
Selection bias is another concern, as this study analyzed only the posts and comments that remained publicly visible during data extraction. Certain user contributions might have been deleted, flagged, or set to restricted visibility, potentially distorting the larger conversation around the topics. The reliance on automated data extraction tools, too, introduces possible inaccuracies if LinkedIn's interface changes or if connectivity issues interrupt the data collection process, which cannot be fully declined. Moreover, repeated mentions (of other people's names or tags) and replies can lead to partially duplicated entries. Even though the account and its contents are publicly accessible to all users, individual names and other personal information have been removed to comply with the EU's GDPR, addressing ethical concerns about data handling and privacy.

Language diversity further complicates sentiment and topic analyses since the chosen methodologies rely heavily on English-centric tools that do not always account for slang or other languages, e.g., Polish and Italian, as seen in the data set. Reliably including this data in future studies will account for a more inclusive approach, as this limitation causes multilingual users' sentiments or nuanced criticisms to go undetected. Finally, the automated sentiment detection (TextBlob) cannot easily recognize sarcasm or subtle humor, therefore possibly categorizing a comment's tone as neutral or positive when it had been written to convey critical feedback.

These limitations do not invalidate the study's conclusions but advocate for a cautious interpretation of the findings. Expanding the analysis to multiple LinkedIn accounts, refining or diversifying sentiment-detection methods, and incorporating manual reviews for key or contentious comments could lead to richer and more precise insights.

7 Acknowledgements

- **Contributor Statement***: Lukas Weller: Writing - original draft, Conceptualisation, Data curation, Formal analysis, Investigation, Methodology; Stanislav Mahula: Writing - review & editing, Supervision, Visualisation; Joep Crompvoets – Project Administration, Supervision, Resources.
- **Data/Software Access Statement**: All GDPR-compliant data used in the study can be found at <https://github.com/socialmatchbox/LinkedInnovation/>.

Bibliography

Bartosik-Purgat, M., & Filimon, N. (2022). *European Consumers in the Digital Era: Implications of Technology, Media and Culture on Consumer Behavior* (1st ed.). Routledge. <https://doi.org/10.4324/9781003263685>

Batrinca, B., & Treleaven, P. C. (2015). Social media analytics: A survey of techniques, tools and platforms. *AI & SOCIETY*, 30(1), 89–116. <https://doi.org/10.1007/s00146-014-0549-4>

Chen, Y.-C., Ahn, M. J., & Wang, Y.-F. (2023). Artificial Intelligence and Public Values: Value Impacts and Governance in the Public Sector. *Sustainability*, 15(6), 4796. <https://doi.org/10.3390/su15064796>

Du, X., Yin, H., Chen, L., Wang, Y., Yang, Y., & Zhou, X. (2020). Personalized Video Recommendation Using Rich Contents from Videos. *IEEE Transactions on Knowledge and Data Engineering*, 32(3), 492–505. *IEEE Transactions on Knowledge and Data Engineering*. <https://doi.org/10.1109/TKDE.2018.2885520>

Edney, S., Looyestyn, J., Ryan, J., Kernot, J., & Maher, C. (2018). Posts, pics, or polls? Which post type generates the greatest engagement in a Facebook physical activity intervention? *Translational Behavioral Medicine*, 8(6), 953–957. <https://doi.org/10.1093/tbm/iby006>

Egger, R., & Gokce, E. (2022). Natural Language Processing (NLP): An Introduction. In R. Egger (Ed.), *Applied Data Science in Tourism: Interdisciplinary Approaches, Methodologies, and Applications* (pp. 307–334). Springer International Publishing. https://doi.org/10.1007/978-3-030-88389-8_15

European Commission. (n.d.). *Digital transition—European Commission*. Retrieved January 4, 2025, from https://reform-support.ec.europa.eu/what-we-do/digital-transition_en

ExplosionAI GmbH. (2024). *Trained Models & Pipelines · spaCy Models Documentation*. Trained Models & Pipelines. <https://spacy.io/models>

Faber, B. (2022). Platforms as distinctive realms and the role of policy discretion: A cross-platform assessment of citizen engagement with Dutch municipalities through Twitter, Facebook, LinkedIn, and Instagram. *Local Government Studies*, 48(5), 973–994. <https://doi.org/10.1080/03003930.2021.2007081>

