29.07.2024

Analyzing Sales Data for
Successful Coffee Shop

Insights from Sales Data Analysis

By Manish Sharma

✉ mainshsharma01@gmailcom

Introduction

This project aims to give clear insights into sales data by analyzing transaction details, finding patterns, and drawing practical conclusions. By making decisions based on data, businesses can improve operations and boost profitability.

Objectives:

—— Understand sales distribution over time.

—— Identify peak sales periods.

—— Analyze store and product performance.

—— Provide recommendations based on insights.

Data Overview

Dataset includes the transaction date, timestamp and location, along with product-level details.
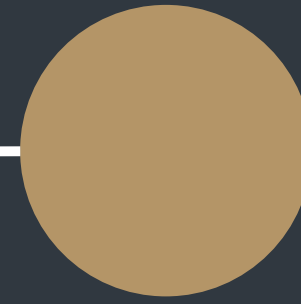
— Transaction_id, Transaction_date, Transaction_time

— Product_category, Product_type, Product_detail

— Store_id, Store_location

— Transaction_qty, Unit_price, Total_bill

Dat a

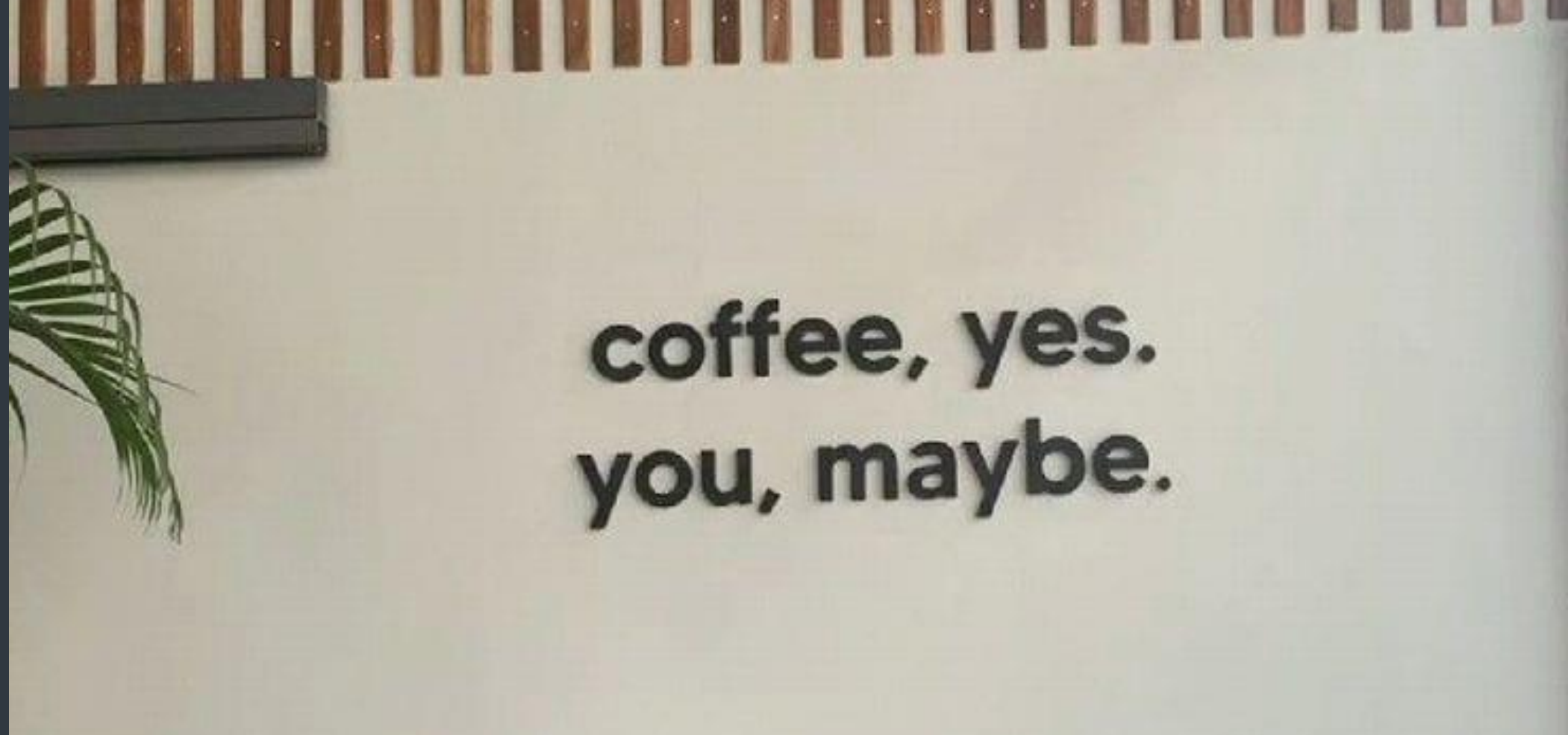| transaction_id	transaction_date	transaction_time	store_id	store_location	product_id	transaction_qty	unit_price	product_category	product_type	product_detail	Size	Total_bill
42148	13-03-2023	09:17:40	8	Hell's Kitchen	43	1	3	Tea	Brewed herbal tea	Lemon Grass	Large	3
11706	21-01-2023	09:46:39	8	Hell's Kitchen	49	1	3	Tea	Brewed Black tea	English Breakfast	Large	3
101217	19-05-2023	18:24:59	3	Astoria	48	1	2.5	Tea	Brewed Black tea	English Breakfast	Regular	2.5
