



Social Media & Consumer Voice

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Social media as data

- Unobtrusive observation of social media users' **behaviors, attitudes,** and **opinions.**
 - Large volumes of metadata [e.g. excellent for time series analysis]
 - Rich datasets [text, images, reactions]
- Easy and quick access to **large volumes of data.**
 - Through platforms' APIs [more restricted access, usually free]
 - Through third-party companies [less restricted access, usually expensive]
- Limited **privacy, reproducibility,** and **thoroughness** can be important limitations.





Uses of social media data

- Raw/unprocessed social media data for **explanatory research**.
 - User reactions, geolocation, demographic information (when available) and others can be easily mined, and used to understand differences between/within groups;
- Social media data for **exploratory/descriptive research**.
 - “Traditional” behavioral and social science has used focus groups, interviews, surveys, and other methods to describe/explore populations/phenomena.
 - Computational techniques can be used to recode and transform unprocessed social media data, and use this to better design explanatory research.





Common Approaches

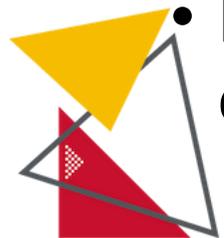
- Sentiment analysis (Liu, 2015; Zhang & Liu, 2017)
 - Uses off-the-shelf or custom dictionaries (i.e. list of words) to determine the **valence of texts**;
- Topic modeling (Blei, Ng & Jordan, 2003; Roberts et al. 2014)
 - Either through supervised or unsupervised machine learning algorithms we can **classify documents** (texts and images) into a k number of topics;
- Network analysis (Bail, 2016)
 - By examining interactions between users we can computationally **identify cluster** of users, organizations, opinions...



IPA Consumer Protection: Social Media Listening



- As financial services digitize, more consumers are **bringing their experiences online** as well. Often bypassing “official” channels.
- This project will collect & analyze **consumer protection-relevant content** on SNS (12 months) to explore their relevance as data sources.
 - Builds on “Did you see my tweet? Monitoring financial consumer protection via social media” (Mazer & Onchieku, 2019)
- The pilot will consist of a social media listening tool tested in digital financial services in **Kenya, Nigeria and Uganda**.
- Findings will inform further experimentation with consumer engagement/complaints handling via SNS by **regulators & civil society**.





References

- Blei, D. M., Ng, A. Y., & Jordan, M. I. (2003). Latent Dirichlet Allocation. *Journal of Machine Learning Research*, 3(Jan), 993–1022.
- Bail, C. A. (2016). Combining natural language processing and network analysis to examine how advocacy organizations stimulate conversation on social media. *Proceedings of the National Academy of Sciences of the United States of America*, 113(42), 11823–11828. <https://doi.org/10.1073/pnas.1607151113>
- Guo, L., Vargo, C. J., Pan, Z., Ding, W., & Ishwar, P. (2016). Big Social Data Analytics in Journalism and Mass Communication: Comparing Dictionary-Based Text Analysis and Unsupervised Topic Modeling. *Journalism & Mass Communication Quarterly*, 93(2), 332–359. <https://doi.org/10.1177/1077699016639231>
- Liu, B. (2015). *Sentiment Analysis: Mining Opinions, Sentiments, and Emotions*. New York: Cambridge University Press
- Mazer, R., & Onchieku, D. (2019). *Did you see my tweet? Monitoring financial consumer protection via social media*. Nairobi: FSD Kenya. <https://fsdkenya.org/publication/did-you-see-my-tweet-monitoring-financial-consumer-protection-via-social-media/>
- Roberts, M. E., Stewart, B. M., Tingley, D., Lucas, C., Leder-Luis, J., Gadarian, S. K., ... Rand, D. G. (2014). Structural Topic Models for Open-Ended Survey Responses. *American Journal of Political Science*, 58(4), 1064–1082. <https://doi.org/10.1111/ajps.12103>
- Zhang, L., & Liu, B. (2017). Sentiment Analysis and Opinion Mining. In C. Sammut & G. I. Webb (Eds.), *Encyclopedia of Machine Learning and Data Mining* (pp. 1152–1161). https://doi.org/10.1007/978-1-4899-7687-1_907





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