



Analysis and Launch Plan for Retail Startup

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MGSC 410

Appendix

Information on the Dataset

- Provided with a demographic dataset at the DMA (Designated Market Area aka major city or metropolitan area). You can use this data to analysis the population, household, income and ethnicity of the various DMA's as potential locations.
- Provided with historical sales data for 45 competitive stores located in different major cites, some major markets have more than one store. Each store contains a number of departments, and displays characteristics such as Date, Weekly_Sales, and IsHoliday
- .Worked on the dataset on “Excel”

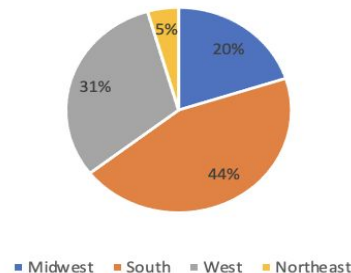
Data Cleaning

- Removed the Markdown Columns on the features.csv

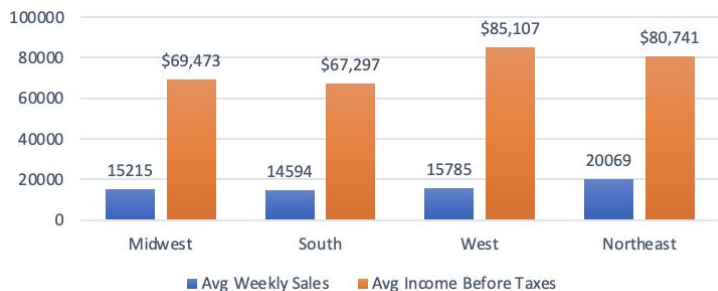
General Information

- 44% (20 of 45) of all stores in the dataset come from the “South” region
- 31% (14 of 45) of all stores in the dataset come from the “West” region
- 20% (9 of 45) of all stores in the dataset come from the “Midwest” region
- 5% (2 of 45) of all stores in the dataset come from the “Northeast” region

Percentage
of Stores in Each Region



Avg Weekly Sales and Avg Income of
Consumers Per Region



- “West” Region consumers have the highest average income before taxes and second highest in average weekly sales for stores in the West
- “South” Region consumers have the lowest average income before taxes and lowest in average weekly sales for stores in the South

So What Makes a Market Desirable?

1. Consumer Unit Characteristics: **[Finding New Markets]**
 - Number of Consumers
 - Income Before Taxes
 - Average Annual Expenditures
 - Food at Home
 - Household Furnishing and Equipment
2. Average Weekly Sales and store type in specific regions **[Finding New Markets]**
3. Weekly Sales Differences on Holiday weeks vs. Non-Holiday weeks per region **[Finding New and Strengthening Old Markets]**
 - Super Bowl: 12-Feb-10, 11-Feb-11, 10-Feb-12, 8-Feb-13
 - Labor Day: 10-Sep-10, 9-Sep-11, 7-Sep-12, 6-Sep-13
 - Thanksgiving: 26-Nov-10, 25-Nov-11, 23-Nov-12, 29-Nov-13
 - Christmas: 31-Dec-10, 30-Dec-11, 28-Dec-12, 27-Dec-13



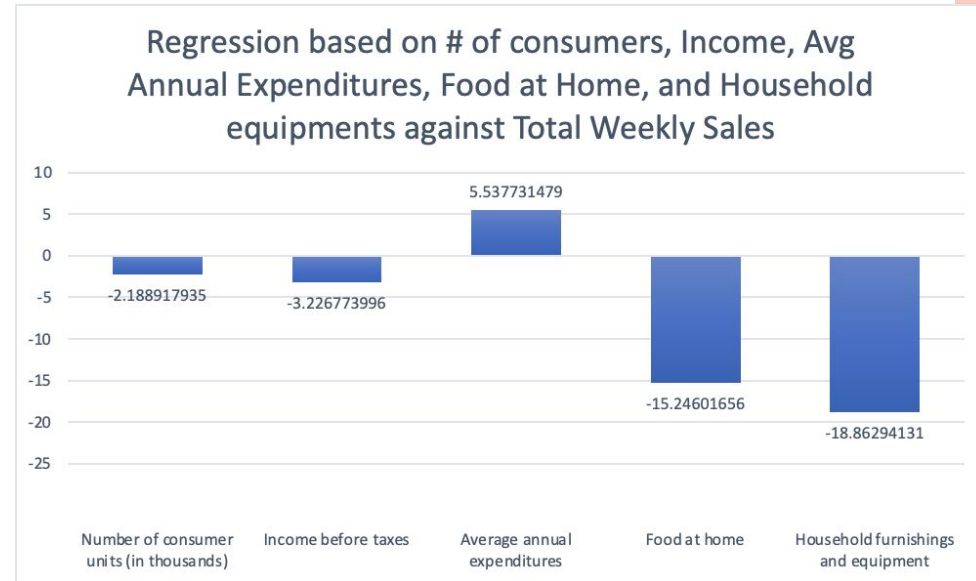
Therefore...

