

# Twitter Sentiment Analysis

# Agenda

- 1 Business Goal
- 2 What is Sentiment Analysis?
- 3 Process
- 4 Our Data
- 5 Words Used
- 6 Model
- 7 US. Airways Example
- 8 Suggestions
- 9 Next Steps



# Business Goal

**Enhance** US Airways' Success.

Data-driven marketing to raise **brand awareness** and **ROI**.

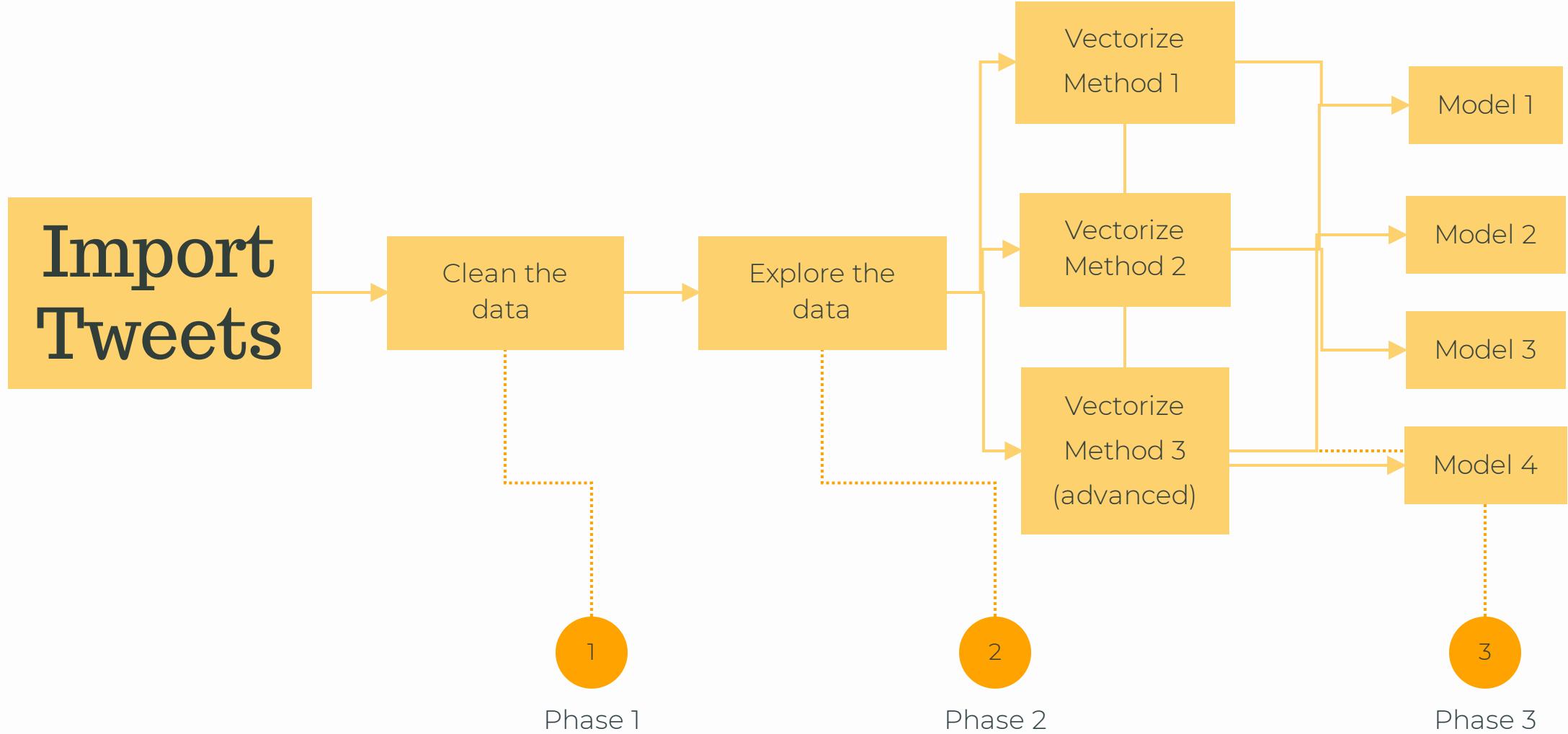
Using machine learning for tweet sentiment analysis, we carry out **real-time assessments** to find strengths and areas that need improvement..

