Growth Strategy & Analytics - Spotify

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About Spotify

- Spotify is a streaming service and app that allows users to stream music from wherever they are. And with multiple different plan options, users can get music free or for a monthly cost with various perks.
- Spotify's current subscription plans –
  - Spotify premium membership cost $9.99 per month in 2019, for student members it's $4.99 (some of the Perks of Premium member - Includes unlimited streaming, downloading music, unlimited skips, ad-supported Hulu subscription and availability to cancel anytime.)
  - Spotify is also offering Premium subscription free trail for 3months.
  - Spotify premium for family, five or less per household at $29.99 a month for all five members. For 2 -> $14.99, 3 -> $19.99 and 4 -> $24.99
  - Spotify also has a free version.
- **Spotify makes almost all of its revenue from the paid subscriber base.**

Problem Statement

- Explore opportunities to increase the Paid(Premium) subscriber.
- Execute the plan with various teams like – marketing, content, product team etc

TAKE AWAY: **Strategize Growth Plan for Spotify**

Goal - Increase Premium subscribers

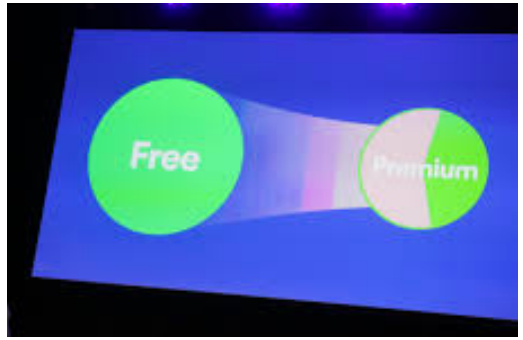
Why is this Important?

- Spotify is a subscription based music streaming service. **It makes almost all of its revenue from the paid subscriber base.**
- With the increasingly saturated market it has become very important to target audiences from all the aspects of a company to engage, maintain and promote paid membership.
- **To continue powering their growth and provide better services Spotify needs to increases their paid subscribers.**

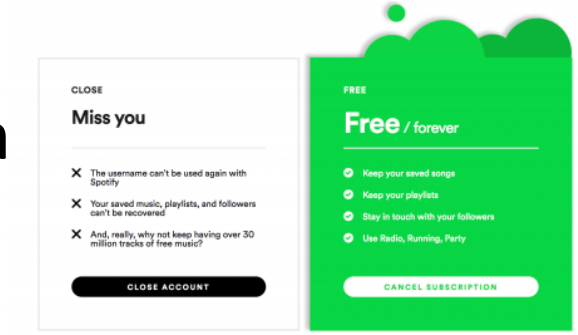
Growth Strategy Proposal

- Convert Free users to Paid subscribers

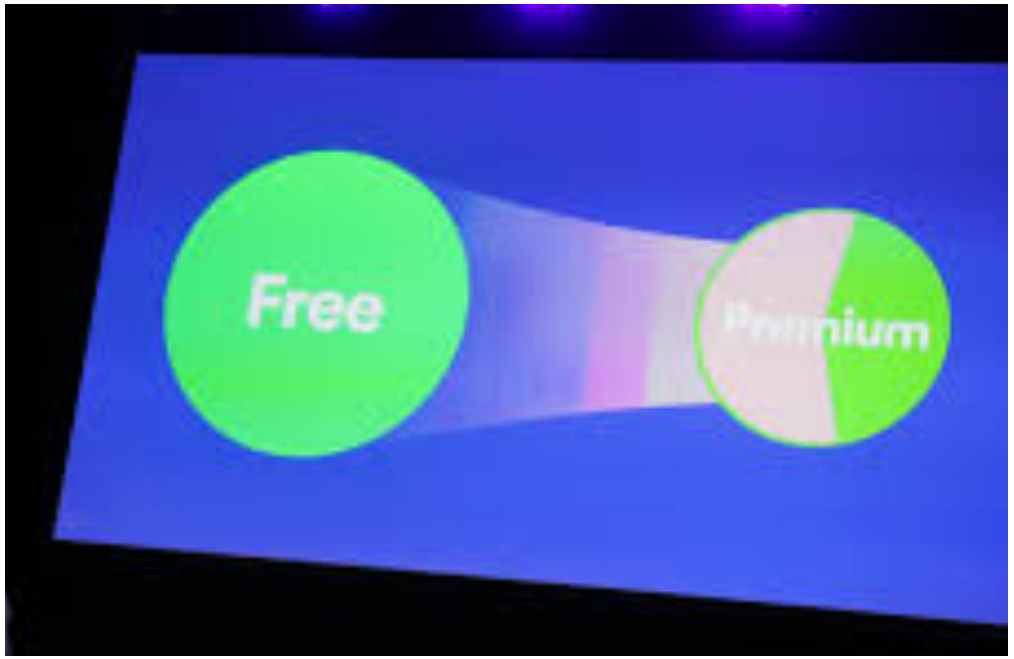
(~approx. 50% of all the active user)