Top 10 Markets to Enter:

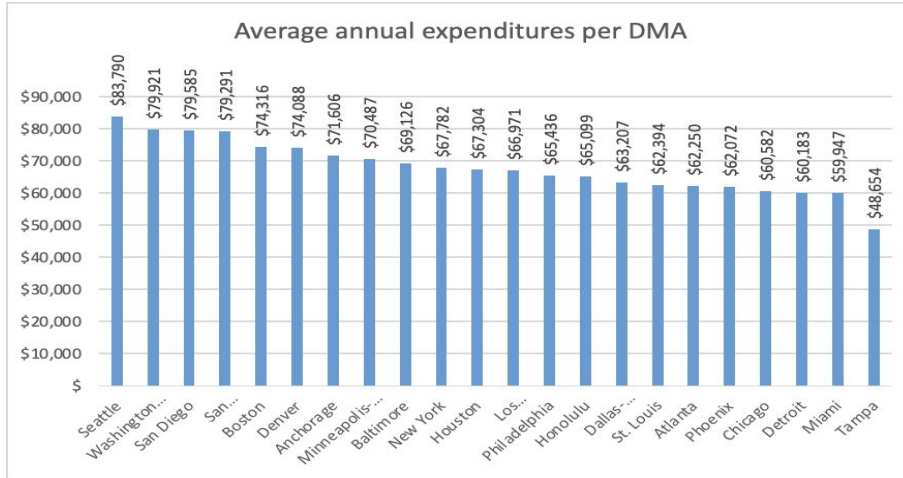
1. **Seattle**
 2. **Washington D.C.**
 3. **San Diego**
 4. **San Francisco**
 5. **Baltimore**
 6. **Miami**
 7. **Minneapolis-St.Paul**
 8. **St. Louis**
 9. **Detroit**
 10. **Cleveland-Akron**
- 

1. Consumer Unit Characteristics

- Based on all characteristics provided, # of consumers, Income, Avg Annual Expenditures, Food at Home, and Household equipments were the chosen characteristics to study based on general information given in the instructions
 - Instructions:** “The retail concept is that of a Target ‘light’ a multi-purpose home and grocery store that will compete with Wal-Mart & Target for middle income to high income households.”
- After performing a regression with an R2 of 72%, average annual expenditure had the highest coefficient of 5.54.

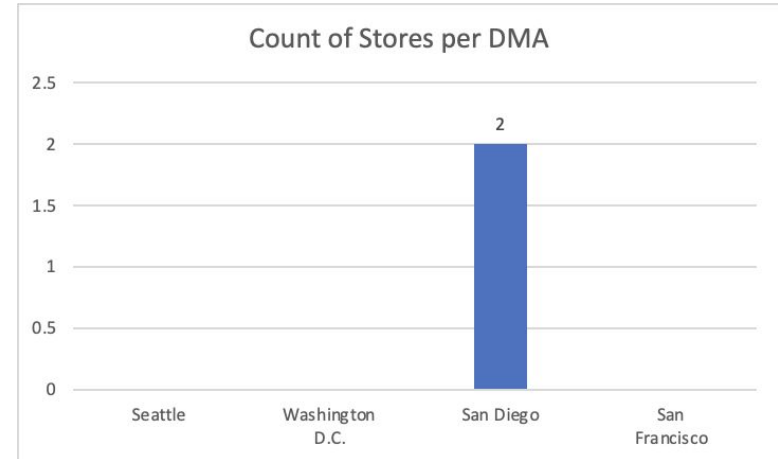


1. Consumer Unit Characteristics



- Based on the graph on the right, 0 stores are located in **Seattle (1)**, **Washington D.C. (2)**, and **San Francisco (4)**, which allow for a great opportunity to enter these markets to increase the company portfolio and generate more annual sales

