Final Project

MSBA 324 & MKT 324

Web And Social Analysis

Starbucks

Team

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Contents

Problem statement:

"The challenge facing Starbucks is a potential gap in market leadership and a perceived disconnect between its brand/products and various generational preferences. To address this, Starbucks aims to use sentiment analysis to understand customer sentiments and preferences better. By analyzing social media conversations and feedback, Starbucks hopes to identify key themes and emotional nuances within different demographic groups, ultimately refining its marketing strategies and product offerings to better align with customer needs."
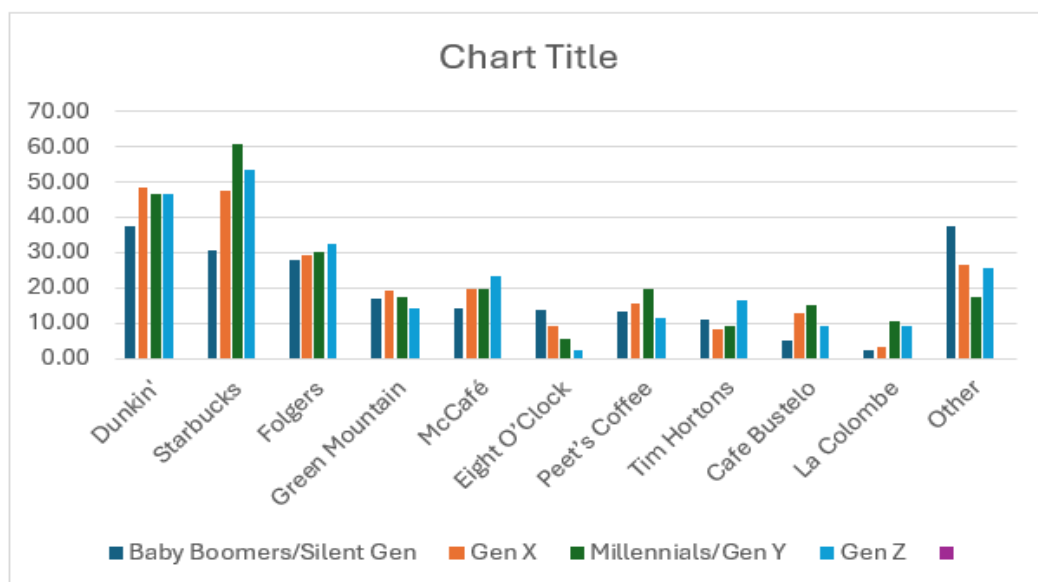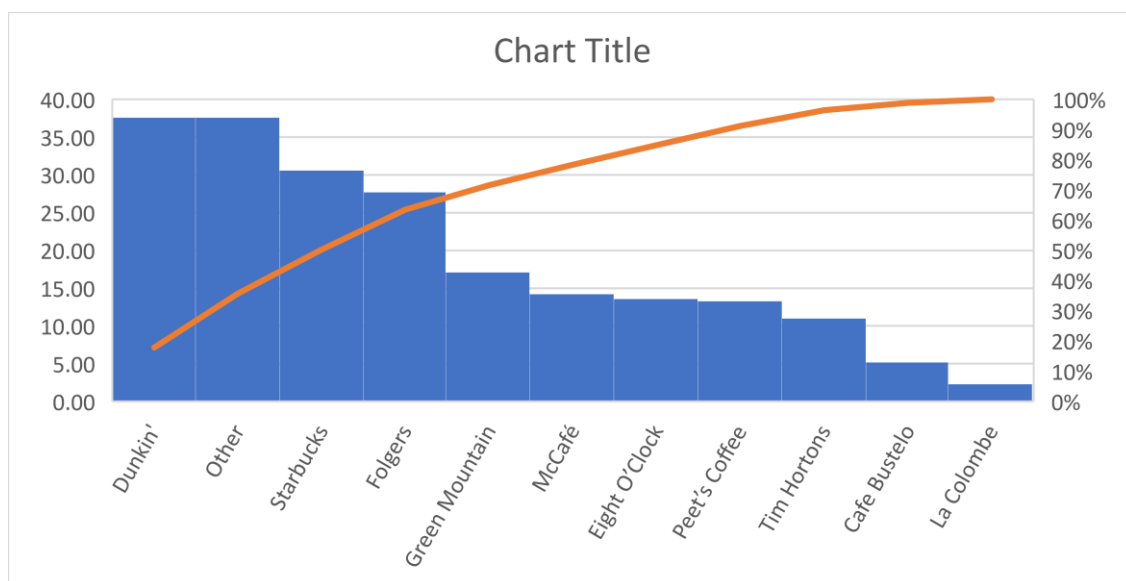
"The problem at hand revolves around Starbucks' potential lack of market leadership in a particular category, as depicted in the first chart, and a perceived misalignment between

