

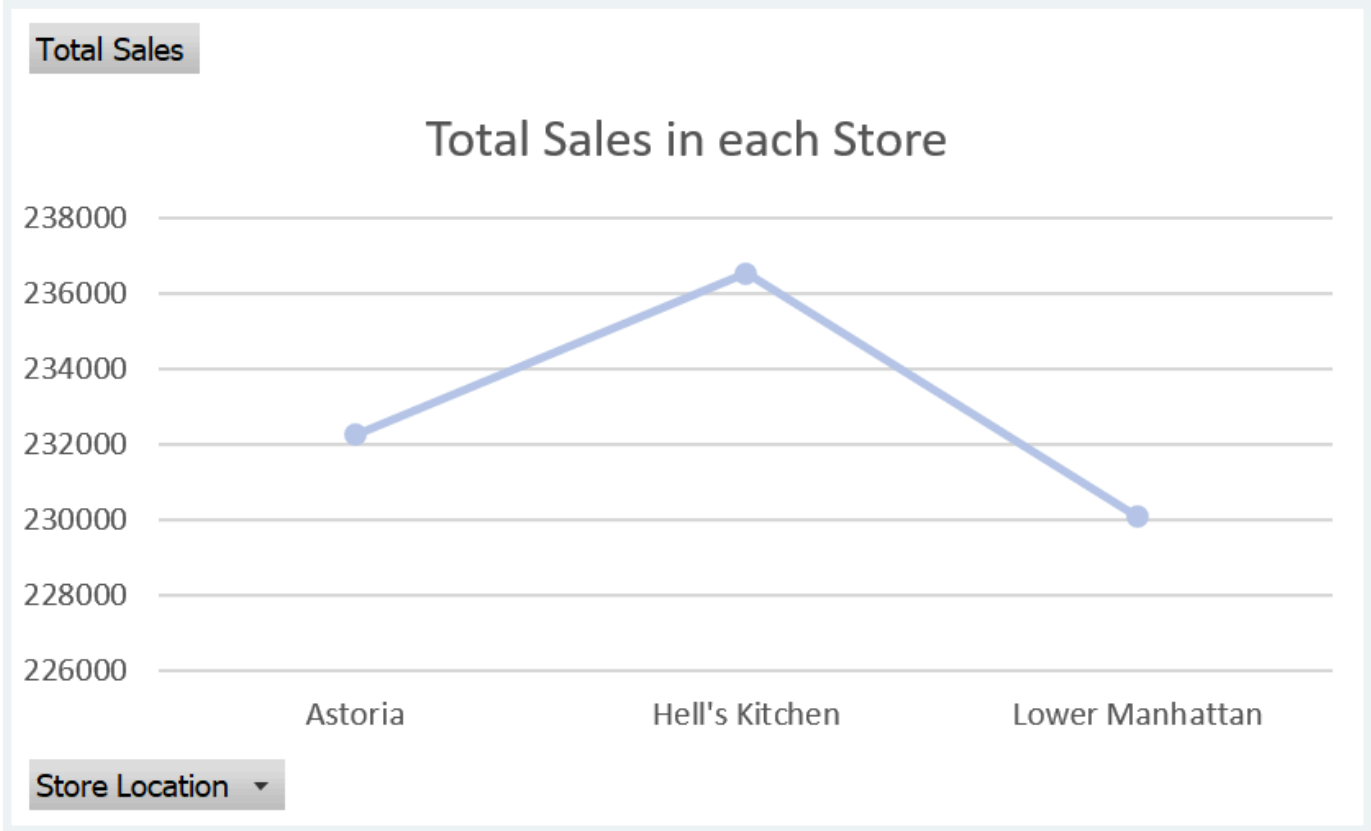
EXPLORATORY DATA ANALYSIS (EDA) of MAVEN ROASTERS

using Microsoft Excel



Total Quantity in each Store	
Row Labels	Total Quantity
Lower Manhattan	71742
Hell's Kitchen	71737
Astoria	70991
Grand Total	214470

Total Sales in each Store	
Row Labels	Total Sales
Hell's Kitchen	236511.17
Astoria	232243.91
Lower Manhattan	230057.25
Grand Total	698812.33



