Proximity as the Key Ingredient in Starbucks' Brand Loyalty

1. Introduction

The objective of this study is to determine if Starbucks' proximity is the primary factor affecting customer loyalty, particularly when the nearest Starbucks location is no longer an option. The study examines whether consumers remain loyal to Starbucks even when more convenient or nearby alternatives are available. By analyzing loyalty in these contexts, this study aims to uncover the underlying factors that influence customer dedication to Starbucks and to assess how much proximity affects their decision-making.

2. Method

Survey responses were collected from over 150 individuals, filtered to include only those relevant to the analysis, resulting in a final sample size of 72 responses. The dataset includes participants' loyalty to Starbucks, focusing on the relationship between proximity to the nearest outlet and self-reported and behavior-inferred loyalty measures. The independent variable is the distance to the nearest Starbucks (distance), while the dependent variables are self-reported and inferred loyalty.

3. Analysis and Results

1. **Correlation Analysis**: Distance and Self-Reported Loyalty

- **Null Hypothesis (H_0):** There is no significant correlation between distance and self-reported customer loyalty.
- **Alternative Hypothesis (H_1):** There is a significant correlation between distance and self-reported customer loyalty.

A Pearson's correlation test was conducted to examine the relationship between distance and self-reported loyalty. The test revealed a weak negative correlation, **$r(70) = -0.18$, $t = -1.51$, $p = 0.136$**. Since the p-value is greater than the significance level of 0.05, the null hypothesis is not rejected.

2. Logistic Regression Analysis: Distance and Inferred Loyalty

- **Null Hypothesis (H_0):** Distance does not significantly affect inferred customer loyalty.
- **Alternative Hypothesis (H_1):** Distance significantly affects inferred customer loyalty.

A logistic regression model was fitted to analyze the relationship between distance and inferred loyalty. The coefficient for distance was **-0.645 (SE = 0.4118, z = -1.567)**, with a **p-value of 0.117**, exceeding the significance threshold of 0.05. Consequently, the null hypothesis is not rejected.

4. Evaluation and Error Analysis

The results of both analyses did not support the hypothesis, as the null hypothesis could not be rejected in either case. The weak negative correlation (**r = -0.18**) observed in the correlation analysis had a p-value of 0.136, exceeding the standard threshold of 0.05. Similarly, the logistic regression analysis yielded a p-value of 0.117, indicating insufficient evidence to support a significant effect of proximity on loyalty.

A potential Type II error exists, where an actual effect may be undetected due to insufficient statistical power. This limitation is attributed to the small sample size, as higher p-values are observed in both tests. Increasing the sample size could improve the sensitivity of the analysis and provide more reliable results.

5. Power Analysis

A power analysis was conducted using G*Power, with the following parameters:

- Effect size (**r**) = -0.18
- Sample size = 72
- Alpha level = 0.05

The analysis revealed a power of **0.33**, which is below the desired threshold of 0.8. This indicates insufficient sensitivity to detect significant effects. Increasing the sample size is recommended to enhance the reliability of future analyses.

6. Discussion

The analysis indicates that proximity does not significantly influence customer loyalty to Starbucks. The weak negative correlation (**r = -0.18**) suggests a slight, but insignificant, relationship between proximity and self-reported loyalty. Both correlation and logistic regression analyses yielded p-values (0.136 and 0.117, respectively) exceeding the typical significance threshold of 0.05. A larger sample size could potentially reduce the p-value and reveal a more significant relationship.Exploratory data analysis highlighted that taste plays a more dominant

role in influencing loyalty, with **68% of participants** identifying it as the primary factor, compared to **17% for proximity**. The limited variation in distance within the sample (most respondents lived within 0.5 miles of a Starbucks) likely contributed to the lack of significant findings. Additionally, the high number of participants reporting low loyalty may have further reduced the sensitivity of the analysis.

Future research should focus on collecting a larger, more representative sample to better assess the relationship between proximity and loyalty. Investigating other factors such as taste can provide deeper insights into the drivers of customer retention at Starbucks.
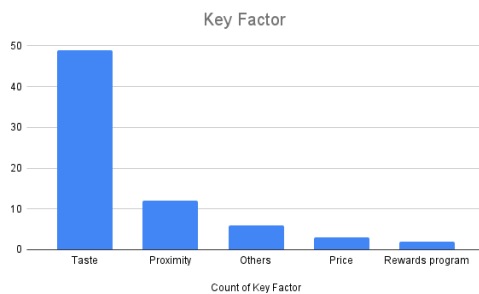
7. Figures and Tables

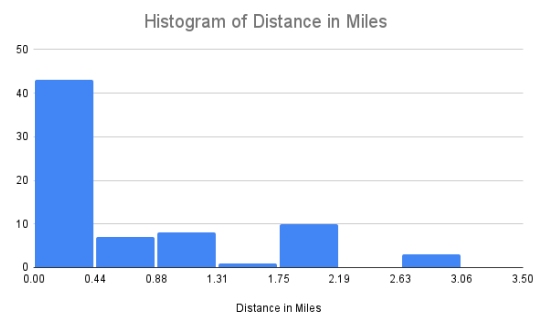Figure 1: Distribution of Key Factor responses

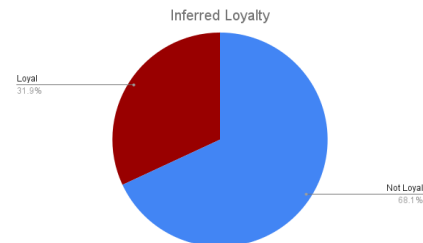Figure 2: Distribution of Distances

Figure 3: Distribution of Self-Reported Loyalty scores

Figure 4: Pie chart of Inferred Loyalty

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