 U.S AIRWAYS

# What is Sentiment Analysis?



# The Process



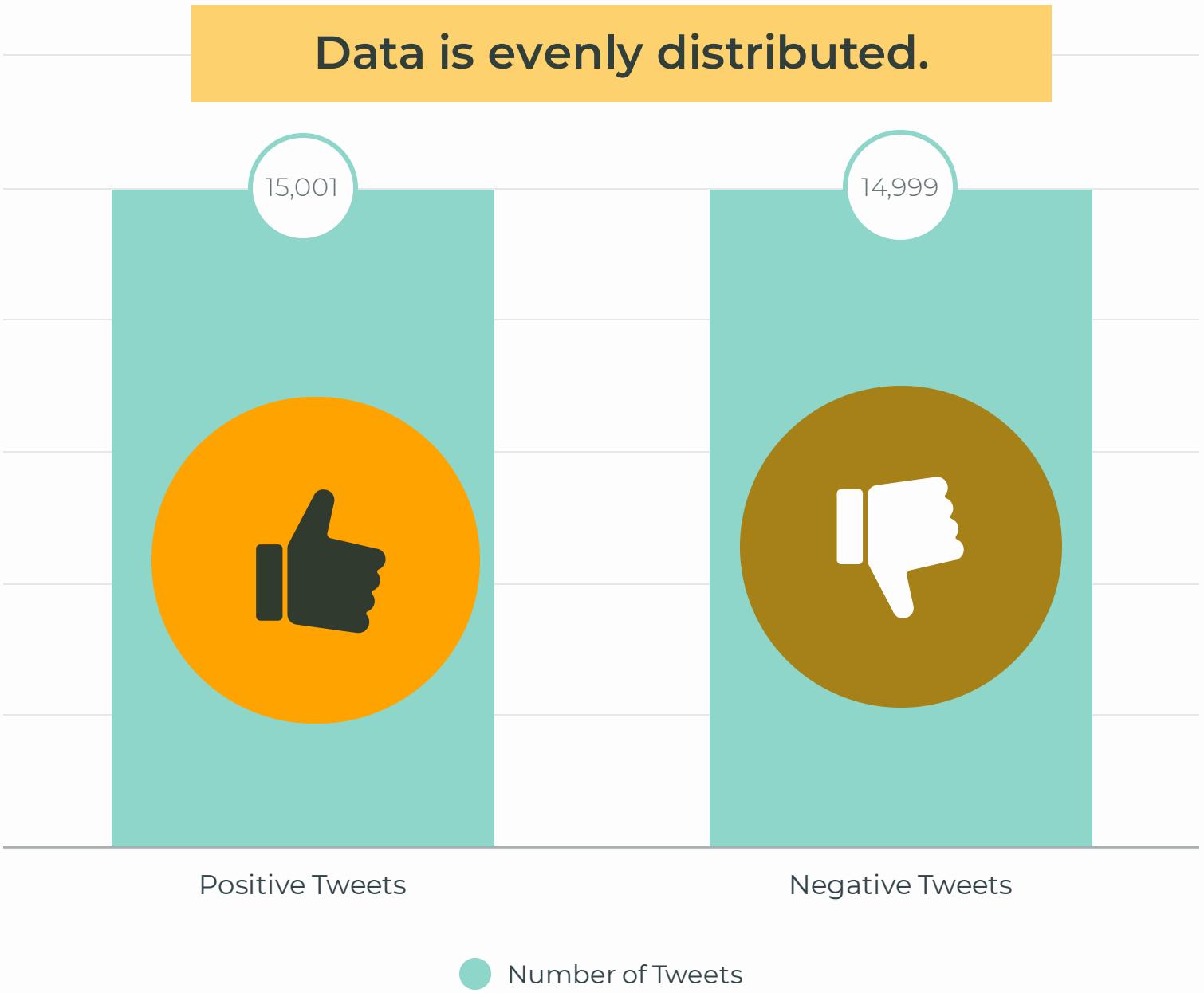
# Our Data

**Source: Kaggle**

30,000 Tweets

Index	Sentiment	Tweet
Tweet 1		"can't wait for vegas"
Tweet 2		" im meeting up with one of my besties tonight! Cant wait!! - GIRL TALK!!"
Tweet 3		" Wrote exactly three lines of dialogue tonight, then gave up"
Tweet 4		Hmmm, might go to bed