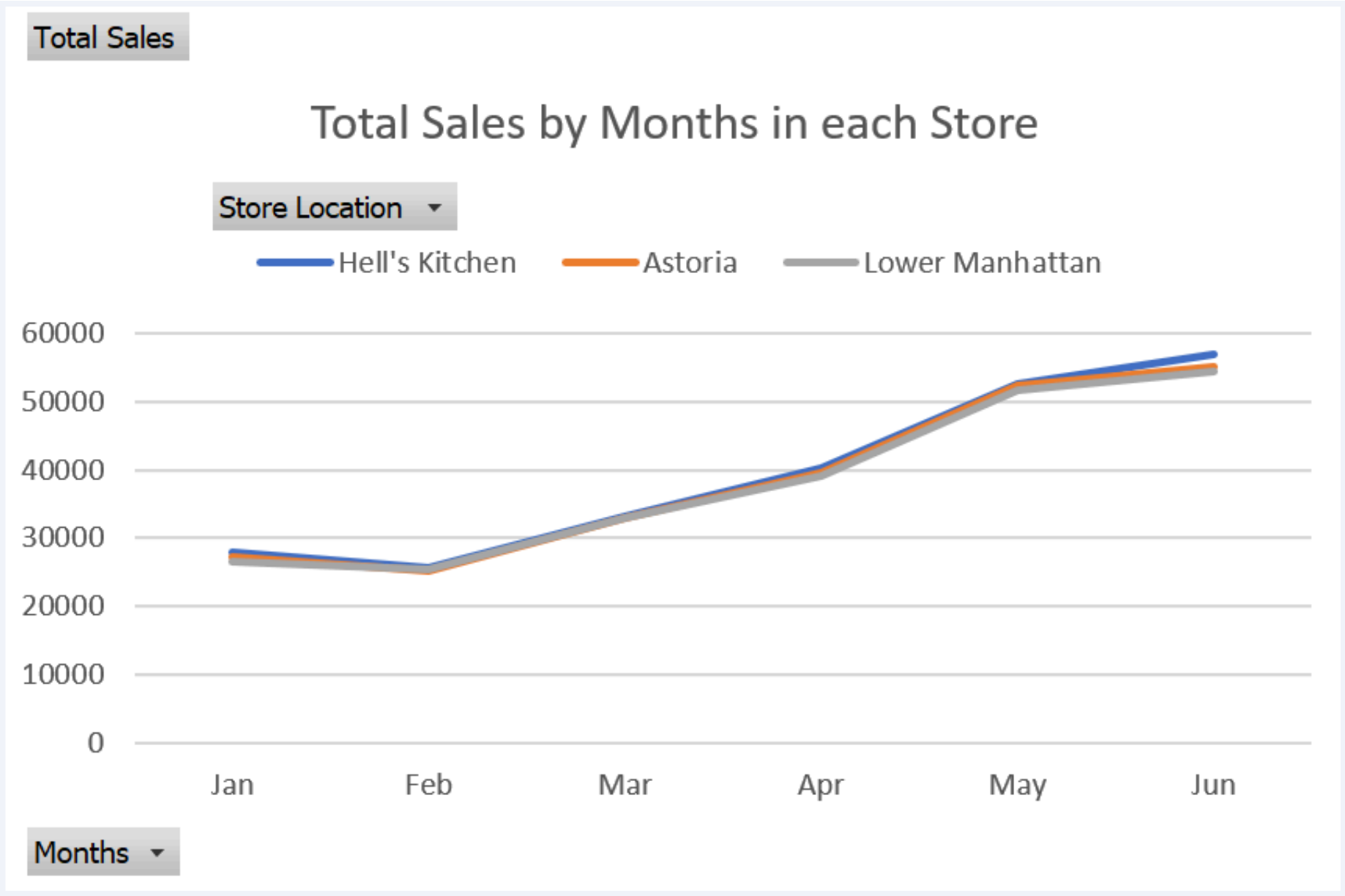
Maven Roasters is spread across 3 different locations: Astoria, Hell's Kitchen, and Lower Manhattan. The store located in Lower Manhattan has the highest total quantity. But the store in Hell's Kitchen has the highest total sales.

AVG Product Price in each Store										
AVG Product Price Column Labels <div></div>										
Row Labels <div></div>	Bakery	Branded	Coffee	Coffee beans	Drinking Chocolate	Flavours	Loose Tea	Packaged Chocolate	Tea	Grand Total
Hell's Kitchen	3.569377708	16.31932773	3.015869124	21.50708333	4.159712995	0.8	9.198659794	8.62319797	2.814698566	3.39421839
Astoria	3.545719577	19.55913978	3.024234707	20.35697211	4.144825581	0.8	9.284883721	9.906454545	2.822429274	3.384897132
Lower Manhattan	3.540106464	16.7277937	3.031622171	20.98107345	4.14185022	0.8	9.339238845	8.995333333	2.813578206	3.366643297
Grand Total	3.551681874	17.72021419	3.023645919	21.01839703	4.148827171	0.8	9.267438017	9.050595483	2.817121389	3.382219413

Hell's Kitchen has the highest total sales because the average product price in Hell's Kitchen is the highest.

