

Chipotle Cluster Analysis - GSB516  
Amrit Dhillon, Ulises Caro, Andrew Sowala, Darren Barkins

## Introduction

In 2016, Chipotle Mexican Grill offered \$5 to 500 individuals in a park to complete a survey on consumer attitudes towards Chipotle and over 350 people completed it. Using the results of K-Means cluster analysis we are aiming to segment the customers based on their psychographic attributes to provide more personalized approaches for customers.

## Classification of Variables

Variable	Classification
female, age, income	Demographic
plan, spending, buylocal, healthyimportanttome, importantconvenience, importantvariety, importantprice, importanthealthy, importantambience, importanttaste	Psychographic
top1	Behavioral/Not to be Used
patronage	Outcome
chipotle taste, chipotle variety, chipotle healthy	Product
chipotle price	Price
chipotle convenient, chipotle ambience	Place
wom, sm, walk, billboard	Promotion

## Number of Clusters

In order to determine the number of clusters, we began with a larger set of psychographic variables and progressively narrowed down our selection. Our initial clustering method included every psychographic variable in the dataset; However, we quickly realized there was little to no variability across respondents for certain variables such as 'importantprice', which made sense as every customer wants well priced food. Due to variables such as these containing no variance, we dropped them as they serve no purpose since they didn't help distinguish one group of customers from another.

Through many trials we found that the most effective segmentation of the clusters was achieved by using the following variables: 'plan', 'spending', 'buylocal', 'healthyimportanttome', 'importantvariety', and 'importantambience'. Out of all psychographic variables, these variables showed the most meaningful variance across survey respondents and provided us with *four* distinct clusters.

**Cluster means:**

(Scaled Data: # of Z-scores of cluster above/below mean)

Cluster	plan	spending	buylocal	healthyimport anttome	importantva riety	importantam biance
1	0.5285989	0.06050710	-0.08883185	0.05874682	-0.7212593	-0.14376433
2	0.5574684	-0.06529193	1.30288761	1.33079195	-0.3308844	-1.2026620
3	-0.6823364	0.88443169	-0.24167569	-0.60491320	0.2852689	0.3156948
4	-0.2352741	-1.13382672	-0.35264939	-0.12996505	0.8596001	0.5289228

The clusters showed a good spread across the chosen psychographic variables and the total sum of squares ratio was about 36.1%(better than previous iterations with no variance). The four clusters were sizes 104, 44, 91, and 74, respectively. While segment 2 was a bit smaller, the overall distribution was reasonably balanced and provided interpretable data based on the sample size.

**Means Analysis**

Cluster	Mean Age	Mean Income	Mean % Female	Mean Patronage
1	43	\$44371.84	23%	0.41
2	44	\$33339.05	39%	0.5
3	39	\$43984.24	14%	0.38
4	36	\$37671.00	18%	0.35

**Cluster Classifications:**

**Cluster 1:** middle-aged adults, planners, moderate patrons, not variety driven.

**Cluster 2:** Healthy, locally focused professionals, frequent Chipotle visitors.

**Cluster 3:** Impulsive younger men, unhealthy, variety driven, lower loyalty.

**Cluster 4:** Young variety seekers, disciplined spenders, value variety and ambience, least loyal.

**Primary Target Recommendation**

We would recommend making Cluster 2 Chipotle's primary target: Healthy, locally focused professionals who frequently visit Chipotle as they report the highest patronage and place a strong emphasis on health and locally sourcing food, a cluster which closely aligns with Chipotle's brand positioning. This makes Cluster 2 both the most loyal and the most strategically

valuable segment.

## Marketing Mix Analysis

Product

Scale: (0-5) 0 = Extremely Poor | 5 = Excellent

Cluster	Mean Taste	Mean Variety	Mean Healthy
1	4.288462	3.634615	4.336538
2	4.568182	3.568182	4.568182
3	4.428571	4.065934	4.494505
4	4.283784	3.932432	4.527027

Place

Scale: (0-4) 0 = Extremely Poor | 4 = Excellent

Cluster	Mean Ambiance	Mean Convenience
1	3.567308	3.701923
2	3.704545	3.977273
3	3.890110	3.901099
4	3.932432	3.689189