Positive, Negative  
**Sentiment Break Down**

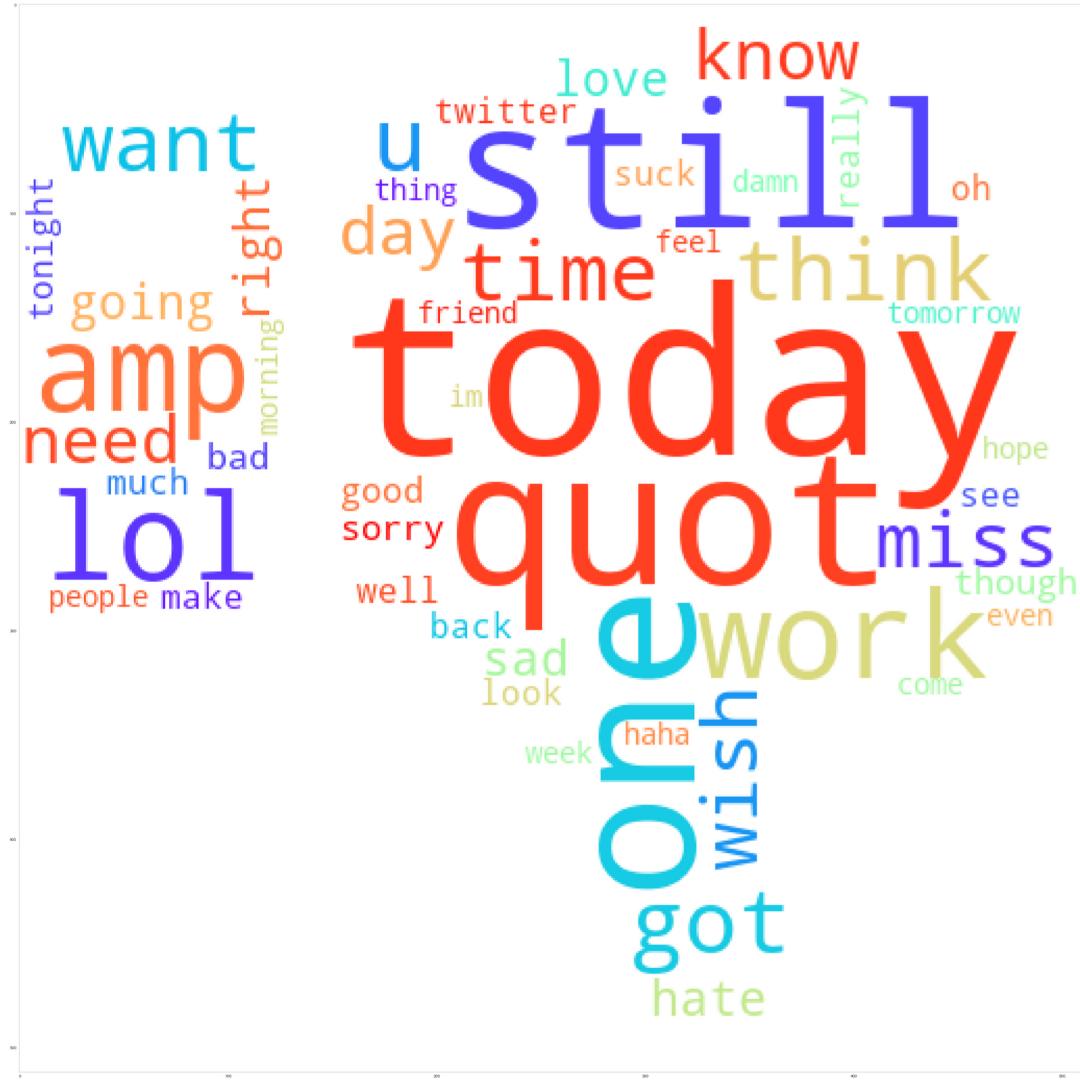


think  
amp  
friend  
**one**  
see awesome  
people  
going go  
watching

ye way happy fun really  
way great oh  
thank love time nice thing yay  
today back well to make  
stillright im good morning  
tonight come tomorrow  
goodU got look know day  
quot