To increase total sales in Astoria, the store can create attractive promotions like bundling packaged chocolate and tea or offering discounts on branded products. For Lower Manhattan, to increase total sales, the store can offer attractive promotions such as flavor and loose tea bundling packages or discounts on coffee products.

Total Sales by Months in each Store				
Total Sales	Column Labels			
Row Labels	Hell's Kitchen	Astoria	Lower M	Grand Total
Jan	27820.65	27313.66	26543.4	81677.74
Feb	25719.8	25105.34	25320	76145.19
Mar	33110.57	32835.43	32888.7	98834.68
Apr	40304.14	39477.61	39159.3	118941.08
May	52598.93	52428.76	51700.1	156727.76
Jun	56957.08	55083.11	54445.7	166485.88
Grand Total	236511.17	232243.91	230057	698812.33



The sales trend of Maven Roasters across 3 locations significantly increased, with only February showing a decline.

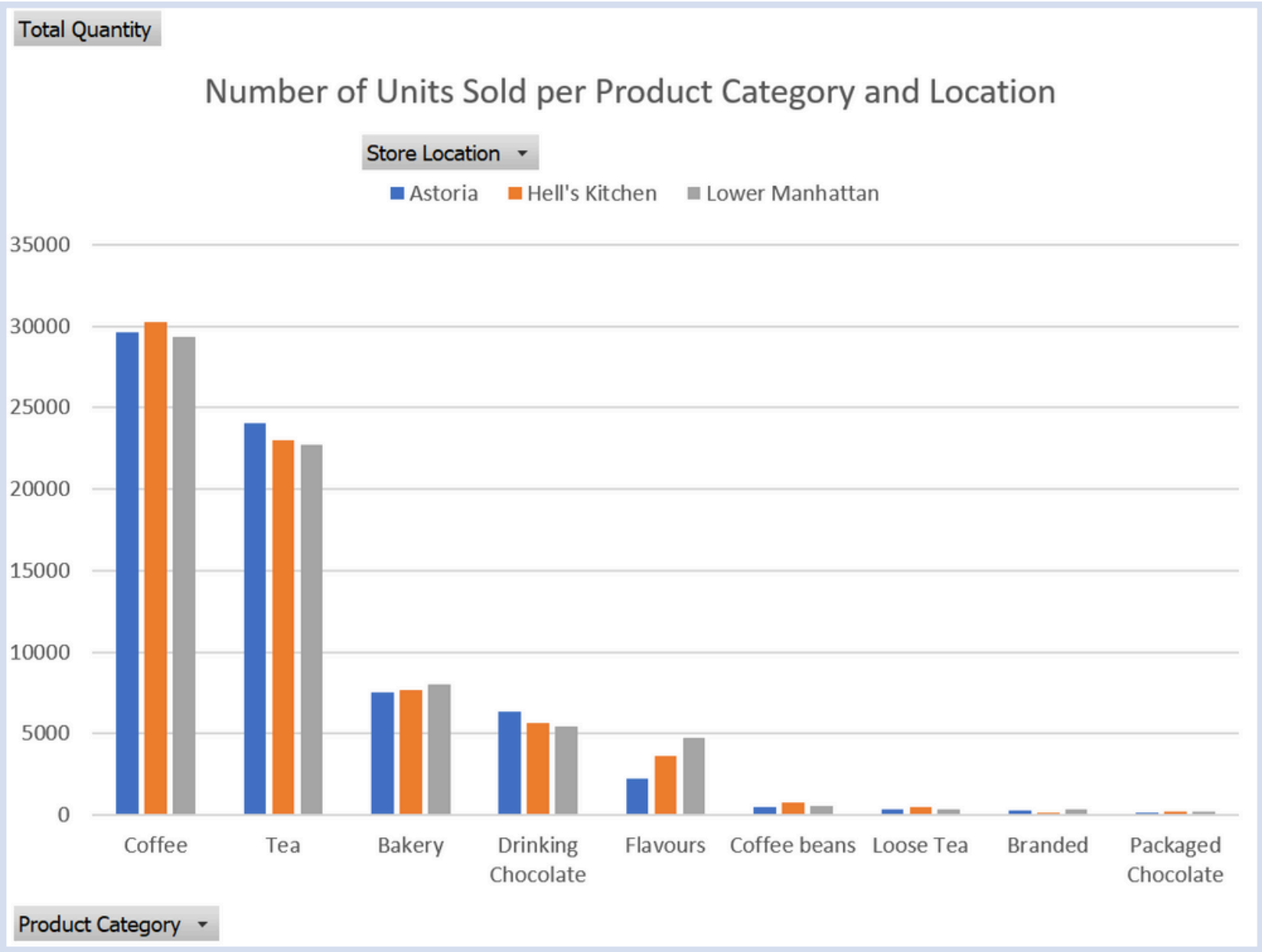
Total Quantity by Days in each Store				
Total Quantity Column Labels ▾↑				
Row Labels ▾	Astoria	Hell's Kitchen	Lower Manhattan	Grand Total
Sunday	9981	10270	9931	30182
Monday	10362	10121	10748	31231
Tuesday	9743	10583	10123	30449
Wednesday	10459	10078	10088	30625
Thursday	10384	10345	10433	31162
Friday	10342	10567	10298	31207
Saturday	9720	9773	10121	29614
Grand Total	70991	71737	71742	214470
Total Sales by Days in each Store				
Total Sales Column Labels ▾↑				
Row Labels ▾	Astoria	Hell's Kitchen	Lower Manhattan	Grand Total
Sunday	32795.18	33685.63	31849.5	98330.31
Monday	33928.29	33389.51	34359.48	101677.28
Tuesday	31816.76	34846.47	32792.71	99455.94
Wednesday	34244.63	33779.09	32289.82	100313.54
Thursday	34140.37	33468.06	33159.35	100767.78
Friday	33472.75	34743.18	33157.07	101373
Saturday	31845.93	32599.23	32449.32	96894.48
Grand Total	232243.91	236511.17	230057.25	698812.33

