Starbucks Logo (2011 v 2023 editions)

A/B Testing Group Project

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Introduction

Starbucks, the world-renowned coffeehouse chain, has cultivated a brand that is instantly recognizable worldwide, much of which can be attributed to its iconic logo. Over the years, the Starbucks logo has undergone several revisions, with the most notable change happening in 2011 when the brand opted for a cleaner, more simplified design, removing the text that encircled the siren to focus solely on the imagery. This shift sparked considerable debate among consumers and brand enthusiasts alike, raising questions about brand identity, consumer loyalty, and the impact of logo design on customer perception. In the context of evolving market trends and the importance of brand image in the digital age, this report aims to investigate consumer preferences regarding the old (pre-2011) versus the new (2011 to present) logo and explore whether a change in logo influences consumer attitudes towards the brand. This exploration is critical for advising whether a strategic reversion to the old logo could benefit Starbucks in reinforcing its brand popularity and connection with its audience.

Research Questions

1. Which Starbucks Logo is More Popular: Old (Before 2011) vs. New (From 2011 to Present)?

We want to find out which logo people prefer. It's a straightforward way to see which design is more popular. This question aims to explore consumer preferences between the two logo versions. The old logo, characterized by its more intricate design and surrounding text, versus the new logo's streamlined and textless design, presents a comparison of traditional versus modern branding aesthetics. Analyzing popularity will provide insights into how brand visual changes affect consumer perception and acceptance.

2. Do people change their minds about the logo when they see the other version?

Here, we're checking if seeing the other logo makes people rethink their choice. This helps us understand if the preference for the logo on the first page is strong or if it might be influenced by reminding them of the other version. It's about making sure people's liking for the logo that they see first doesn’t flinch even when they see the other version.

Hypotheses

Popularity of Starbucks Logos:

(H1): The new Starbucks logo (from 2011 to present) is significantly more popular than the old Starbucks logo (before 2011).

Influence of Viewing the other version

(H2): Participants who view the old Starbucks logo are more likely to change their preference in favor of the new logo.

Data And Sample

In this study, we employed a randomized control trial design to assess consumer preferences for the Starbucks logo, comparing the old logo (pre-2011) with the new logo (2011 to present). Participants were randomly assigned into two groups using a coin flip method to ensure unbiased distribution. The first group, consisting of 23 individuals, was initially shown the new Starbucks logo and asked to rate their likeliness of this logo using a Likert scale ranging from 0 (Not at All Likely) to 10 (Extremely Likely) and how they are likely to recommend the logo to others. Following their assessment of the new logo, they were then shown the old logo and asked to rate their likeliness and willingness to recommend Starbucks again. To counterbalance and rigorously test for potential bias, a second group of 25 participants underwent a similar process, but in reverse order. They were first shown the old logo, assessing their likeliness and net promoter score (NPS), before being shown the new logo and asked to re-evaluate their preferences. This methodology was meticulously designed to detect any shifts in logo preference that might occur upon exposure to both logos. By analyzing responses from both groups, the study seeks to uncover inherent preferences for either the old or new logo while controlling for possible biases introduced by the order of logo presentation. This balanced approach provides a more comprehensive understanding of consumer logo preference, contributing valuable insights into the effectiveness of Starbucks' branding strategy.

Data Cleaning and Variable Development

The data cleaning process was a critical step in preparing the dataset for analysis, ensuring accuracy, consistency, and relevancy of the data used to assess participants' preferences for the Starbucks logo. During this phase, several key variables were developed or refined to align with the study's objectives:

