

# **SUPERSTORE SALES ANALYSIS**

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# PRESENTATION OVERVIEW

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**Scenario**



**Introducing the Data**



**Hypothesis & Assumptions**



**Key Findings**



**Recommendations &  
Next Steps**





# SCENARIO

You work as a data analyst at an online office supplies retailer.

Your company is interested in opening their first in-person branch. Using in-house sales data, you are tasked with determining the ideal city and neighbourhood for a successful store launch.

## INTRODUCING THE DATASET

This dataset is a collection of sales, customer, shipping, and geographical data from an online superstore retailer.

Data Source: [‘Superstore Sales’](#) from Kaggle

Superstore.csv (2.3 MB)

Detail

Compact

Column

11 of 21 columns

About this file

"Superstore Sales Dataset" - Comprehensive collection of sales, customer, and product data for analysis. Includes columns like Order Date, Ship Date, Customer ID, Product Category, Sales, Quantity, Discount, and Profit. Valuable resource for exploring trends and optimizing business strategies. Dataset Format: .csv

Row ID	A. Order ID	A. Order Date	A. Ship Date	A. Ship Mode	A. Customer
	5009 unique values	1238 unique values	1334 unique values	Standard Class 60%	Second Class 19%
1	9904			Other (20%) 21%	unit
1	CA-2013-152156	09-11-2013	12-11-2013	Second Class	CG-12520
2	CA-2013-152156	09-11-2013	12-11-2013	Second Class	CG-12520

We sell...

Office Supplies,  
Furniture, and  
Technology

to...

Regular Consumers,  
Corporate offices, and  
Home Offices

across the U.S

This dataset that we got from Kaggle is a collection of sales, customer, shipping, and geographical data from an online superstore retailer.

In essence, this company sells office supplies, furniture, and technology to three main customer groups across the United States, described as: regular consumers, corporate offices, and home offices.

## HYPOTHESIS

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A store launch near an **urban city centre** within a central radius to **high profit customers**\* is the optimal location for Superstore's first store launch.

## ASSUMPTIONS

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\*Corporate customers prefer to ship orders directly to their offices (large order volume).

'**Consumer**' and '**home office**' customers are thus defined as high-profit customers for an in-person launch.

The hypothesis that guided our analysis was that, "*A store launch near an **urban city centre** within a central radius to '**high profit customers**' is the optimal location for Superstore's first store launch.*"

We defined "high profit customers" based off of an assumption made, which is that corporate customers prefer to ship orders directly to their offices due to large order volumes. Therefore, a high-profit customer for an in-person launch would be our '**consumer**' and '**home office**' customers.

The data to validate this point can be seen on the next slide.

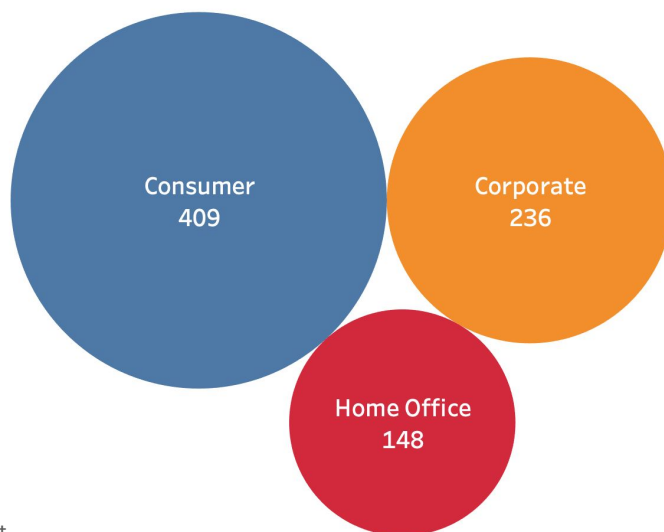
## KEY FINDINGS

## Customer Segments

**Consumers** make up **51%** of Superstore's customer base.

Launch location and store layout will target 'Consumer' and 'Home Office\*' customers.

Customers Per Segment



\*Similar spending patterns observed as 'Consumer' segment

### Demographic Analysis: Customer Segments

We first conducted a demographic analysis to determine who our target market would be for our launch.