Starbucks' brand or products and the preferences of various generational cohorts, as evidenced by the second chart. This potential misalignment may be hindering Starbucks' ability to fully tap into market opportunities within specific age demographics, potentially due to discrepancies in brand perception, product offerings, or marketing strategies.

To address this issue effectively, Starbucks aims to leverage sentiment analysis techniques to gain deeper insights into the preferences and perceptions of different generational groups. This entails analyzing social media discussions, reviews, and feedback across platforms frequented by these groups. By employing natural language processing methods, Starbucks seeks to:

Objective:

To boost traffic and interaction on Starbucks, Peet's Coffee, and Dunkin' Donuts, while analyzing the impact of potential factors influencing website traffic from social media. Dependent Variable:

The dependent variable is "website clicks," representing the number of clicks that redirect users to the respective coffee brand's website. Website clicks are crucial for driving online sales and increasing brand visibility.

Numerical Threshold:

The project will be considered successful if we can demonstrate how to increase "website clicks" from social media platforms to each coffee brand's website by 5% or more.

Model Selection
In my sentiment analysis project, I'm exploring customer perceptions of Starbucks, Peet's Coffee, and Dunkin' Donuts through online reviews and social media mentions. By analyzing sentiment expressed in text data, I aim to uncover trends in positive, negative, and neutral sentiments towards each brand. This analysis will provide valuable insights into customer satisfaction and brand perception, helping these coffee chains understand and respond to customer feedback effectively to enhance their market position.

Introduction to Starbucks

Starbucks Corporation, a name that resonates globally, is a thriving coffee chain. Its journey began in 1971 at Seattle's Pike Place Market, and today, it stands tall with over 30,000 locations spanning over 70 countries, a testament to its remarkable global expansion.

Starbucks, a premium Arabica coffee roaster, retailer, and brand, has proven its adaptability and inventiveness. While its roots lie in coffee, it has expanded its menu to cater to various consumer preferences, offering hot and cold beverages, fresh food, coffee equipment, and merchandise. This adaptability assures consumers that Starbucks is always ready to meet their evolving needs.

A solid commitment to community and connection is at the heart of Starbucks' corporate culture. It sets itself apart with its unwavering dedication to the highest environmental and

social responsibility standards, and sourcing. For instance, it pioneered the industry, offering comprehensive healthcare benefits to qualified part-timers and setting a new standard for worker welfare. This commitment to values inspires others to follow suit.

From its humble beginnings as a small coffee shop, Starbucks has evolved into one of the world's most esteemed and recognizable companies. It expanded rapidly, led innovation, and fostered strong relationships with communities, employees, and customers. While staying true to its roots of delivering premium coffee and its mission to 'inspire and nurture the human spirit,' it remains adaptable to evolving consumer preferences, ensuring its continued relevance.

Solution Process

1. Problem Identification:

   - Clearly define the objectives of the project, such as understanding customer sentiments, analyzing social media presence, and evaluating web traffic data for Starbucks, Peet's Coffee, and Dunkin' Donuts.

2. Data Collection:

   - Gather relevant data sources for analysis, including customer reviews, social media posts, website traffic data, and related industry reports

3. Data Preprocessing:

   - Clean and preprocess the collected data to remove noise, handle missing values, and standardize formats. Tasks may include text cleaning, tokenization, and data normalization.

4. Sentiment Analysis:

   - Perform sentiment analysis on the text data to determine the overall sentiment (positive, negative, neutral) towards each brand. Utilize natural language processing techniques to extract sentiment scores and identify key themes and sentiments expressed in customer feedback.

5. Social Media Handling:

   - Look at how each brand is represented on different social media sites, like Instagram, Facebook, and Twitter. Look at interaction indicators like shares, likes, and comments. comments, and follower growth, to assess brand popularity and customer interaction.

6. Web Traffic Analysis:

   - Look at each brand's website's web traffic information, such as the number of hits, page views, return rate, and time spent on site. Compare web traffic trends over time and across different brands to identify patterns and insights.

