

BACKGROUND

- COVID-19 lockdowns and restrictions have impacted anxiety and depression rates
- 93% increase in anxiety screens from Jan-Sept 2020, compared to total number in 2019
- 62% increase in depression screens
- Difficult for patients to meet with health professionals faceto-face



MENTAL HEALTH APP MARKET TO SEE A COMPOUND ANNUAL GROWTH RATE OF 20.5% FROM 2021 THROUGH 2027 TO REACH \$3.3B BY 2027 - MARKET WATCH

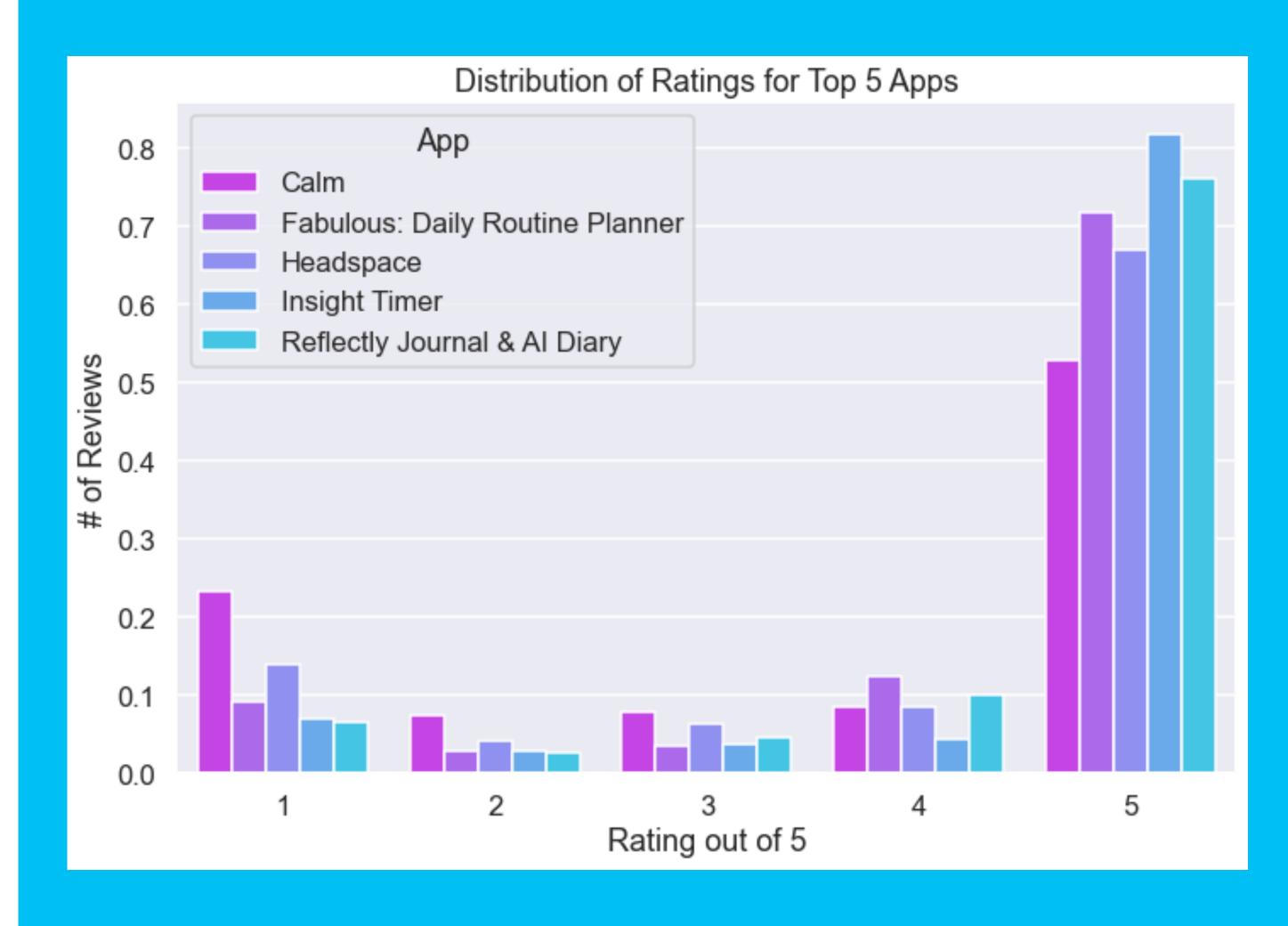
