

Editorial

## Datified Societies: Digital Infrastructures, Data Power, and Regulations

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### Abstract

The datafication and platformization of social processes further the overall shift from an open, public, and decentralized internet towards a private and siloed realm that establishes power asymmetries between those who provide data and those who own, trade, and control data. The ongoing process of datafying societies embraces the logics of aggregation and automation that increasingly negotiate transactions between markets and social entities, informing governance systems, institutions, and public discourse. This thematic issue presents a collection of articles that tackle the political economy of datafication from three main perspectives: (a) digital media infrastructures and its actors, data structures, and markets; (b) the articulation of data power, public access to information, data privacy, and the risks of citizens in a datified society; and (c) the policies and regulations for effective, independent media institutions and data sovereignty. It concludes with a reflection on the role of media and communication scholarship when studying sociotechnical processes controlled by giant technological companies.

### Keywords

datafication; datified society; data power; digital infrastructure; media policy; media political economy; media regulation; platforms

### Issue

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### 1. Introduction

Societies become datified by virtue of extensively turning more and more aspects of everyday life into machine-readable data (van Es & Schäfer, 2017). In other words, “to datafy a phenomenon is to put it in quantified form so that it can be tabulated and analyzed” (Mayer-Schönberger & Cukier, 2013, p. 78). Behind this seemingly unstoppable development, there are multifaceted explanations that cater to different philosophical understandings of sociotechnical constructions (van Dijck, 2014). Despite their stance toward datafication, proponents and critics alike tend to agree that collecting, analyzing, and utilizing data in various aspects of life provides various actors with the necessary resources

for data-driven decision-making (Kennedy, 2016; Kitchin, 2014; Redden, 2018; Ruppert, 2016) under the (often misplaced) banner of efficiency, accuracy, and effectiveness in various processes.

Much of the media and communication scholarship on datafication has focused on the reasons, objects, and outcomes of the datafication project. Balancing the benefits of data utilization with the potential dangers of data practices becomes a significant challenge. On the one hand, research has shown datafication can be a source of empowerment by democratizing knowledge and decision-making processes, enabling citizen participation and engagement in various domains, such as open data initiatives and participatory governance (Baack, 2015) and structuring patterns of engagement

(Ferrer-Conill et al., 2023). On the other hand, ethical concerns over citizens' privacy and surveillance are at the forefront of datafication scholarship, as governments, organizations, and other entities may have access to vast amounts of personal data, potentially leading to surveillance practices that impact civil liberties and individual autonomy (Cheung & Chen, 2022; Hintz et al., 2018).

In this thematic issue, we are less interested in the who and why, and instead, we focus on the structures that support the datafication of society. We agree with Pellegrino's assessment that datafication amplifies and enriches contradictions already present in modern societies that "are not born with datafication, but rather emphasized and consolidated by it" (Pellegrino, 2019, p. 92). We argue that regardless of intent, the datafication project is supported and enabled by digital infrastructures, power asymmetries that reside in data, and regulatory frameworks. These structures are the symbolic and material constraints that shape how social processes become data points. We believe that our field is not paying enough attention to these three aspects of datafication, and this thematic issue contributes to exploring and highlighting the importance of infrastructures, power, and regulation in the datafied society. Technologies like machine learning, artificial intelligence, and data mining have shown that sometimes intent and outcome are not necessarily correlated during datafication processes. What may start as the marketization of personalized experiences and services tailored to individual preferences and needs may be the source of security vulnerabilities, algorithmic biases, data monopolies, and exacerbating existing inequalities. We thus believe that increased attention to the political-economic aspects of datafication—the material conditions, the power relations, and the regulatory frameworks under which datafication processes take place—will move the field forward as we consider the consequences of increasingly datafied societies.

## 2. Digital Infrastructures

Digital infrastructures are technological structures with multiple owners, actors, and stakeholders that serve as the backbone for data flows and datafication processes (Parks & Starosielski, 2015) as well as the social processes and practices that organize mundane communication (Hesmondhalgh, 2021). The datafication and platformization of the digital infrastructure, however, shifts the open, public internet towards the private realm, creating power asymmetries between those who provide data and those who own, trade, and control data. This is done through a complex interaction between the political economy of data and the logic of aggregation and automation that increasingly negotiate transactions between markets and social entities, informing governance systems, institutions, and public discourse (Sjøvaag & Ferrer-Conill, 2023).

