

Nike Twitter Analysis

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MSBA 324 Web and Social Analytics

Introduction

This case study will explore how Nike, one of the leading apparel manufacturers in the world uses Twitter to drive traffic to their website. The Nike case study is based up an article entitled: “*Nike Direct to Consumer: the Swoosh Cuts out the Middleman.*” Nike has been gradually transitioned from a direct to retail/wholesale model to direct to consumer since approximately 2011. The keystone of Nike’s direct to consumer model has been digital sales, which has grown by approximately \$4B since 2016 (AIObot,2021). The success of Nike’s move to increase digital sales is likely tied to their ability to drive traffic to the Nike website. One mechanism for driving traffic to their website is social media. According similarweb.com, Nike’s website averaged 108.8M visits. Nike’s strategy involves referring users to the website from social media, in which the top three are YouTube, Facebook, and Twitter. The social network distribution for the top three social media is: YouTube - 34.63%, Facebook - 24.08%, and Twitter - 9.58%. The purpose of this study is to conduct a Twitter analysis of Nike and to offer recommendations on how to increase Twitter referrals to the Nike website.

Problem Statement

A website called bstrategy.com recently conducted a SWOT analysis of Nike, in which several key aspects were noted. Nike’s #2 weakness is that the company is subject to the whims of retailers, as 65% of Nike’s products are sold through retailers. With such a large aspect of Nike sales conducted via sales to wholesalers or retailers, the company routinely is subject to retailer/wholesaler pricing structure. Next, of note, were several opportunities for Nike to capitalize on. Emerging markets are an opportunity for Nike, particularly, there’s still space for growth in India and China. Another major opportunity is Nike’s ability to cut ties with big-box retailers. Nike recently acquired a digital shoe making company that will create shoes in the Metaverse. Finally, Nike’s most risky, but likely most rewarding opportunity will be bolstering there direct to consumer strategy.

Objective of project

The objective of this project is to conduct a Twitter analysis of Nike’s presence on the social media platform. The analysis will be used to validate Nike’s current social media strategy and/or drive changes therein.

Metrics to track objective

An analysis of Twitter tweets wherein Nike is the topic was conducted. The metrics in the report are a breakdown of the source of tweets in terms of platform used: Twitter for Iphone, Twitter for iPad, Twitter for Android, etc. Next, is the breakdown of types of tweets, whether the tweet was organic, reply, or retweet. Finally, a sentiment analysis was conducted to provide a high level analysis of sentiment towards Nike.

Success criteria: This study will be successful if it provides insight that increases Nike's twitter engagement by 5%.

Model Selection

Model selection:

The select model was an Analysis of Variance (ANOVA). The explanatory variables are friends_count and followers_count, while the response variable is status_count. Status_count is important because that's the total number of statuses that a given user has created, i.e. original tweets. The null hypothesis is that a given user's friends_count and followers_count increases, so does the users status_count. The alternate hypothesis is that friends and followers count has no significance on the number of statuses a user has recorded. The status_count is important because it indicates how active a user is on Twitter, and could increase the Nike's reach on Twitter through retweets, friends, and followers.

Reason for selecting the model

Analysis of Variance is used to test the variance between groups of data. ANOVA seeks to analyze the level of variance between samples taken from the data sets. If there is wide variance between the data in these groups, then there is a greater likelihood that the variance occurred due to chance, also known as significance (Qualtrics, 2021). Employing ANOVA in this study allows for a quick, effective analysis of variables in the target dataset.

Solution Process

Step 1. Step one entailed creating the consumer key, consumer secret key, access token variables, and placing the variables as arguments in the setup_twitter_oauth method in R.

Step 2. Create the original_data variable with the search_tweets function on the keyword "nike", and n = 20,000 tweets including retweets.

Step 3. In step for, a new table was created to summarize columns relevant to the study and create a .csv file. Creating and loading a csv file makes it easier to work with the data than leaving the data in its original format from Twitter.

Step 4. This step involved creating variables to separate the tweets into the categories organic, retweets, and replies. These would be used to create the percent of total tweets for each category. The variables were visualized with a donut chart.

Step 5. This step involved creating variables that would analyze the source of tweets, i.e., whether the user tweeted from an iPhone, Android, or tablet, etc. Like step 4, ratios were created and visualized with a donut chart.

Step 6. In step 6, is where the sentiment analysis was conducted. First, the `get_nrc_sentiment` function was called and used to create a new data frame. Next, the data frame was prepped and used with `ggplot2` to create a bar chart of sentiment scores by type of sentiment.

