Competing Narratives and Technological Pathways to Social Resilience in a Polarized World

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A B S T R A C T

The contemporary global landscape is increasingly defined by geopolitical conflicts, economic instability, and deeply polarized political narratives that transcend national borders. Within this context, in this editorial, I offer some perspectives on technology's dual role, i.e., intensifying polarization through misinformation, algorithmic bias, and computational propaganda, while simultaneously offering powerful tools for mitigation and resilience. The editorial calls for a critical and integrative approach to technological innovation that aligns technological pathways with social resilience, democratic values, and global solidarity in an increasingly unsettled and polarized world.

R E S U M O

O cenário global contemporâneo é cada vez mais definido por conflitos geopolíticos, instabilidade econômica e narrativas políticas profundamente polarizadas que transcendem as fronteiras nacionais. Nesse contexto, neste editorial, apresento algumas perspectivas sobre o papel duplo da tecnologia: intensificar a polarização por meio da desinformação, do viés algorítmico e da propaganda computacional, ao mesmo tempo que oferece ferramentas poderosas para mitigação e resiliência. O editorial defende uma abordagem crítica e integrativa da inovação tecnológica que alinhe os caminhos tecnológicos com a resiliência social, os valores democráticos e a solidariedade global em um mundo cada vez mais instável e polarizado.

RESUMEN

El panorama global contemporáneo se caracteriza cada vez más por conflictos geopolíticos, inestabilidad económica y narrativas políticas profundamente polarizadas que trascienden las fronteras nacionales. En este contexto, en este editorial, ofrezco algunas perspectivas sobre el doble papel de la tecnología: intensificar la polarización mediante la desinformación, el sesgo algorítmico y la propaganda computacional, a la vez que ofrece poderosas herramientas para la mitigación y la resiliencia. El editorial aboga por un enfoque crítico e integrador de la innovación tecnológica que alinee las vías tecnológicas con la resiliencia social, los valores democráticos y la solidaridad global en un mundo cada vez más inestable y polarizado.

Conflict, Narratives, Technology at the Crossroads of Society

Due to overlapping crises, societies worldwide are confronting profound questions about resilience and cohesion. Russia's continued invasion of Ukraine, the intensification of conflict in the Middle East, and geopolitical tensions involving the United States, Venezuela, and other actors are some of the current global geopolitical issues that have unsettled economies, displaced millions, and strained democratic institutions. These crises also tend to spark information wars, where competing narratives on social media and news platforms shape public perception, and where misinformation can exacerbate social fractures and erode democratic processes.

According to de Carvalho et al. (2022a,b), the COVID-19 pandemic highlighted the issue of misinformation due to the necessity of public administrations managing vaccination programs seeking analytical tools to detect patterns of misinformation and track their impact on public trust over time and across regions. The challenge of building resilience in such a context, and more recently in a politically passionate society, demands a critical exploration of how technology can both exacerbate and mitigate socioeconomic vulnerabilities.

Digital technologies can amplify both accurate information and disinformation at unprecedented scales. Computational propaganda using algorithms and automated agents to manipulate public opinion has become a potent force in modern conflicts, influencing public trust and deepening social fault lines well beyond traditional battlefields. Such methods have been documented in the context of contemporary wars, where AI-generated content and social media manipulation shape international discourse and societal cohesion. This distortion of information not only weakens social trust but also erodes the foundations of democratic decision-making.

Recent work on democratic resilience explores how information and communication technologies contribute to the fragility of electoral systems and public discourse. Rahimian and Colaresi (2025) argue that heterogeneous individual behavior and targeted adversarial manipulations within crucial institutions lead to vulnerabilities and systemic risks at the macro scale to democratic institutions in highly digitized environments. These insights remind us that resilience is not merely physical or economic, but also informational and cognitive. In the case of Brazil, Nepomuceno and Costa (2019) how the suboptimal support attributable to invalid votes and intentional abstentions may have impacted the outcome of the Brazilian presidential election by resulting in the selection of a pseudo-Condorcet loser candidate. Those findings are also rooted in the conflicting atmosphere and political narratives at that moment in the country's historical context.

Technology also offers tools to counteract these very threats. The emerging field of societal resilience to disinformation focuses on frameworks to strengthen communities against

the destabilizing effects of false narratives and manipulative tactics. Strategies that integrate fact-checking, media literacy, and algorithmic transparency have been proposed as part of a broader effort to create more resilient societies in the age of digital communication (Rød et al., 2025). Such work highlights the importance of institutions and civil society collaborating with technological platforms to safeguard shared truths.

Social media platforms are another area where technological innovation can enhance resilience when combined with effective governance. During crises, social media can both spread misinformation and serve as a tool for situational awareness and communal support. Research on crisis communication highlights how machine learning and network analysis can improve decision-making and strengthen community resilient practices when harnessed responsibly (Bukar et al., 2022; de Queiroz et al., 2024). Strategies to build social media trust, including community engagement, transparency in platform algorithms, and promoting credible sources, are crucial for counteracting infodemics and enhancing collective response capabilities (Shahbazi & Bunker, 2024).

Advancing technological pathways to social resilience in a polarized world requires an integrated approach that combines technological innovation with thoughtful policy interventions and robust civic infrastructure. Technologies like AI, blockchain, and cybersecurity tools offer promise not only for economic development but also for reinforcing social trust and protecting civil liberties. Achieving resilience in the face of polarization and conflict demands that we shape these tools within ethical frameworks that prioritize human dignity, equity, and democratic values.

REFERENCES

de Carvalho, V. D. H., Nepomuceno, T. C. C., Poleto, T., & Costa, A. P. C. S. (2022a). The COVID-19 infodemic on Twitter: A space and time topic analysis of the Brazilian immunization program and public trust. *Tropical Medicine and Infectious Disease*, 7(12), 425.

de Carvalho, V. D. H., Nepomuceno, T. C. C., Poleto, T., Turet, J. G., & Costa, A. P. C. S. (2022b). Mining public opinions on COVID-19 vaccination: a temporal analysis to support combating misinformation. *Tropical Medicine and Infectious Disease*, 7(10), 256.

de Queiroz, F. A. F., Negreiros, I. B., de Souza, G., de Sousa, D. C., & Júnior, S. F. A. X. (2024). Predicting Sentiments in Spotify Comments: A Comparative Analysis of Machine Learning Models. *Socioeconomic Analytics*, 2(1), 107-113.

Rahimian, M. A., & Colaresi, M. P. (2025). Democratic resilience and sociotechnical shocks: MA Rahimian, M. Colaresi. *Computational and Mathematical Organization Theory*, 1-22.

Nepomuceno, T. C. C., & Costa, A. P. C. S. (2019). Invalid votes, deliberate abstentions, and the Brazilian crisis of representation. *Politics & Policy*, 47(2), 381-406.

Rød, B., Pursiainen, C., & Eklund, N. (2025). Combatting Disinformation–How Do We Create Resilient Societies? Literature Review and Analytical Framework. *European Journal for Security Research*, 1-43.

Shahbazi, M., & Bunker, D. (2024). Social media trust: Fighting misinformation in the time of crisis. *International Journal of Information Management*, 77, 102780.