- Customer Retention



- Achieve above with the help of Spotify marketing, product, content development, engineer teams.



Free subscribers to Paid subscribers

Proposal

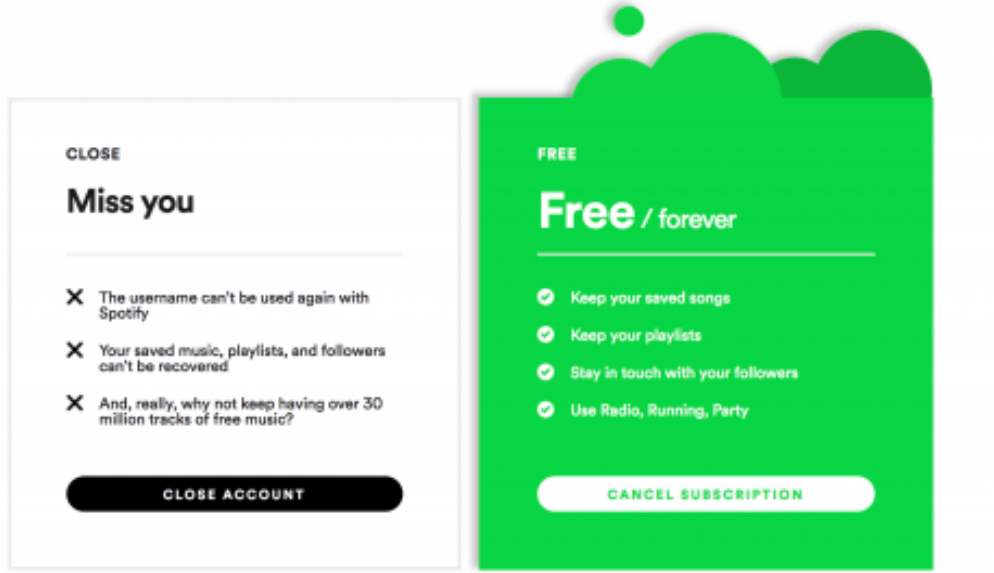
- Idea is to create a probabilistic model that will predict whether a given unpaid subscriber exhibits a certain behavior. Then calculate Propensity score for active/new UNPAID subscribers. This will give us the probabilistic estimate of a user becoming a paid subscriber.
- We can validate the model with cross-validation technique
- The team can use the propensity score to bucket each prospective subscriber by their likelihood to buy the paid subscription.
- The feature importance score can be learned from the prediction model and further investigated to assist in developing growth plans to increase conversion rate.

Free subscribers to Paid subscribers

- Steps
  - Data – train data -> some subscribers that converted from Free/Unpaid to Paid subscribers and rest didn’t convert to Paid subscribers.
  - Feature Engineering and Selection (like – what kind of music is played genre; artist, hours music played, age, gender, offer used/promotion received, converted to paid subscriber?) OR Feature Importance like Random Forest feature importance.
  - Build regression model like logistic regression and train it on the dataset.
  - Test the model against the validation and test sets to ensure that there is no overfitting of the model to the training data.
  - The model’s probabilistic estimate for a potential subscriber is the propensity score that s/he will become a paid subscriber.
  - This propensity score can be used by the team at Spotify to execute targeted campaign to enhance the chance of conversions.
  - Rebuild model with real time data to enable models continuous learning