- Gender: Coded as 0 for male participants and 1 for female participants.
- new_logo: Indicates the logo version shown to participants on the first page of the survey. Participants with new_logo set to 1 were exposed to the new Starbucks logo initially, providing insight into the immediate impact of the logo's first impression.
- page1_like: A standardized variable capturing participants' initial likeliness of the logo that they see on the first page. This measure is crucial for assessing initial, unbiased reactions to the logo redesign.
- page1_NPS: Represents the Net Promoter Score (NPS) based on participants' exposure to the logo on the first page. The NPS is a key indicator of customer loyalty and the likelihood of recommending Starbucks, offering a quantitative measure of the new logo's impact.
- page2_like: This measures likeliness of the logo that they see on the second page. This metric is biased since they get to score the second logo in comparison to the logo on the first page.
- page2_NPS: Similar to page2_like, but records the NPS of the Starbucks brand according to the second logo.
- Preference: Assesses whether participants prefer to stick with the logo presented on the first survey page upon viewing both logos. A response of Yes is coded as 1, indicating a preference for the initially viewed logo, whereas a response of No is coded as 0, signaling a change in preference upon seeing the second logo.

Table 1 below presents descriptive statistics associated with all the variables.

Variable	Mean	SD	Min	Max
Gender	.65	.48	0	1
New Logo	.48	.50	0	1
Page1 like	7.27	2.29	0	10
Page1 NPS	5.88	2.65	0	10
Preference	.44	.50	0	1
Page2 like	6.00	2.84	0	10
Page2 NPS	5.25	3.00	0	10

Result

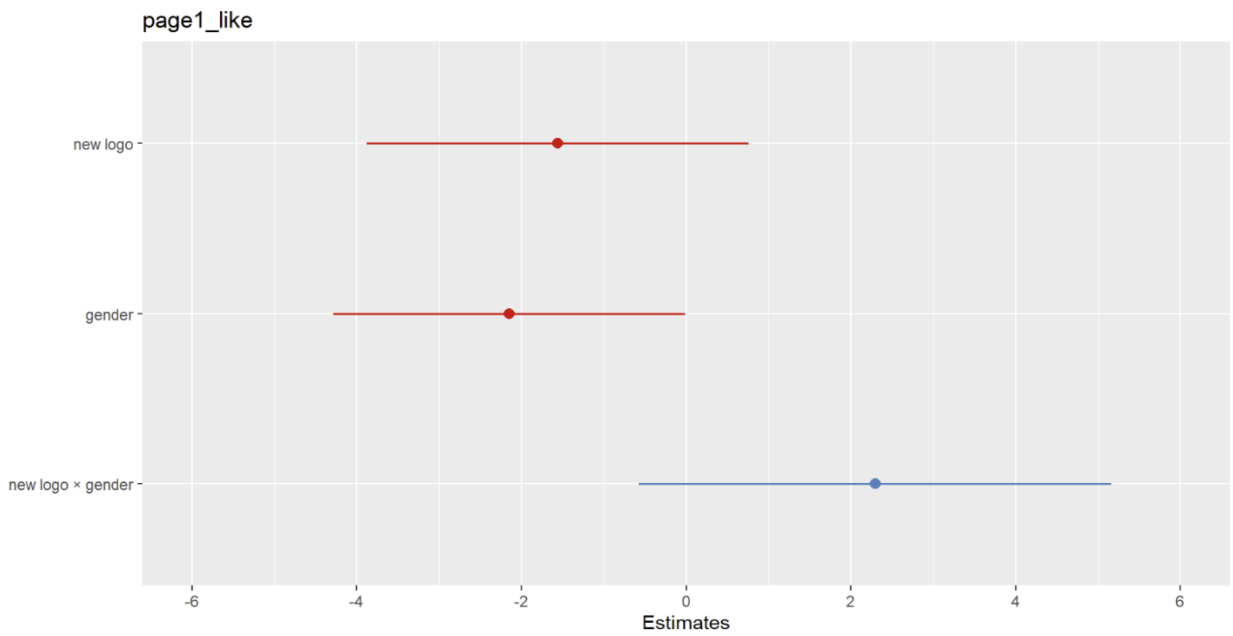
The results of the Welch Two Sample t-test for NPS revealed no statistically significant difference between the old and new logos when participants were first exposed to the new logo ($t = -0.09$, $p > 0.05$). Similarly, the Welch Two Sample t-test assessing differences in likeliness ("like" ratings) showed no significant difference between the groups ($t = -0.22$, $p > 0.05$).