## Positive

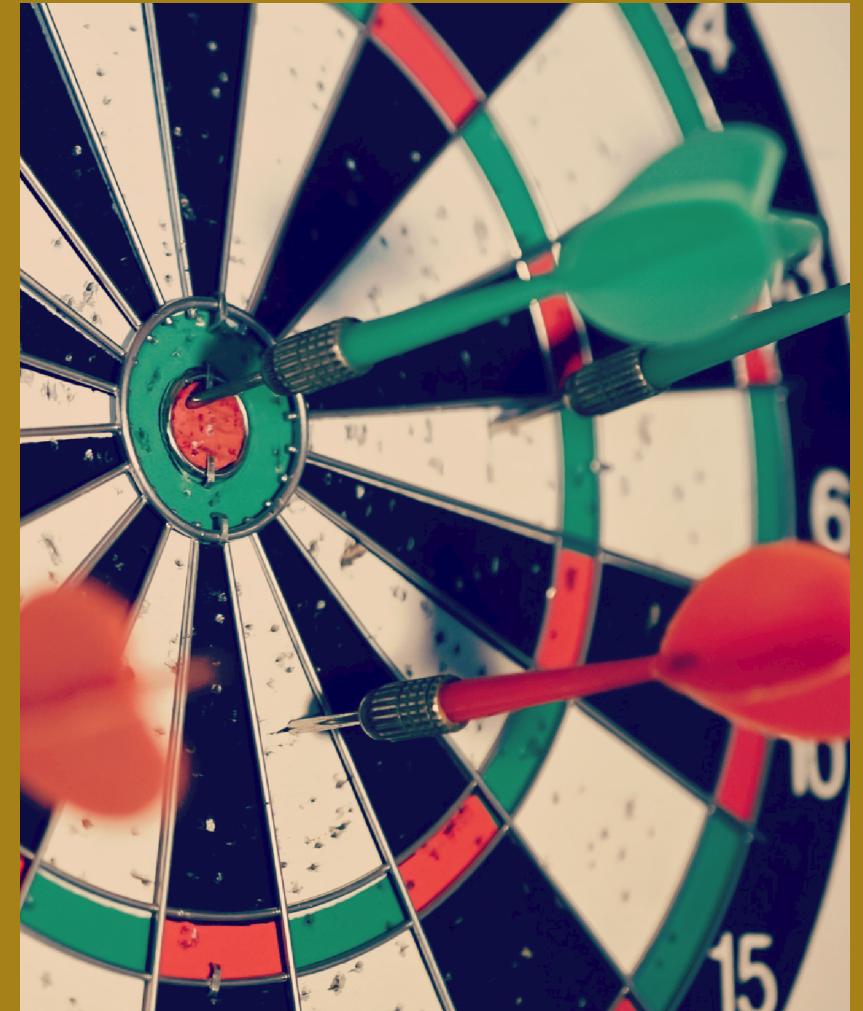
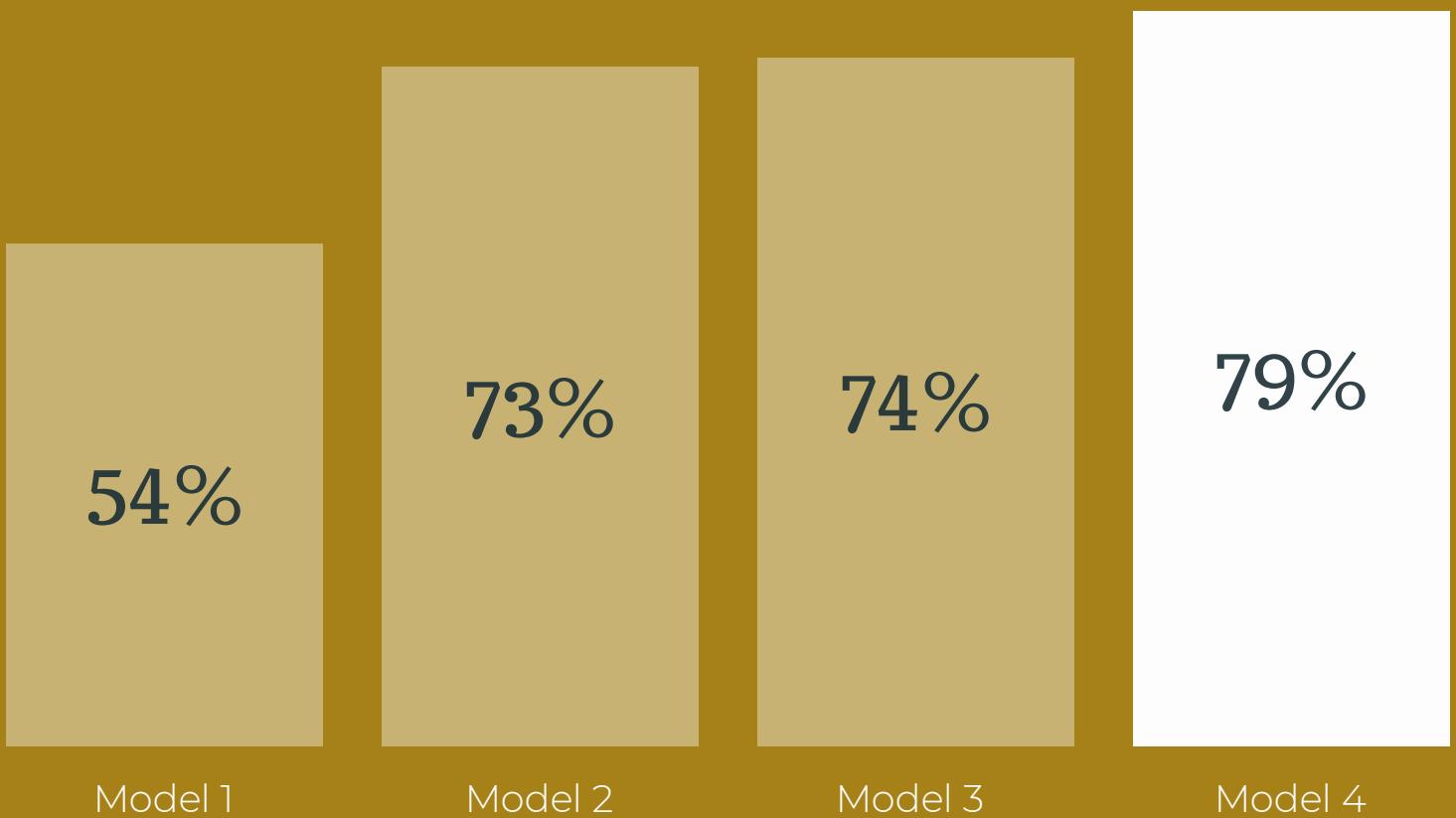
Focus on feelings  
of appreciation,  
laughter and  
love.



