

# Data-Driven Transformation at XYZ's Café

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# XYZ's Café

- Location: [City], [State]
- Venue: [Shopping Complex]
- Owners: [Owner1] and [Owner2]
- Cuisine: North Indian cuisine

## Key Features:

- Efficiently managed by one cook supported by the owners.
- Monthly revenue approximately 50,000 INR.
- Operational expenses around 35,000 INR.



# Data-Driven Focus

## Objective:

- Utilize advanced data analysis for optimizing operations and enhancing customer engagement at XYZ Café.

## Project Focus:

- **Maximizing Profits:** Enhance profitability through precise demand forecasting for menu items, minimizing inventory losses, and optimizing resource allocation.
- **Customer Culinary Demographic Identification:** Analyse dish sales trends to identify and understand the café's customer culinary demographic. Tailor marketing strategies and menu enhancements to cater to specific customer preferences.

## Alignment with Café's Growth:

- Detailed insights aim to foster informed decision-making crucial for sustainable growth and success.
  - Data-driven strategies enhance operational efficiency and strategic planning, augmenting the café's competitive edge in the market
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# Trend analysis

## Key Findings:

### Peak Sales Hours:

- Morning Peak: 10 AM-11 AM — Avg. ₹154.80/hour.
- Late Afternoon: 3 PM — Avg. ₹97.48/hour.

### Sales Distribution Across Time Slots:

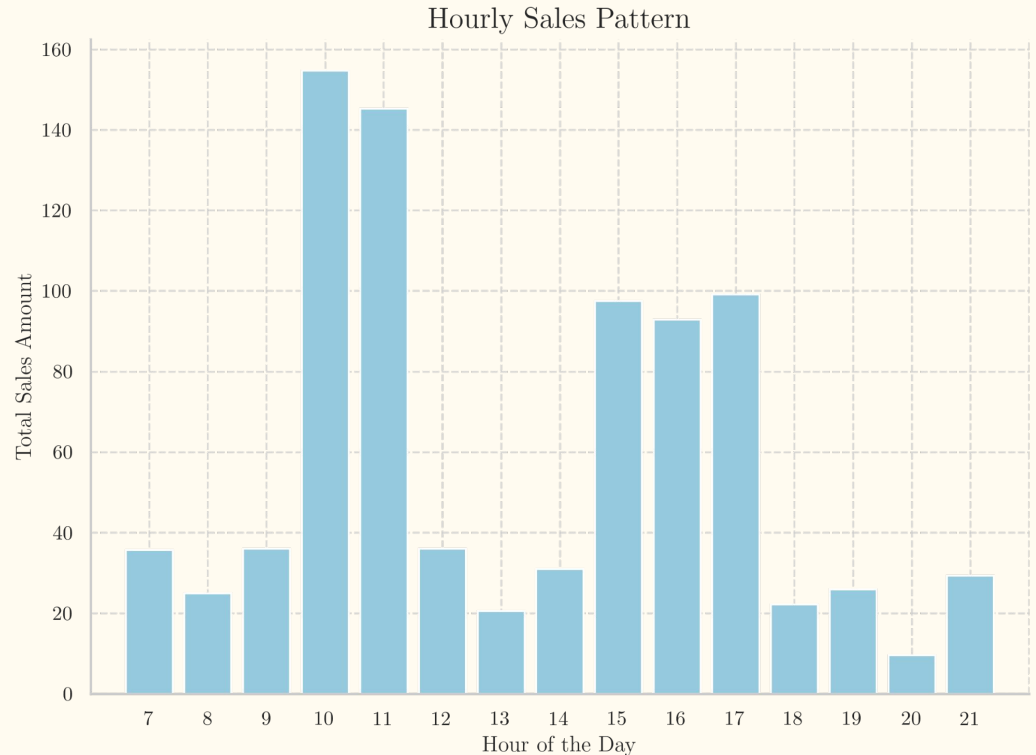
- Morning Hours: Higher sales, Avg. ₹35.69-₹154.80/hour.
- Afternoon Hours: Consistent, Avg. ₹20.49-₹99.16/hour.
- Evening Hours: Gradual decrease, Avg. ₹9.53-₹29.29/hour.

