OPTIMIZING INVENTORY AND DATA MANAGEMENT AT MUSIC & MUSIC

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INTRODUCTION AND PROBLEM STATEMENT

ABOUT THE SHOP

Music & Music – A neighborhood retail shop in Indore, established in 1990. Serves the local community with ice creams, cold drinks, snacks and services.

OBJECTIVE OF PROJECT

To optimize inventory, improve data management, and strengthen branding through data-driven strategies.

CHALLENGES FACED

Restocking often exceeds actual demand, causing higher storage costs, wastage, and lower profit realization

Reliance on handwritten registers leads to errors, missing data during rush hours, and limited scope of analysis

The shop is perceived mainly as a general store, while low-performing services add little towards profit

ANALYSIS PROCESS

Data Sources

- Incoming Data: Purchase bills (suppliers, MRP, wholesale rates)

- Outgoing Data: Daily handwritten sales registers

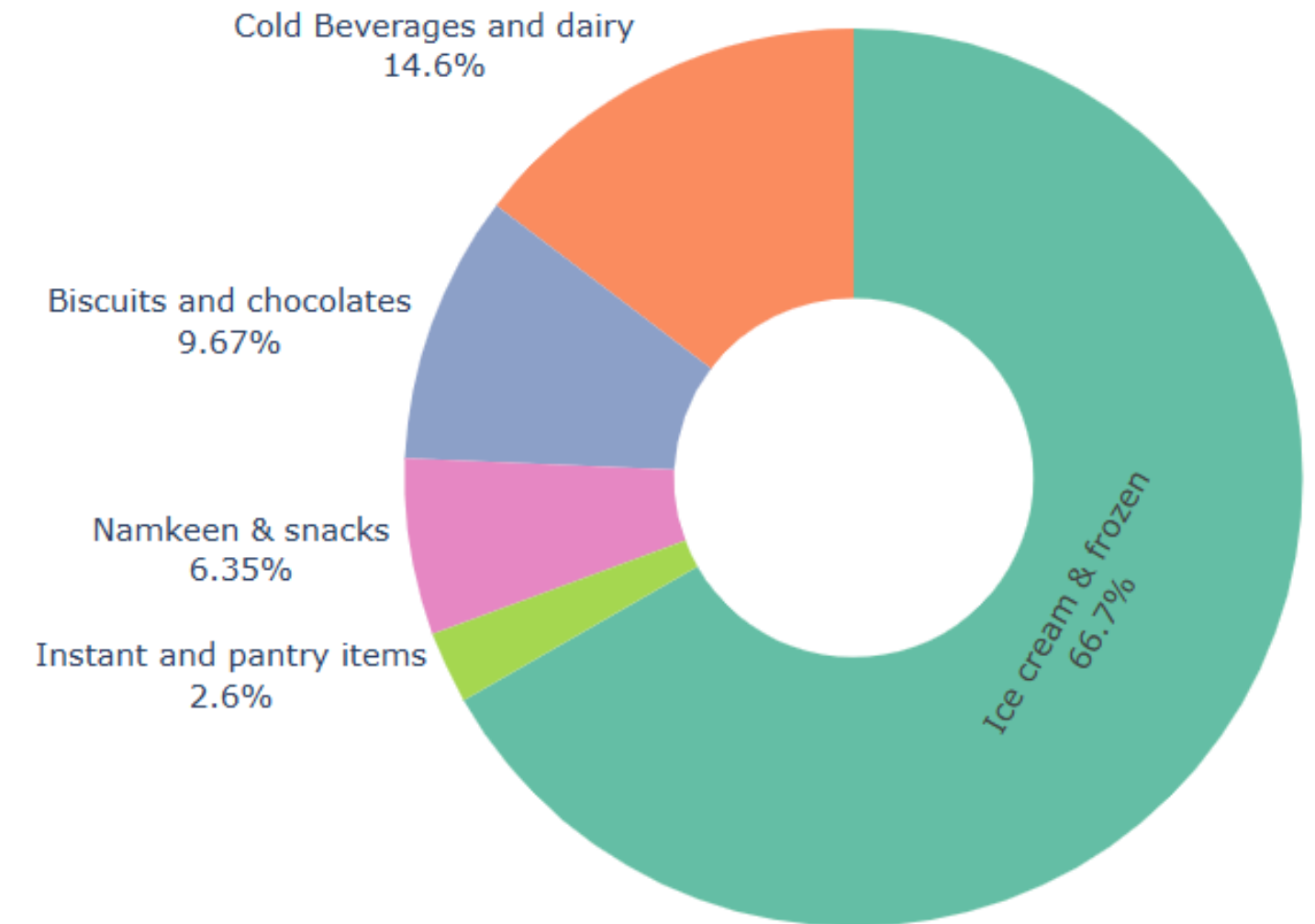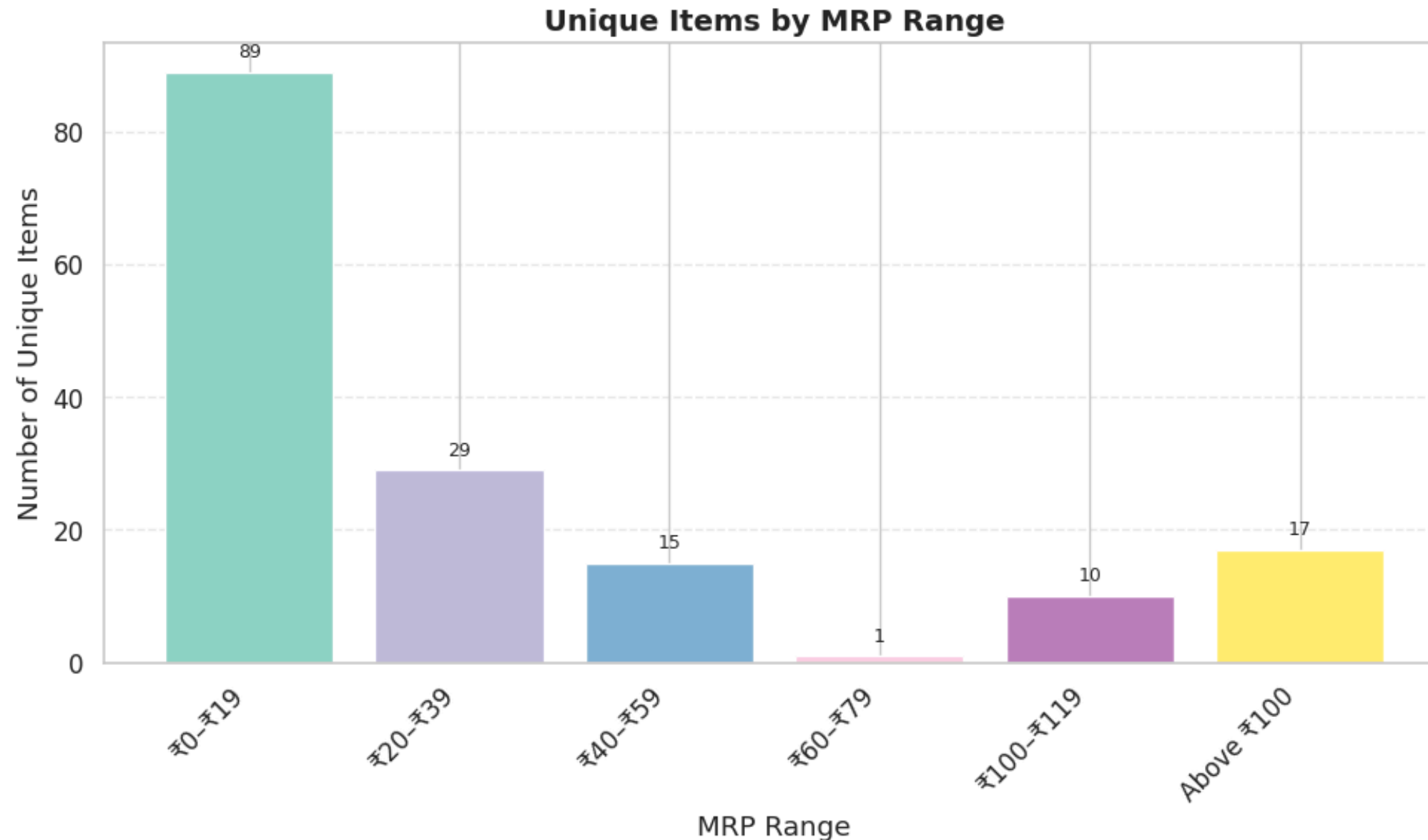- Period Covered: April – June 2025

Methods Used

- Descriptive Statistics & Trend Analysis: To understand sales patterns, seasonality, and restocking behavior.