Execution with Spotify Team

- Spotify Teams can utilize the propensity score -
  - **Marketing team** - can use this information to form a campaign or reach a target number of conversions most efficiently. By weeding out customers who are unlikely to pay for subscription and redirect marketing spend to a more efficient channel and reducing the number emails to the customer who are most likely to subscribe so not to irate the customers. First, contact people, for whom a campaign has a higher chance of success and, therefore, is likely to result in increased premium subscription from the campaign. Secondly, understanding propensity scores by bucketed groups you can give each customer the minimal offer needed to attract them. Such offers will be more advantageous when used with customers with a medium propensity than for those with the high propensity, as these reduced offers will lead to significant savings
  - **Product and Engineering team** - most important of all, a good model needs to be able to harness huge amounts of data in near real time as part of a continuous feedback loop so that it's always getting better and smarter. Prepare real time data ingestion pipelines so that the new paid subscriber data can be fed to model for retraining and continuous learning.
  - **Content team** – Can perform A/B testing with the medium to low propensity score users to see if personalize content, collection, recommendation, new features, etc. provide by the content team help enhances interest of the prospect.



Customer/Paid Subscriber Retention

Proposal

- For paid subscriber retention we can use the concept of window technique(observation and performance windows). The idea behind this technique is to use a period of time(observation window) to observe user's behavior and activities learn from it and then perform prediction using what we learned from previous windows and what's happening in the active/performance window.
- Data like user's behavior, pattern, system performance can be collected and used to classify user as churning.
- The observation window can be as minimum as 2weeks upto 3weeks. Predicting the likelihood of retention based on observation gathered in observation windows and during performance window of a week length thus performing weekly prediction for the rest of the subscription month to determine the likelihood of retention each week.
- The reason for keeping the windows relatively small is that the subscriptions are monthly plan and to maximize the retention we need to anticipate the churner earlier on.
- Validate the model with cross-validation method.
- Further we can perform customer segmentation on the churning subscriber that can assist in coming up with a group based strategizes to reduce the churn rates.

Paid Subscriber Retention

- Steps –
  - Data – train data -> paid subscribers behavior, activity, demographics, performance and usage patterns
  - Feature Engineering and Selection – features like users activities(songs, playlist, genre listened), hours listened, time of the days, playlist created, customer feedback, geolocation, non-activities like demographics, financial, performance/stream latency.

    OR can use Feature Importance score like Random Forest feature importance to find the ranking of features.
  - Build prediction model like Random Forest and train it on the dataset.
  - Validate the performance of model with cross-validation.
  - Model predicts the churn probability of a paid subscriber based on the current window and predict the probability of retention.
  - Spotify team can use these estimates for high risk churning subscriber and intervene on different levels to increase the retention percentage.
  - Team can also use the Feature importance score to further interpret features necessary for retention.
  - This has to be a continuous process.

Execution with Spotify Team

- Spotify Teams can information that a subscriber propensity score -
  - **Product and Content Team** – Can perform customer segmentation on these churning customers to tailor churn save strategies like personalize content, music recommendation, UI assist.
  - **Financial and Marketing Team** - Can avail this opportunity to refine the pricing model, targeted promotions, offer loyalty programs or discounts to entice the valuable subscriber.
  - **Marketing/Support Team** – Can reach out to the subscribers to help and assist the subscribers thus promoting retention.

Measuring Success of the Program

- We can use below techniques to measure success-
  - A/B Testing: we can perform A/B Testing by implementing and comparing the existing methods and the proposed methods for retention and conversion.
  - Response rate on the implemented strategizes which was design as a result of learning from proposed methods. For example, marketing team approached medium-low high propensity score prospect subscriber with promotional offer emails, and a lot of these targeted emails were read and the offer was used. This implies that the model appropriately identified the prospects that needed a nudge for conversion.

Thanks

Research and References

- https://www.thestreet.com/technology/how-much-is-spotify-premium-14913109
- https://stimulead.com/20-growth-marketing-case-studies/
- https://www.businessofapps.com/data/spotify-statistics/
- https://www.cxense.com/blog/still-not-using-machine-learning-grow-subscriptions-its-easier-you-think
- https://medium.com/the-official-integrate-ai-blog/heres-what-you-need-to-know-about-propensity-modeling-521ab660cb43
- https://kth.diva-portal.org/smash/get/diva2:1149077/FULLTEXT01.pdf

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