

# Propensity Investment Model - PROCOLOMBIA

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## Background

PROCOLOMBIA is a government institution that oversees the commercial promotion of non-traditional exports, international tourism and foreign investment in Colombia.

As part of its activities, PROCOLOMBIA needs to identify foreign companies with potential investment in Colombia, that may be represented through purchases of product and services, as well as foreign direct investment (“FDI”).

In the actual context, obtaining foreign investments for Colombia has a direct impact in economic reactivation, reducing unemployment, poverty, and improving the national production efficiency.

USD 5,894M

Colombia FDI on 2020 (excl. mining and energy)

9th

Colombia position in Emerging Market Countries FDI ranking

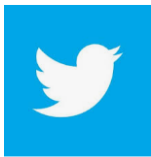
## Objective

Improve the way in which foreign companies that have a high investment potential are being selected by PROCOLOMBIA, so the success rate may be increased and leave a more efficient process for the company.

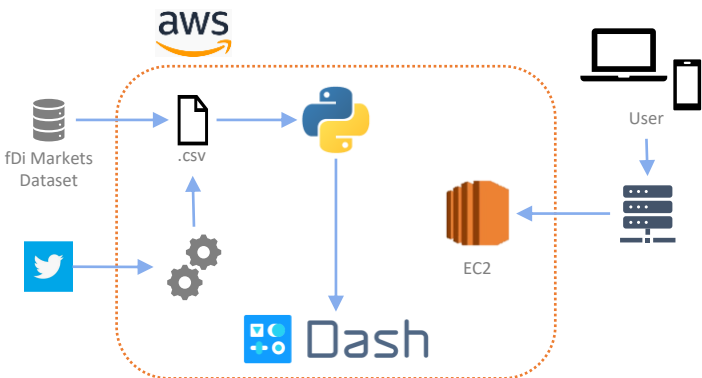
## Data



- Provided by PROCOLOMBIA.
- Global investment data from 2012 to 2021.
- Input for descriptive visualizations.

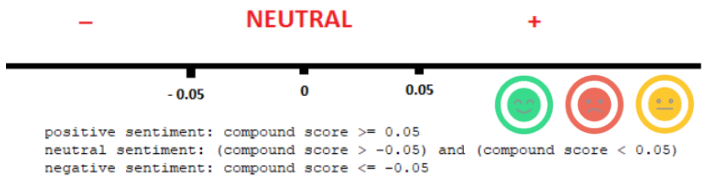


## Backend design

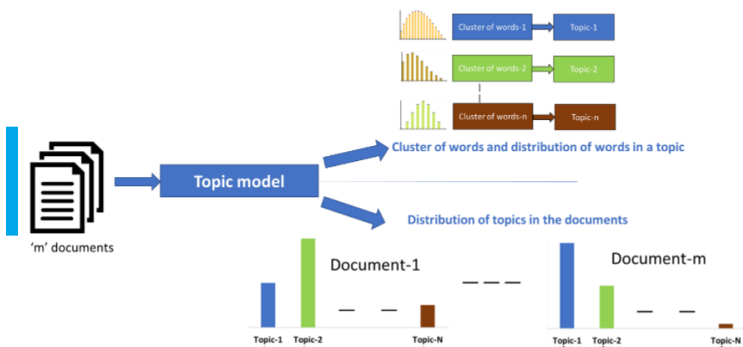


## Models (Unsupervised)

### Sentiment Analysis - VADER

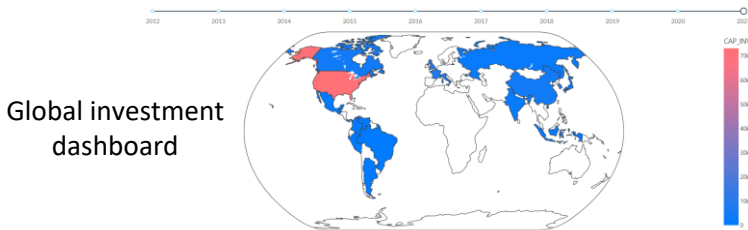


### Topic Modeling – Latent Dirichlet Allocation (LDA)

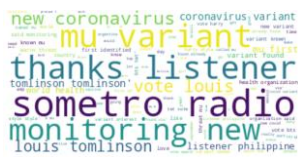


## Results

### Descriptive analysis (fDi based)

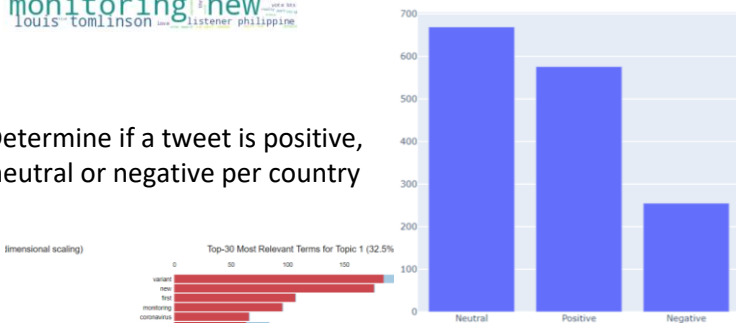


### Models (Twitter based)

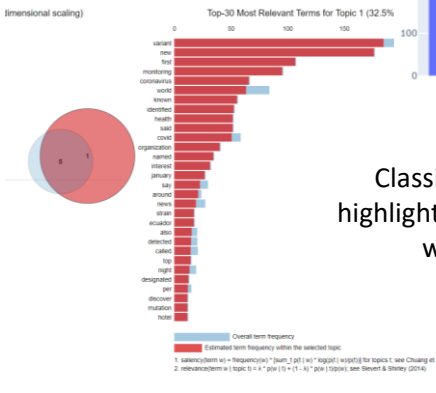


### Descriptive text visualizations

Determine if a tweet is positive, neutral or negative per country



Classify tweets in topics highlighting the most relevant words per topic



- Twitter as main input for modeling: Sentiment Analysis and Topic Modeling.
- Tweepy library in Python used for extraction (Colombia as keyword, but customizable to include/remove other keywords).
- United States, United Kingdom and Canada tweets (English-spoken most relevant countries for Colombia).