Research

Secondary Research

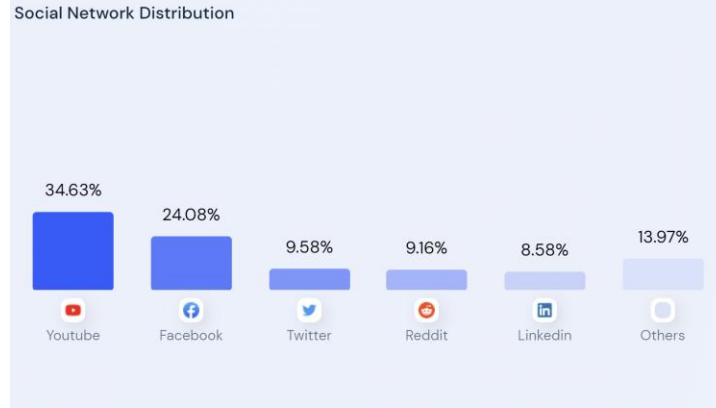
The secondary research in this study included several articles and a review of the marketing analytics sites socialmention.com and similarweb.com. Socialmention indicated strength of 51%, sentiment ratio of 49:0, passion of 95%, and reach of 2%. Similarweb was used to determine average nike.com visits for the last three months, and to analyze the percent of nike.com's traffic distribution by social media platform.

Primary Research

The primary research consisted of studies surrounding Nike's expansion into emerging markets, increasing digital sale, and decreasing direct to retail sales. Additionally, nike.com's website traffic was easily analyzed on similarweb.com.

Software

The primary software used was the Chrome browser to observe nike.com's web analytics. A quick observation showed that nike.com's percent of traffic derived from Twitter is significantly less than traffic referred from YouTube and Facebook.



Microsoft Excel for the csv file, and the R programming language to conduct the analysis. The csv file displays approximately 15 variables; however, the variables of interest were reduced to seven variables inside of R.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
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Results

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The ANOVA test conducted in R revealed that the means of the variables friends_count and followers_count were significant with regard to the users status_count as displayed by the visual below.

```
> anova <- aov(tbl_data$status ~ tbl_data$friends + tbl_data$followers)
> summary(anova)

              Df      Sum Sq   Mean Sq F value Pr(>F)
tbl_data$friends    1  7.063e+12  7.063e+12   737.0 <2e-16 ***
tbl_data$followers    1  1.363e+12  1.363e+12   142.3 <2e-16 ***
Residuals        11160  1.069e+14  9.582e+09
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

> |
```

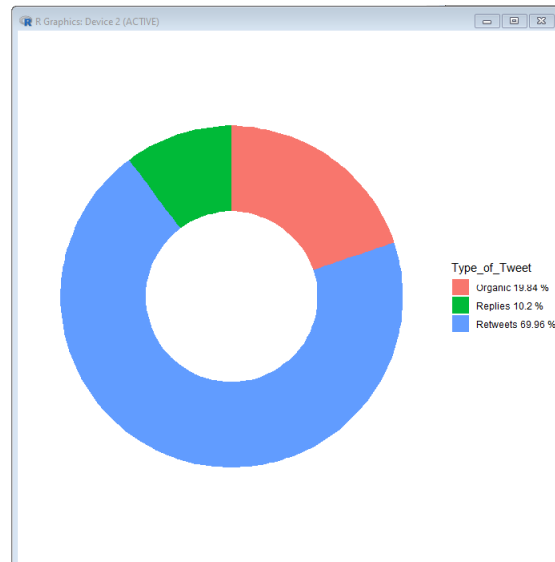
```
> cor_aov_data <- cor(tbl_data)
> cor_aov_data

              followers      friends      status
followers 1.00000000 0.01720473 0.1129519
friends   0.01720473 1.00000000 0.2474265
status    0.11295186 0.24742651 1.0000000

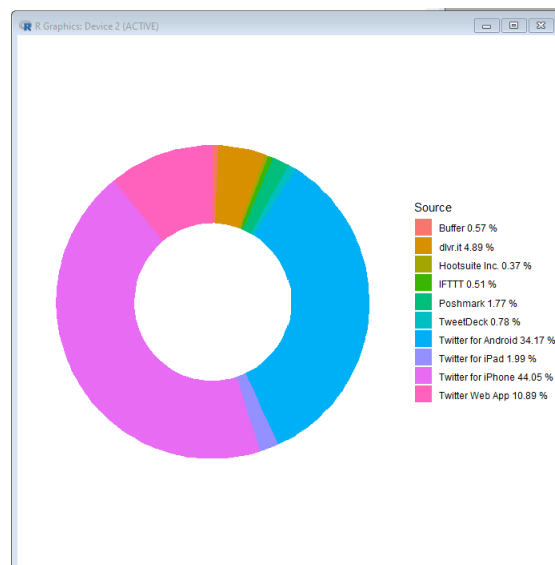
> |
```