Our study further investigated participants' responses after initially exposing them to the old Starbucks logo, followed by the new logo on the second page of the survey. When comparing participants' likeliness to Starbucks's logo after initially being exposed to the old logo, the results demonstrated there is evidence that likeliness for old and new logo are different. This is statistically supported by the Welch Two Sample t-test, which yielded $t=2.33$, $p<.025$, with a 95% confidence interval of [0.24, 3.43]. The mean "like" rating for new logo was significantly higher than for those who continued to rate the old logo, suggesting a favorable shift towards the new logo. This indicates that after viewing the old logo first, participants showed a significant preference for the new logo. The analysis of Net Promoter Scores (NPS) between the two groups did not reveal a statistically significant difference. The Welch Two Sample t-test for NPS scores after participants were shown the old logo first yielded: $t=1.14$, $p=.26 >.05$. This indicates that the initial exposure to the old logo did not significantly influence the participants' NPS towards old and new logo of Starbucks when subsequently shown the new logo.

Variable	Logo	M	t	df	p	95% CI
Likeliness	Old	5.72	1.14	45.96	.26	[-.75, 2.72]
NPS	New	6.88	2.33	43.74	.025	[.24, 3.43]

The regression model revealed a statistically significant relationship between gender and the response to the new logo when it is initially presented. Specifically, the coefficient for gender is -2.15, with a p-value of 0.049, which is just below the traditional alpha level of 0.05 for statistical significance. This negative coefficient suggests that being female is associated with a decrease in the likeliness of both the logos. However, the interaction term between new_logo and gender is not statistically significant ($p = 0.114$), indicating that the combined effect of gender and the new logo presentation does not significantly differ from the sum of their individual effects in this model.

	page1_like		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	8.83	6.97 – 10.70	**<0.001**
new logo	-1.56	-3.88 – 0.76	0.182
gender	-2.15	-4.29 – -0.01	**0.049**
new logo × gender	2.29	-0.57 – 5.16	0.114
Observations	48		
R^2 / R^2 adjusted	0.087 / 0.024		



The below linear regression model examines the NPS of new Starbucks logo and the main effects of new_logo and gender are not statistically significant, as indicated by their p-values (0.182 and 0.049, respectively). However, the p-value for gender is very close to the conventional 0.05 threshold for statistical significance, which might warrant further investigation or suggest a marginal effect. The interaction term new_logo × gender has a p-value of 0.114, indicating that the interaction effect is not statistically significant.

	page1_NPS		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	7.33	5.15 – 9.52	**<0.001**
new logo	-1.70	-4.41 – 1.02	0.214
gender	-1.96	-4.47 – 0.54	0.121
new logo × gender	2.50	-0.86 – 5.85	0.141
Observations	48		
R^2 / R^2 adjusted	0.059 / -0.006		

To figure out the effect of preference the regression model suggests a complex interplay between initial preferences and the impact of new logo on customer likeliness scores. The regression analysis revealed a significant interaction between preference and new logo when they initially exposed to new logo ($p = 0.014$), suggesting that initial likeliness moderates the effect of the new logo on page likeliness. A negative value suggests that for individuals who show a preference for the new logo, the likeliness score decreases by 3.35 points, on average, compared to those who do not show a preference when the effect of the new logo is considered.