61341	08-04-2023	15:40:13	3	Astoria	54	1	2.5	Tea	Brewed Chai tea	Morning Sunrise Chai	Regular	2.5
50765	25-03-2023	10:55:41	3	Astoria	54	1	2.5	Tea	Brewed Chai tea	Morning Sunrise Chai	Regular	2.5
69958	18-04-2023	10:56:32	8	Hell's Kitchen	52	1	2.5	Tea	Brewed Chai tea	Traditional Blend Chai	Regular	2.5
105593	23-05-2023	18:06:53	5	Lower Manhattan	79	1	3.75	Bakery	Scone	Jumbo Savory Scone	Not Defined	3.75
117215	03-06-2023	17:13:55	8	Hell's Kitchen	75	1	3.5	Bakery	Pastry	Croissant	Not Defined	3.5
11812	21-01-2023	10:41:17	3	Astoria	63	1	0.8	Flavours	Regular syrup	Carmel syrup	Not Defined	0.8
111402	29-05-2023	11:17:36	8	Hell's Kitchen	31	1	2.2	Coffee	Gourmet brewed coffee	Ethiopia	Small	2.2
44597	16-03-2023	13:43:23	3	Astoria	33	2	3.5	Coffee	Gourmet brewed coffee	Ethiopia	Large	7
96915	16-05-2023	08:20:57	3	Astoria	51	1	3	Tea	Brewed Black tea	Earl Grey	Large	3
43049	14-03-2023	10:37:39	5	Lower Manhattan	53	1	3	Tea	Brewed Chai tea	Traditional Blend Chai	Large	3
90044	10-05-2023	06:42:13	8	Hell's Kitchen	71	1	3.75	Bakery	Pastry	Chocolate Croissant	Not Defined	3.75
95307	14-05-2023	15:40:16	3	Astoria	20	1	7.6	Packaged Chocolate	Organic Chocolate	Sustainably Grown Organic	Not Defined	7.6
6032	11-01-2023	16:22:41	3	Astoria	25	1	2.2	Coffee	Organic brewed coffee	Brazilian	Small	2.2
61994	09-04-2023	10:28:57	8	Hell's Kitchen	55	2	4	Tea	Brewed Chai tea	Morning Sunrise Chai	Large	8
119722	06-06-2023	07:17:17	5	Lower Manhattan	49	2	3	Tea	Brewed Black tea	English Breakfast	Large	6