Price

Scale: (0-4) 0 = Extremely Poor | 4 = Excellent

Cluster	Mean Price
1	3.375
2	3.321818
3	3.703297
4	3.797297

## Promotion

Scale: (0-1) 0 = Extremely Poor | 1 = Excellent

Cluster	Mean wom	Mean sm	Mean billboard	Mean walk
1	0.4807692	0.08653846	0.01923077	0.3942308
2	0.7727273	0.04545455	0.00000000	0.1590909
3	0.5604396	0.05494505	0.00000000	0.3736264
4	0.5810811	0.10810811	0.02702703	0.2972973

## Marketing Mix Recommendation

### Product:

Tasty and healthy options consistently scored the highest across all clusters, confirming Chipotle's strengths in quality and health positioning, while variety scores were lower particularly for Clusters 1 and 2.

### Price:

Clusters 3 and 4 have stronger perceived values while Clusters 1 and 2 are more critical, indicating that younger, variety-oriented customers respond to well priced foods while more professional, healthier individuals are more focused on food quality.

### Place:

Across all clusters convenience is well rated and ambience is particularly high in Clusters 3 and 4, suggesting that efforts to enhance restaurant atmosphere may benefit lower scoring clusters.

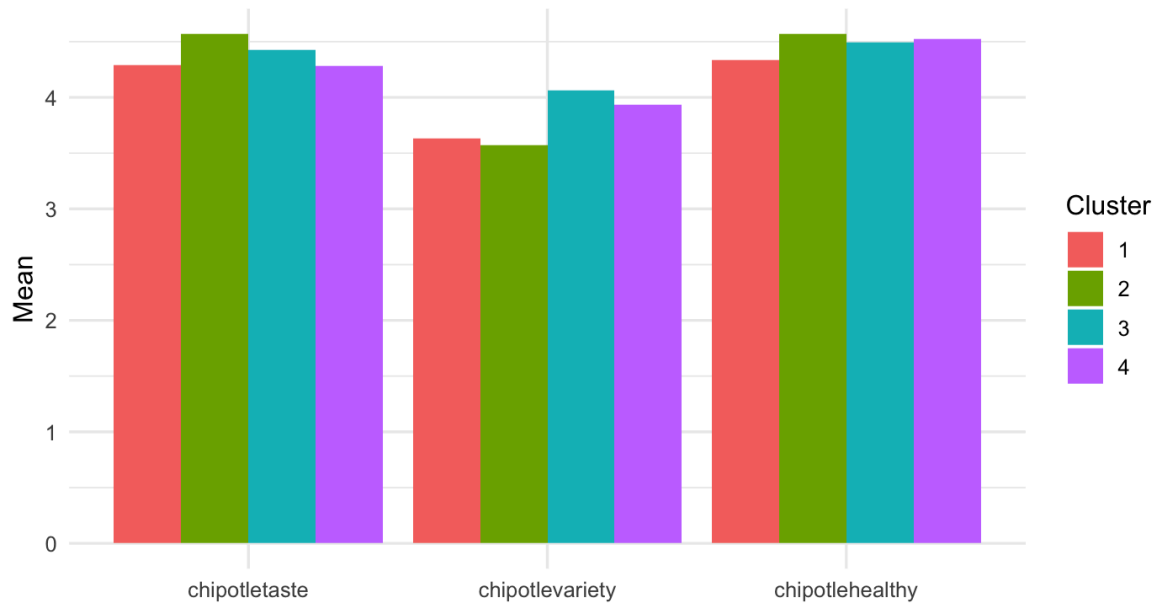
### Promotion:

In all clusters, word of mouth is the strongest, prominently in Cluster 2(77%) while walk-by is strongest for Clusters 1 and 3(39% and 37%, respectively).

Based upon the findings for all four P's, Chipotle should primarily target Cluster 2 by emphasizing their healthy, local positioning through the use of WOM campaigns which were extremely effective. Furthermore, placing Cluster 1 as a secondary target, who tend to plan their meals and already moderately come to Chipotle, focusing on offering deals with better value may resonate with the mid-aged group which could increase their visit frequency. It seems best to deprioritize Clusters 3 and 4 as they don't align with Chipotle's positioning of health and quality, and instead care more about variety and ambience.

