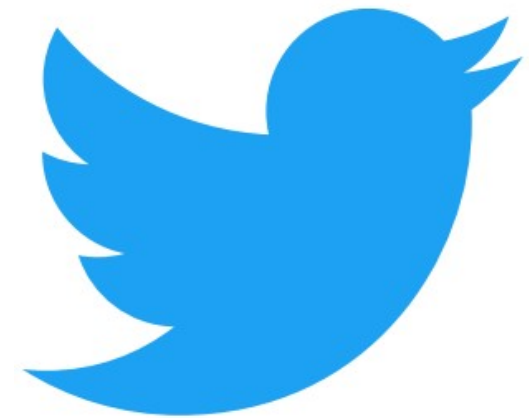


The Impact Of Tweets On Your Favorite Mobile Apps



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The Impact Of Twitter On Modern Business:

Since 2006, Twitter has revolutionized the way businesses *engage* with their customers, which drives brand recognition, customer satisfaction, and sales

Examples:

- **NBA** - Boosts app engagement by providing custom experience for fans
- **Target** - Uses Twitter data to connect with guests and make business decisions
- **Hilton Worldwide** - Leveraging Gnip & Twitter Ads APIs for insights and ad targeting
- **Universal Music Group** - Builds relevant and personalized interactions between fans and artists
- **World of WarCraft** - Build community and share amazing in-game experiences

The Problem and Hypothesis:

Is there a relationship between Google Play and Apple App Store, and Twitter Activity?

QUESTIONS:

1. What is the population of apps, and types of apps?
2. Which app categories had the highest ratings?
3. What is the impact of Twitter Activity? Is it measurable, if so how?
4. Is there a relationship between Twitter activity, ratings and reviews?

HYPOTHESES:

1. 15k Plus apps; categories include: social media, gaming, productivity, finance, food and entertainment and etc.
2. Instagram, Yelp, Google Maps, Facebook, Twitter
3. Customer engagement and marketing, the impact would be Twitter each users respective twitter followers
4. Team Zeta believes that there is a relationship for social type apps

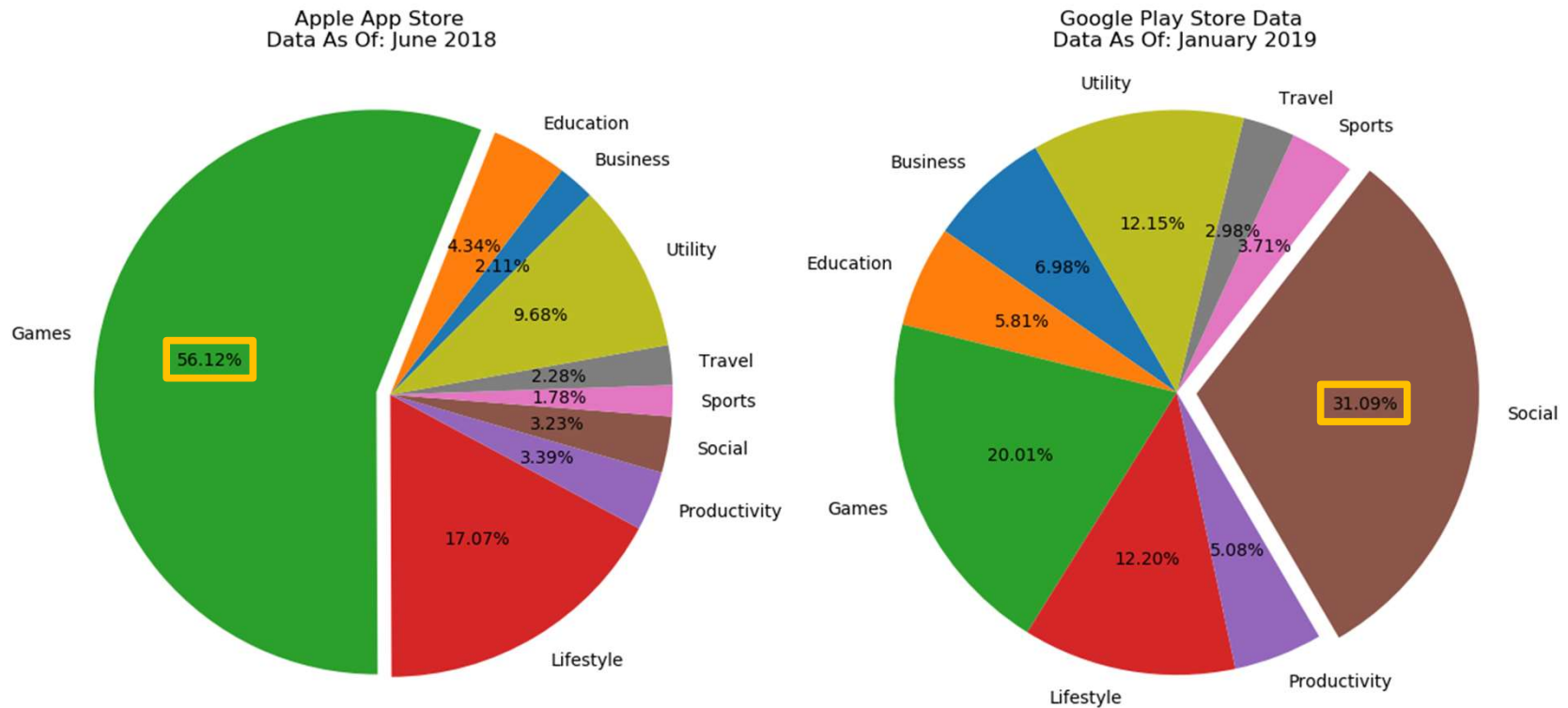
About The Data And Sources:

Organized Google Play and Apple App Stores By Review Count

Google Play Store (GPS)	Apple App Store	Twitter API
<ul style="list-style-type: none">▪ Kaggle Dataset – web scraped data of GPS apps▪ 10,842 apps listed▪ Main Parameters: review count, user ratings, categories▪ Updated in January 2019	<ul style="list-style-type: none">▪ Kaggle Dataset – web scraped data of Apple apps▪ 7,198 apps listed▪ Main Parameters: review count, user ratings, categories▪ Updated in June 2018	<ul style="list-style-type: none">▪ Built Twitter Query Function using Python▪ 360+ queries for top 10 apps for each app store, resulting in over 10k+ tweets▪ Recent and popular Tweets from March 27 – April 3, 2019 (7 day max window for free products)

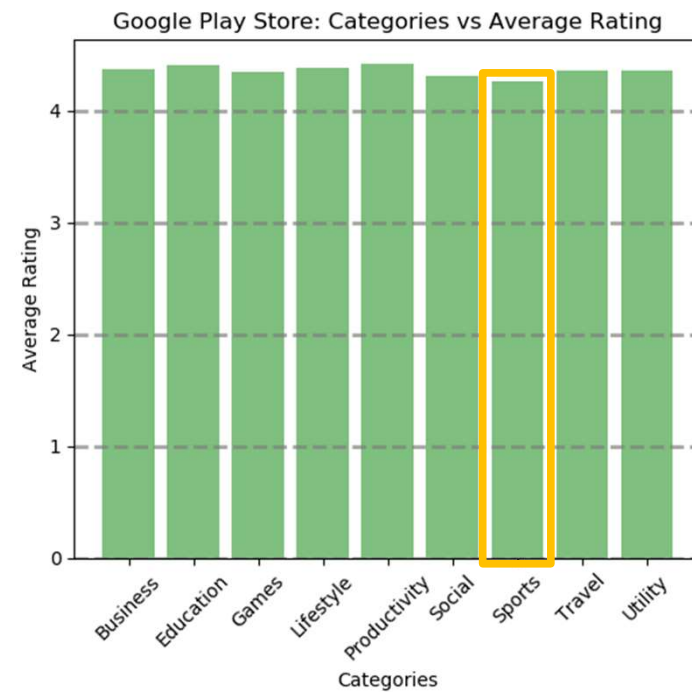
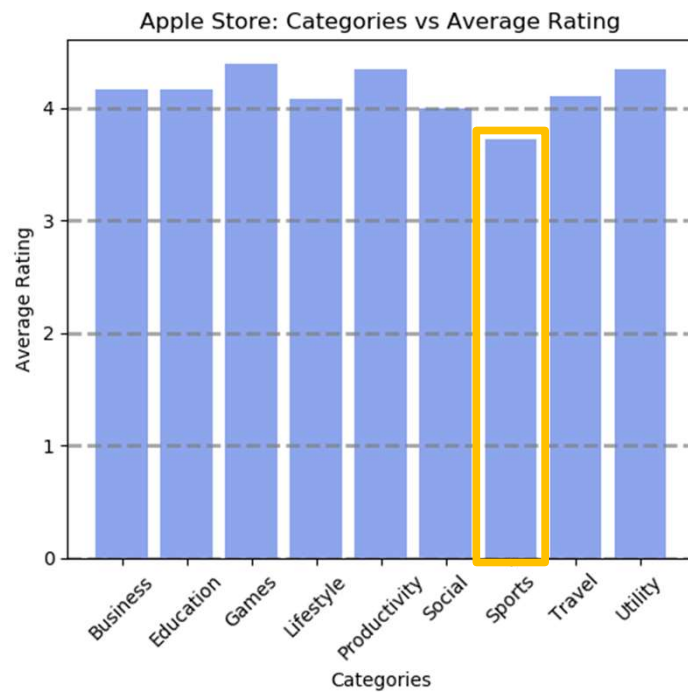
1. Games and Lifestyle Apps Are Dominant

