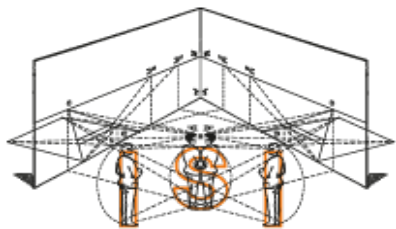




Data-driven characterization of viral events on social networks: sustainability issues in vegetable oils production

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Fondazione ISI
ISI Foundation

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Why vegetable oils?

Iceland Foods 
@IcelandFoods

...

Palm oil plantations are among the biggest driver of deforestation, threatening the orangutan with extinction 🐒

Take a stance and enjoy a Rang-tan friendly Christmas this year.

[#NoPalmOilChristmas](#)



youtube.com

Iceland's Banned TV Christmas Advert... Say hello to Rang-...
You won't see our Christmas advert on TV this year. But we want to share our 'No Palm Oil' story with you this Christma...

11:04 AM · Nov 9, 2018 · Twitter Web Client



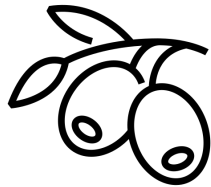
Research questions

- Characterise speed of diffusion and reach of viral events on vegetable oils
- Relationship between virality and sentiment



Data Collection

- Use of Twitter API
- Collect tweets containing *name of the oil* + “oil”



Vegetable oil	Number of Tweets
Palm	3.8M
Olive	6.7M
Coconut	5.3M



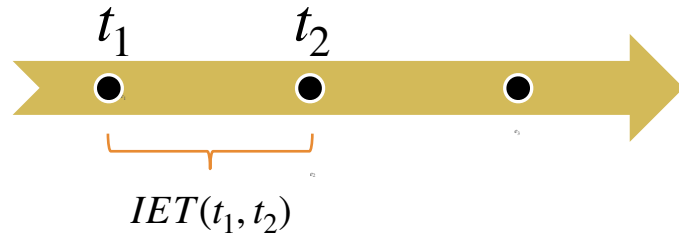
Quantifying virality



Quantifying virality

Interevent time (IET)

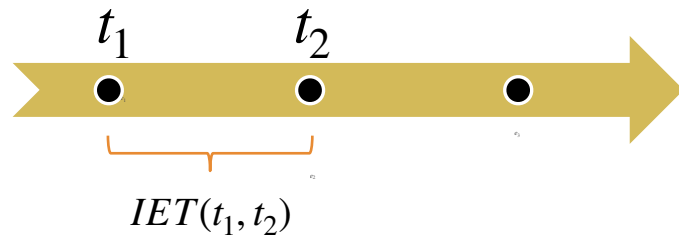
Time interval between two Tweets containing the same hashtag.
Measure of memory.



Quantifying virality

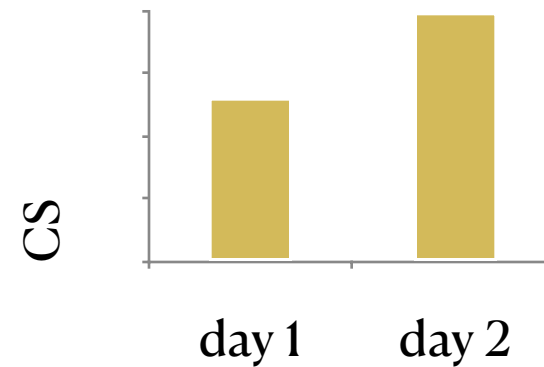
Interevent time (IET)

Time interval between two Tweets containing the same hashtag.
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Cascade size (CS)

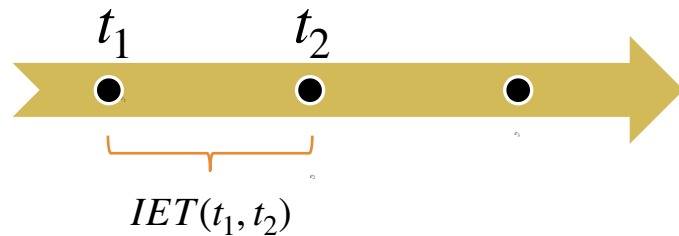
Number of Tweets in a timeframe containing a given hashtag.
Measure of event magnitude.



