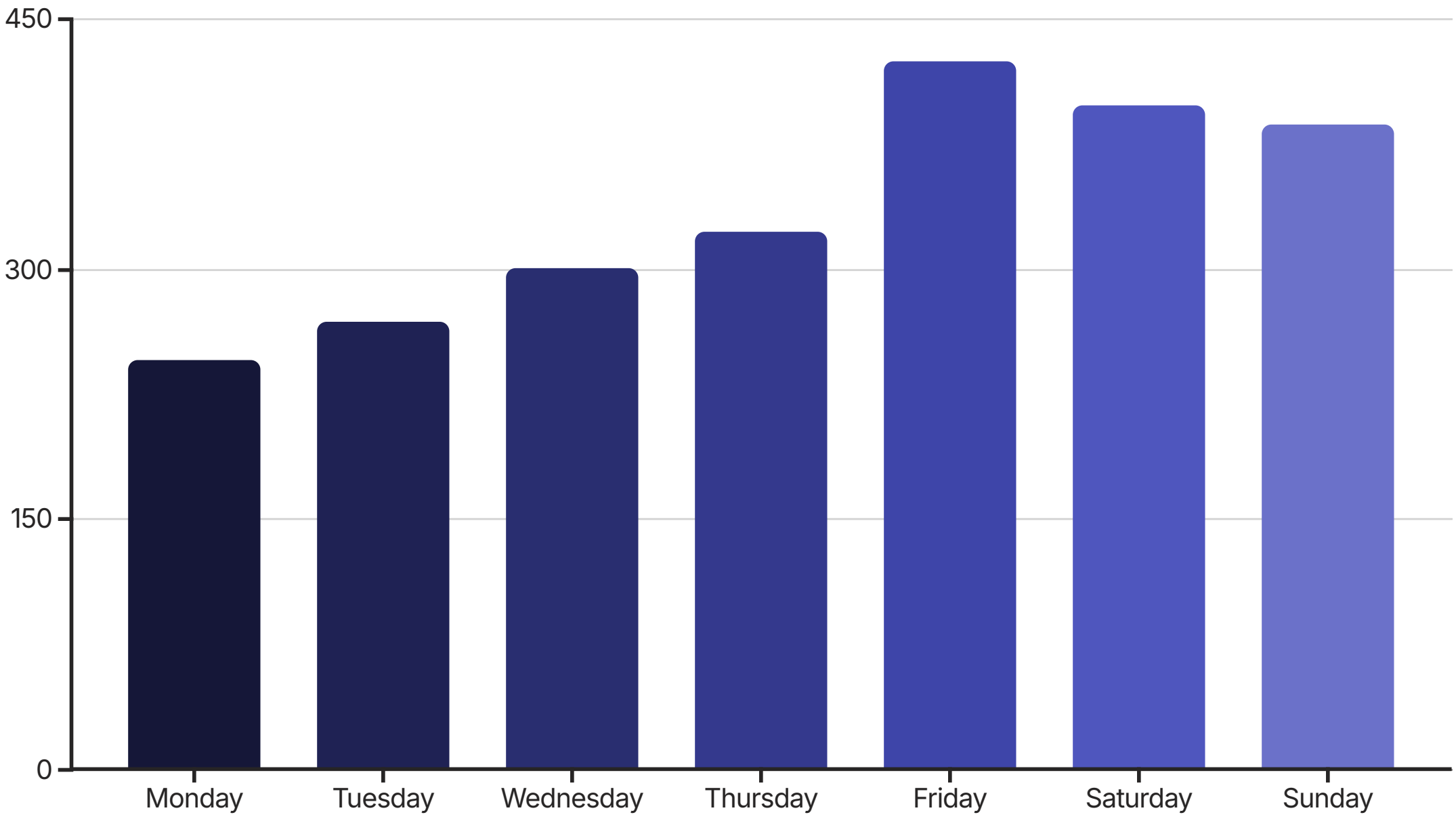
4

Insights

Business actions

Busiest Days & Times

We grouped orders by weekday and hour, then counted transactions to identify peak service windows.