### Insights:

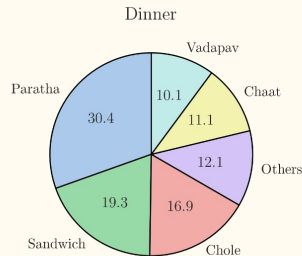
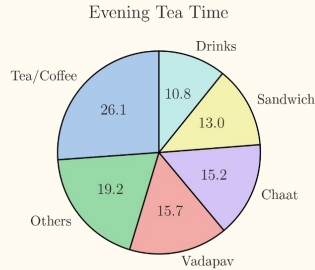
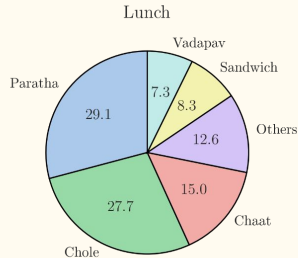
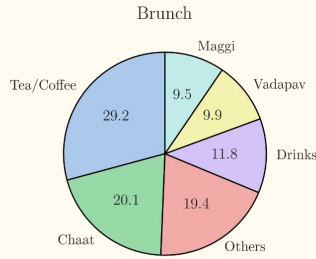
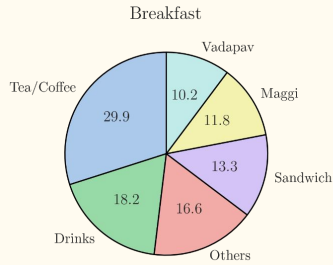
- Peak Hours Impact: Brunch hours crucial for revenue.
- Afternoon Consistency: Steady sales post-noon.
- Evening Decline: Decrease in customer traffic/spending.

### Implications:

- Optimize resources for peak hours.
- Tailor promotions for consistent sales.
- Explore strategies to increase evening traffic.



## Product Category Sales in Different Time Slots



# Sales Distribution Analysis

## Insights:

### Time-Specific Preferences:

- **Breakfast:** Tea/Coffee highly preferred (29.9%), followed by quick bites like Maggi, Sandwich, and Vadapav (43.2%).
- **Brunch:** Varied choices with Tea/Coffee, Maggi, and Vadapav remaining popular (48.6%).
- **Evening Tea Time:** Tea/Coffee leading (26.1%), accompanied by snacks like Chaats and Sandwiches (28.2%).
- **Lunch and Dinner:** Dominance of Paratha, Chole, and Chaat (58.5% and 71.9%, respectively).

## Implications:

- **Menu Adaptation:**
  - Offer combo deals during popular hours to maintain sales consistency.
  - Introduce variations on favoured items during specific time frames.

## Strategic Relevance:

- **Consistent Favourites:**
  - Tea/Coffee remains a top choice across multiple time slots.
  - Brunch and Evening Tea Time offer variety, while Lunch and Dinner focus on specific meal items.

# Customer Segmentation Insights

Customer	Recency	Frequency	Monetary	R_score	F_score	M_score	RFM_Segm
444	0	6	470.0	4	2	1	4
422	-31	4	2625.0	2	1	3	2
213	0	5	300.0	4	2	1	4
243	0	10	660.0	4	3	2	4
111	0	18	5320.0	4	4	4	4

## RFM Analysis Overview:

- Recency, Frequency, Monetary analysis segments customers based on transaction behaviours.
- R-score (Recency), F-score (Frequency), M-score (Monetary) denote customer behaviour metrics.

## RFM Segmentation Findings:

- **High-Value Customers:** RFM segment 444 recent, frequent, high spenders.
- **Moderately Active Buyers:** Segments like 422, 213, or 243 occasional but high-spending customers.
- **Dormant Customers:** Segments like 111 or 121 less recent or low spenders.

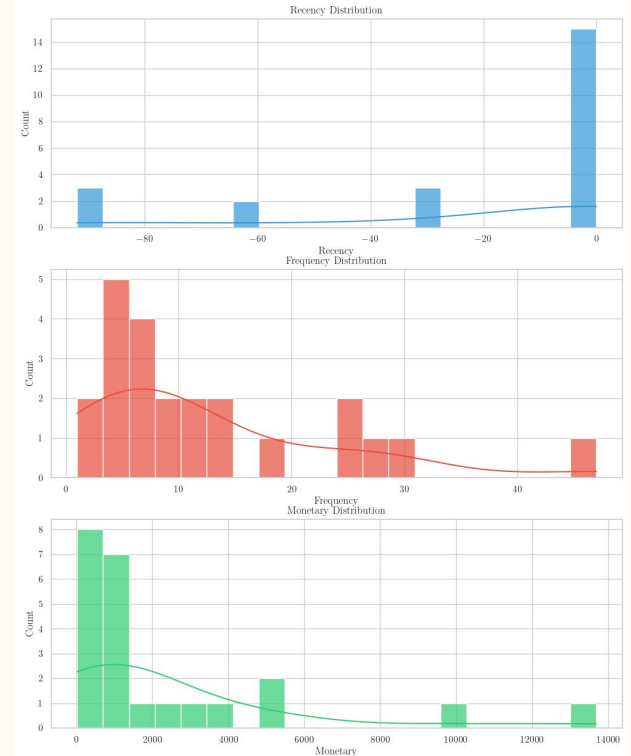
## Engagement Strategies:

- **Targeted approach for different segments:**
  - **High-value patrons:** Tailored loyalty programs or exclusive deals.
  - **Moderately active customers:** Strategies to increase purchase frequency.
  - **Dormant customers:** Personalized incentives to reactivate engagement.