Representing over half of our customer base, the standard 'consumer' segment is Superstore's most common customer segment, followed by corporate customers at 30% and home office customers at 19%.

From this, we determined that when opening a physical store, from the location to the store layout, the 'consumer' segment would be our primary focus. Under the assumption that 'corporate' customers are likely to continue shipping to their office as opposed to shopping at a physical store, we also grouped in the 'home office' segment into our considerations due to similar spending behaviours.

## KEY FINDINGS

## Sales by State

### Top 5 Sales by State

State	Sales
California	457,688
New York	310,876
Texas	170,188
Washington	138,641
Pennsylvania	116,512

**California** accounts for **20%** of total sales, followed by **New York** at **14%**

### Geographical Analysis: States

The next step in deciding where to open our first branch was to find out *where* our sales were coming from.

We narrowed down the **top 5 states by total sales** to: (1) California, (2) New York, (3) Texas, (4) Washington, and (5) Pennsylvania.

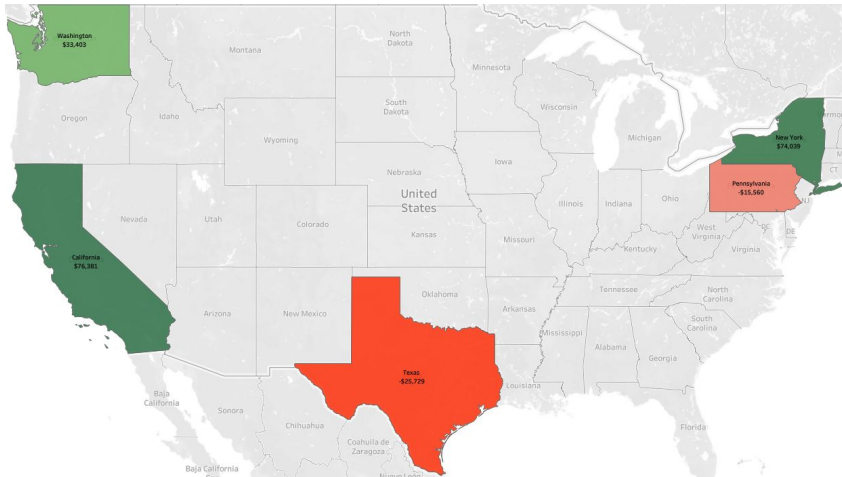
There was a sizable difference in total sales observed between California-New York, as well as another sizeable difference between New York and the rest of the states; leaving us with a clear 'Top 2' states in terms of revenue.

Apart from sales, another important metric to consider before narrowing down our options is how **profitable** each of these states are.

## KEY FINDINGS

## Profit by State

### Profit of States with High Sales



Despite a large difference in sales, California and New York differ in profit by only **1%**.

Profit losses observed in TX, PA, and 8 other states. Requires further exploration beyond this project (see 'Next Steps')

### Geographical/Sales Analysis: States

When comparing the total profit of each state, we observed that despite having much higher sales than NY, CA only led in profit by about 1% (approximately \$2000 USD). These two states make up 52% of total profit across the U.S, unequivocally leaving us with two options for our store launch: California or New York. Still another metric is required to conclusively land on one state over the other for our first store launch.

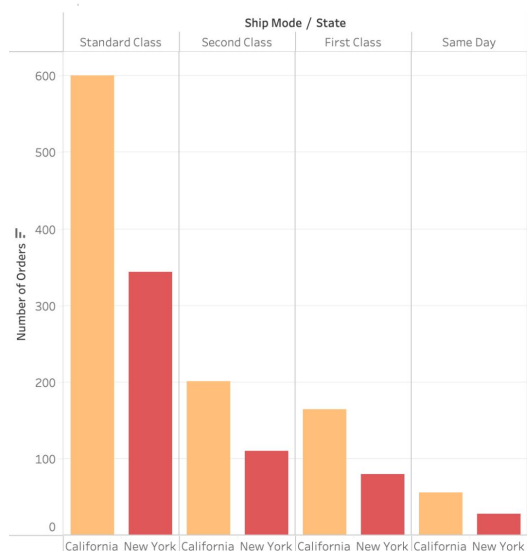
A second observation we made was that there are 10 states that are running in profit losses, including Texas and Pennsylvania, ranked 4 and 5 in total sales, respectively. Though important, this finding is beyond the scope of this current project and has been noted in the 'Recommendations & Next Steps' to explore deeper in a future project.