Google Play vs Apple App Stores



2. Sports Apps Had The Lowest Ratings

Apple App Stores vs Google Play



16 Unique Apps Between Both Platforms

Google Play and Apple's Top 10 Apps

Google Play Store Rankings:

1. **Facebook**
2. Whatsapp
3. **Instagram**
4. **Clash of Clans**
5. Clean Master - Space Cleaner
6. Subway Surfers
7. YouTube
8. Security Master - Antivirus, VPN
9. Clash Royale
10. **Candy Crush Saga**

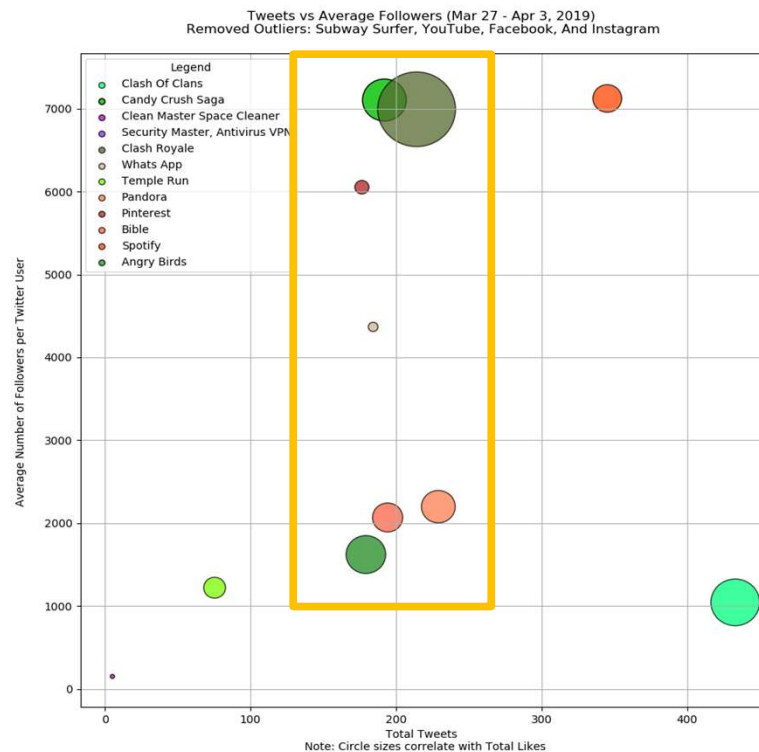
Apple App Store Rankings:

1. **Facebook**
2. **Instagram**
3. **Clash of Clans**
4. Temple Run
5. Pandora
6. Pinterest
7. Bible
8. **Candy Crush Saga**
9. Spotify Music
10. Angry Birds

Note: the 4 bolded apps are in the top 10 most reviewed apps on both platforms.
Apps that were on both platforms were averaged on the following slides.