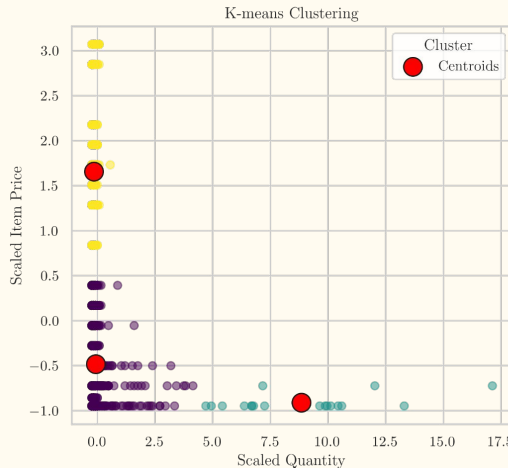
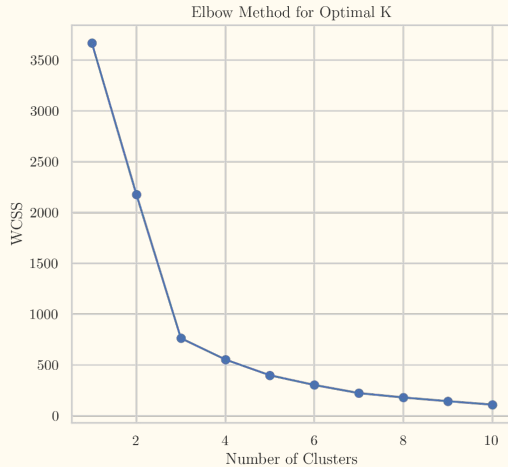
## Optimizing Resource Allocation:

- Strategies aim to maximize customer engagement within the café's limited resources.

RFM Distribution Plots



# Customer Behaviour Analysis



## K-means Clustering Insights

- **Cluster Distribution:**
  - **Cluster 1:** 76.38% (Prefers low-priced items in lower quantities)
  - **Cluster 2:** 22.64% (Shows a preference for high-priced items in lower quantities)
  - **Cluster 3:** 0.98% (Buys low-priced items in higher quantities)

## Key Observations

- **Majority in Cluster 1:** Prefers lower-priced items, but buys in smaller quantities.
- **Significant portion in Cluster 2:** Shows a preference for higher-priced items in lower quantities.
- **Negligible presence in Cluster 3:** Buys low-priced items in higher quantities.

## Strategic Implications

- Tailor promotions for Cluster 2, focusing on high-priced items in smaller quantities.
- Introduce specialized offers for Cluster 1's preference towards low-priced items.
- Explore strategies to attract Cluster 3 towards higher quantities of low-priced items.

# Recommendations

## Peak Hours Optimization

- Allocate extra resources for peak hours to manage increased footfall efficiently.
- Streamline workflows for improved service during high-traffic times.

## Tailored Marketing Strategies

- Create time-specific promotions and menu items based on distinct preferences observed during various meal slots.
- Introduce combo deals and new variants of favoured items to maintain customer interest and increase sales consistency.

## Targeted Customer Engagement

- Develop personalized strategies for identified customer segments (RFM analysis).
- Customize loyalty programs for high-value customers and incentives for dormant buyers.

## Cluster-based Marketing Strategies

- Target promotions catering to different customer behaviours in identified clusters (K-means analysis).
- Offer bulk purchase discounts, specialized offers, and initiatives to attract specific cluster preferences.



# Conclusion: Insights and Strategic Actions

## Key Insights from Analysis:

- **Sales Patterns Analysis:** Identified distinct peak sales hours and consumer preferences across meal times.
- **Sales Distribution:** Highlighted time-specific consumer choices and preferences across product categories.
- **Customer Segmentation:** Segregated customer behaviours, aiding in tailored engagement strategies.
- **Customer Behaviour Analysis:** Revealed diverse purchasing behaviours across distinct customer clusters.

## Strategic Actions for Café Enhancement:

- **Tailored Offerings:** Customize menu offerings based on time-specific preferences observed.
- **Segmented Engagement:** Engage high-value and dormant customers with personalized strategies.
- **Adapted Marketing:** Craft marketing campaigns targeted at diverse customer behaviour clusters.
- **Operational Refinements:** Optimize operations during peak hours to maximize revenue streams.

## Moving Forward:

- Implement these insights for enhanced customer engagement, strategic marketing, and operational efficiency.
- Leverage data-driven strategies to drive sustained growth and optimize café performance.

Thank You