- Profit & Revenue Analysis: Compared potential vs. actual revenue and profit to identify gaps.

- ABC & HML Classification: Segmented items based on revenue contribution and unit price/value.

- Fast vs. Slow Mover Analysis: Identified top-selling items, overstocked products, and dead stock.

Tools Used

- Google Sheets: Used for initial data entry, pivot tables, and quick summaries.

- Python (Pandas): For data cleaning and transformation

- Visualization: Matplotlib & Seaborn for statistical charts; Plotly for interactive insights.

Inventory Composition

Unique Items by MRP Range

Cold Beverages and dairy
14.6%

Biscuits and chocolates
9.67%

Namkeen & snacks
6.35%

Instant and pantry items
2.6%

Ice cream & frozen
66.7%

INTERPRETATION

- Ice Cream & Frozen dominates inventory (≈67%).
- Most products priced under ₹20 → low-ticket, high-volume business model.
- Heavy reliance on frozen items, making storage management critical.

Procurement V/S Consumption Trend

Ice Cream: Daily Incoming vs Outgoing (Apr-Jun 2025)

**Cold Beverages: Daily Incoming vs Outgoing (Apr-Jun 2025)**
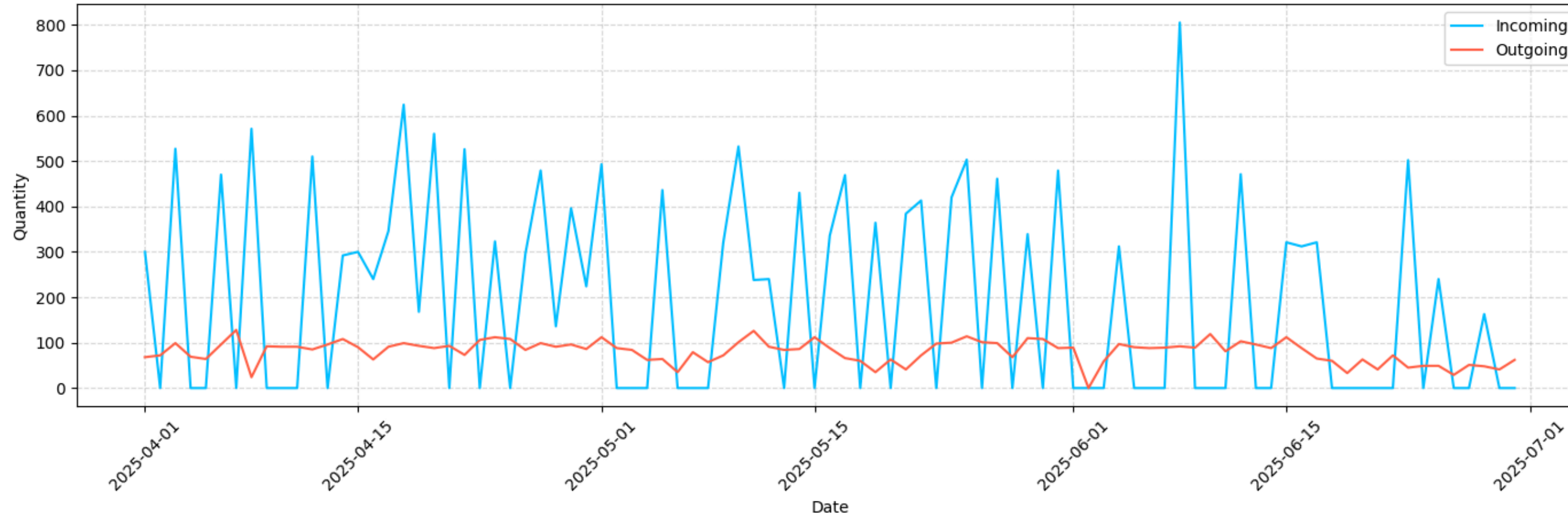
INTERPRETATION

- Ice Cream restocked at 500–800 units/day, but sales steady at 100–200 units/day.
- Cold Drinks show better alignment: incoming vs outgoing closer.
- Profit realization: Ice Cream 69%, Cold Drinks 64% → ~30–35% potential profit lost.