Gestel, N. van, & Grotenbreg, S. (2021). Collaborative governance and innovation in public services settings. *Policy & Politics*, 49(2), 249–265. <https://doi.org/10.1332/030557321X16123785900606>

Grewal, D., Herhausen, D., Ludwig, S., & Villarroel Ordenes, F. (2022). The Future of Digital Communication Research: Considering Dynamics and Multimodality. *Journal of Retailing*, 98(2), 224–240. <https://doi.org/10.1016/j.jretai.2021.01.007>

Haro-de-Rosario, A., Sáez-Martín, A., & del Carmen Caba-Pérez, M. (2018). Using social media to enhance citizen engagement with local government: Twitter or Facebook? *New Media & Society*, 20(1), 29–49. <https://doi.org/10.1177/1461444816645652>

Keraghel, I., Morbieu, S., & Nadif, M. (2024). *Recent Advances in Named Entity Recognition: A Comprehensive Survey and Comparative Study* (No. arXiv:2401.10825). arXiv. <https://doi.org/10.48550/arXiv.2401.10825>

Lai, C.-H., & Fu, J. S. (2020). Organizations' Dialogic Social Media Use and Stakeholder Engagement: Stakeholder Targeting and Message Framing. *International Journal of Communication*, 14(0), Article 0.

LinkedIn Ireland Unlimited Company. (2016). *About LinkedIn*. <https://about.linkedin.com/>

Lovejoy, K., & Saxton, G. D. (2012). Information, Community, and Action: How Nonprofit Organizations Use Social Media*. *Journal of Computer-Mediated Communication*, 17(3), 337–353. <https://doi.org/10.1111/j.1083-6101.2012.01576.x>

Mergel, I. (2012). *Social Media in the Public Sector: A Guide to Participation, Collaboration and Transparency in The Networked World*. John Wiley & Sons.

NLTK Project. (2024). *NLTK :: Natural Language Toolkit*. <https://www.nltk.org/>

Olteanu, A., Kıcıman, E., & Castillo, C. (2018). A Critical Review of Online Social Data: Biases, Methodological Pitfalls, and Ethical Boundaries. *Proceedings of the Eleventh ACM International Conference on Web Search and Data Mining*, 785–786. <https://doi.org/10.1145/3159652.3162004>

Ostrowski, D. A. (2015). Using latent dirichlet allocation for topic modelling in twitter. *Proceedings of the 2015 IEEE 9th International Conference on Semantic Computing (IEEE ICSC 2015)*, 493–497. <https://doi.org/10.1109/ICOSC.2015.7050858>

Perriam, J., Birkbak, A., & Freeman, A. (2020). Digital methods in a post-API environment. *International Journal of Social Research Methodology*, 23(3), 277–290. <https://doi.org/10.1080/13645579.2019.1682840>

Pradha, S., Halgamuge, M. N., & Tran Quoc Vinh, N. (2019). Effective Text Data Preprocessing Technique for Sentiment Analysis in Social Media Data. *2019 11th International Conference on Knowledge and Systems Engineering (KSE)*, 1–8. <https://doi.org/10.1109/KSE.2019.8919368>

Rauchfleisch, A., Kao, J.-J., Tseng, T.-H., Ho, C.-T., & Li, L.-Y. (2023). Maximizing Science Outreach on Facebook: An Analysis of Scientists' Communication Strategies in Taiwan. *Media and Communication*, 11(1), 228–239. <https://doi.org/10.17645/mac.v11i1.6080>

Thelwall, M. (2018). Social media analytics for YouTube comments: Potential and limitations. *International Journal of Social Research Methodology*, 21(3), 303–316. <https://doi.org/10.1080/13645579.2017.1381821>

Wang, Y., Hao, H., & Platt, L. S. (2021). Examining risk and crisis communications of government agencies and stakeholders during early-stages of COVID-19 on Twitter. *Computers in Human Behavior*, 114, 106568. <https://doi.org/10.1016/j.chb.2020.106568>

Wukich, C. (2021). Government Social Media Engagement Strategies and Public Roles. *Public Performance & Management Review*, 44(1), 187–215. <https://doi.org/10.1080/15309576.2020.1851266>

Zavattaro, S. M., French, P. E., & Mohanty, S. D. (2015). A sentiment analysis of U.S. local government tweets: The connection between tone and citizen involvement. *Government Information Quarterly*, 32(3), 333–341. <https://doi.org/10.1016/j.giq.2015.03.003>