500	01-01-2023	18:41:28	8	Hell's Kitchen	49	2	3	Tea	Brewed Black tea	English Breakfast	Large	6
142359	24-06-2023	15:41:24	5	Lower Manhattan	31	3	2.2	Coffee	Gourmet brewed coffee	Ethiopia	Small	6.6
135563	19-06-2023	07:22:09	3	Astoria	37	1	3	Coffee	Barista Espresso	Espresso shot	Not Defined	3
96391	15-05-2023	14:32:25	8	Hell's Kitchen	32	1	3	Coffee	Gourmet brewed coffee	Ethiopia	Regular	3
41101	11-03-2023	15:40:29	8	Hell's Kitchen	73	1	3.75	Bakery	Pastry	Almond Croissant	Not Defined	3.75
33677	28-02-2023	18:22:44	5	Lower Manhattan	36	1	3.75	Coffee	Premium brewed coffee	Jamaican Coffee River	Large	3.75
98485	17-05-2023	10:50:31	3	Astoria	59	1	4.5	Drinking Chocolate	Hot chocolate	Dark chocolate	Large	4.5
99483	18-05-2023	10:26:56	3	Astoria	50	2	2.5	Tea	Brewed Black tea	Earl Grey	Regular	5
56229	02-04-2023	14:29:04	3	Astoria	35	2	3.1	Coffee	Premium brewed coffee	Jamaican Coffee River	Regular	6.2
36548	05-03-2023	11:15:14	5	Lower Manhattan	27	2	3.5	Coffee	Organic brewed coffee	Brazilian	Large	7
69449	18-04-2023	06:49:22	8	Hell's Kitchen	36	1	3.75	Coffee	Premium brewed coffee	Jamaican Coffee River	Large	3.75
113387	31-05-2023	09:31:17	3	Astoria	25	1	2.2	Coffee	Organic brewed coffee	Brazilian	Small	2.2
20214	06-02-2023	09:38:26	8	Hell's Kitchen	42	2	2.5	Tea	Brewed herbal tea	Lemon Grass	Regular	5
21795	08-02-2023	19:03:53	3	Astoria	59	2	4.5	Drinking Chocolate	Hot chocolate	Dark chocolate	Large	9