Weekend Rush

Orders spike on weekends, particularly Friday through Sunday evenings

Lunch Peak

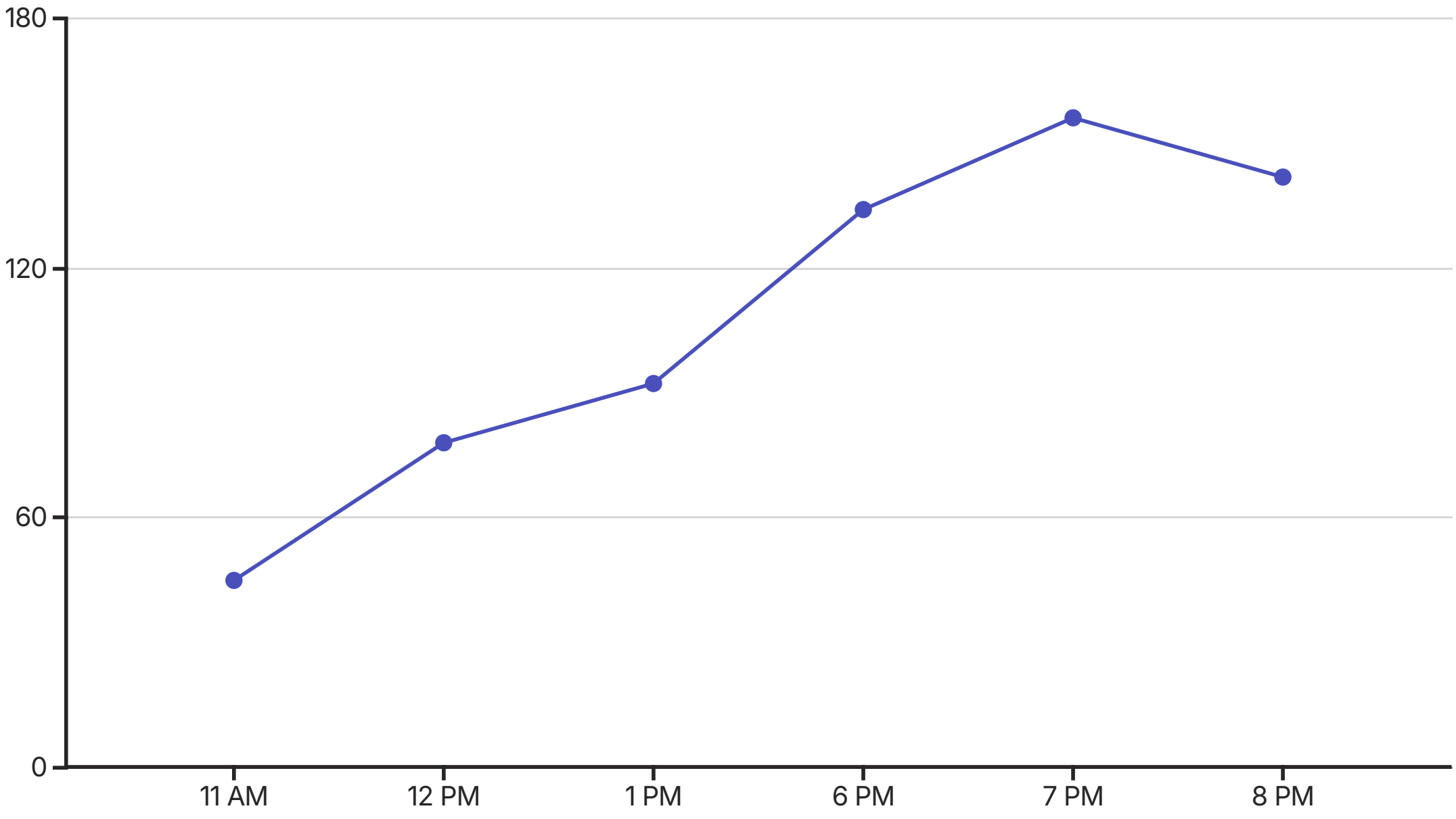
Smaller but consistent peak during weekday lunch hours

Staffing Focus

These are critical service windows requiring optimal staffing

Peak Pizza Production

We summed the pizza quantities by hour to estimate kitchen output and identify production bottlenecks.