- After graphing all DMA's based on average annual expenditures, **Seattle (1)**, **Washington D.C. (2)**, **San Diego (3)**, and **San Francisco (4)** have significantly higher annual expenditures and if we follow our regression, are the most desirable markets in order to generate the most total sales



2. Average Weekly Sales and store type in specific regions

- Despite the “South” region having the lowest average income as well as the lowest in average weekly sales, 6 out the top 10 stores based on average weekly sales are stores from the “South”
 - Top 3 Stores based on average weekly sales is from the South
- On the other hand, the 3 lowest ranked stores based on lowest average weekly sales also come from the “South”
- Because of the large number (20) of stores in the South, there is a wide range of well performing and poorly performing stores in this region
 - “South” region becomes a “High-risk, High reward” region if launch plan is executed properly

Rank	Store #	Avg. Weekly Sales	DMA	Region
1	20	29508	Tampa-St. Pete	South
2	4	29161	Houston	South
3	14	28785	Dallas-Ft.Worth	South
4	13	27355	Los Angeles	West
5	2	26898	Cleveland-Akron	Midwest
6	10	26332	Cleveland-Akron	Midwest
7	27	24827	Houston	South
8	6	21913	Orlando-Daytona Brach-Melbourne FL	South
9	1	21711	Houston	South
10	39	21001	Chicago	Midwest
36	30	8764	Los Angeles	West
37	36	8584	Salt Lake City	West
38	7	8359	Cleveland-Akron	Midwest
39	29	8159	Chicago	Midwest
40	16	7863	Dallas-Ft.Worth	South
41	38	7492	Kansas City	Midwest
42	3	6373	Denver	West
43	44	6039	Atlanta	South
44	33	5728	Atlanta	South
45	5	5053	Austin	South

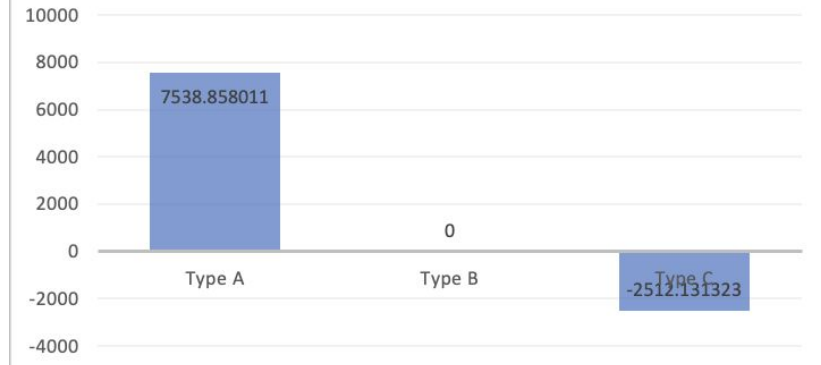
2. Average Weekly Sales and store type in specific regions

Rank	Type	Store #	Avg. Weekly Sa	DMA	Region
1	A	20	29508	Tampa-St. Pete	South
2	A	4	29161	Houston	South
3	A	14	28785	Dallas-Ft. Worth	South
4	A	13	27355	Los Angeles	West
5	A	2	26898	Cleveland-Akron	Midwest
6	B	10	26332	Cleveland-Akron	Midwest
7	A	27	24827	Houston	South
8	A	6	21913	Orlando-Daytona Brach-Melbourne FL	South
9	A	1	21711	Houston	South
10	A	39	21001	Chicago	Midwest
36	C	30	8764	Los Angeles	West
37	A	36	8584	Salt Lake City	West
38	B	7	8359	Cleveland-Akron	Midwest
39	B	29	8159	Chicago	Midwest
40	B	16	7863	Dallas-Ft. Worth	South
41	C	38	7492	Kansas City	Midwest
42	B	3	6373	Denver	West
43	C	44	6039	Atlanta	South
44	A	33	5728	Atlanta	South
45	B	5	5053	Austin	South

- Additionally, 9 out the top 10 stores based on average weekly sales are “Type A” stores
- Only 2 out of the worst 10 stores based on average weekly sales are “Type A” stores
 - The rest of the stores are either “Type B” or “Type C”

