COFFEE SHOP SALES ANALYSIS

BY VINCENT CHIEN

VARIABLE DESCRIPTIONS

Original Variables (from dataset)

- **transaction_id** – Unique identifier for each transaction

- **transaction_date** – Date of the transaction (YYYY/MM/DD)

- **transaction_time** – Time of the transaction (HH:MM:SS)

- **transaction_qty** – Quantity of items purchased in the transaction

- **store_id** – Numeric code for the store

- **store_location** – Name of the store location (e.g., Lower Manhattan, Hell's Kitchen)

- **product_id** – Unique identifier for each product

- **unit_price** – Price of a single unit of the product (in USD)

- **product_category** – Broad category of the product (e.g., Coffee, Tea, Bakery)

- **product_type** – Specific type of product (e.g., Gourmet brewed coffee, Hot chocolate)

- **product_detail** – Detailed product description (e.g., Ethiopia Rg, Cappuccino, Dark chocolate Lg)

Derived Variables (created for analysis)

- **Revenue** – Transaction revenue = transaction_qty × unit_price

- **Month** – Extracted from transaction_date

- **Day** – Extracted from transaction_date

- **Weekday** – Extracted from transaction_date (1–7)

- **Hour** – Extracted from transaction_time

BUSINESS GOALS

- **Optimize Marketing Strategy**

  Identify top and low-performing categories/products to adjust promotions and drive revenue.
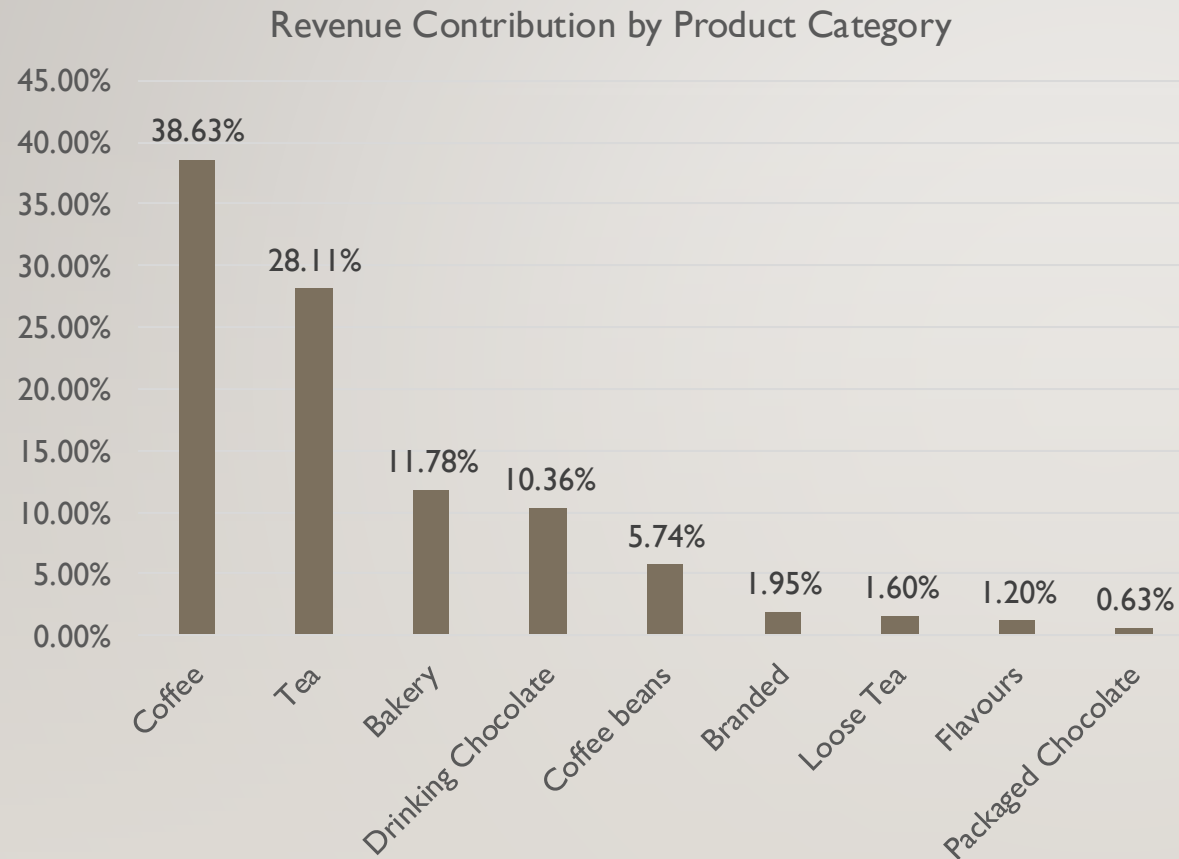
- **Evaluate Store Performance**

  Compare revenue growth across locations to spot trends and leading stores.

- **Optimize Time-Based Operations**

  Analyze peak vs. off-peak demand to align staffing and promotions.