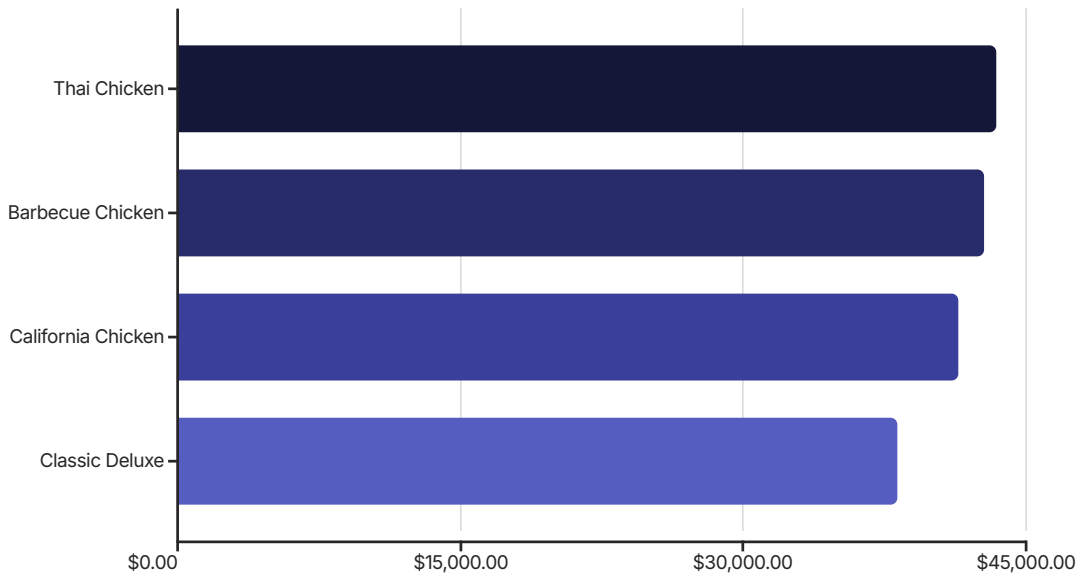


At peak evening hours, our kitchen produces 140-160 pizzas per hour, identifying crucial capacity planning needs and staff requirements.

Menu Performance Analysis

We aggregated revenue per pizza type and ranked them to identify top and bottom performers.

🏆 Top Performers



⚠️ Underperformers

- Brie Carre - ₹11,588
- Mediterranean - ₹15,360
- Spinach Pesto - ₹15,596
- Calabrese - ₹16,925
- Green Garden - ₹17,142

Action Required: Promote weak performers through marketing or consider menu redesign