Monthly Sales Distribution

The analysis of monthly sales distribution revealed the following insights:

— Sales increased steadily from January to June.

— June had the highest number of transactions and total revenue.

— February had the lowest number of transactions and revenue.

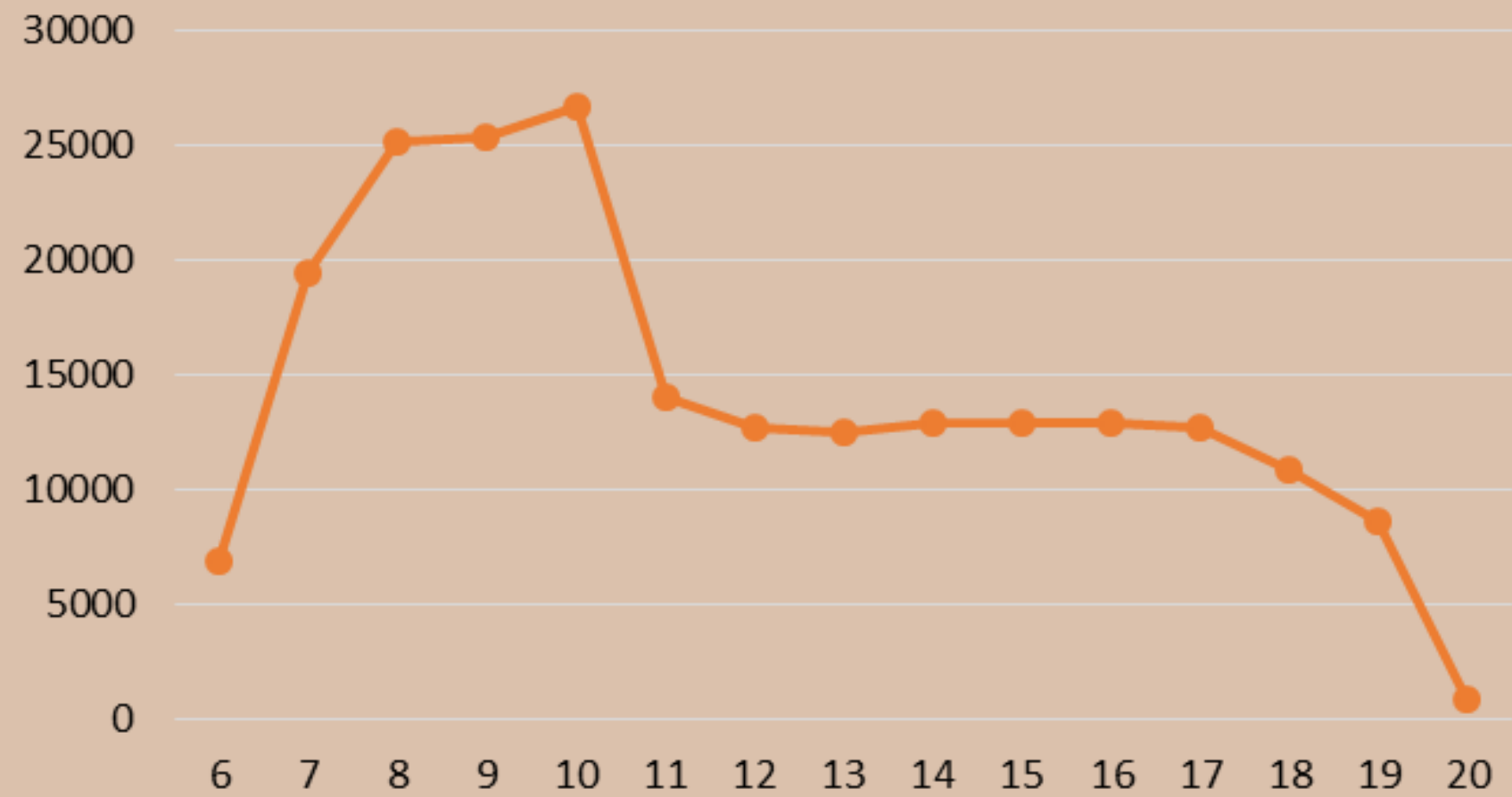# Sales Patterns by Day and Hour

The sales patterns analysis by day of the week and hour of the day showed:

— Sales are consistent throughout the week, with Friday having the highest number of transactions and Monday generating the highest revenue.