Monthly Revenue Trend
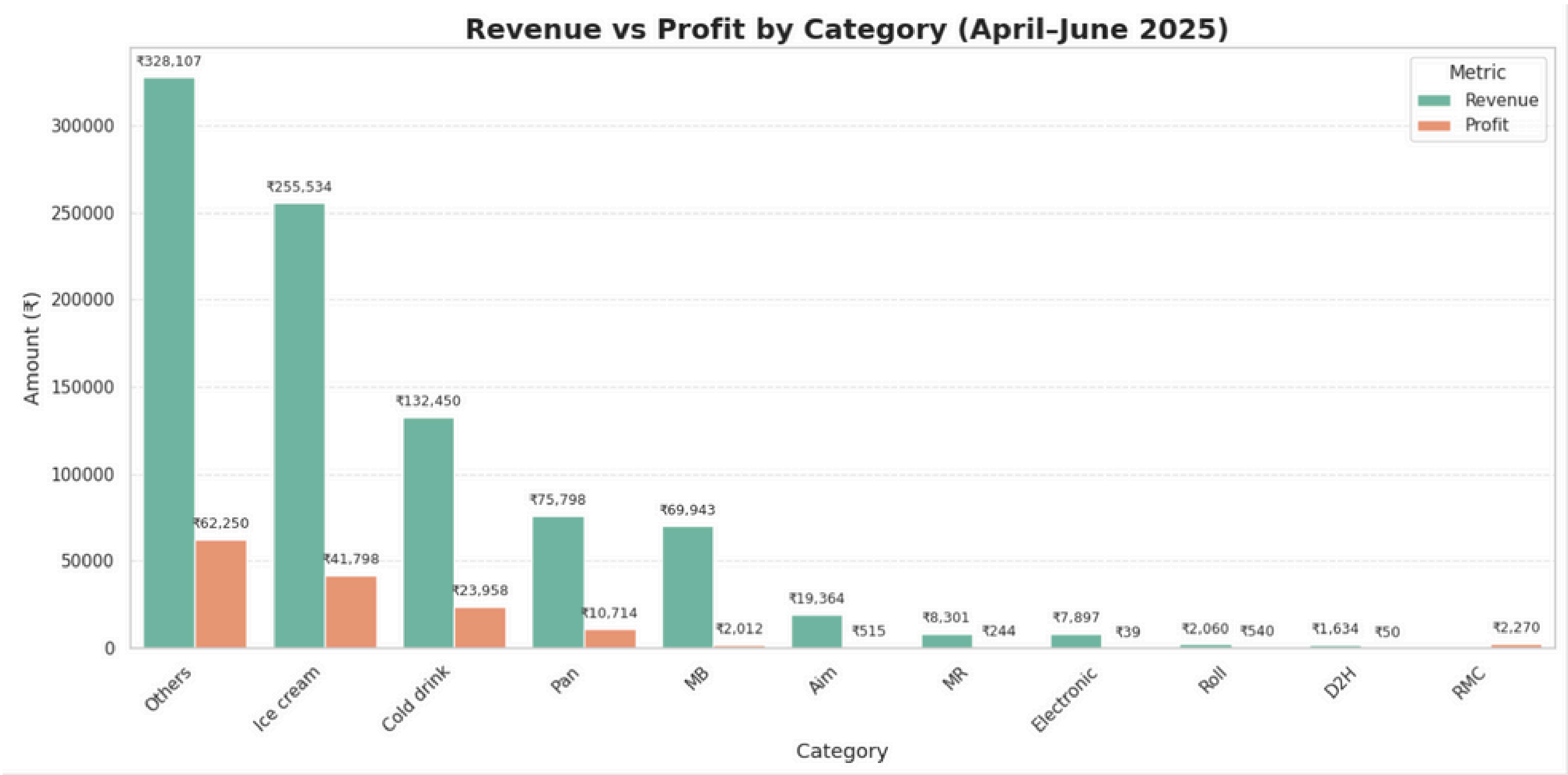