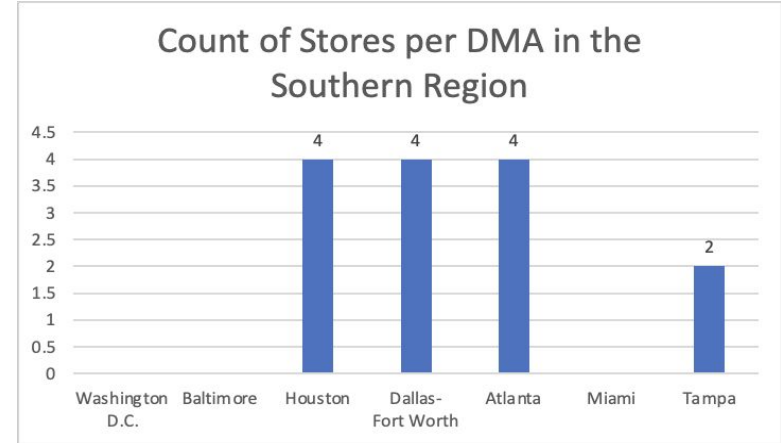
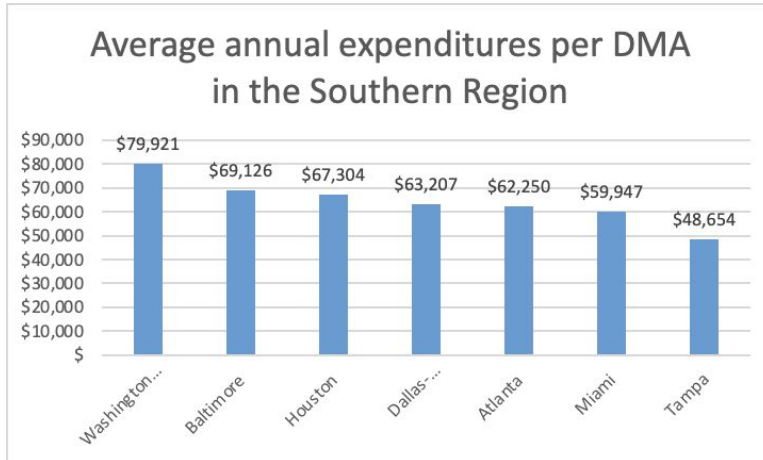
- From this analysis, a regression was performed between Store Types and Average Weekly Sales
 - $R^2 = 36\%$
- The data shows that if a Store is “Type A”, average weekly sales increase by \$7,538, whereas if a store is “Type C”, average weekly sales decrease by \$2,512

Regression based on Store Types against Average Weekly Sales



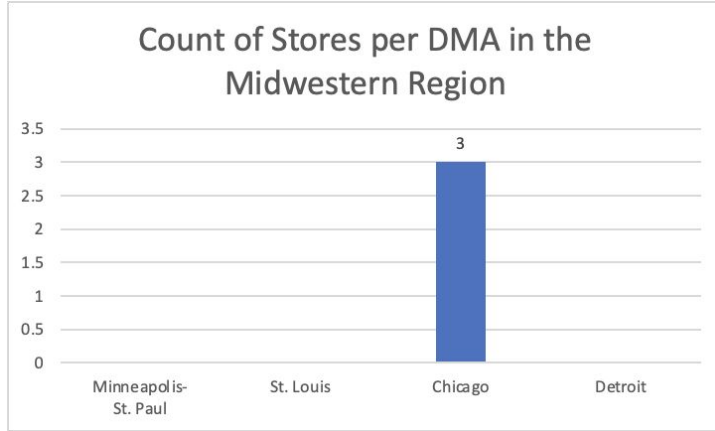
2. Average Weekly Sales and store type in specific regions

- Because “Type A” stores in the South tend to generate the most average sales per week, entering new southern markets with “Type A” stores would be a great expansion strategy
- Based on the graph on the right, **Washington D.C. (2), Baltimore (5), and Miami (6)** would be markets that are desirable ones to enter