FIRST-TIME DOWNLOADS OF TOP 20 MENTAL WELLNESS APPS IN THE US IN APRIL 2020

BUSINESS PROBLEM

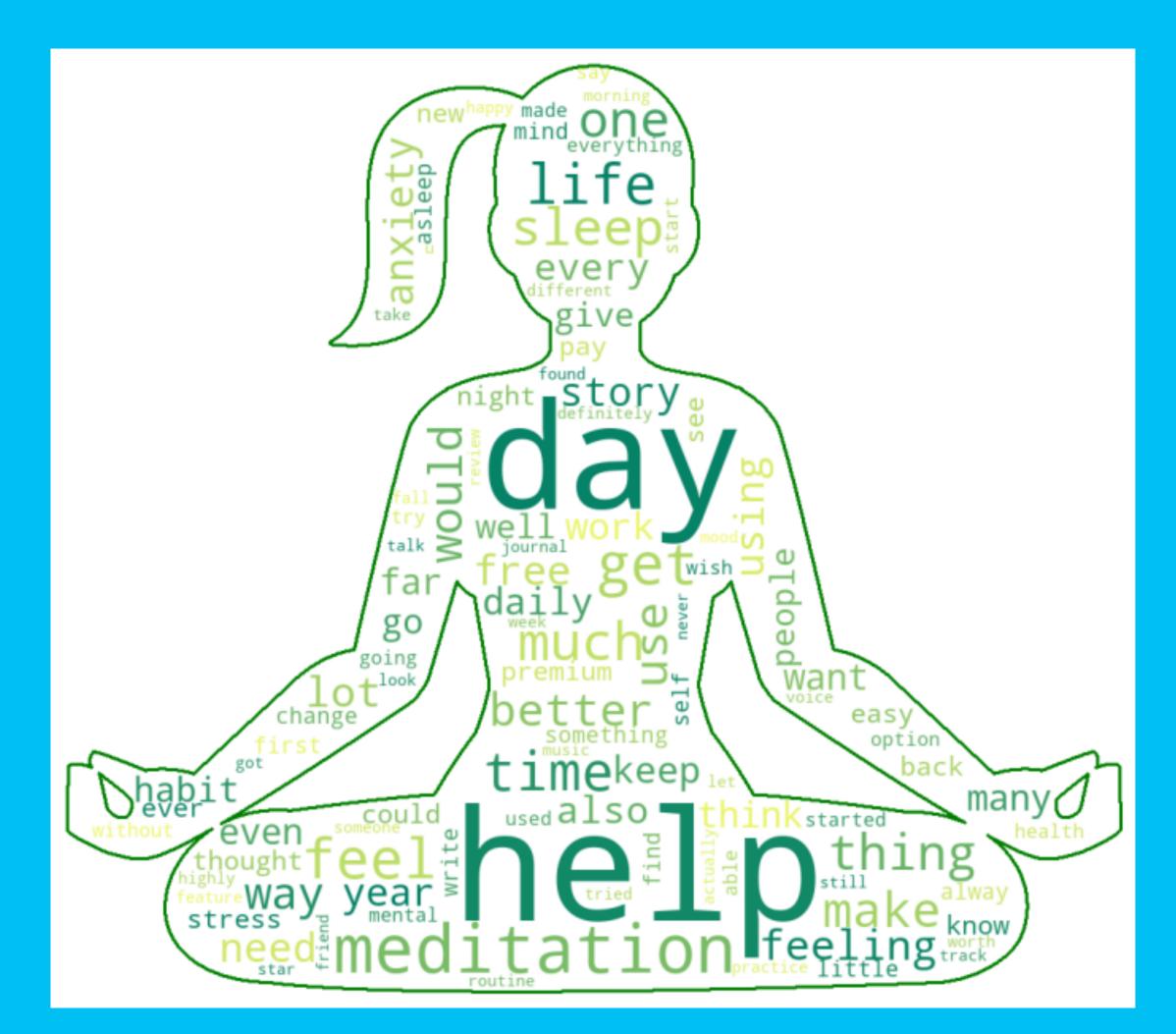
- The mental wellness app market is highly competitive with over 300K health apps available worldwide
- Determine what users enjoy or dislike most about mental wellness apps currently on the market
- Develop a strategy to build a new mental wellness app to compete with existing top performers