Visualization

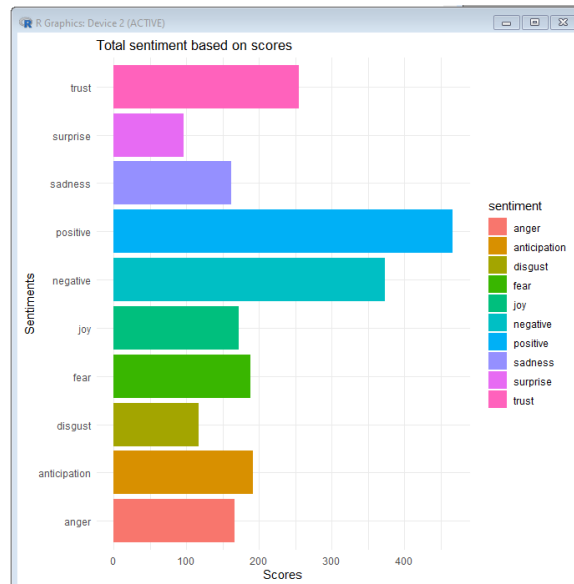
There were three visualizations created in this study: Percent of Type of Tweets, Percent of Source of Tweets, and the sentiment analysis. The Percent of Type of Tweets revealed that 19.84% of tweets in this study were organic, meaning they were original status updates.



The next visualization was a breakdown of the percent of tweets by source. This visualization revealed that 44% of tweets in this study originated from Twitter for iPhone, followed by Twitter for Android, then the Twitter Web application.



The final visualization in this study was the sentiment analysis. The sentiment analysis revealed that the sentiment around the keyword “nike” was nearly even between positive and negative.



Model Results

The results of the ANOVA test revealed that the means of the variables are significant which indicates that variation was not by chance alone.

```
> anova_data <- data.frame(followers, friends, status)
> anova <- aov(status ~ friends + followers)
> summary(anova)
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
friends	1	5.856e+12	5.856e+12	732.2	<2e-16 ***
followers	1	2.723e+12	2.723e+12	340.5	<2e-16 ***
Residuals	17994	1.439e+14	7.998e+09		

```
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Results Interpretation

The analysis of the types of tweets indicates that 68% of tweets from this data set were retweets. This is significant because Twitter is a community that is built on connection, in which retweeting is an example of. Retweeting shows that people are talking about the brand and expanding the conversation. Next, the percent of organic tweets is 19.84% which is the percent of tweets in the data set that were original tweets, not promoted, or paid for. The sentiment analysis revealed that there's likely mixed sentiment regarding Nike in this data set. The positive leaning tweets appeared to be similar in number to the negative or neutral tweets.

A linear regression was conducted at a 95% confidence level to create a model that could be used to predict statuses count based on the number of friends and followers. The equation of the model is: $y = 0.0004 + 6.872(x_1) + 0.04254(x_2)$. While the variables status_count,

followers_count, and friends_count displayed a moderate positive correlation, the equation of the model is not a strong fit as R^2 is just 7.3%.

```
> model <- lm(tbl_data$status ~ tbl_data$friends + tbl_data$followers)
> summary(model)

Call:
lm(formula = tbl_data$status ~ tbl_data$friends + tbl_data$followers)

Residuals:
    Min       1Q   Median       3Q      Max
-671211  -40007  -30518    2961 2092956

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  4.047e+04  1.004e+03   40.30  <2e-16 ***
tbl_data$friends  6.872e+00  2.551e-01   26.94  <2e-16 ***
tbl_data$followers 4.254e-02  3.567e-03   11.93  <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

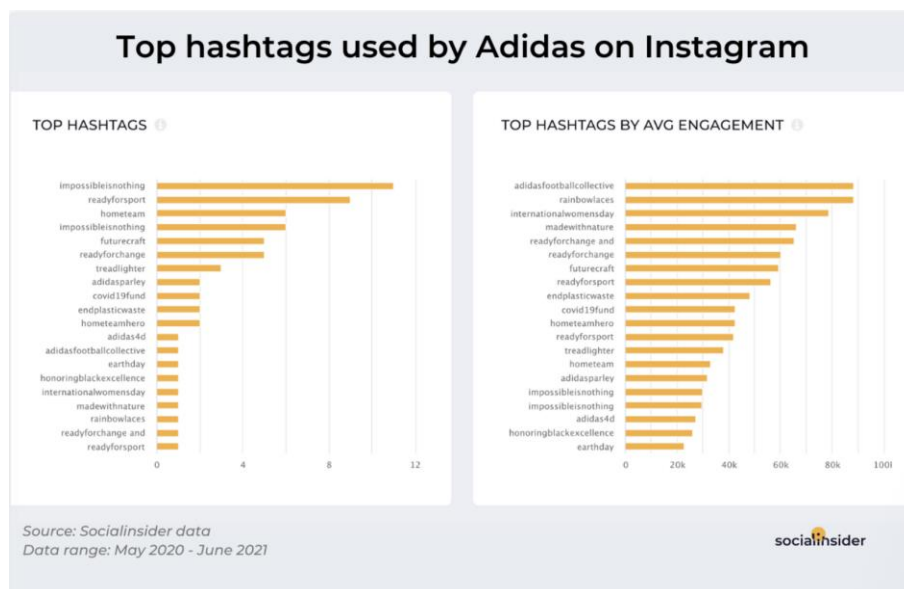
Residual standard error: 97890 on 11160 degrees of freedom
Multiple R-squared:  0.07304,    Adjusted R-squared:  0.07287
F-statistic: 439.7 on 2 and 11160 DF,  p-value: < 2.2e-16

> |
```