7. Insights and Recommendations:

- Synthesize findings from sentiment analysis, social media handling, and web traffic analysis to derive actionable insights. Provide recommendations for each brand based on the analysis, such as strategies for improving customer satisfaction, enhancing social media engagement, and optimizing website performance.

8. Presentation and Reporting:

   - Write an in-depth report that summarizes the results, observations, and suggestions. Show the results to the people who matter, such as leaders, marketing teams, and other relevant parties, using visualizations and clear, concise explanations.

9. Implementation and Monitoring:

   - Implement recommended strategies and initiatives based on the insights and recommendations. Continuously monitor key performance indicators (KPIs) to assess the effectiveness of implemented strategies and make adjustments as needed.

Research:

Primary Research:

For our primary research, we collected data directly from consumers through online reviews and social media platforms. These platforms, such as Yelp, Google Reviews, Twitter, and Instagram, provide real-time insights into customer sentiments and interactions with brands like Starbucks, Peet's Coffee, and Dunkin' Donuts. By directly engaging with consumers' opinions and experiences, we ensured the authenticity and relevance of the data gathered.

Secondary Research:

In addition to primary research, we conducted secondary research by analyzing website traffic data obtained from reliable analytics tools such as Google Analytics and SimilarWeb. These tools provided valuable insights into online consumer behavior and preferences, allowing us to complement our primary research findings with quantitative metrics. By leveraging both primary and secondary research sources, we obtained a comprehensive understanding of customer perceptions and brand dynamics in the coffee industry.

Software

I have web scrapped that people conversational from Twitter for all the brands. And did a sentimental analysis for all of them using r language.

Step 1: Reading required library

```
> library(tidyverse)
> library(syuzhet)
> library(ggplot2)
> library(tm)
> library(stringi)
> library(tidytext)
>
```

Step 2: Reading Starbucks csv

```{r}
#read the csv
df <- read_csv("Starbucks.csv")
head(df)
```

A tibble: 6 × 17

favouritesCount <dbl>	followers <dbl>	location <chr>	mediaCount <dbl>	name <chr>	createdAt <chr>	lang <chr>	likeCount <dbl>	quoteCount <dbl>	replyCount <dbl>
22181	10835906	Seattle, WA	4141	Starbucks	Thu Oct 12 15:04:18 +0000 2023	NA	NA	NA	NA
22181	10835906	Seattle, WA	4141	Starbucks	Tue Oct 10 20:08:20 +0000 2023	NA	NA	NA	NA
22181	10835906	Seattle, WA	4141	Starbucks	Tue Oct 10 15:17:38 +0000 2023	NA	NA	NA	NA
22181	10835906	Seattle, WA	4141	Starbucks	Mon Oct 09 13:06:32 +0000 2023	NA	NA	NA	NA
22181	10835906	Seattle, WA	4141	Starbucks	Thu Oct 05 15:00:03 +0000 2023	NA	NA	NA	NA
22181	10835906	Seattle, WA	4141	Starbucks	Wed Oct 04 19:09:07 +0000 2023	NA	NA	NA	NA

6 rows | 1-10 of 17 columns

Step 3: Remove unwanted symbols and characters.

```
> tweets.df2 <- gsub("http.*","",df$text)
> tweets.df2 <- gsub("https.*","",tweets.df2)
> tweets.df2 <- stri_replace_all_regex(tweets.df2, "@\\w+", "")
> tweets.df2 <- stri_replace_all_regex(tweets.df2, "#\\w+", "")
> tweets.df2 <-str_remove_all(tweets.df2,"&amp")
> tweets.df2 <- gsub("!.*","",tweets.df2)
> tweets.df2 <- gsub("\n.*","",tweets.df2)
> print(head(tweets.df2))
[1] "Mems. ♥ "
[2] "me to my coffee: wake me up insiiiiiide. ♫ "
[3] "Happy 20th bday, PSL"
[4] "Twenty years ago, our PSL brought fall to all. ♥ Celebrate with us tomorrow, 10/10, and get a free sheet of our temporary tattoos full of pumpkin love with any purc
hase of a Pumpkin Spice Latte (hot, iced, blended). At participating stores in U.S. and Canada, while supplies last."
[5] "Pumpkins are orange"
[6] "The math is mathing."
> tweets.df2 <- gsub("[^[:alnum:][:space:]]", "", tweets.df2)
> head(tweets.df2)
[1] "Mems    "
[2] "me to my coffee wake me up insiiiiiide   "
[3] "Happy 20th bday PSL"
[4] "Twenty years ago our PSL brought fall to all  Celebrate with us tomorrow 1010 and get a free sheet of our temporary tattoos full of pumpkin love with any purchase of
a Pumpkin Spice Latte hot iced blended At participating stores in US and Canada while supplies last"
[5] "Pumpkins are orange"
[6] "The math is mathing"
> |
```