# Negative

Expressing feelings  
of dissatisfaction,  
frustration, and  
unfulfilled need.

# Comparing Models





# Model Evaluation

Model 4

1,000,000 Tweets

79%

Our model was able to predict 79% of the time whether a tweet was positive or negative.



# Business Application

## Airlines, Tweets



2,363 Tweets



2,363 Tweets

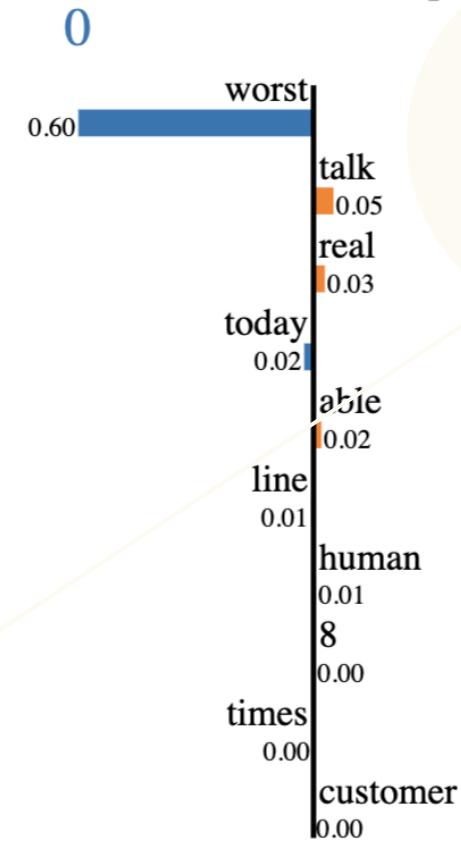
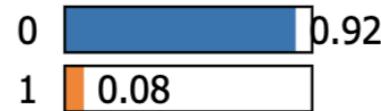


Our model predicted tweet sentiment (positive/negative) with 73% accuracy.



# US Airways, Example

Prediction probabilities



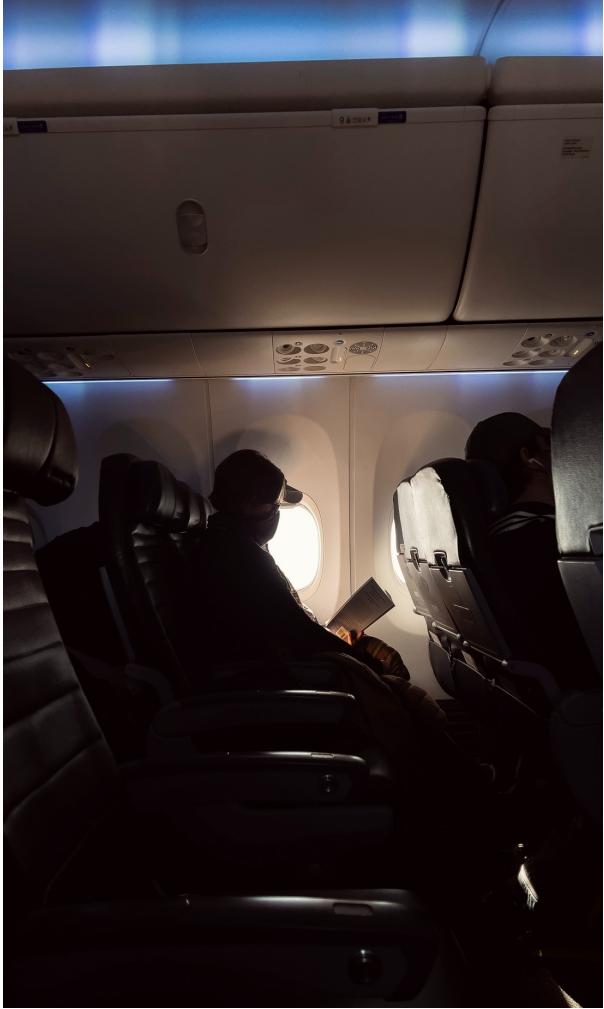
"worst customer service line called 8 times today able talk real human."

**Text with highlighted words**

worst customer service line called 8 times today able talk real human

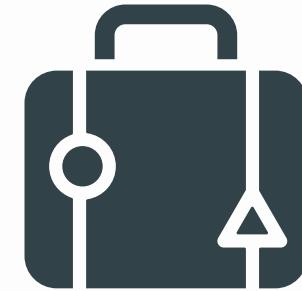
# US Airline, Negative Tweets

Main Topics from  
377 tweet



flight  
sucks  
trying  
bag help  
hour  
service  
delayed  
missed  
stuck  
customer

# Suggestions based on feedback



Invest in customer  
service

Improve flight  
delays

Improve baggage  
handling processes



# Next Steps

Expand the analysis  
to a larger dataset

Further refine  
the model with  
the new dataset

Compare data  
with competitors  
feedback

Thank  
you!

