



Promotional Analysis of Starbucks

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62% of Americans drink coffee every day

Average consumption of an American coffee drinker:
3 cups per day

Agenda:

Company Overview



Research Objectives



Data Analysis



Results and
Recommendations





Company Overview

- “The World's Leading Coffeehouse Chain”
- Created a coffeehouse culture in America and around the world.
- They currently have 350,000 employees
- Ranked 125 in Fortune 500





Growth Status 2021

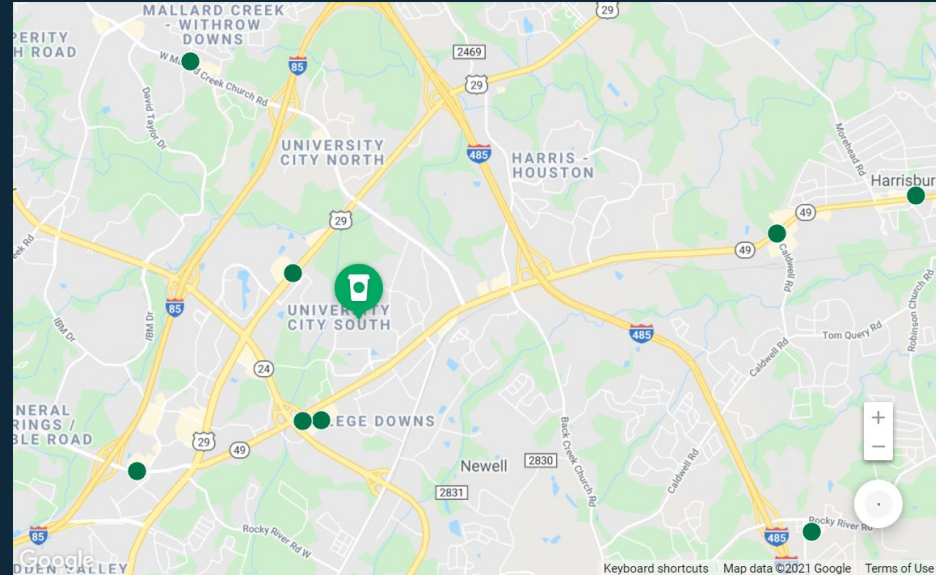
- Continued growth and expansion year by year
- “Starbucks said it expects to grow to 55,000 locations by 2030 — around a 70% increase from the roughly 33,000 units currently operating.”
- Excellence in mobile ordering, promotions





Research Objectives

- College students are a major target market for Starbucks
- 9 locations within 5 miles of UNC Charlotte's main campus
- In addition to their products, Starbucks also offers a great environment for studying & homework
- How can Starbucks utilize promotional offers to appeal to college students?