Monthly Revenue Trend by Category (Sorted by Total Revenue)
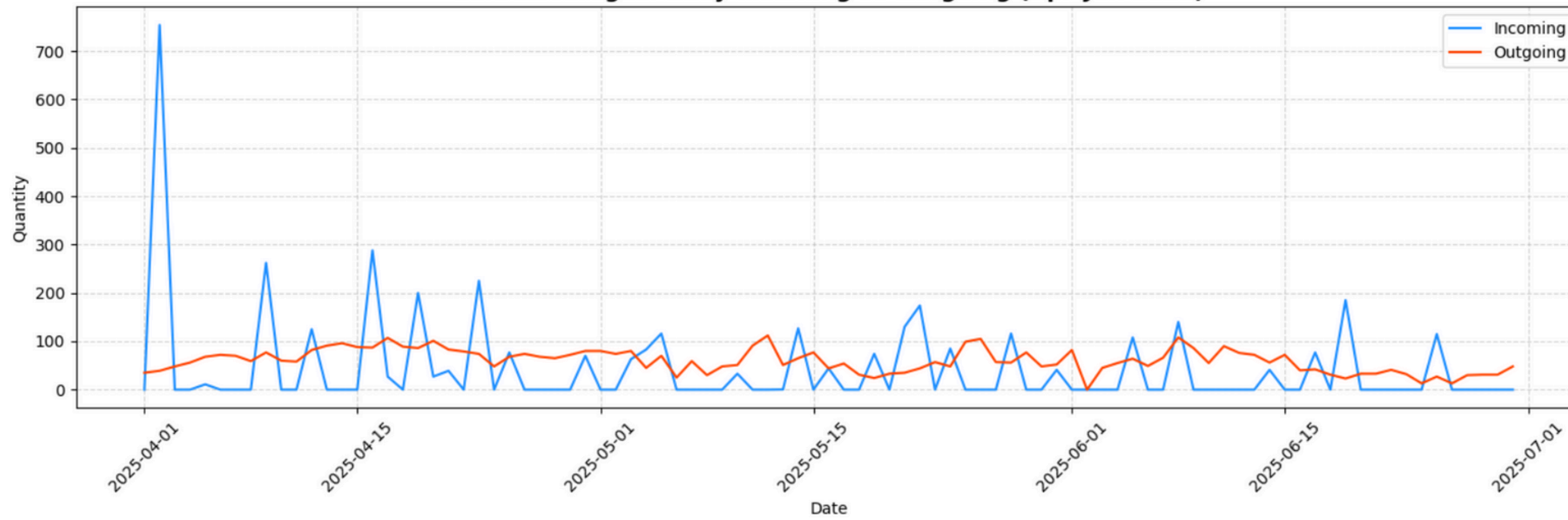