— Sales peak around 8 AM to 10 AM, with the lowest sales occurring at 8 PM.
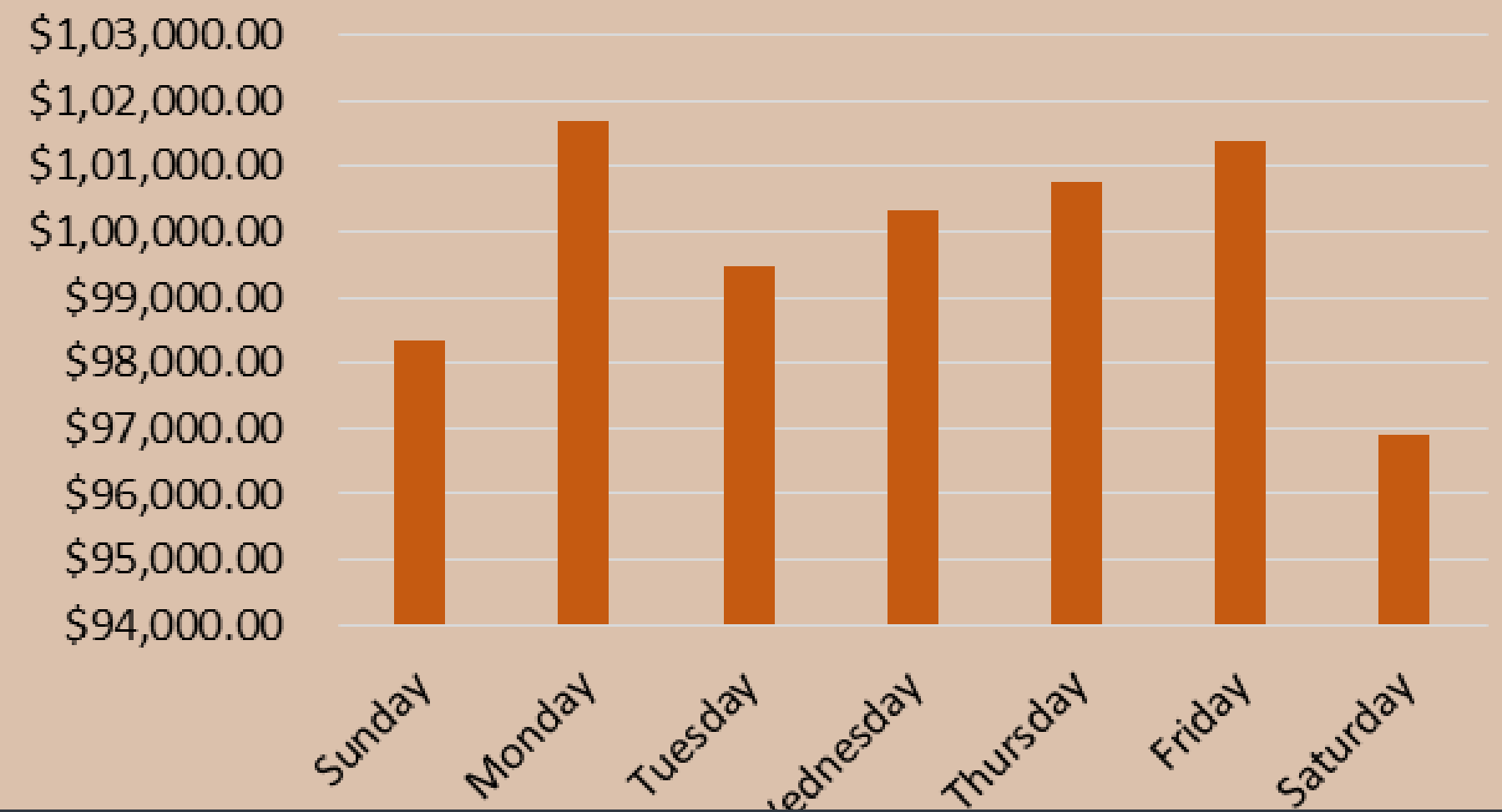
Store Performance

The performance of different store locations was analyzed:

— Stores varied in the number of transactions and total revenue.

