

COMSAT:

Communications and Sentiment
Analysis Tool

Castelo | Tinio | Vitug | Zapata



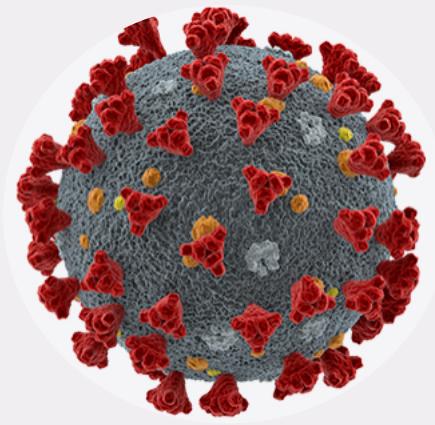
team

reco

research

data

objectives



13,000+ deaths

307,000 confirmed cases

100+ countries

2-14 days of incubation period

~3% mortality rate

THE CHALLENGE:

Conceptualize a business analytics project that will help decision makers address the Coronavirus

THE PROBLEM:

COVID-19 reporting by public health officials can be presented in an accurate and technical manner, but will an abundance of facts help assuage the general public?



overview

COMSAT: Communications and Sentiment Analysis Tool

team
reco
research



extraction

Twitter API
rtweet package
using keywords
Tool: RStudio



analysis

Pre-processing: tidyverse,
tidytext, tm, textdata
packages
Polarity: syuzhet package
Topic analysis: Latent
Dirichlet
Tool: RStudio



visualization

Tool: PowerBI
Topic clustering: LDavis

[Dashboard](#)

[Modelling](#)



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data

To provide a **dashboard** as a monitoring tool that would be of help to public health authorities in making decisions and actions ...