DATA OVERVIEW

- 44,698 total text reviews and ratings obtained from iOS US App Store
- Includes reviews written for 31 popular mental wellness apps
- Overall sentiment indicated by rating:
 - 1-3 Stars: Negative
 - 4-5 Stars: Positive
- Mean average rating across all reviews: 4.15

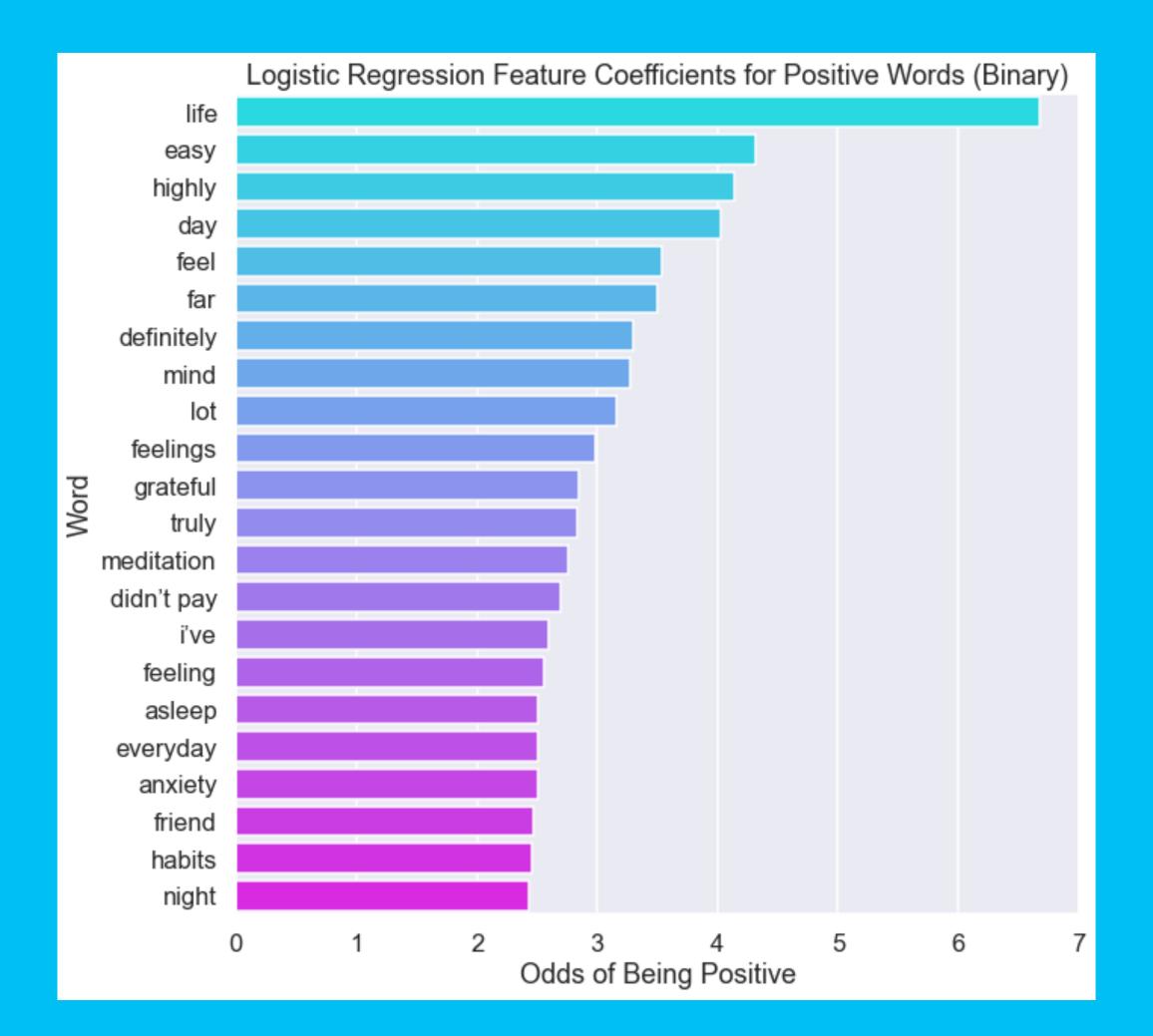


WHAT DID USERS LIKE?



