

**RASHID BASET**

# **PREDICTING SENTIMENT OF CUSTOMER SERVICE MESSAGES**

**“CROSS-INDUSTRY STUDIES SHOW ON AVERAGE,  
LESS THAN HALF OF AN ORG’S STRUCTURED  
DATA IS ACTIVELY USED IN MAKING DECISIONS”**

**- HARVARD BUSINESS REVIEW**

# UNDERSTANDING YOUR CUSTOMER

- Understanding your customers helps to understand your:
  - Day-to-day operations
  - Making smarter business decisions
  - Learning about your customers



# CUSTOMER SERVICE DATA

- Cross-department communication
- Providing competitive customer experiences
- Making critical decisions on the fly
- Correctly gathering data on customers and users deliver huge benefits to organizations across all sectors.



# COMPANIES THAT INVEST IN CUSTOMER SERVICE ON TWITTER FOUND THAT ...

- Costs one-sixth as much as call centers.
- Can lead to over 95% of issues being resolved in channel.
- Can achieve a customer satisfaction rate of over 90%.

# TWITTER CUSTOMER SERVICE DATA

- Processing
- Volume
- Real-Time

# WHY IS TWITTER DATA IMPORTANT?

## Customer service

### Positive

### Negative



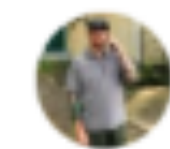


# WHY IS TWITTER DATA IMPORTANT?

## Customer service

Positive

Negative



**Jim B.**  
@thetruefailure

Follow

Hey @Delta, you suck a lot and I hate having to fly your terrible airline.

7:37 AM - 13 Feb 2019

2 Likes



2



2



**Delta** @Delta · Feb 13

Replying to @thetruefailure

That's not good to hear, Jim. Pls follow/DM if I may be of assistance. \*AAB

 [Send a private message](#)



1



# WHY IS TWITTER DATA IMPORTANT?

## Positive

## Negative



Replying to @aengus

So glad to hear it, thank you for letting us know! Have a great night!

7:58 PM - 6 Aug 2017

# A MISALIGNMENT WITH MESSAGES

- Higher initial response times.
- Higher resolution times.
- Takes up more resources