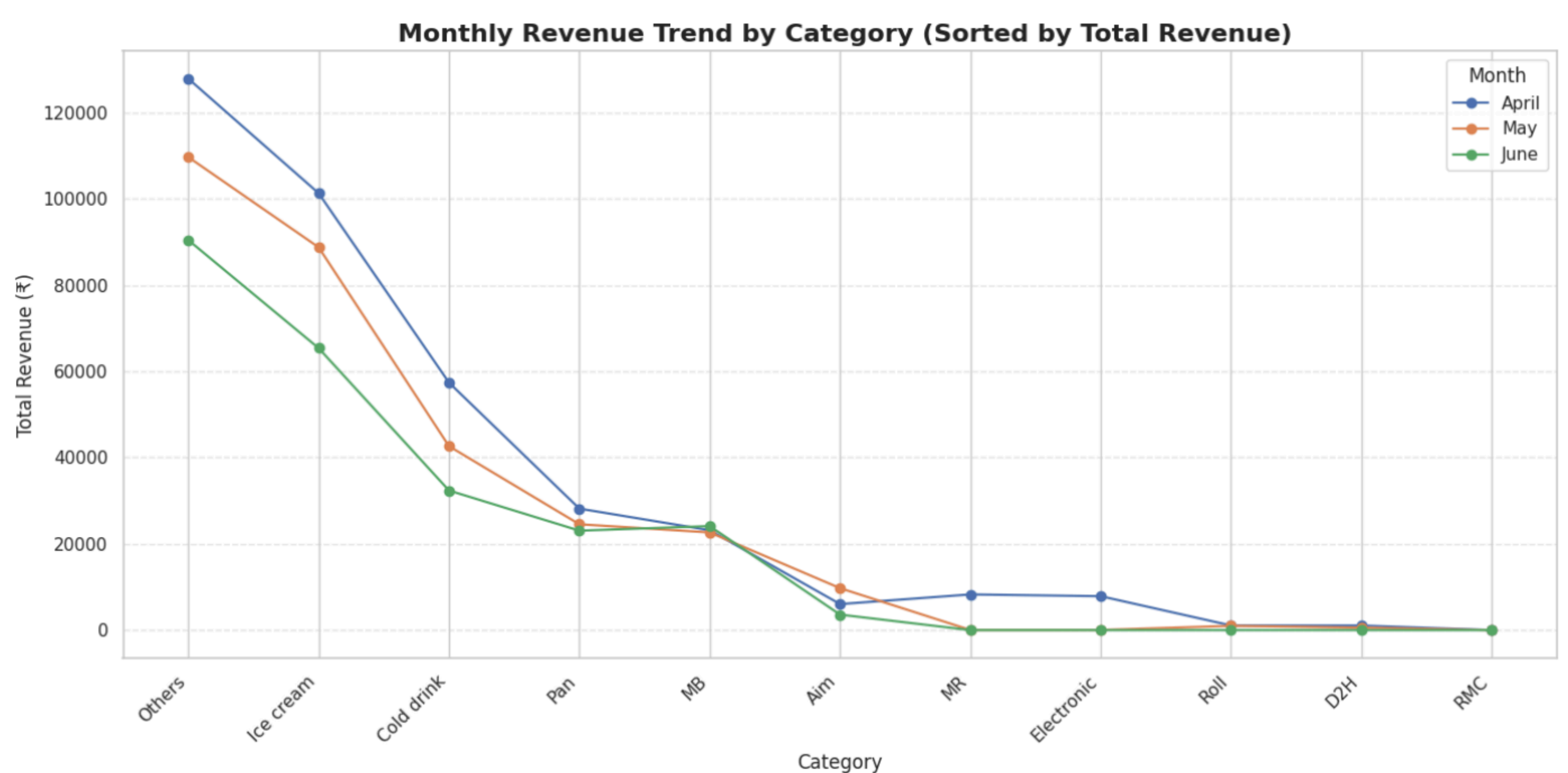
INTERPRETATION