The busiest days of the week are Wednesday in Astoria, Tuesday in Hell's Kitchen, and Monday in Lower Manhattan. These busiest days align with total sales, with the store getting the highest total sales on the busiest days and lowest sales on non-busiest days. However, in Astoria, the lowest sales occur on another day, which is Tuesday.

store_location	Astoria								
Sum of sale	Column Labels								
Row Labels		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Grand Total
Coffee		12422.05	13182.1	12063.2	13306.95	13023.9	13542.65	12203.45	89744.3
Tea		9648.95	9762.25	9424.85	9928.45	10126.3	9665.8	9283.3	67839.9
Bakery		3541.5	4068	3656.5	3835.75	4110	3750.5	3637.5	26599.75
Drinking Chocolate		3815.25	3952.5	3649.5	3787.5	3928.5	3521.75	3680.25	26335.25
Coffee beans		1550.15	1516.65	1426.3	1479.75	1520.3	1355.15	1370.9	10219.2
Branded		893	564	710	1077	552	747	914	5457
Loose Tea		509.9	468.95	472.3	433.65	480.2	468.05	360.95	3194
Flavours		243.2	220.8	268.8	264.8	205.6	303.2	258.4	1764.8
Packaged Chocolate		171.18	193.04	145.31	130.78	193.57	118.65	137.18	1089.71
Grand Total		32795.18	33928.29	31816.76	34244.63	34140.37	33472.75	31845.93	232243.91