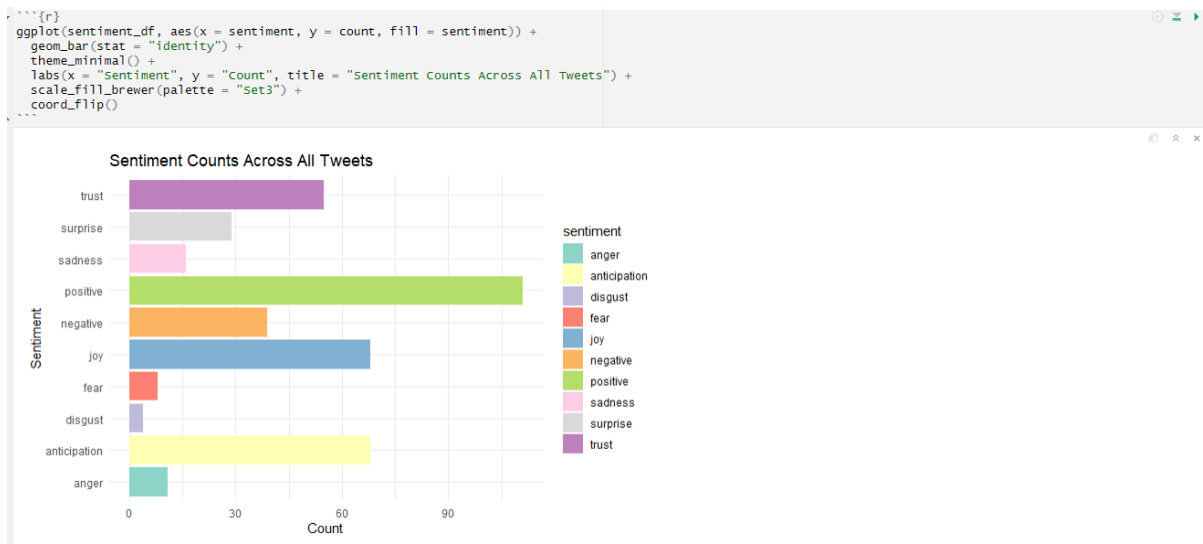Step 4: Create a table for emotion and plotting a graph.

```
> word.df <- as.vector(tweets.df2)
> emotion.df <- get_nrc_sentiment(word.df)
> emotion.df2 <- cbind(tweets.df2,emotion.df)
> head(emotion.df2)
> sentiment_totals <- colSums(emotion.df2[, c("sadness", "surprise", "trust", "negative", "positive",
+                                              "anger", "anticipation", "disgust", "fear", "joy")])