Quantifying virality

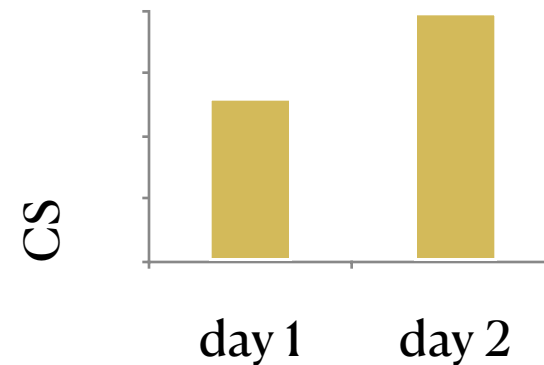
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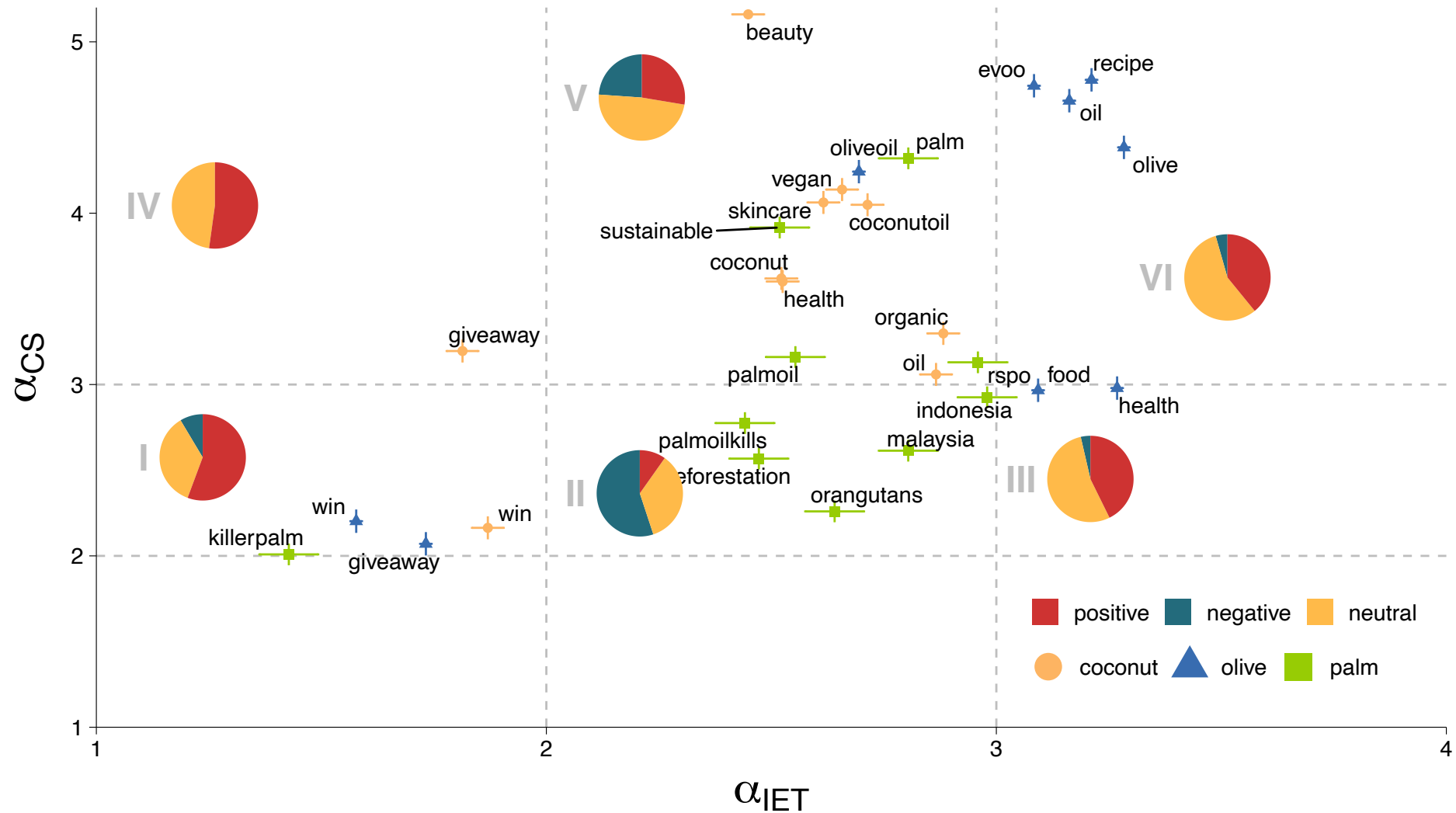
Number of Tweets in a timeframe containing a given hashtag.
Measure of event magnitude.