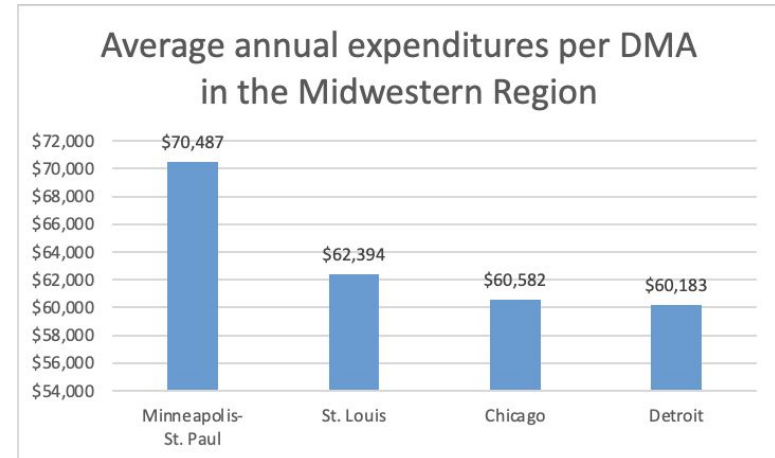
- Based on the regression from **1. Consumer Unit Characteristics**, average annual expenditures had a positive effect on total weekly sales
- When looking at the annual expenditures specifically in the South region, **Baltimore (5)** has the 2nd highest expenditure in the region which proves to be a solid market to enter with a “Type A” store

2. Average Weekly Sales and store type in specific regions



- When looking at the annual expenditures specifically in the Midwestern region, **Minneapolis-St. Paul (7)** has the highest expenditure in the region which proves to be a desirable market to enter with a “Type A” store

- Following the same framework as the Southern Region, the Midwestern region proved to also be a strong region with 3 “Type A” stores from the Midwest being in the top 10 stores based on average weekly sales
- Based on the graph on the left, **Minneapolis-St. Paul (7)**, **St. Louis (8)**, and **Detroit (9)** would be markets to consider entering



3. Weekly Sales Differences on Holiday Weeks vs. Non-Holiday Weeks per Region

Rank	Store	DMA	Region	Count	Increase in Weekly Sales on Holiday Week
1	10	Cleveland-Akron	Midwest	4	3079
2	35	Austin	South	3	2451
3	28	Dallas-Ft. Worth	South	4	2078
4	2	Cleveland-Akron	Midwest	4	2045
5	12	Chicago	Midwest	3	1933
6	19	Philadelphia	Northeast	2	1823
7	4	Houston	South	4	1822
8	20	Tampa-St. Pete	South	2	1720
9	27	Houston	South	4	1604
10	24	Atlanta	South	4	1603

- For the last market to enter, a market that has already been entered was chosen to strengthen to prevent competitors from overtaking market share in the specific market
- Taking a look at the trend between weekly sales and Holiday Weeks, 2 out of the top 4 stores with the highest increases on holiday weeks are located in **Cleveland-Akron (10)**
- Holiday weeks are very big opportunities to make the most of promotional efforts, especially for a retail store, and **Cleveland-Akron (10)** consistently is able to generate the highest increases during these periods, making it the 10th market to enter/strengthen
- Holidays seem to be a bigger deal in Cleveland-Akron (10) specifically than markets in any other region and should be capitalized on

Conclusion

- Three factors took part in determining the top 10 markets to enter:
 - a. Consumer Unit Characteristics
 - An analysis was performed to determine NEW markets with 0 stores to enter based on markets with the highest annual expenditures
 - **Seattle (1), Washington D.C. (2), San Diego (3), and San Francisco (4)**
 - b. Average Weekly Sales and store type in specific regions
 - An analysis was performed to determine NEW markets with 0 stores to enter in the Southern and Midwestern region
 - **Washington D.C. (2), Baltimore (5), Miami (6), Minneapolis-St. Paul (7), St. Louis (8), and Detroit (9)**
 - c. Weekly Sales Differences on Holiday weeks vs. Non-Holiday weeks per region
 - An analysis was performed to strengthen an existing market to prevent competition from taking over any potential market share
 - **Cleveland-Akron (10)**
- Based on the regression based on store types against average weekly sales, entering each market with a “Type A” store will prove to increase total and average sales at each store

Action Steps

1. Cleaned the dataset through deleting unwanted columns and rows
2. Created multiple pivot tables highlighting each store's average weekly sales as well as any characteristics I wanted to find a comparison with
3. Created charts and tables to visualize my data
4. Developed three factors in order to determine a ranking for the top 10 markets to enter
5. Wrote an analysis according to the data and charts to come up with a the top 10 markets to enter