— Comparative analysis of top-performing and underperforming stores provides insights for operational improvements.
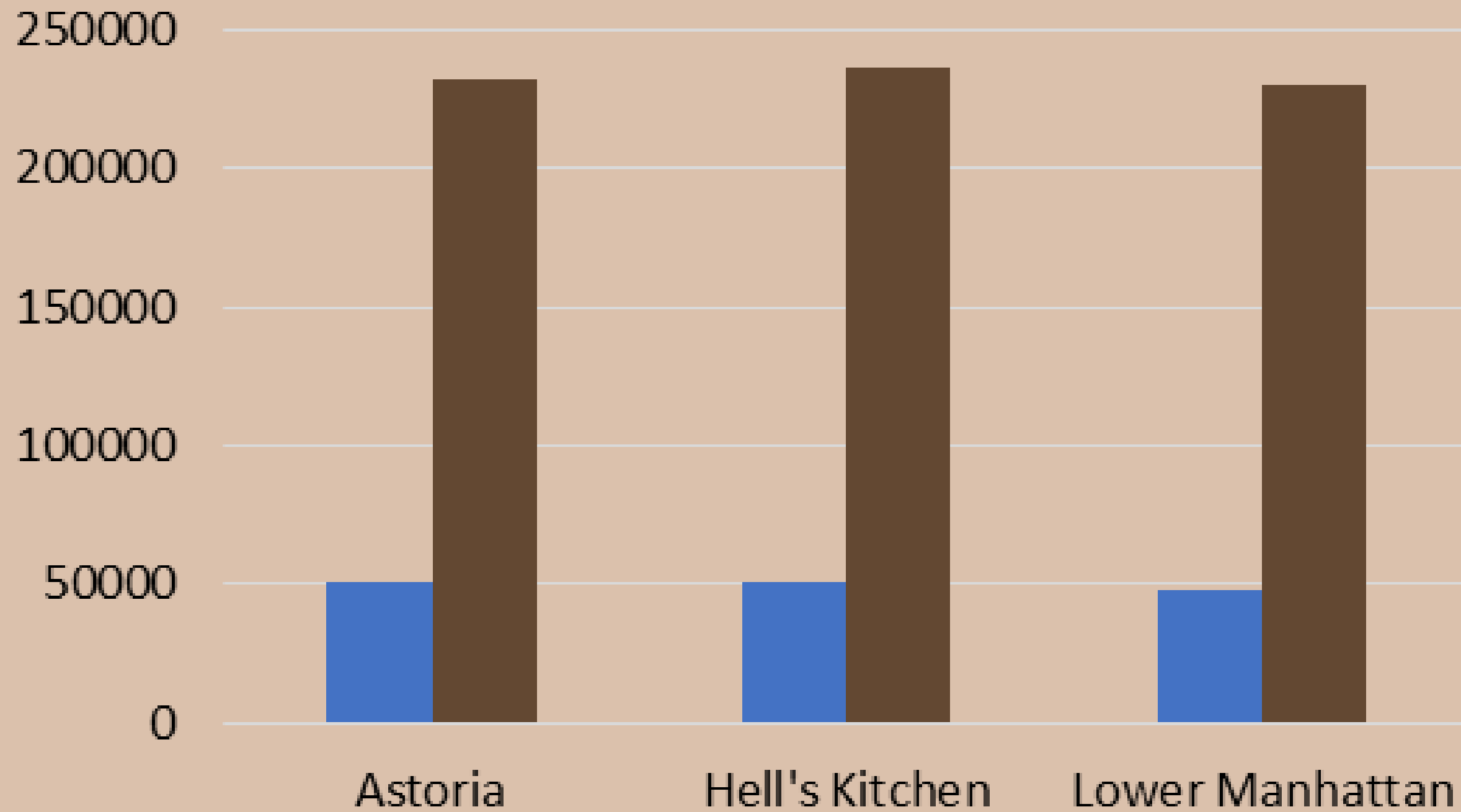
Product Analysis

The product analysis identified top-selling products and analyzed product categories:

— Top-selling products were identified.