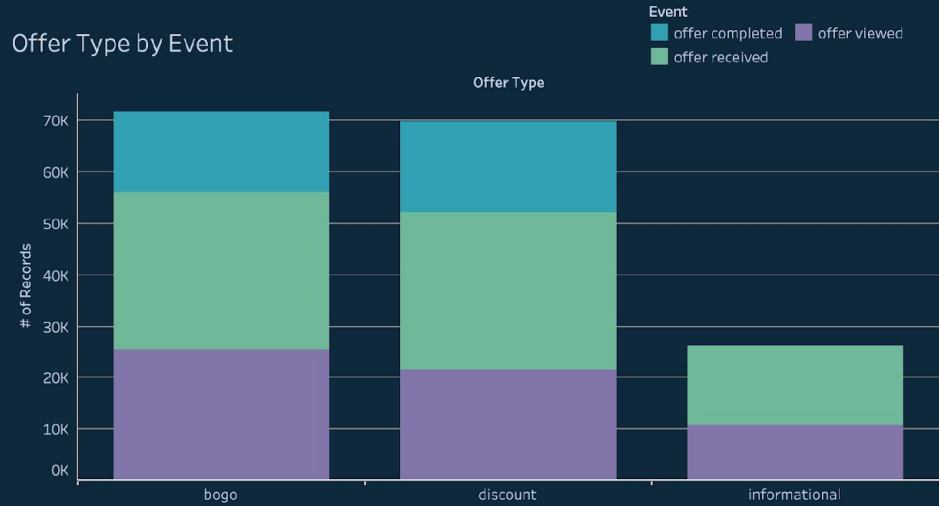


Analysis on Offers

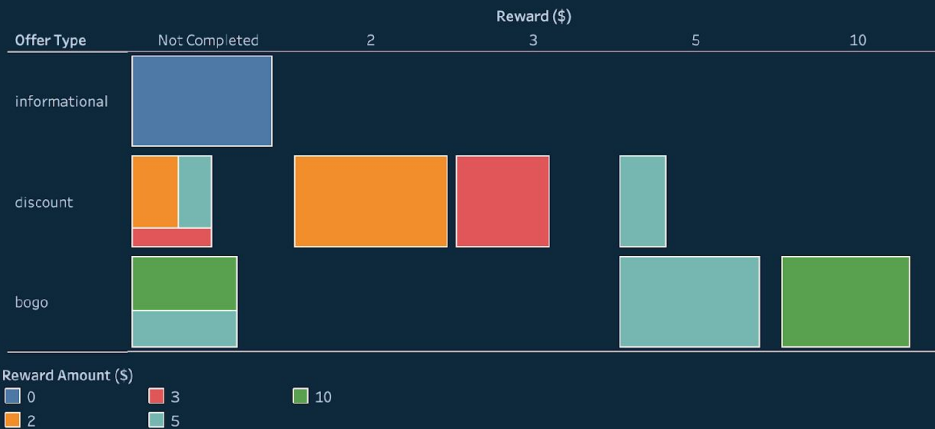
Offer Event Frequency



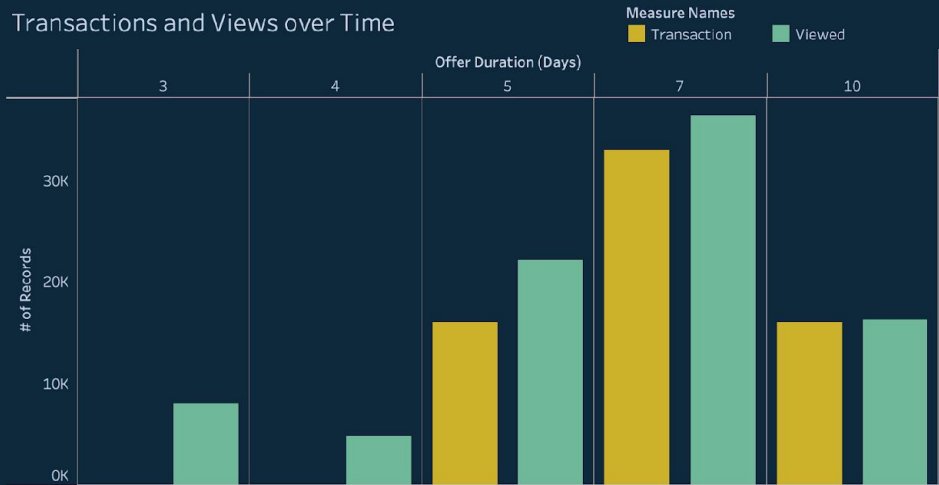
Offer Type by Event



Offer Type Based on Reward Amount



Transactions and Views over Time



Redemption Dashboard

Was the Offer redeemed?

No

Yes

Transaction Status vs Offer Type



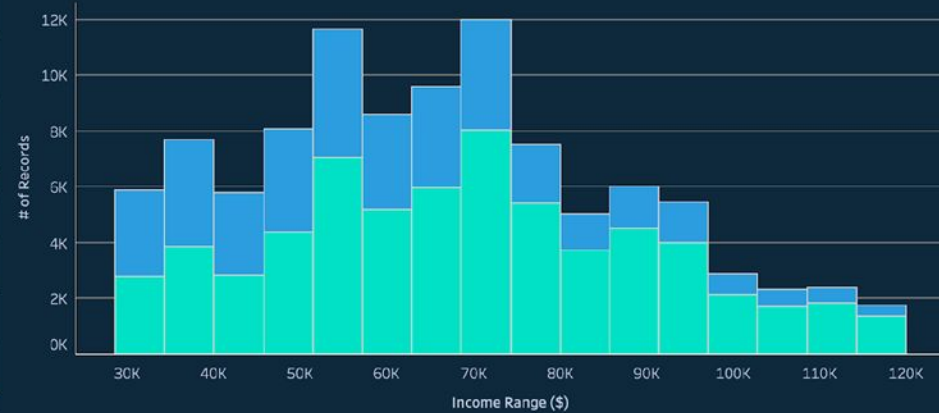
Amount Spent Distribution



Transaction Status vs. Ages



Income Histogram





Logistic Regression

- DV: Offer Completed (0 ~ No, 1 ~ Yes)
- IVs:
 - Offer Characteristics - Reward, Reward², Duration, Social, Mobile, Web, Offer Type [Bogo (baseline), Discount, Informational]
 - Customer Characteristics - Age, Income, Days as Member, Gender (0 ~ Female, 1 ~ Male), College-Aged [age >35 ~ 0, age ≤ 35 ~ 1]
 - Interaction Terms: Gender:College_Age, Gender:Offer_Type, College_Age:Offer_Type