3a. 200 Tweet Impacts About 15k Followers

Tweets vs Average Followers – Outliers Removed

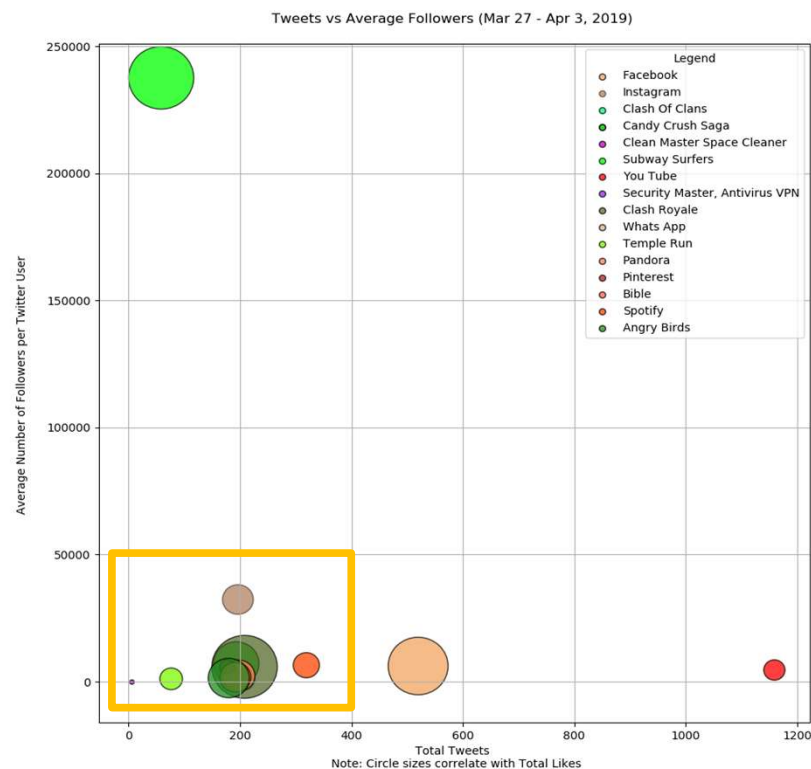


Observations:

- ❑ On average, each app is mentioned about 200 tweets in one week with the outliers removed: Subway Surfer, YouTube, Facebook, and Instagram
- ❑ Little relationship between Tweets to average followers for the top apps

3b. 200 Tweet Impacts About 15k Followers

Tweets vs Average Followers – All Data

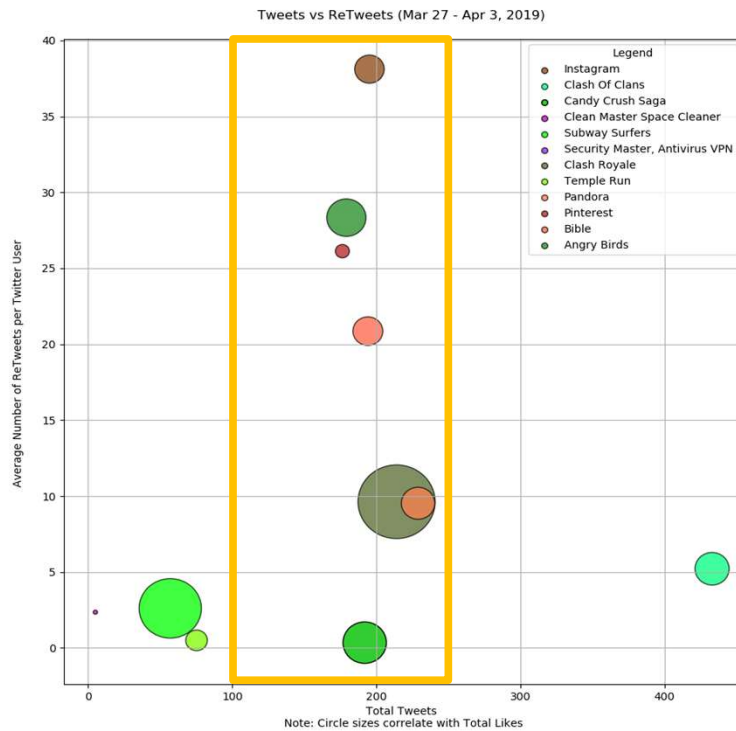


Observations:

- ❑ On average, each app is mentioned about 200 tweets in one week, with the exception of the outlier YouTube (1159 Tweets)
- ❑ Subway Surfers (Game) had very few tweets, but have the highest avg. followers (23k), and significant likes
- ❑ Little relationship between Tweets to average followers for the top apps
- ❑ 13 apps experienced similar results

3c. 200 Tweets Averaged 19 Retweets

Google Play and Apple App Store – Outliers Removed

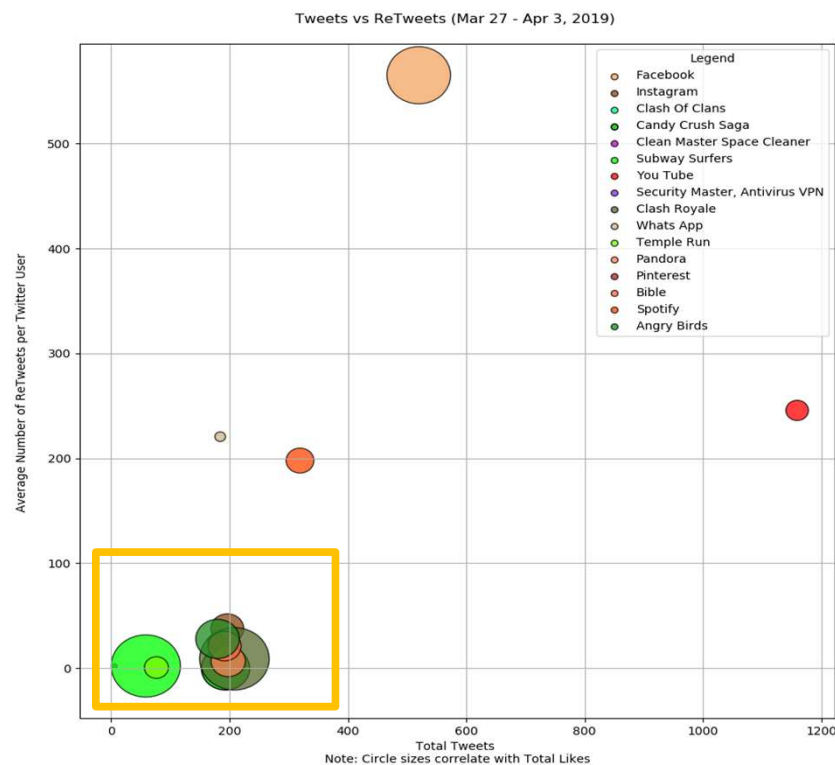


Observations:

- ☐ Outliers Removed: YouTube, Facebook, WhatsApp, and Spotify
- ☐ Total of 7 apps (Social, lifestyle and games) experienced higher tweets and retweets

3d. 200 Tweets Averaged About 65 Retweets

Google Play and Apple App Store

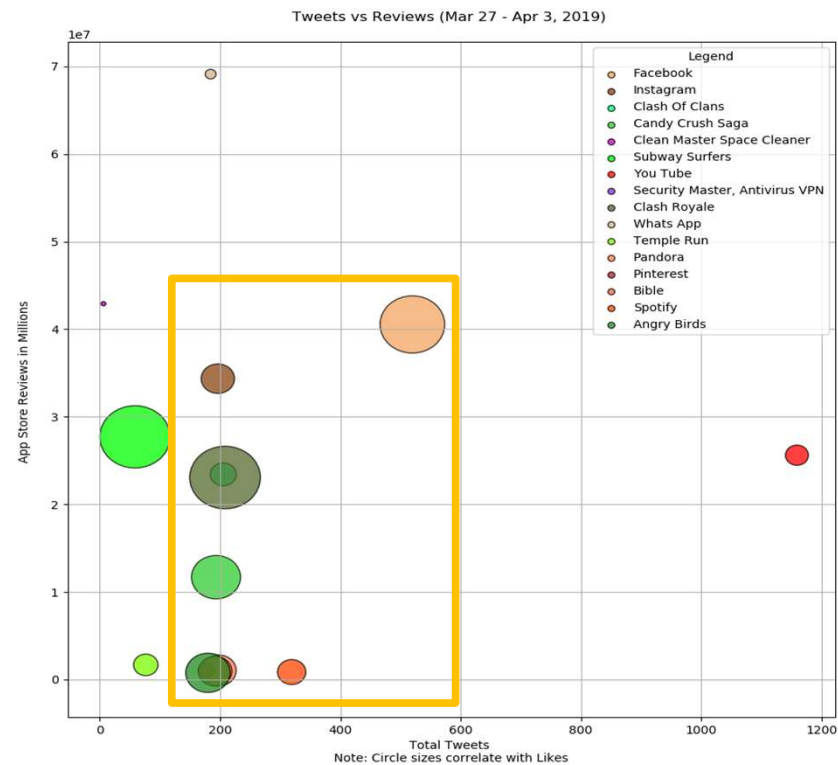


Observations:

- ❑ 2 social and lifestyle apps experienced higher tweets and retweets (e.g. Facebook, YouTube) – possibly due to people promoting content on these platforms
- ❑ 12 apps experience similar behavior related Tweets and Retweets
- ❑ Facebook had about 500 tweets mentioning them, and had the highest retweets of 565

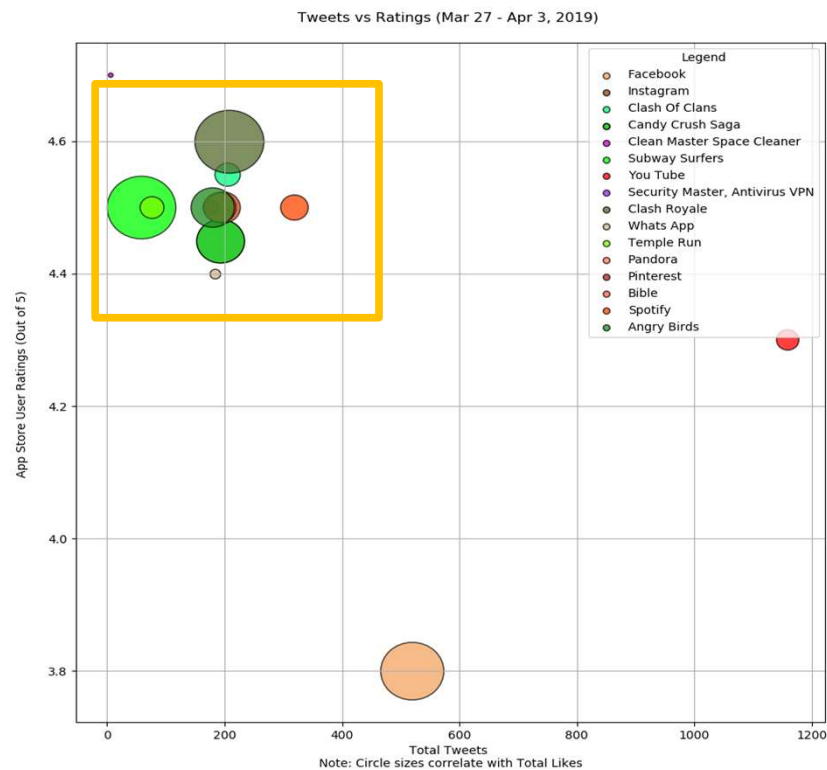
4a. Regardless of Reviews, Majority of Apps Averaged 200 Tweets

Total Tweets to Average App Store Reviews (Millions)



4b. Apps With 200 Tweets Were Rated 4.5

Google Play and Apple App Stores



Observations:

- ❑ Apps with 200 Tweets were mainly Games, Social, Life Style, and Productivity
- ❑ Outliers: You Tube experienced the most Tweets and had an average rating of 4.3
- ❑ Facebook had the lowest rating (3.8) when averaging between the two app stores

Summary of Analyses:

- All top 16 apps have a Twitter
- Facebook Inc's Products – (Facebook, Instagram and Whats App) dominate on both Google Play and Apple App Stores
- Allows direct engagement between business and customers
- Twitter engagement varies by category (e.g. Productivity apps vs Social)
- Twitter API Consideration: API data set was only for 1 week
- **To increase your odds to be in the top 10 apps of either app store, you need to have about 200 tweets a week!**

Next Steps

- Expand analysis to 75th, 50th, and 25th percentile to further understand the impact of Twitter across different apps and categories
- Automate the Twitter Query Function to query Tweets over a historical period
- Remove outliers from future analysis
- Sentiment analysis
- Further investigate how Twitter, Rating, and Reviews, drive the impacts sales