## KEY FINDINGS

## Shipping by State

# of Orders Per Shipping Type



**California** represents the **greatest market demand** and **potential profitability** for an in-person store.

### Shipping Analysis: California vs. New York

We finalized our State-level analysis by looking at the # of orders per shipping mode between the 'Top 2' states.

This visualization shows the four different types of shipping modes available at Superstore: Standard Class, Second Class, First Class, and Same Day.

We used these metrics to represent how urgent the demand was for our products by customers. We extrapolate that this will translate to in-person shopping, where customers that are willing to pay a premium in order to get their shipment faster would be more willing to go shopping at an in-person branch.

In this chart, we see that customers in California are leading in all of the shipping options, including first class and same-day shipping (high/urgent demand).

At this point, we were confident that California represented the greatest market demand and potential profitability for our first store launch.

## KEY FINDINGS

## Sales + Profit by City

### Top 5 Cities by Sales and Profit (CA)

City	Postal Code	Sales	Profit
Los Angeles	90049 Brentwood	37,961	7,793
	90045	37,420	6,210
	90008	25,208	4,836
	90036	29,158	4,453
	90032	22,420	4,149
	90004	23,684	2,999
San Francisco	94122 Sunset Dist.	52,667	7,713
	94110	34,991	5,397
	94109	25,010	4,397
San Diego	92037	25,676	3,197
	92105	14,791	1,789
	92024	7,054	1,390
Sacramento	95823	7,311	2,070
Anaheim	92804	7,987	1,234

Neighbourhoods in **Los Angeles** and **San Francisco** have the highest sales and profit.

### Geographical/Sales Analysis: Cities (CA)

Within California, the cities of Los Angeles (LA) and San Francisco (SF) lead in sales and profit.

The neighbourhoods in both of these cities present very high potential market interest and profitability. To determine which city would be best for our launch, we took the top neighbourhood in each city, Brentwood (90049) for Los Angeles and Central Sunset (94122) for San Francisco, and conducted external demographic research to predict probability of in-person shopping.

## KEY FINDINGS

## Demographics



### Los Angeles

### San Francisco

Brentwood (90049)	Neighbourhood	Sunset District (94122)
\$110,854	Median Household Income	\$81,768
Work From Home	Commuter vs. Work from Home	Commuter
\$3.80 / sq. ft.	Average Commercial Rent	\$55-\$70 / sq. ft.

For more information, see [www.homearea.com](http://www.homearea.com) for information on [San Francisco City, California](#) & [Los Angeles City, California](#).

### Geographical/Demographic Analysis: Zip Codes (LA vs SF)

Taking Brentwood and Central Sunset as representatives for their respective cities, we explored external data from [homearea.com](http://homearea.com) to see median household income, commuting patterns, and commercial rental prices.

Residents of Brentwood have a median household income of \$110,854. When compared to the rest of the nation, a high percentage of individuals in this area work from home, and even for those that do work in-office, personal vehicles are the most common form of transportation.

On the other hand, the median household income for residents in the Sunset District is \$81,768. A much higher percentage of residents in the Sunset District commute to work when compared to Brentwood.