Logistic Regression: Interpretation

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-5.914e+00	3.813e-01	-15.512	< 2e-16	***
reward_y	6.969e-01	6.379e-02	10.924	< 2e-16	***
reward2	-5.566e-02	4.173e-03	-13.337	< 2e-16	***
duration	1.532e-01	1.142e-02	13.411	< 2e-16	***
social1	3.653e-01	2.889e-02	12.646	< 2e-16	***
mobile1	1.968e+00	1.167e-01	16.864	< 2e-16	***
web1	1.015e-01	4.168e-02	2.436	0.0149	*
age	1.543e-03	7.883e-04	1.958	0.0502	.
income	2.475e-05	5.228e-07	47.336	< 2e-16	***
offer_typediscount	6.509e-01	9.361e-02	6.953	3.58e-12	***
offer_typeinformational	-1.820e+01	8.707e+01	-0.209	0.8344	
membership_length_days	1.390e-03	2.682e-05	51.836	< 2e-16	***
genderM	-6.970e-01	2.907e-02	-23.980	< 2e-16	***
college_age1	-7.626e-02	5.811e-02	-1.312	0.1894	
offer_typediscount:college_age1	1.097e-01	4.996e-02	2.196	0.0281	*
offer_typeinformational:college_age1	8.176e-01	1.535e+02	0.005	0.9957	
offer_typediscount:genderM	1.985e-01	4.098e-02	4.843	1.28e-06	***
offer_typeinformational:genderM	8.442e-01	1.115e+02	0.008	0.9940	
genderM:college_age1	-3.022e-01	5.551e-02	-5.444	5.20e-08	***

Accuracy: 80.85%


AUC: 0.854





Logistic Regression: Interpreting Interaction

Offer Type	Bogo	Discount	Informational
College Male	-1.076	-0.116	-17.614
College Female	-0.076	0.684	-17.459
Non-College Male	-0.697	0.1524	-18.05
Non-College Female	0	0.651	-18.200





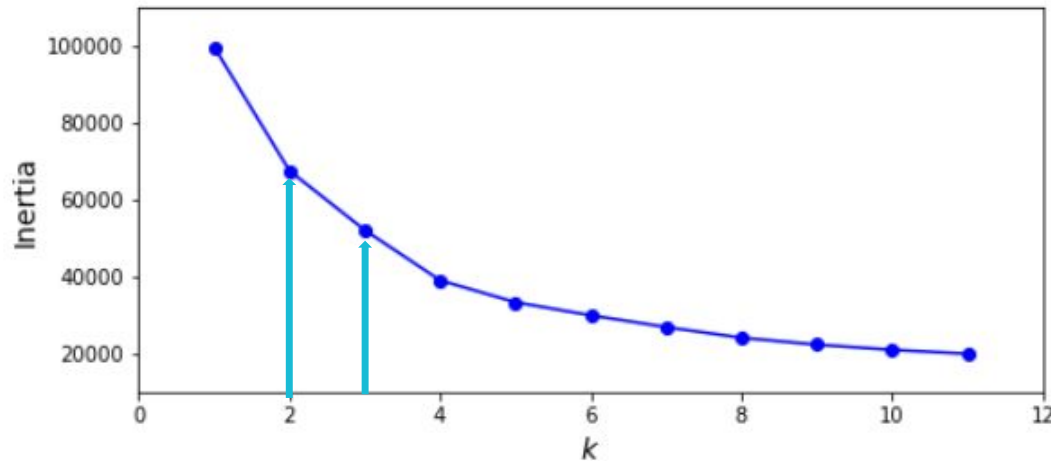
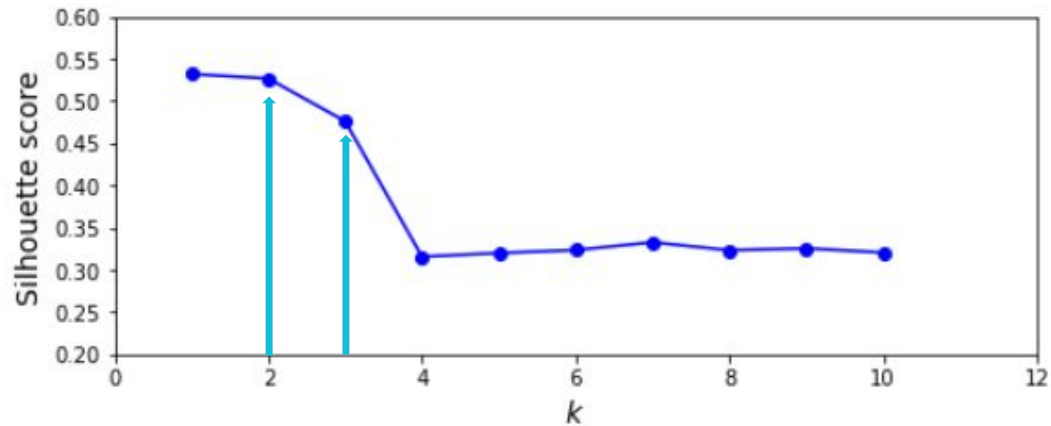
Logistic Regression: Key Takeaways