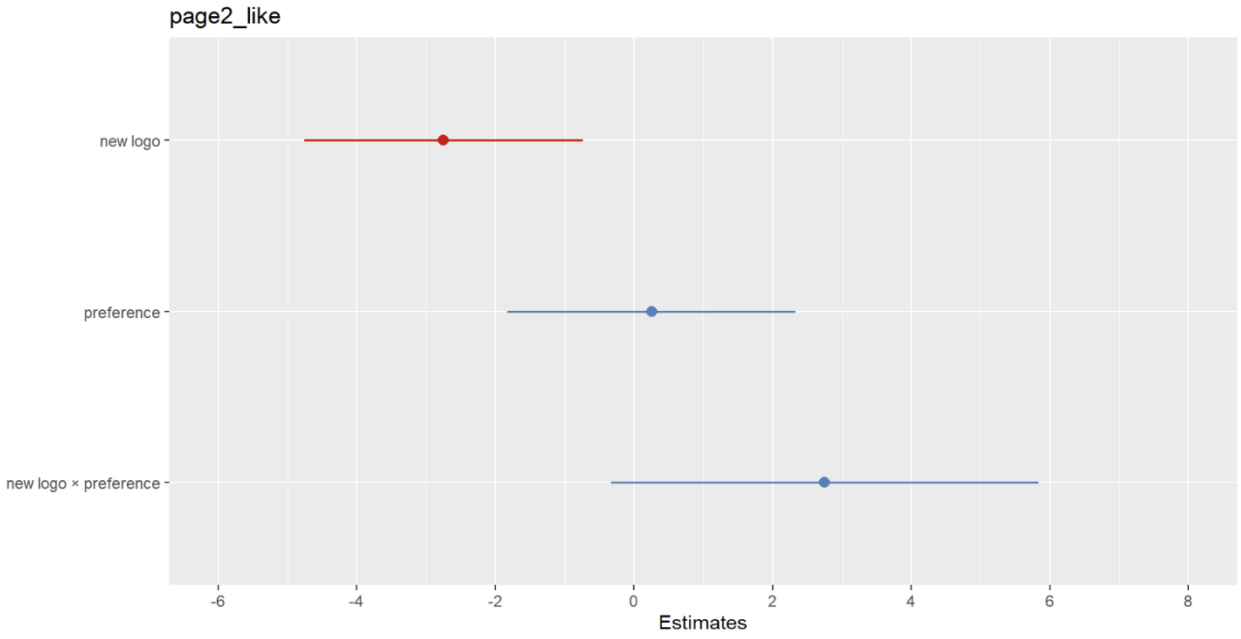
	page1_like		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	6.33	5.05 – 7.62	**<0.001**
new logo	1.60	-0.13 – 3.33	0.068
preference	1.67	-0.12 – 3.45	0.066
new logo × preference	-3.35	-5.99 – -0.71	**0.014**
Observations	48		
R^2 / R^2 adjusted	0.131 / 0.072		

The regression output for page1_NPS (Net Promoter Score) indicates that neither the exposure to a new logo (p = 0.468) nor the individual's preference for it (p = 0.549) significantly predicts the NPS for the first page. Furthermore, the interaction between the new logo and preference is also not statistically significant (p = 0.303).

	page1_NPS		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	5.50	3.93 – 7.07	**<0.001**
new logo	0.77	-1.34 – 2.88	0.468
preference	0.65	-1.53 – 2.83	0.549
new logo × preference	-1.67	-4.90 – 1.56	0.303
Observations	48		
R^2 / R^2 adjusted	0.025 / -0.042		

The linear regression results for page2_like, representing the likeliness to prefer the new Starbucks logo on the second page, show a statistically significant negative effect for the new_logo variable (estimate = -2.75, p = 0.009). This suggests that exposure to the new logo, after having seen the old logo, decreases the likeliness of favoring the new logo.

	page2_like		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	6.75	5.25 – 8.25	**<0.001**
new logo	-2.75	-4.76 – -0.74	**0.009**
preference	0.25	-1.83 – 2.33	0.810
new logo × preference	2.75	-0.33 – 5.83	0.079
Observations	48		
R^2 / R^2 adjusted	0.231 / 0.178		



Conclusion & Insights

- The mean "like" rating for the new logo was significantly higher than for those who continued to rate the old logo, suggesting a favorable shift towards the new logo. This is evidenced by the page2_like metric.
- Female participants have a lower likeliness score for both the logos.
- Though statistical significance is achieved at 0.1 level, participants who stick with the logo on the first page have higher likeliness scores.
- The preference term does impact the new logo especially.
- Exposure to the new logo, after having seen the old logo, decreases the likeliness of favoring the new logo.