Fit power-law distribution

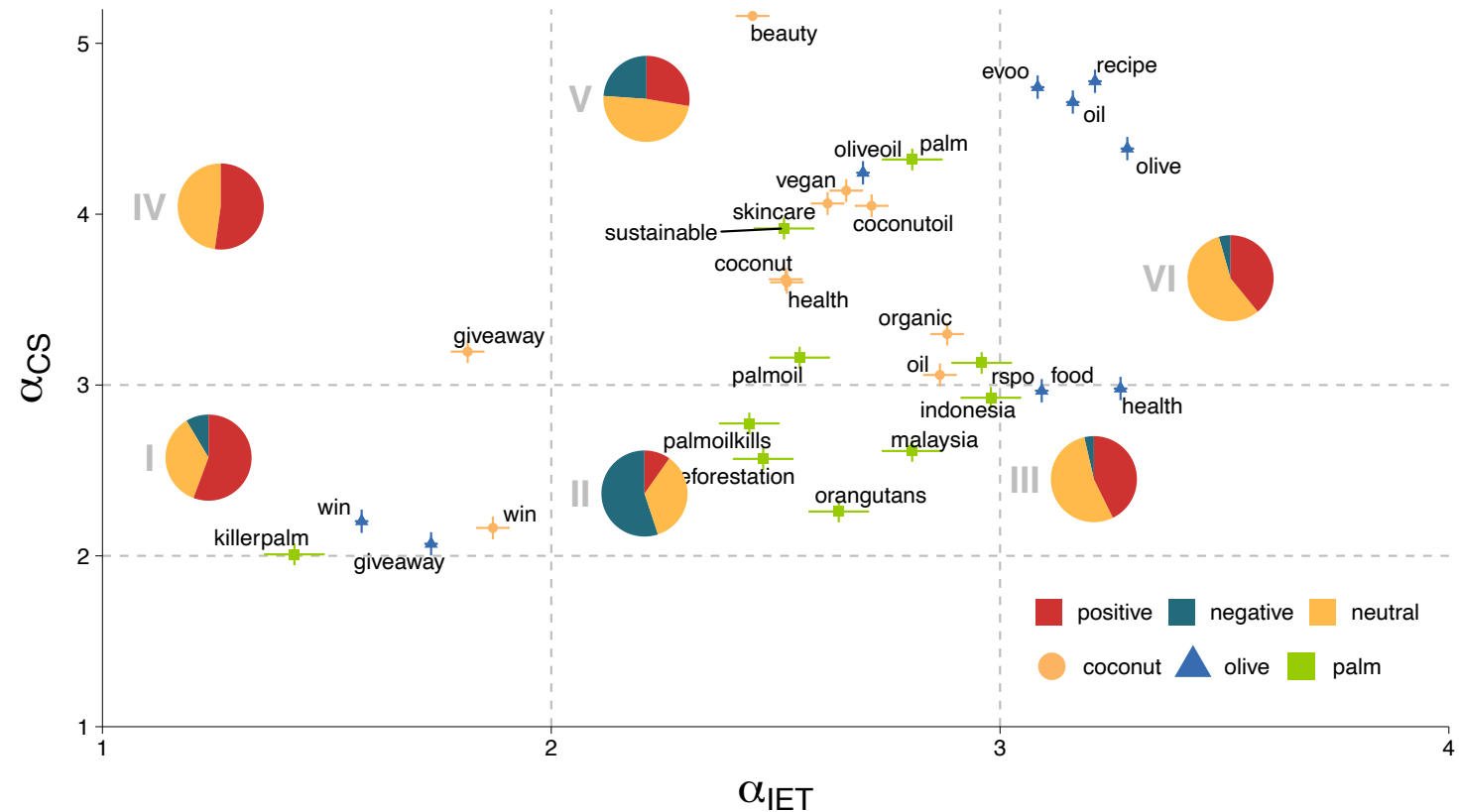
$$p(\tau) \propto \tau^{-\alpha}$$

Virality phase diagram



Conclusions

- Characterization of viral events through heavy-tailed distributions
- Correlation between virality and sentiment
- Palm oil is the most viral and negative among the oils



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Mastodon: [@e_candellone@mathstodon.xyz](https://mathstodon.xyz/@e_candellone)

See you in Utrecht!



Ongoing projects @ UtrechtUni:

- Economic crime networks
- Polarization on signed networks