> sentiment_df <- data.frame(sentiment = names(sentiment_totals), count = sentiment_totals)
> tweets$retweettext<-get_sentiment(tweets$retweettext,method = "syuzhet")
```
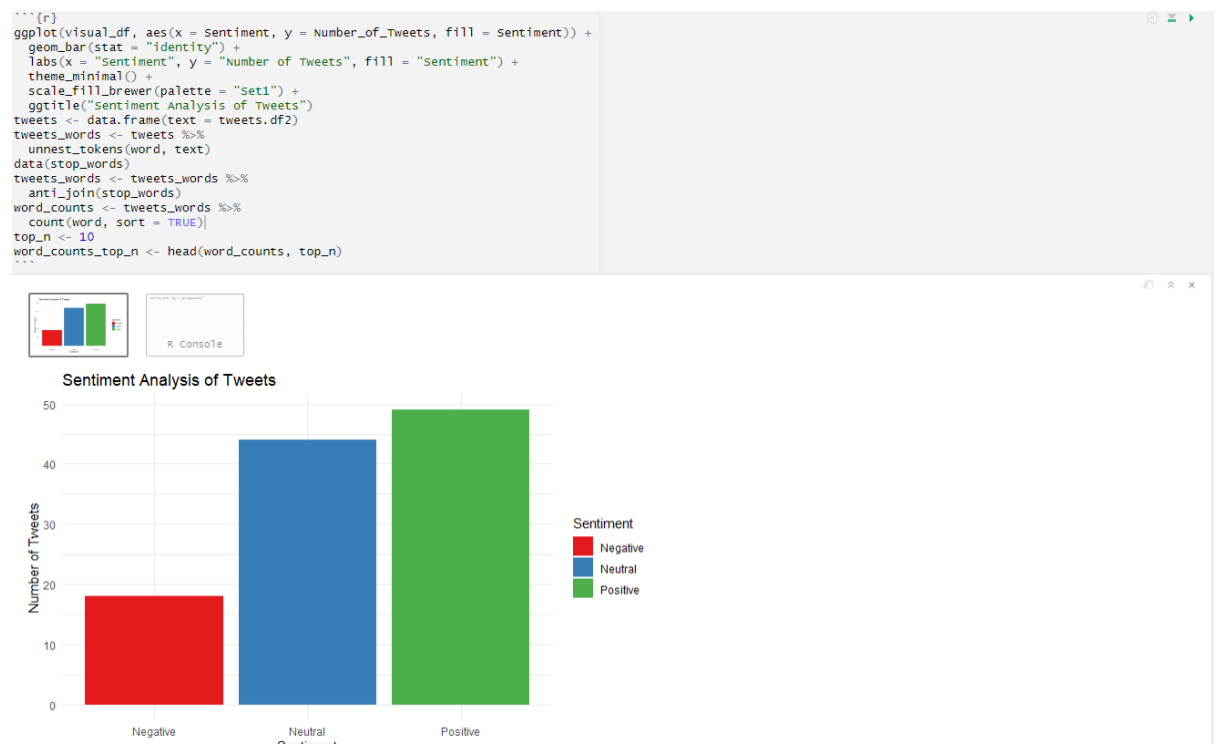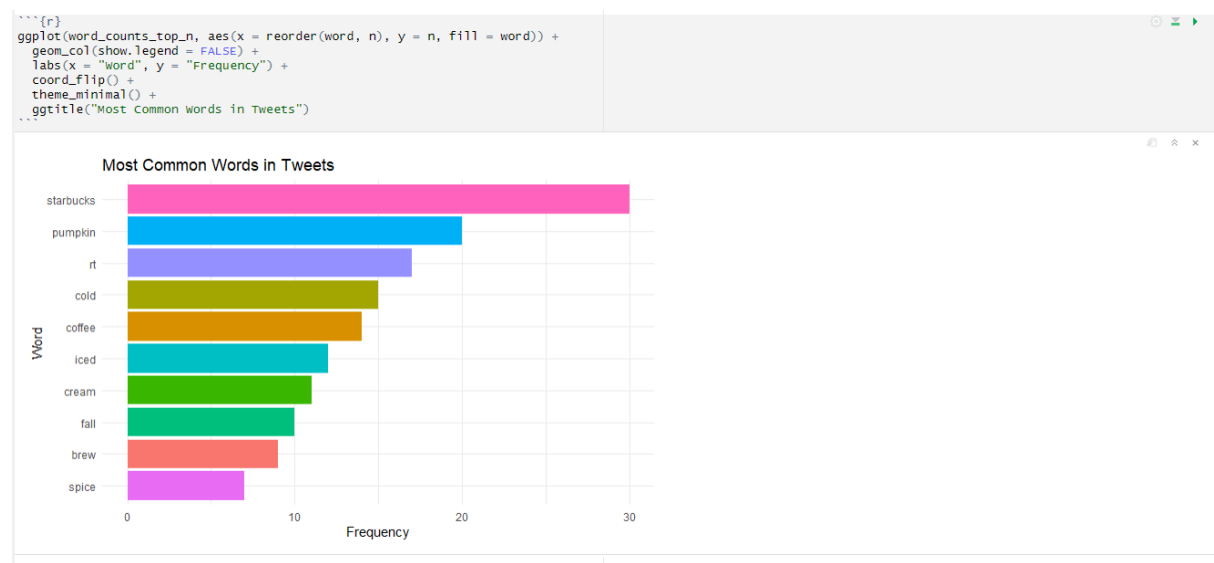
```{r}
ggplot(sentiment_df, aes(x = sentiment, y = count, fill = sentiment)) +
  geom_bar(stat = "identity") +
  theme_minimal() +
  labs(x = "Sentiment", y = "Count", title = "Sentiment Counts Across All Tweets") +
  scale_fill_brewer(palette = "Set3") +
  coord_flip()
```