PART 1

DESCRIPTIVES

What's happening?
Basic numbers on cases, deaths and countries



PART 2

SENTIMENT ANALYSIS

Panic level = to know the right risk communication strategy



PART 3

TOPIC ANALYSIS

Trending topics that can be addressed for misinformation

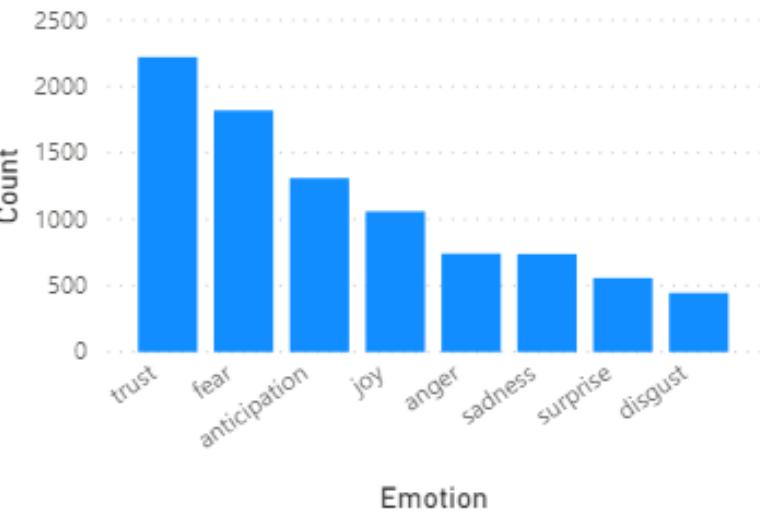


objectives

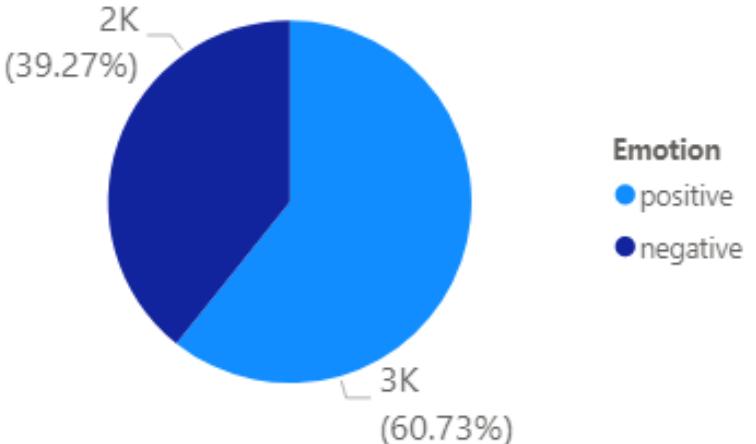
overview

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Tweet Score by Emotion



Polarity Score

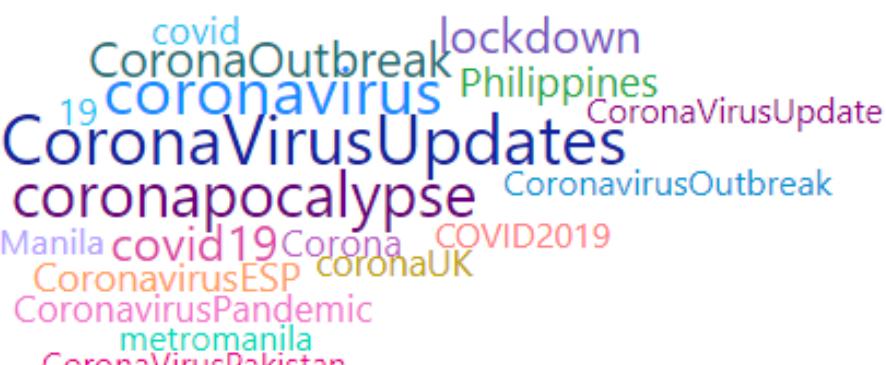


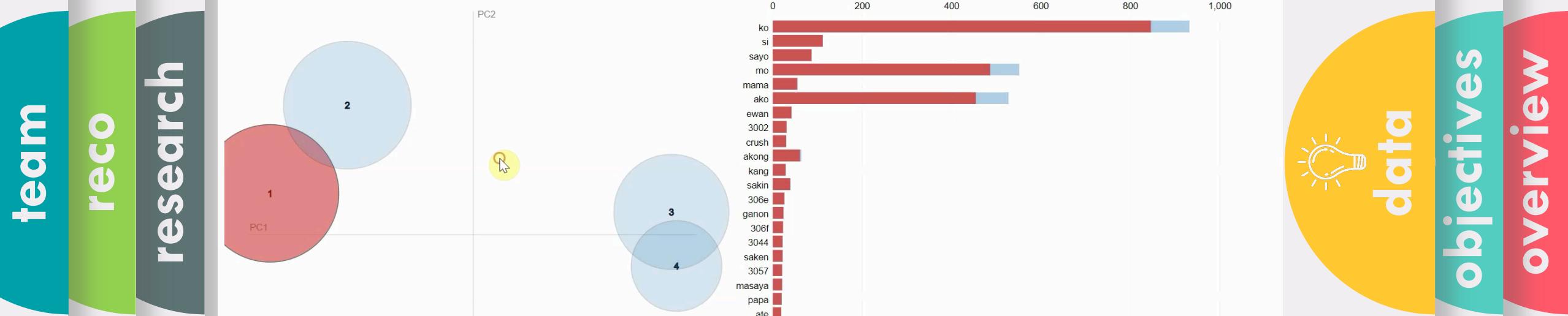
- Emotion
- positive
 - negative

Sample Tweets with Positive, Negative, and Neutral Polarity

Positive Tweets	Negative Tweets	Neutral Tweets
to the beach because of the upcoming lockdown? You can instead imagine the sand and the waves while listening to this! My summer track "Laze" is now on Spotify! _x000D_ _x000D_ Your VP everyone. Our medical people will feel that they are important too. _x000D_ _x000D_ Your contribution is to pray and stay	poor Philippines -	Now We soon On iTunes mad <U+0001F525> <U+0001F525><U+0001F525><U+0001F525>
		Early Signs of Covid-19 from Ministry c
		More of this plsss