CATEGORY → WHAT DRIVES REVENUE OVERALL?

Revenue Contribution by Product Category

- ☕ Coffee & Tea ≈ 67%

Core categories, prioritize promotion

- 🍰 Bakery & Chocolate

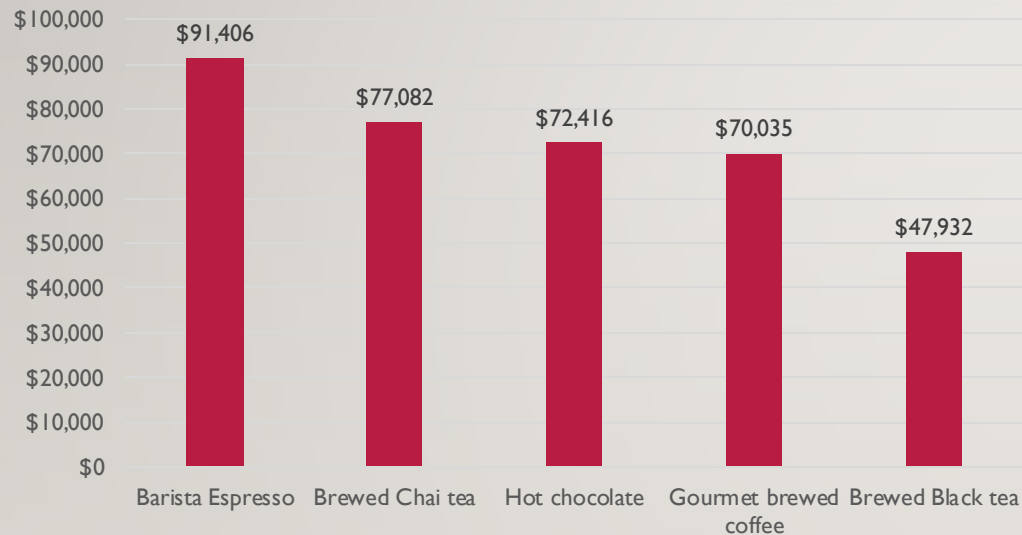**Use for cross-selling to raise basket size**

- 📦 Low-performing (<6%)

Reposition, reprice, or streamline

PRODUCT → WHICH PRODUCTS TO PROMOTE OR IMPROVE?

## Top 5 Best-Selling Products by Revenue

Product	Revenue
Barista Espresso	$91,406
Brewed Chai tea	$77,082
Hot chocolate	$72,416
Gourmet brewed coffee	$70,035
Brewed Black tea	$47,932

Bottom 5 Lowest-Selling Products by Revenue

Product	Revenue
Black tea	$2,712
Sugar free syrup	$2,324
Organic Chocolate	$1,680
Green tea	$1,471
Green beans	$1,340

🌟 Top sellers → keep as core, use bundles to boost sales

⚠️ Low sellers → test niche/seasonal promos or discontinue

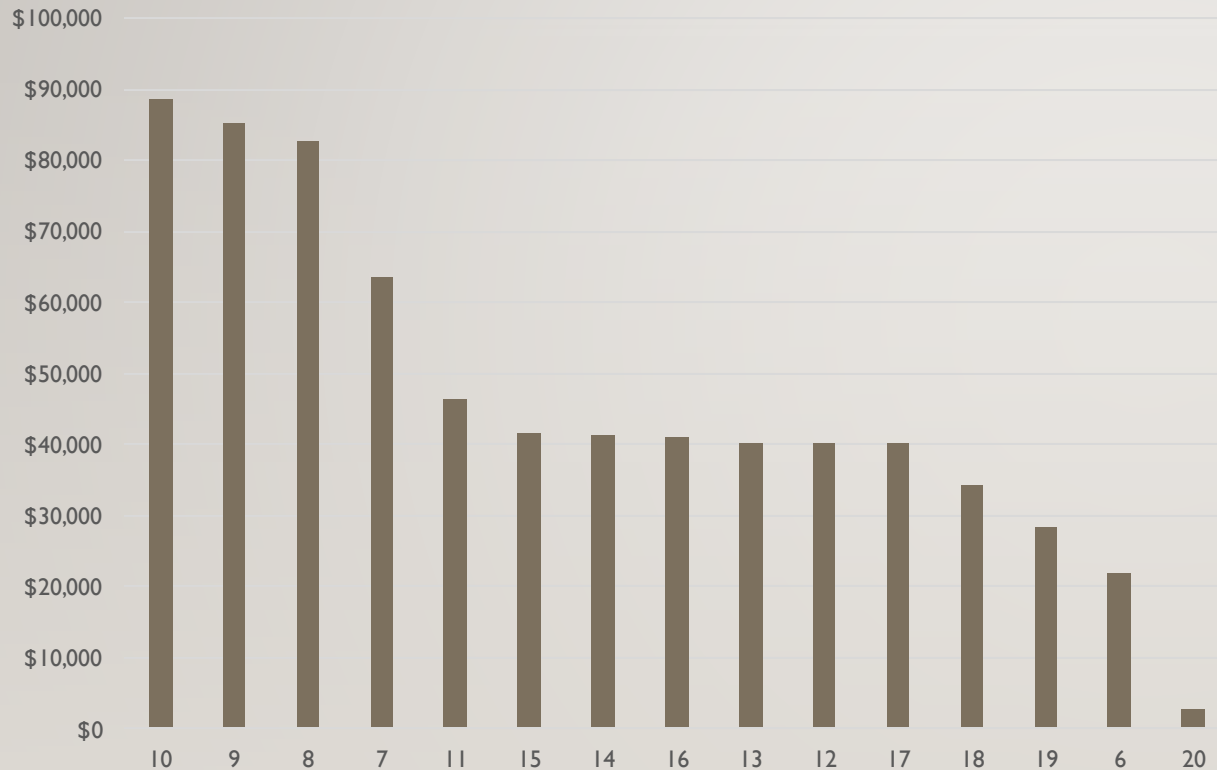# LOCATION → WHICH STORE PERFORMS BETTER OVER TIME?