- Ice Cream (–32%) & Cold Drinks (–34.5%) → seasonal dependency.
- Pan shows stable performance (habitual demand).
- Non-seasonal items (biscuits, chocolates) also decined → possible understocking or missed opportunities.

Revenue and Profit Analysis

Revenue vs Profit by Category (April–June 2025)

Metric
- Revenue
- Profit

Category	Revenue	Profit
Others	₹328,107	₹62,250
Ice cream	₹255,534	₹41,798
Cold drink	₹132,450	₹23,958
Pan	₹75,798	₹10,714
MB	₹69,943	₹2,012
Aim	₹19,364	₹515
MR	₹8,301	₹244
Electronic	₹7,897	₹39
Roll	₹2,060	₹540
D2H	₹1,634	₹50
RMC		₹2,270

INTERPRETATION

- "Others" (biscuits, namkeen, chocolates) = top contributor to revenue & profit.
- Ice Cream & Cold Drinks profitable but under-optimized.
- Services like MR/D2H = negligible financial value, but consume time & space.

Inventory Segmentation

ABC Classification: Revenue (Bar) vs Quantity Sold (Line)
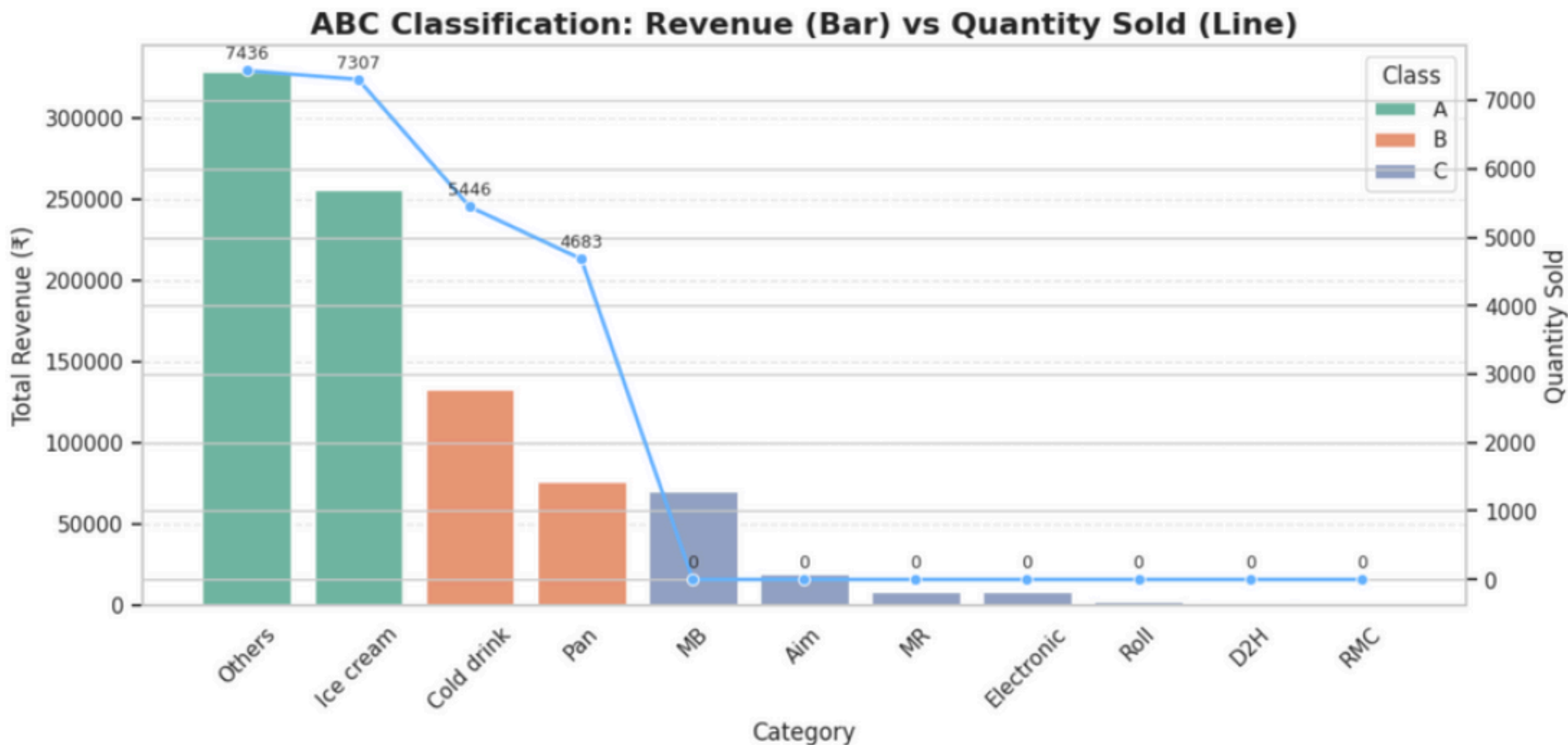
INTERPRETATION

Class A (Ice Cream + Others): >60% revenue, critical focus.

Class B (Cold Drinks + Pan): ~20% revenue, moderate priority.

Class C (Services): <5% revenue, negligible returns.

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Strengths

- High margins (16–18%) in cold drinks & ice creams.
- Strong fast-mover SKUs like *CY Crunchy Fun Chocobar* (4392 units) & *MC Choco Vanilla* (2560 units).
- Established neighborhood presence since 1990; loyal customer base.