Most Common Hashtags

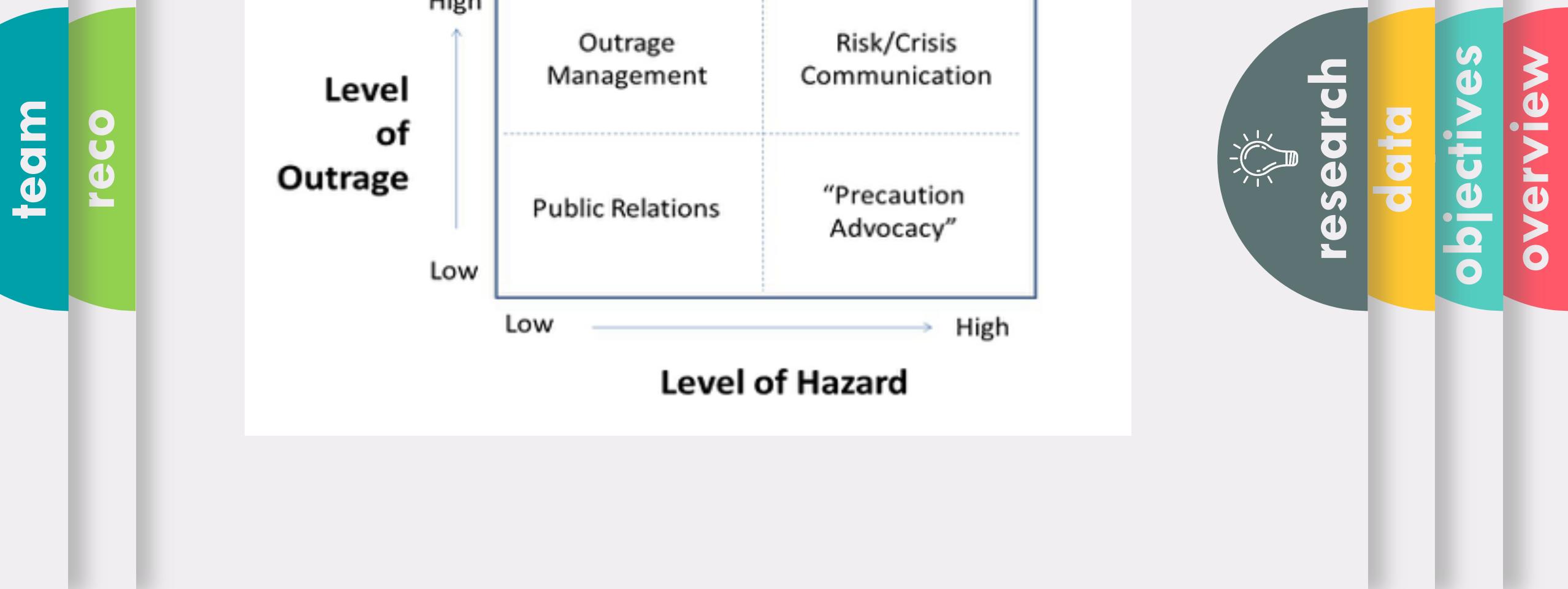
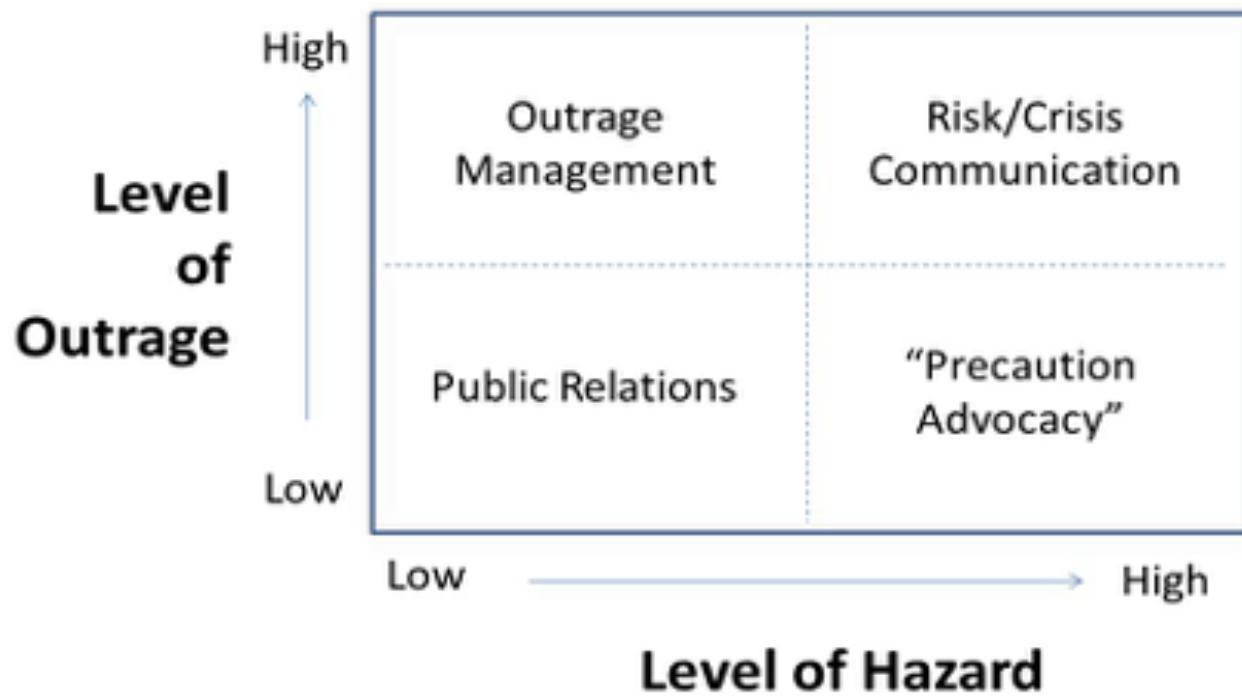