— Analysis of product categories and types helped understand customer preferences.
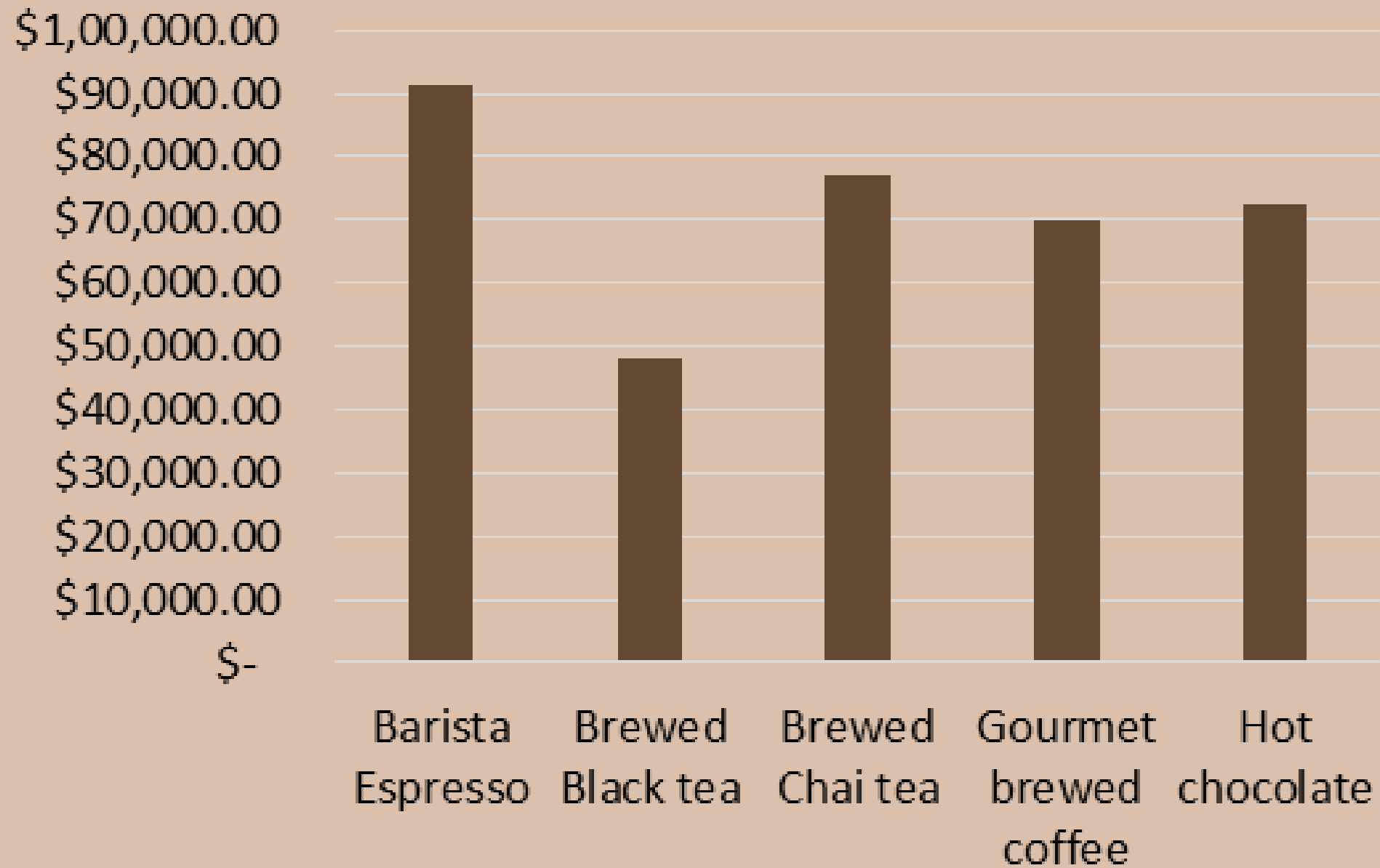
Conclusion

Key findings from the analysis include:

- Sales peak during morning hours and are consistent throughout the week.

- Store performance varies significantly, with some stores outperforming others.

- Top-selling products and categories were identified, providing insights into customer preferences.

Recommendations

Recommendations based on insights:
 - Focus marketing efforts on peak sales hours.
 - Investigate factors contributing to lower sales on Saturdays.
 - Adjust inventory for top-selling products.
 - Explore promotional opportunities during identified peak times.