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Weaknesses

- Severe overstocking of ice creams and cold drinks.
- Low profit realization ratios (Ice cream 69%, Cold drink 64%).
- Manual handwritten records, no item-level tracking
- Services consume time but contribute <2% profit.
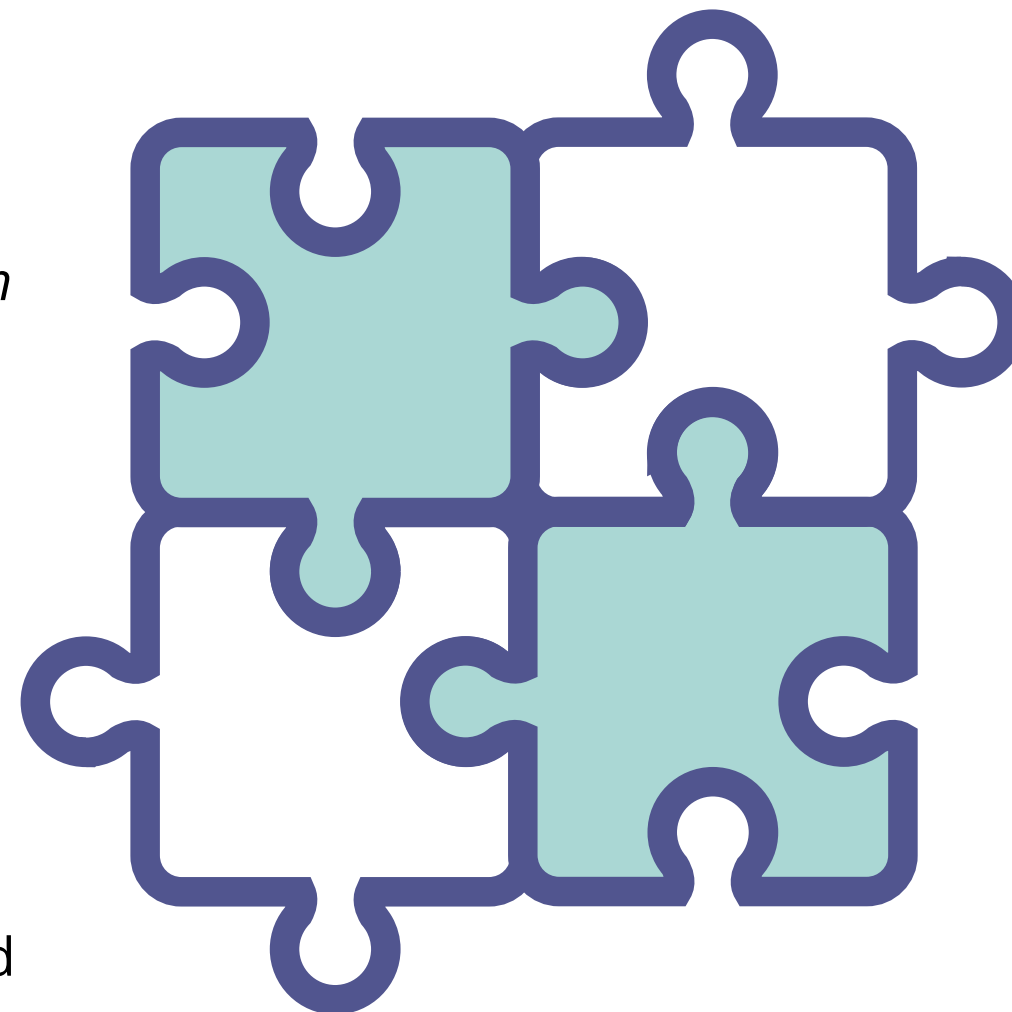
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Threats

- Seasonal dependency: 32–35% decline in ice cream & cold drink sales from April to June.
- Storage & freezer space limitations.
- Market competition from nearby general stores with similar low-ticket SKUs.
- Supplier disruption risk.

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Opportunities

- Adopt Google Sheets + tally log for gradual digitization.
- Cross-sell underperforming services with popular items.
- Negotiate better wholesale rates or diversify suppliers.
- Rationalize cold drink SKUs.
- Phase out slow movers to save in holding cost.

Final Recommendations

SHORT - TERM

Adopt a Hybrid Digital Record System

Begin with Google Sheets linked to daily sales logs while continuing tally-based billing.

Optimize Restocking Frequency

Replace bulk restocking with demand-based replenishment guided by past week's sales.

Rationalize Services & Promote Bundling

Current services yield negligible profit. Instead of scrapping immediately, bundle them with product offers

LONG - TERM

Diversify Suppliers & Negotiate Margins

Heavy dependency on *'GJ's Scoopy Spoon'* is risky.
Begin shifting part of procurement to *'Anvi Enterprises'* or other wholesalers offering better margins.

SKU Optimization & Product Mix Management

Phase out slow-moving SKUs . Replace them with fast-moving counterparts to ensure better turnover.

Move Towards Full Digitalization & Analytics

Digitize inventory with automated stock updates & color-coded alerts to support long-term data analysis.

Thank you very much!