- Income & length of membership in the rewards program are positively correlated with likelihood of using a given offer
- Males are less likely to utilize offers than females, especially college-aged males
- Discount offers are more likely to be used than Bogos
 - College-aged females are most likely to make use of discount offers while non-college aged female are most likely to use bogo offers
- A higher reward value corresponds to a higher likelihood of being used, up to a value of approximately \$6





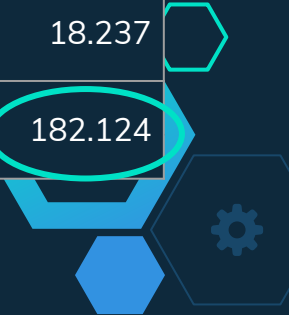
KMeans Clustering





Clustering Results

Cluster	Total offer views	Total completed offers	Total rewards received	Average offer payment	Number of transactions	Average transaction amount
1	4.170	2.091	9.821	12.056	8.280	11.979
2	13.030	12.506	64.030	18.990	20.578	18.237
3	6.788	6.200	28.275	289.403	10.900	182.124





Clustering Interpretation


Cluster 1: Casual Starbucks Enjoyers

- ◇ Lower Engagement and Lower Spender
- ◇ Cluster 1 has the lowest mean statistics out of every category meaning they have an overall lower engagement than the other clusters

Cluster 2: Loyal Starbucks Fans

- ◇ Higher Engagement with More Transactions and Lower Spender
- ◇ Despite higher engagement and transactions, this cluster has the lowest reward to transaction ratio (.32 vs .84 and .39).

Cluster 3: Occasional Big Spenders


- ◇ Higher Spender with Larger Transactions but Lower Engagement
 - ◇ Cluster 3 likely has more disposable income and is purchasing bulk possibly for resale or for corporate offices/business use
- 



Discriminant Analysis

Cluster	Gender	Age	Income	Number of days as a member
1	0.398	53.9	64,233.923	503.843
2	0.468	55.8	68,517.105	623.907
3	0.538	58.3	80,037.500	540.875


Mean Accuracy: 0.785





Behavior vs. Demographic

	Cluster 1 (Casual Starbucks Enjoyers)	Cluster 2 (Loyal Starbucks Fans)	Cluster 3 (Occasional Big Spenders)
<u>Behavior</u>	Lower Engagement and Lower Spender	Higher Engagement with More Transactions and Lower Spender	Higher Spender with Larger Transactions but Lower Engagement
<u>Demographic</u>	Younger, Often Male Customers	Longtime Reward Program Members	Older, High Rollers





Managerial Suggestion 1

- Offers to target college-aged customers:
 - Focus on discount offer type
 - Typically, these customers are purchasing for just themselves and don't need a bogo deal
 - Reward values around \$5
 - Higher rewards than this usually require a higher minimum spend than these customers are willing to pay
 - Send through mobile app & social media





Managerial Suggestion 2

- Invest in young, loyal customers, as well as long standing rewards members
- Build brand loyalty & reap the rewards as they get older, and move into higher income brackets
- Cluster 1 is not heavily incentivized by offers, so in the short term they should not be a focus
- Monitor cluster 1 in the long term to pick up any possible behavior changes





Questions?