Step5: Sentimental analysis

```r
ggplot(visual_df, aes(x = Sentiment, y = Number_of_Tweets, fill = Sentiment)) +
  geom_bar(stat = "identity") +
  labs(x = "Sentiment", y = "Number of Tweets", fill = "Sentiment") +
  theme_minimal() +
  scale_fill_brewer(palette = "Set1") +
  ggtitle("Sentiment Analysis of Tweets")
tweets <- data.frame(text = tweets.df2)
tweets_words <- tweets %>%
  unnest_tokens(word, text)
data(stop_words)
tweets_words <- tweets_words %>%
  anti_join(stop_words)
word_counts <- tweets_words %>%
  count(word, sort = TRUE)
top_n <- 10
word_counts_top_n <- head(word_counts, top_n)
```


Step6: most common words used in tweets

```r
ggplot(word_counts_top_n, aes(x = reorder(word, n), y = n, fill = word)) +
  geom_col(show.legend = FALSE) +
  labs(x = "word", y = "Frequency") +
  coord_flip() +
  theme_minimal() +
  ggtitle("Most Common Words in Tweets")
```

Visualization

Social media handling with other brands and traffic data.

Column 1	Instagram	Twitter	Facebook	Tiktok	Youtube	Total
Starbucks	1780000	1100000	3600000	230000	3,74,000	6680000
Peets's Coffee	106000	56800	668000	3554	15300	987000
Dunkin Donut	300000	330000	1300000	330000	64700	1154000

Global rank ⓘ

📅 Jan 2024 - Mar 2024   🌐 Worldwide

| Domain	Rank
🟢 starbucks.com	#3,017
🅿 peets.com	#109,895
🔲 dunkindonuts.com	#12,059

Chart Title
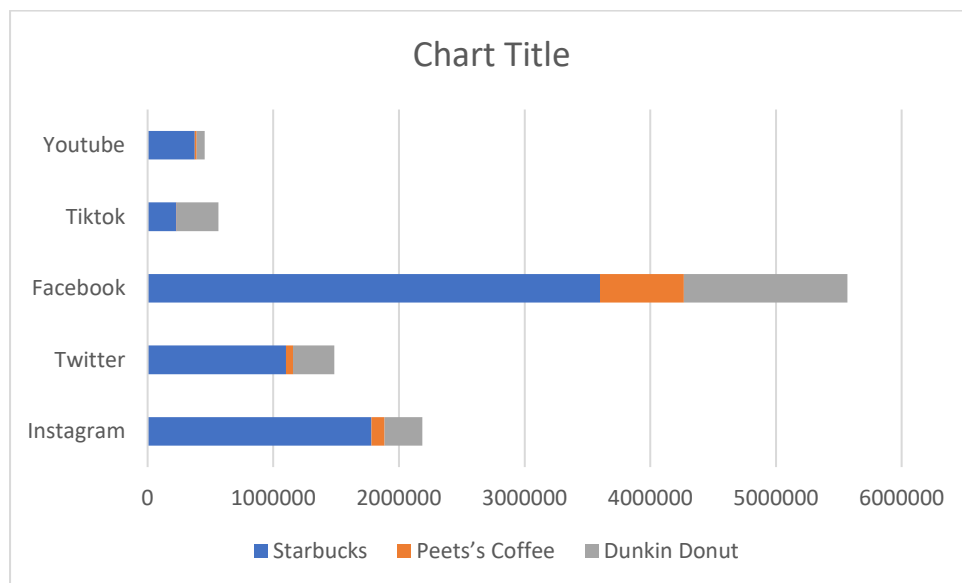
Starbucks stands out with its commanding presence on Instagram and Facebook, indicating a highly effective visual content strategy that resonates well with a broad audience. This is complemented by the highest website traffic among the three, suggesting a successful integration of social media engagement with online customer conversion.

Dunkin' Donuts exhibits a more balanced approach across all platforms, with solid showings on Twitter and Facebook. This suggests a versatile strategy that maintains a steady dialogue with customers across different types of social media, effectively engaging a diverse customer base. However, Dunkin' Donuts trails Starbucks in Instagram engagement, indicating potential growth in harnessing visual content to enhance brand appeal.