Monthly Revenue Comparison by Store Location
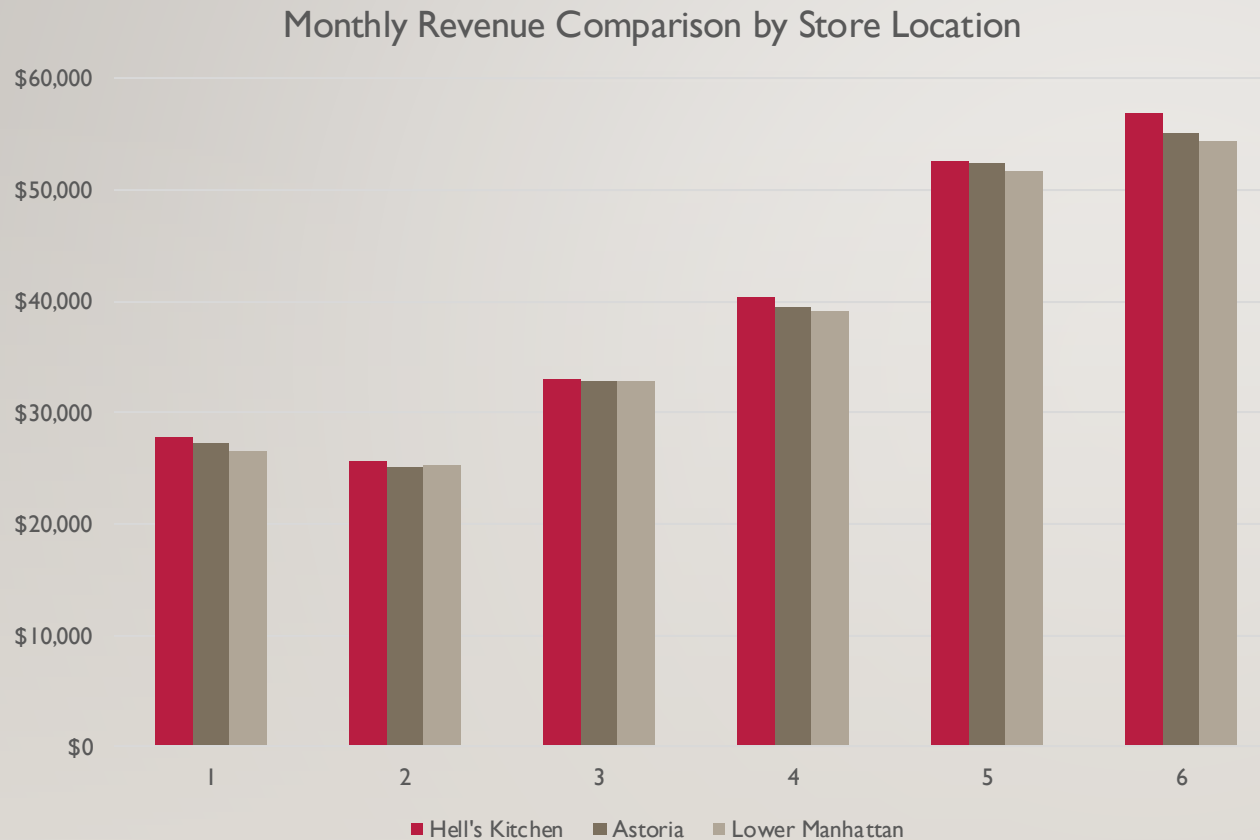
🏙 All stores show steady growth → consistent demand across locations.

📊 Hell's Kitchen leads slightly → consider replicating its strategies in other stores.

TIME → WHEN DO CUSTOMERS BUY MOST?

Overall Hourly Sales Pattern

⏰ Peak demand in morning (8–10 AM) → target promotions & staffing during rush hours.

🌙 Afternoon/evening sales drop → consider happy-hour deals to boost off-peak traffic.