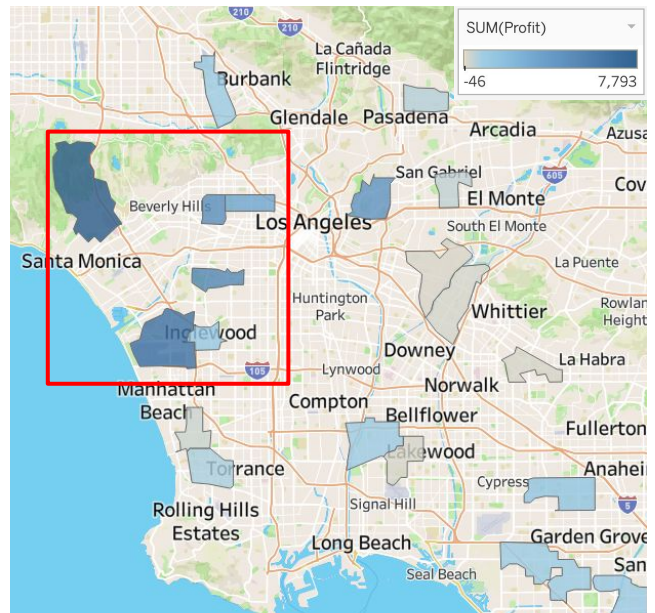
With many individuals working from home, Brentwood (and therefore Los Angeles) presents a greater potential market to expand our 'Home Office' customer base. Furthermore, vehicle availability provides more flexibility with where we launch our branch, as well as appealing to those that are shopping for furniture. Lastly, with more affordable commercial rental prices, Los Angeles is an ideal place for our store launch.

## KEY FINDINGS

## Profit by Zip Code

The highest profit areas surround the Beverly Hills, Santa Monica, and Inglewood areas.

Entering an area with **high profit margins** would reduce risk as there is a **known customer base** in this area.



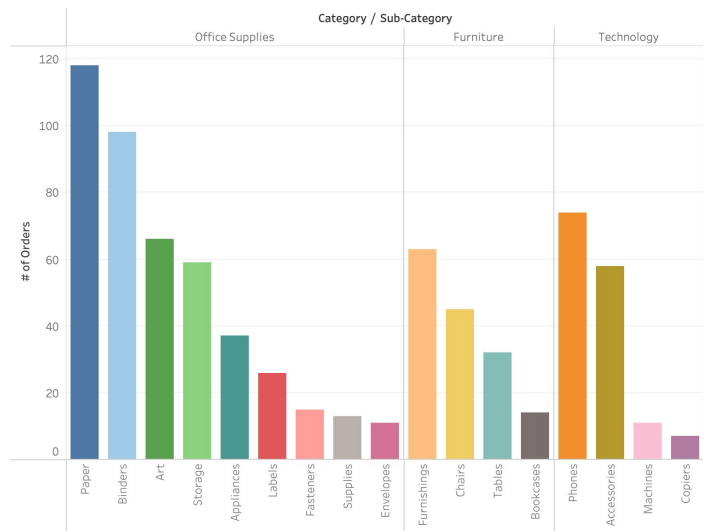
### Geographical/Sales Analysis: Los Angeles

When digging deeper into the zipcodes of customers in LA - the highest profit areas surround the Beverly hills, Santa Monica and Inglewood areas. Entering an area with high profit margins would reduce risk as there is a known customer base in this area. However, this does pose a risk that many cannibalise online sales.

An alternative option could be to open in the Santa Ana/Newport Beach area, as it is a mid-size profit area and presents itself as a growth opportunity without cannibalising successful online sales.

# KEY FINDINGS

# of Orders by Category (LA)



Office Supplies and Technology are **in-demand** and **highly profitable**.

Profit by Category (LA)

Category	Total Profit (USD)
Technology	13,909
Office Supplies	13,461
Furniture	3,072

## Sales Analysis: Customer Preferences (LA)

Lastly, to inform store layout, inventory, and marketing, we looked into the most popular categories of items previously purchased by shoppers in the Greater Los Angeles area.

Among LA shoppers, products falling under ‘office supplies’ and ‘technology’ are not only very popular but also highly profitable.



# RECOMMENDATIONS

We recommend a launch along the NE-border of [Inglewood](#), within a 20 min drive of [high-profit](#) neighbouring areas (e.g. Santa Monica).

Marketing and store layout should center around in-demand product categories: [office supplies and technology](#).

Survey top 100 '[consumer](#)' + '[home office](#)' customers in Inglewood and Santa Monica to (1) gather interest for an in-person branch, and (2) focus on [target market](#).

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Next Step: States with profit losses have higher than normal discount percentages (e.g. 40%, 70%, and 80%). Investigate this relationship further to minimize losses.