Most frequently occurring words found in positive (4-5 star) reviews

POSITIVESENTIMENT



Words most likely to indicate a positive review

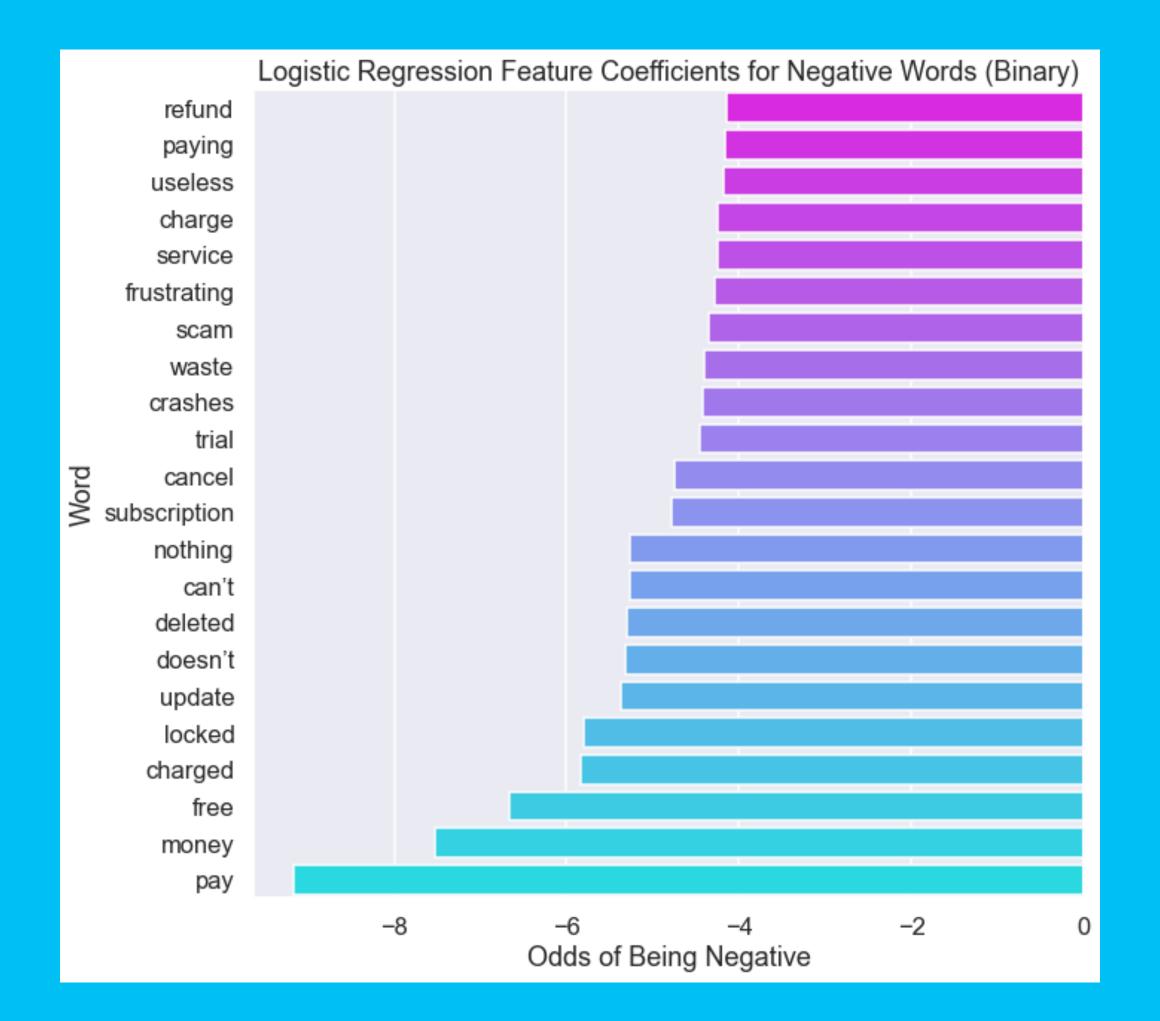
POSTIVESENTIMENT

WHAT DID USERS DISLIKE?



Most frequently occurring words found in negative (1-3 star) reviews

NEGATIVE SENTIMENT



Words most likely to indicate a negative review

NEGATIVE SENTIMENT

HOW THE MODEL WORKS

Document id: 17187 Probability(Positive) = 0.020999261127576607 True class: Negative Negative **Positive** Prediction probabilities Text with highlighted words nothing 0.98 Won't let me log in. This app was great until it stopped Negative letting me log in. Now I have a subscription I paid for until Positive 0.02 next year that I can't use.. there is nothing about the error subscription code in the help section. So that's not cool.. 0.04 stopped 0.04 Won 0.03 Probability(Positive) = 0.9423697140038891 True class: Positive Negative Positive Prediction probabilities **Text with highlighted words** mind Negative 0.06 Peaceful. Between chronic neck pain and just plain 0.06 trying restlessness, I'm pretty used to not sleeping that great. With 0.94 Positive Calm, I am sleeping much sounder. Just put on a sleeping soundscape and I instantly feel calmer. I also struggle with forward my mind racing when I'm trying to fall asleep. I started 0.03 listening to meditations before my sound scape... it's been asleep helping my mind calm