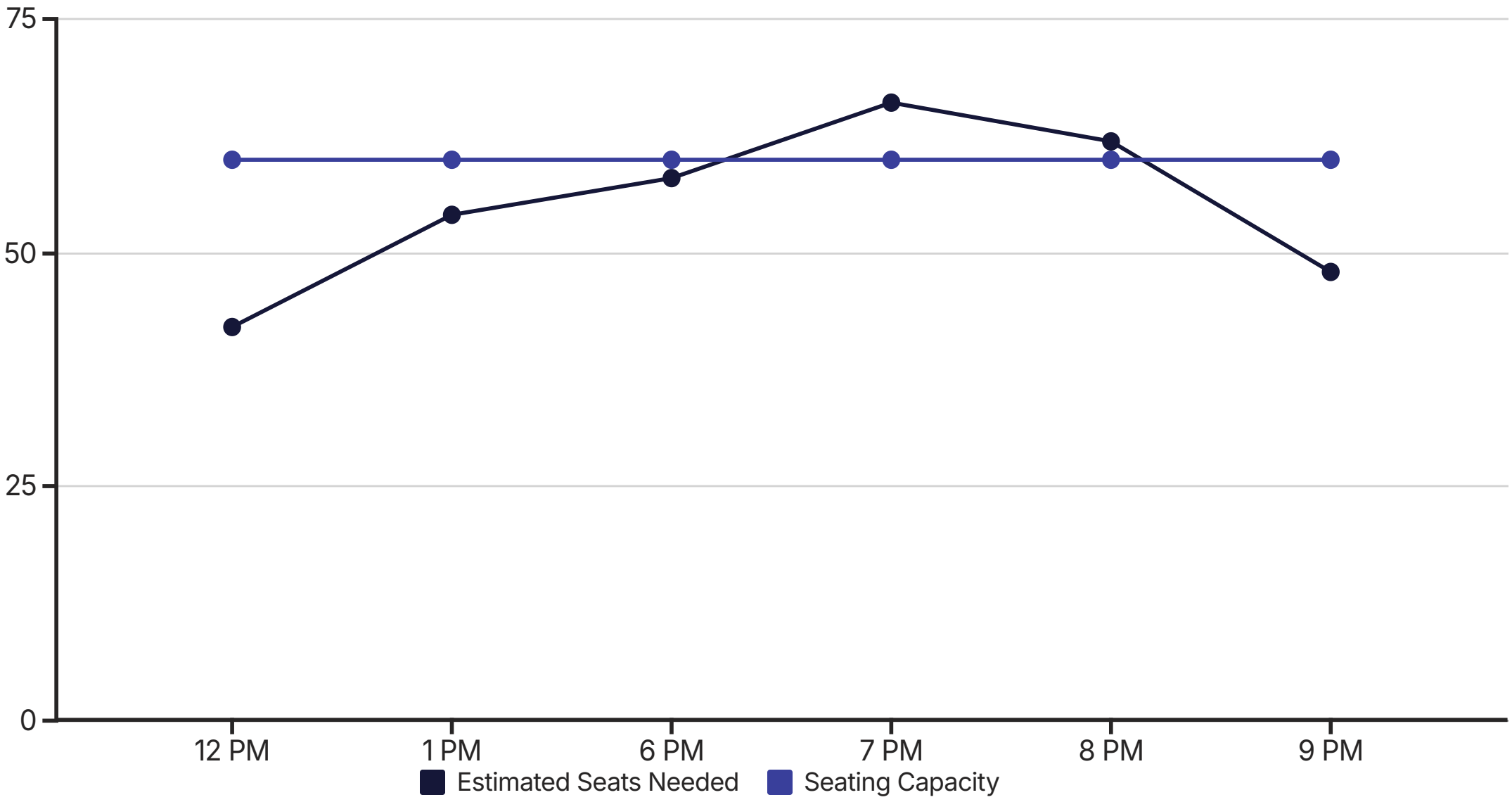
Average Order Value

₹38.31	2,346	₹89,...
Current AOV	**Total Orders**	**Total Revenue**
Total Revenue ÷ Total Orders	Analysed transactions	Overall sales value

This benchmark enables us to design effective upselling strategies, bundle offers, and add-on promotions to increase customer spend per visit.

Seating Capacity Utilisation

We assumed 2 guests per order to approximate seats needed and compared against our 60-seat capacity.



⚠ During peak evening rush (7-8 PM), demand approaches or exceeds 60 seats, indicating potential waiting times and need for efficient table turnover strategies.

Strategic Recommendations

Optimise Staffing

Increase staff during weekend evenings and weekday lunch peaks to handle demand surges effectively

Kitchen Efficiency

Prepare for peak output of 140-160 pizzas per hour with streamlined workflows and adequate prep

Menu Strategy

Promote underperforming pizzas through marketing campaigns or redesign recipes based on top sellers

Revenue Growth

Use ₹38 AOV benchmark to design bundle deals, combo offers, and strategic upselling initiatives

Capacity Management

Consider reservation systems or table turnover strategies during peak 7-8 PM window

Turning Data into Action

> This analysis bridges raw sales data with operational insights, enabling better staffing decisions, menu optimisation strategies, and enhanced customer experiences.

Data-Driven Decisions

Transform numbers into actionable business strategies

Operational Excellence

Optimise every aspect from kitchen to customer service

Competitive Advantage

Use insights to stay ahead in the restaurant industry