Dashboard

Modelling

$$\text{Risk} = \text{Hazard} + \text{Outrage}$$





Adikhari et al (2018)

Sentiment Classifier and Analysis for Epidemic Prediction



Kim, et al (2017)

Resilience in risk communication networks: Following the 2015 MERS response in South Korea



Rossmann et al (2018)

The Mediated Amplification of a Crisis: Communicating the A/H1N1 Pandemic in Press Releases and Press Coverage in Europe



Regan et al (2014)

Risk communication and social media during food safety crises: A study of stakeholders' opinions in Ireland

team



Firehose

More tweets /
accurate analysis



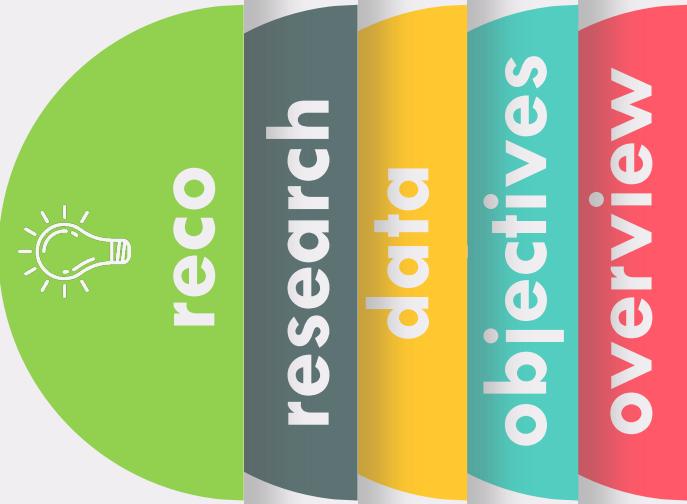
Filipino tweets

Emotion and polarity
analysis



Social analytics

Incorporate
prescriptive





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