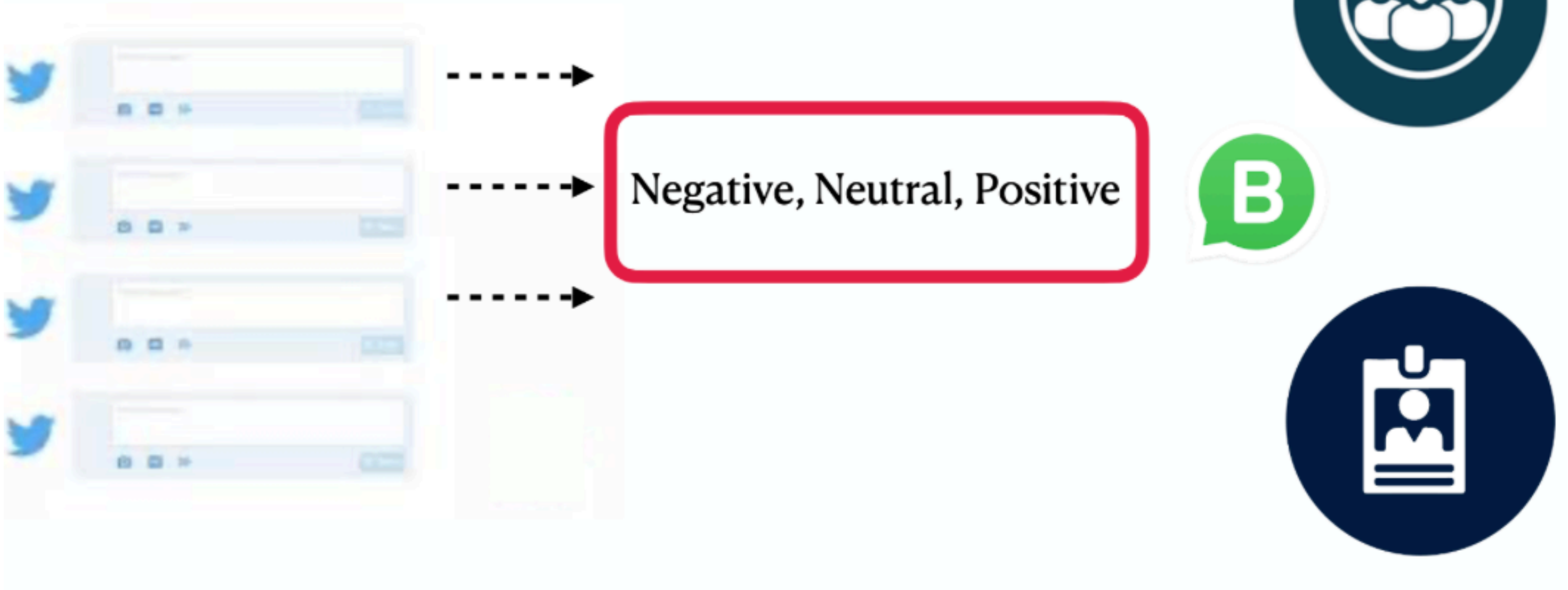


**Negative Reputation**

# THE DATA

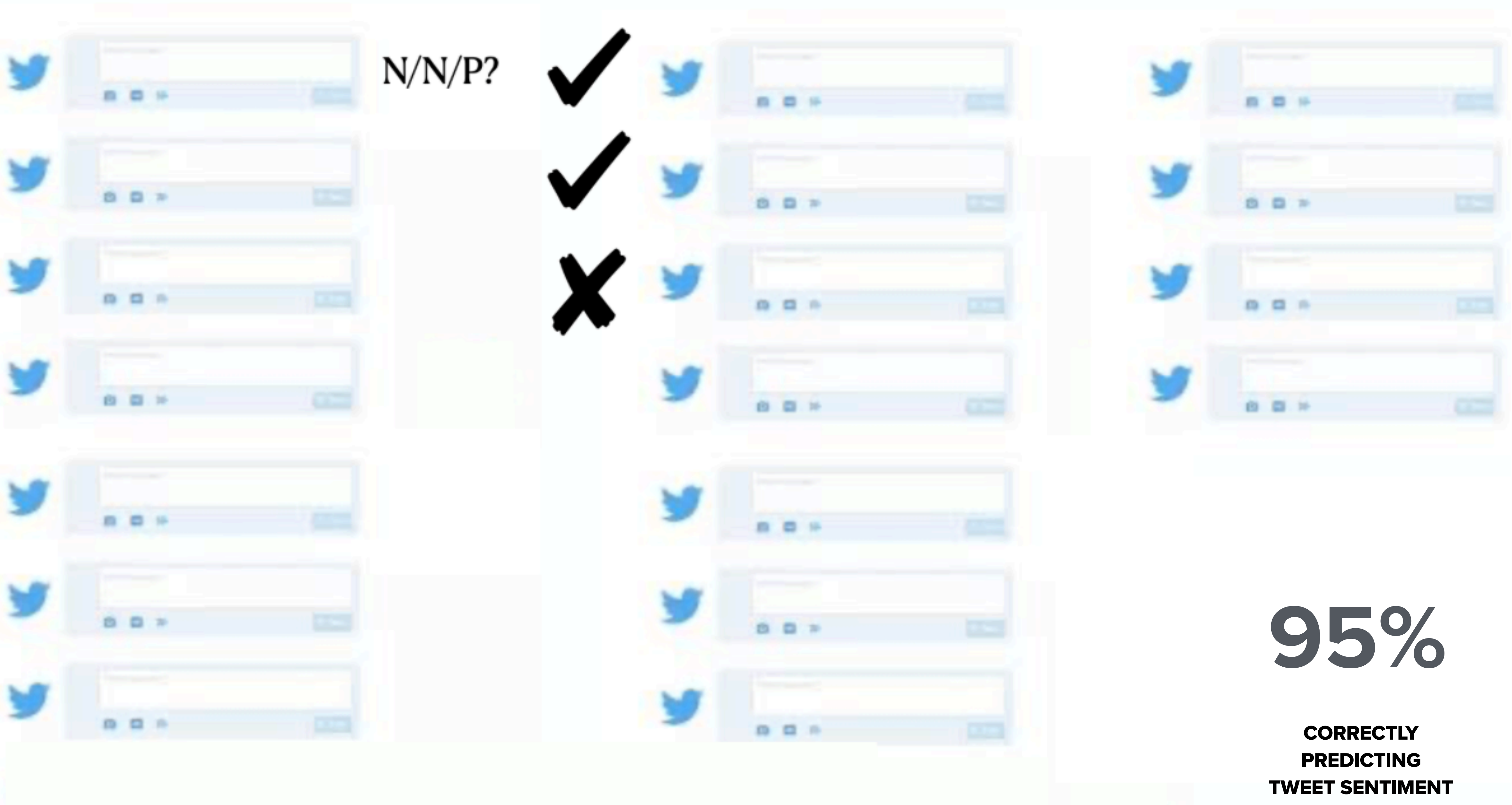
- **Twitter Airline Sentiment Data**
- **CrowdFlower culled all tweets addressed at US airlines in the month of February 2015, including the messages.**
- **Human contributors categorized each tweet according to the sentiment (positive, negative) from a crowdsourcing marketplace.**
- **14,000 records X 8 features**

**Predicting Sentiment** of Twitter mentions to appropriate department or contact for plan and follow up.



95%

**CORRECTLY PREDICTING TWEET SENTIMENT**



# FUTURE IMPROVEMENTS

- Include neutral as a classification.
- Adding new sentiment features for further understanding.
- Implement as an email routing tool.
- Continuous labeling of sentiment of tweets.



**THANK YOU. QUESTIONS?**