down! Love this app! I look forward to going to sleep so I can relax and be peaceful! usec Document id: 3212 Probability(Positive) = 0.5265458013611568 True class: Negative Positive Negative Prediction probabilities Text with highlighted words FREE It's just stupid to me. I just got the app to help me fall asleep 0.47 Negative and the first thing it asks is for the premium stupid thing and 0.53 Positive then I try doing one of the FREE things and it greets me premium with buying premium. 0.06 first

LOGISTIC REGRESSION

0.05

89% prediction accuracy

- Correctly identified86% of negativereviews
- Correctly identified90% of positive reviews

FINDINGS

- Topics correlated with negative sentiment:
 - Payment and costs
 - Technical and customer support
- Topics correlated with positive sentiment:
 - Ease of use
 - Sleep-aid functionality

FINAL RECOMMENDATIONS

- Thoroughly research pricing scheme and be transparent about free vs premium features
- Thoroughly train customer support team on how to diagnose and address any technical or payment-related complaints
- Invest in R&D of sleep-aid functionality
- Develop app interface to make it aesthetically pleasing and ease to use

LIMITATIONS AND FURTHER ANALYSIS

- Obtain and analyze pricing data to identify optimal pricing scheme
- Include Google Play Store app reviews
- Implement Latent Dirichlet Allocation to extract further insights on what topics are considered negative vs positive

##