Peet's Coffee has the most room for growth in social media, with a lower presence across platforms. This could reflect a more targeted approach to a niche market or a potential untapped opportunity to broaden their social media reach. The web ranking data suggests that Peet's might benefit from enhanced SEO and user engagement strategies to improve visibility and traffic to their site.

Comparatively, Starbucks is leveraging its web and social media platforms to engage with customers and drive conversions, setting a benchmark in the industry. Dunkin' Donuts' consistent engagement across platforms indicates a strong connection with its audience,

suggesting that a push on Instagram could increase its share of social engagement. For Peet's Coffee, refining its digital strategy could improve its social media influence and website ranking, potentially capturing a larger online audience.
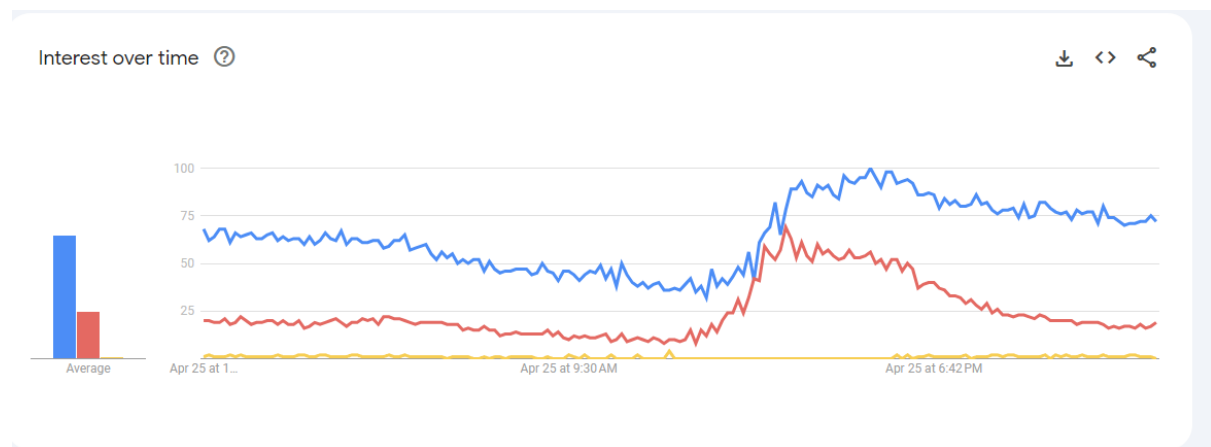
Starbucks leads the charge with a staggering 61.07 million visits, dwarfing Dunkin's respectable 15.22 million and Peet's modest 1.29 million. This vast disparity indicates Starbucks' superior digital engagement strategy and its effective use of a global platform to attract a massive audience.

The interest over time graph further cements Starbucks' position as the frontrunner, maintaining a consistently high-interest level that peaks above the others. This reflects the brand's ability to keep consumers engaged and continually draw them back, possibly due to a combination of product releases, marketing campaigns, and seasonal offerings that resonate well with a wide demographic.

While trailing, Dunkin' Donuts shows a healthy and steady interest level that could be attributed to its strategic positioning as a quick-service option for coffee and baked goods. Their challenge would be to innovate in ways that can capture more peaks of interest, potentially through limited-time offers or partnerships.

Peet's Coffee shows a flat interest trend, suggesting a need to revitalize its marketing efforts and perhaps to re-engage with a broader audience through social media campaigns or by highlighting unique selling propositions that distinguish it from its competitors.
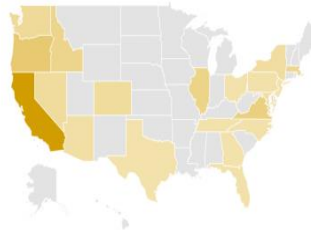
Related Search in USA country.