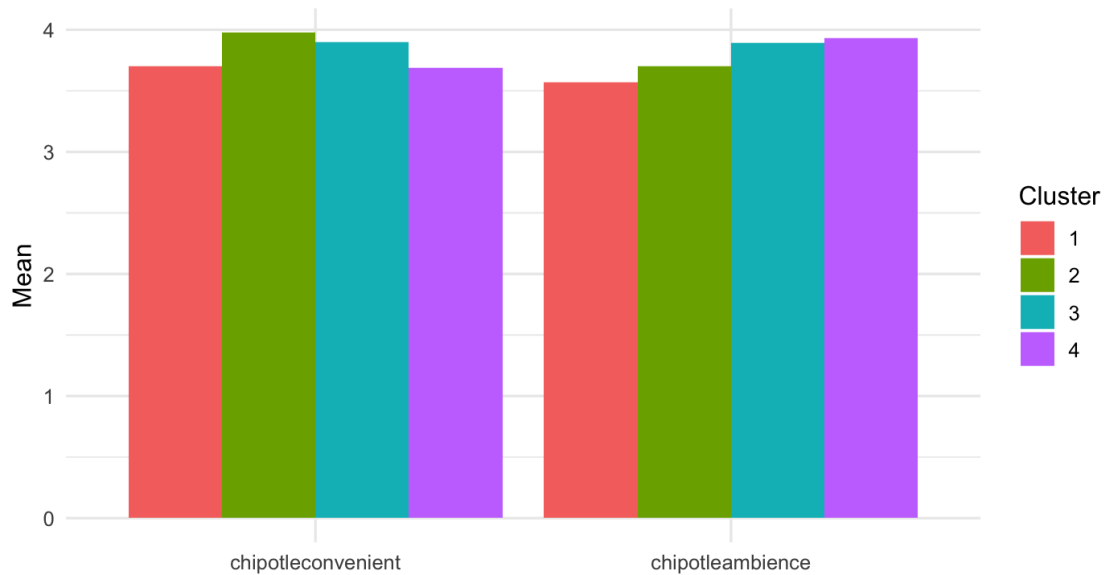
## Appendix

How Successful is Chipotle in the Following:  
Scale: (0-5) 0 = Extremely Poor | 5 = Excellent