Situation Comparison

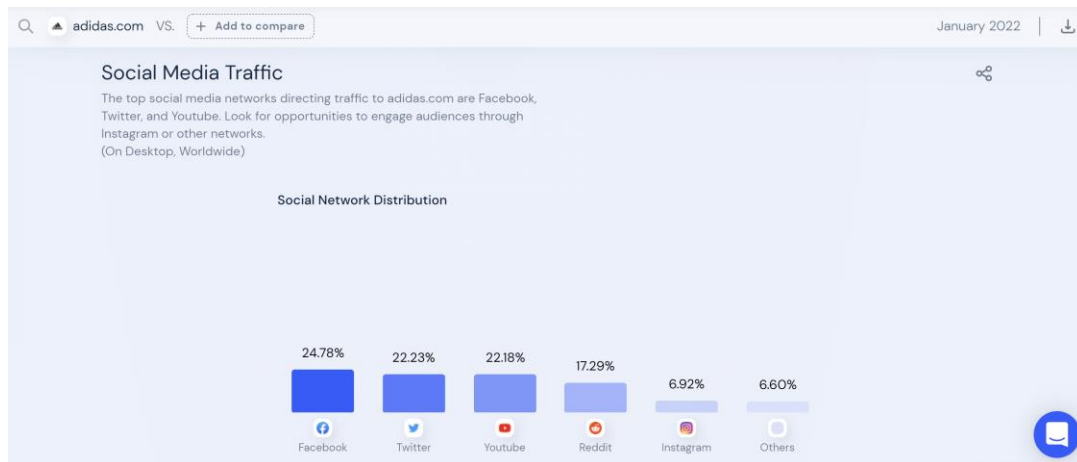
Adidas

Adidas is one of Nike's leading competitors. They've built a successful social media platform by focusing on several key actions. First Adidas builds effective monikers, such as "Impossible is Nothing" and "Adidas is All In" which has improved brand recognition. The company has also built smart social media campaigns by advocating sustainability and promoting social causes. This has led to significant social media traffic according to socialinsider.com.



Next, Adidas has expanded their influence by partnering with “influencers” on Twitter, and Instagram. Finally, Adidas has focused on the female demographic through inspiration, empowerment, and essential products.

Adidas has a strong social media presence compared to that of Nike, with percent of Social Network Distribution spread evenly across the “Big 4” (Facebook, Twitter, YouTube, Reddit) platforms.



Conclusion

Undoubtedly, Nike’s primary website Nike.com is a juggernaut, boasting more than 100M visits per month. Additionally, Nike has greater passion score (82%) than Adidas (46%). However, Adidas reach (14%) is double that of Nike’s (7%). Furthermore, nike.com’s traffic from Twitter and Reddit are less than half of Adidas. Finally, Nike’s sentiment on Twitter is moderate at best. While Nike has had some success with the Colin Kaepernick social media campaign, the company’s social media presence lags that of their nearest competitor, Adidas.

Recommendations

Just to reiterate, Nike is the #1 athletic brand in the world, with their nearest competitor far behind. However, Nike should not remain complacent and should reassess their social media presence.

- Consider expanding sentiment awareness through sentiment analysis on the top social media platforms.
- Examine sentiment analysis and use feedback to adjust social media campaigns.
- Expand social media presence beyond social justice and focus on day to day communications.

Bibliography

- AIO. (n.d.). *Nike Direct to Consumer: The Swoosh Cuts Out the Middleman*. Retrieved March 16, 2022, from <https://www.aiobot.com/nike-direct-to-consumer/#:~:text=The%20Nike%20direct%20to%20consumer%20model%20involves%20a>
- nike.com Traffic Analytics & Market Share*. (n.d.). Similarweb. Retrieved March 16, 2022, from <https://www.similarweb.com/website/nike.com/#social-media>
- Stanciu, T. (2021, June 22). *Adidas' Social Media Strategy | Socialinsider*. Socialinsider Blog: Social Media Marketing Insights and Industry Tips. <https://www.socialinsider.io/blog/adidas-social-media-strategy/>
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