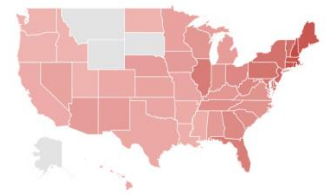| Starbucks | Peet's coffee | Dunkin Donut's |
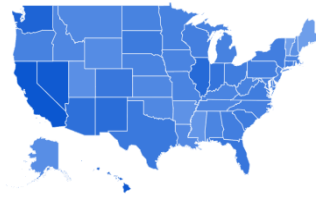
	Starbucks			Peet's coffee			Dunkin Donut's	
1	hand crafted drinks at starbucks	+3,200%	1	who owns peet's coffee	Breakout	1	dunkin' donuts prices	+200%
2	starbucks half off thursday	+2,700%	2	peet's coffee downers grove	Breakout	2	dunkin donuts drink menu	+170%
3	what's a handcrafted drink at starbucks	+2,550%	3	coffee shops near me	+250%	3	how much does a dozen donuts cost at du...	+160%
4	whats a handcrafted drink at starbucks	+2,250%	4	peet's coffee jobs	+140%	4	24 hour dunkin donuts near me	+130%
5	handcrafted drinks at starbucks	+1,950%	5	pete's coffee	+80%	5	dunkins menu	+100%

Starbucks' handcrafted drinks are gaining traction, potentially drawing new customers and piquing curiosity. The significant increase in search volume for discounts and specific products can guide marketing strategies, indicating that promotions can effectively attract consumer attention.

To capitalize on this momentum, Starbucks could amplify advertising of their handcrafted beverages, ensuring that staff are well-prepared for an increase in orders for these items. Additionally, considering running their "half off" promotions on a more regular basis or in targeted regions may further increase store traffic. Harnessing this data can help refine product offerings and promotional tactics to sustain interest and convert it into sales.

consumer behavior patterns for Starbucks, Peet's Coffee, and Dunkin' Donuts. Starbucks, while not featured in the search data directly, may infer from the attention competitors are receiving that there's a high interest in coffee shops across the U.S., with specific queries related to product offerings, pricing, and location convenience.

For Starbucks, the focus on Peet's Coffee ownership queries suggests that consumers are interested in brand stories and corporate transparency. Dunkin' Donuts' search trends show a consumer focus on price points and accessibility, indicating that pricing strategy and the convenience of locations are important to customers.

Starbucks could leverage this by emphasizing their own brand's story and ethical practices, which could resonate well with consumers interested in corporate ownership. Additionally, competing with Dunkin's perceived value and accessibility could involve Starbucks highlighting their own pricing and location convenience. They could also introduce or emphasize value deals and extended hours where search data indicates it's most sought after. This approach helps Starbucks to stay competitive and address customer interests directly aligned with their brand experience.

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Conclusion

In comparing Starbucks, Peet's Coffee & Tea, and Dunkin' Donuts, Starbucks emerges as the clear leader in popularity, market presence, and brand strength. With a global network of 30,000 locations compared to Peet's 340 and Dunkin' Donuts' extensive presence, Starbucks enjoys unparalleled accessibility and brand power in the premium coffee industry. Starbucks' success lies in its ability to position itself as a lifestyle brand, offering a broad menu and consistent customer experience. While Peet's is known for its purist coffee quality and Dunkin' Donuts for its quick-service options, Starbucks' mainstream appeal and market dominance have propelled it to the forefront of the industry. Overall, Starbucks has surpassed Peet's and Dunkin' Donuts as the preferred coffee chain for the average consumer, achieving unprecedented levels of success and market share.

Recommendations

To boost sales and appeal across diverse generations, Starbucks should tailor their approach with the following strategies:

For Gen Z: Capitalize on digital platforms by partnering with influencers and creating viral social media challenges. Introduce sustainable practices and products to resonate with their environmental consciousness. Gen Z values authenticity, so Starbucks should highlight the brand's ethical sourcing and community initiatives.

For Millennials: Continue with loyalty programs that offer personalized rewards. Plan limited-time retail events and promotions for millennials who prefer to experience new things. Make shopping and paying simpler for tech-savvy, on-the-go customers by improving the mobile app.

For Gen X: To appeal to Gen X's realistic side, focus on quality and dependability. Provide a comfortable in-store experience for this demographic, who may value a peaceful environment to work or relax. Offer premium products and services that cater to their willingness to pay for added value.

For Baby Boomers: Provide excellent customer service and a community feel within stores. Baby Boomers may appreciate traditional marketing techniques, such as direct mail coupons or community boards highlighting local events and offerings.

Across all generations, diversify product offerings with healthy options and expand plant-based alternatives. Keep adding new regional and international tastes to the menu. Spend money on teaching your staff to give better customer service and make the store experience better overall. Environmentally conscious and ethical brands are popular nowadays.

Starbucks can draw more customers, increase sales across all generations, and beat the competition by concentrating on personalized experiences, leveraging technology to simplify things, and following ethical and sustainable business practices.

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