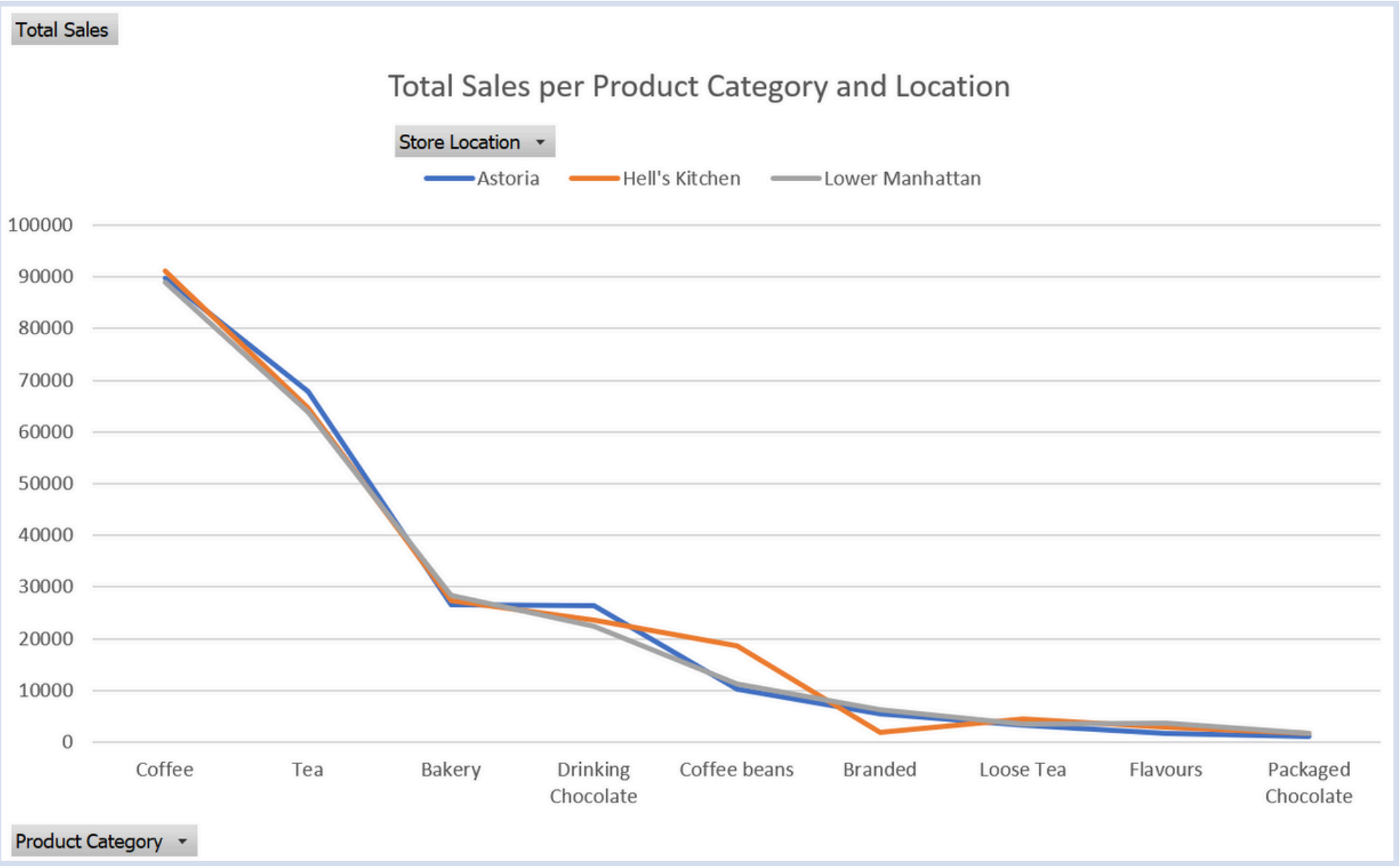
By comparing the total sales of Tuesday with Saturday for each product category. **On Tuesday, there were 2 products sold less than on Saturday, which are drinking chocolate and branded. This results in Tuesday having the lowest total sales of the week.**

Number of Units Sold per Product Category and Location				
Total Quantity	Column Labels			
Row Labels	Astoria	Hell's Kitchen	Lower Manhattan	Grand Total
Coffee	29655	30220	29375	89250
Tea	24048	22980	22709	69737
Bakery	7496	7678	8040	23214
Drinking Chocolate	6351	5672	5434	17457
Flavours	2206	3596	4709	10511
Coffee beans	502	790	536	1828
Loose Tea	344	485	381	1210
Branded	279	119	378	776
Packaged Chocolate	110	197	180	487
Grand Total	70991	71737	71742	214470



The 3 best-selling products are coffee, tea, and bakery.

Total Sales per Product Category and Location				
Total Sales	Column Labels			
Row Labels	Astoria	Hell's Kitchen	Lower Manhattan	Grand Total
Coffee	89744.3	91222.65	88985.5	269952.45
Tea	67839.9	64701.3	63864.75	196405.95
Bakery	26599.75	27386.95	28328.94	82315.64
Drinking Chocolate	26335.25	23586.25	22494.5	72416
Coffee beans	10219.2	18635.1	11230.95	40085.25
Branded	5457	1942	6208	13607
Loose Tea	3194	4461.35	3558.25	11213.6
Flavours	1764.8	2876.8	3767.2	8408.8
Packaged Chocolate	1089.71	1698.77	1619.16	4407.64
Grand Total	232243.91	236511.17	230057.25	698812.33



The 3 products providing the most profit are coffee, tea, and bakery.

Conclusion

- To increase total quantity and sales, every stores can create attractive promotions or offering discounts on coffee, tea, and bakery products.
- To increase total sales, stores can implement targeted promotions:
 - Astoria Store: Bundle packaged chocolate and tea or offer discounts on branded products on Wednesday (the busiest day).
 - Hell's Kitchen Store: Bundle packaged bakery and drinking chocolate or offer discounts on coffee beans on Tuesday (the busiest day).
 - Lower Manhattan Store: Create flavor and loose tea bundling packages or provide discounts on coffee products on Monday (the busiest day).