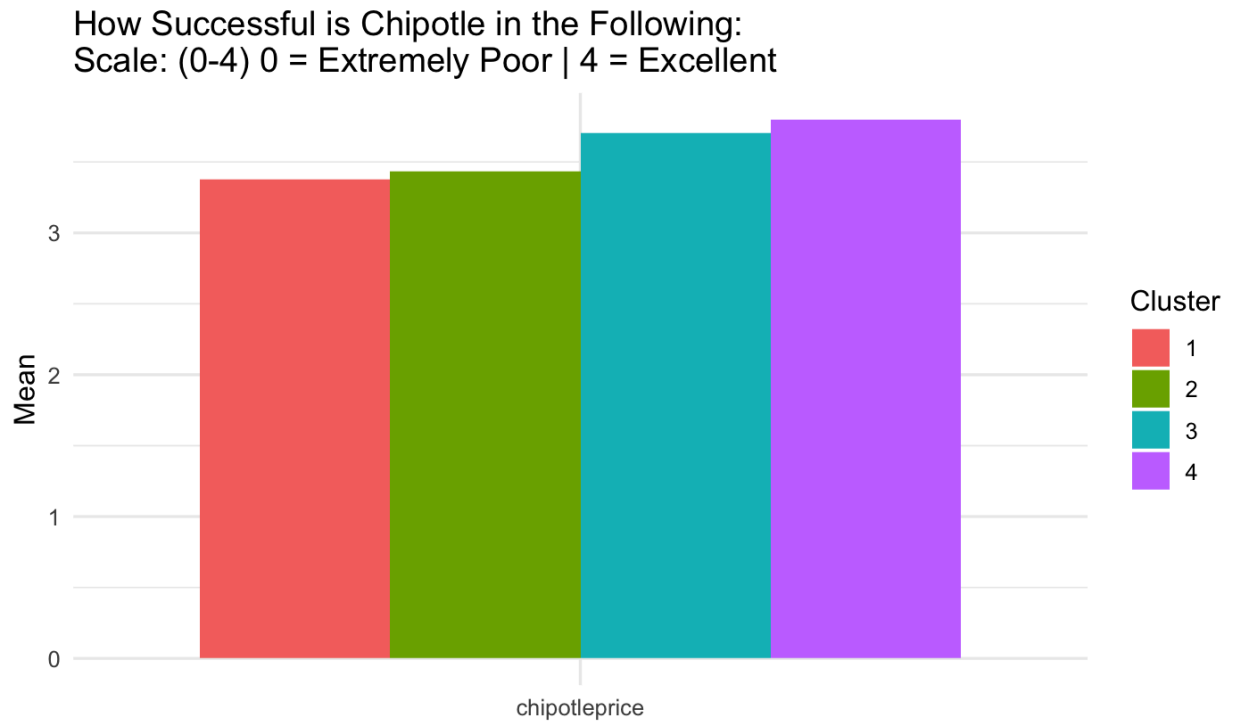


**Figure 1: Marketing Mix - Product**

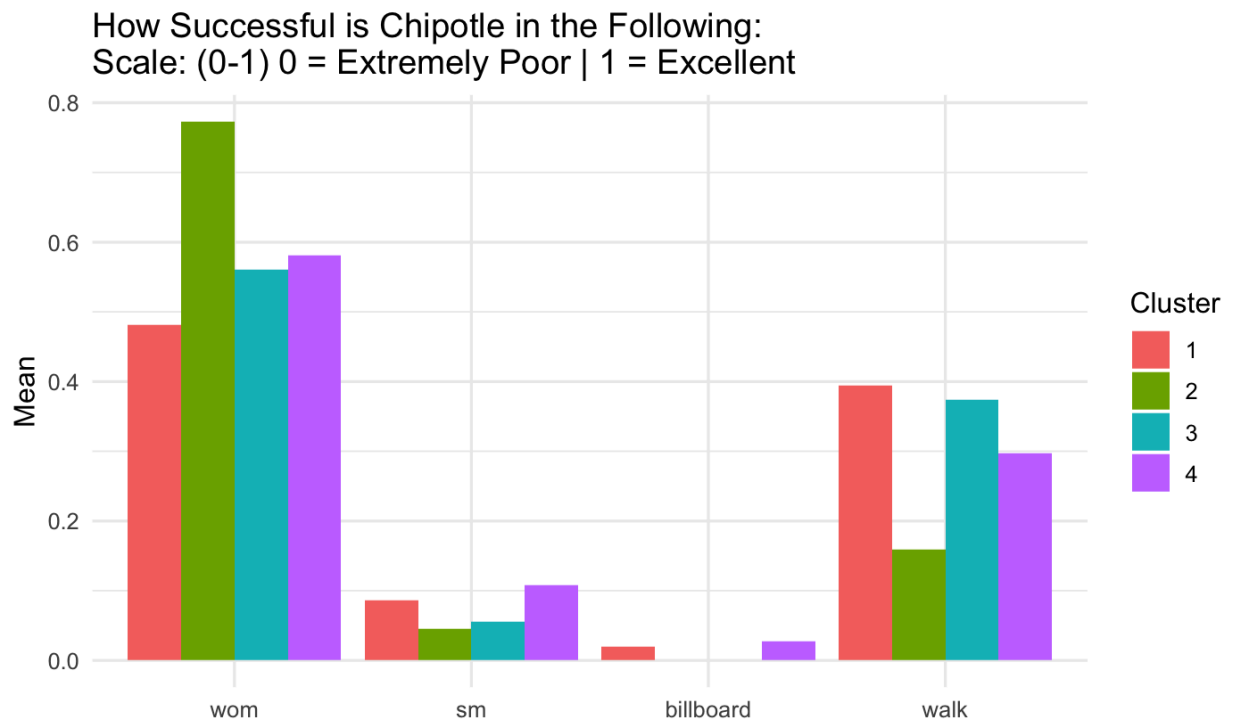
How Successful is Chipotle in the Following:  
Scale: (0-4) 0 = Extremely Poor | 4 = Excellent



**Figure 2: Marketing Mix - Place**



**Figure 3: Marketing Mix - Price**



**Figure 4: Marketing Mix - Promotion**