In their article in this thematic issue, Hesmondhalgh et al. (2023) draw from legal studies research to inform media studies and science and technology studies on the intricate relationship between digital platforms and infrastructures through the lens of political economy and internet governance. Through the case of music, they demonstrate that long-term analysis of infrastructural politics provides a macro-historical account of change and continuity in the shaping of culture. More concretely, they show how platforms have become the main agent of eroding and diminishing the democratizing and emancipatory affordances of an open internet infrastructure.

The role of platforms in capturing the infrastructure that supports datafied societies is also the center of Kristensen and Hartley's (2023) contribution to this thematic issue. As they map the elements that form the digital infrastructure of news media organizations, they offer a compelling overview of how data flows beyond the reach of these organizations and into the infrastructure of platforms and tech companies. This approach reveals how the infrastructures that connect media organizations with the rest of the internet create a set of interdependencies in which the logics of standardization, classification, and datafication articulate manifestations of power between internal and external actors.

To drive the connection between digital infrastructure and power, Flensburg and Lai (2023) elaborate on the concept of "infrastructural power" by following how data flows through the internet infrastructures in Northern Europe and showing how the actors who have control over data can mobilize it into economic profit and societal power. As the flows of data cut across various geopolitical contexts, sectors, and institutional arrangements, they visualize the macro structures that control how data is generated, distributed, and utilized in datafied societies.

## 3. Data Power

Studying infrastructures of datafication keeps revealing the many ways in which the power and functions exerted by platforms (i.e., Google, Facebook, Apple, and Microsoft) continue to pervade most aspects of everyday life. Governments and advocacy groups have raised concerns about privacy and surveillance fears, threats to freedom of expression, and technological and infrastructure capture (Gillespie, 2018). These issues manifest both at the macro and micro levels, and even on how different actors articulate their understandings of data.

A clear example of how a tech giant such as Google creates a digital innovation that exerts power and creates a dependency on media innovation is at the core of de-Lima-Santos et al. (2023) article in this thematic issue. Through an innovation challenge, the Google News Initiative supports projects in Africa and the Middle East as a form of "philanthrocapitalism," in which Google sets the terms and conditions of the financial and technological grant by expecting projects that replicate the

entrepreneurial approaches of tech companies. As news outlets build technological solutions based on the platforms' technologies, they further depend on platforms' structures to operate, widening the power asymmetries between the tech giants and the news organizations.

These different values and understanding among actors managing datafication processes suggest diverging patterns of decision-making in organizations. In the context of the smart city, Okafor (2023) suggests that the value of data does not reside in the volume of data, but rather in the quality of the data, which is directly connected to its capacity to deliver impactful decision-making and hence its societal power. Importantly, the differences in how technical and governance actors understand datafication, provide a more complex dynamics of power negotiation within organizations.

The power asymmetries are not only felt at the organizational level but also at the micro level. Dutt (2023) shows how Norwegian students negotiate their own experiences with datafication as the entire digital ecosystem pushes social interaction to be mediated through data-driven processes. As the structures of datafied societies shape communication, citizens must contend with digital risks that challenge their perception of wellbeing. Despite internal strategies to manage these risks, concerns at the slow-paced response by governments and digital policies regarding risks over which users have neither control nor power.

#### 4. Regulations

Relying increasingly on platforms and proprietary resources of tech giants places too much responsibility on private actors, threatening to curtail government power (Flynn, 2004). As citizens grow more dependent on corporate platforms for communication, they become bound by the benevolence of private actors, to which states have little recourse for action to regulate the abuse of market power (Hintz et al., 2017).

This becomes particularly apparent in Salonen et al. (2023) research, in which they demonstrate that news workers' editorial decision-making processes are iteratively shaped by the constraints of audience data, platform affordances, working practices, and regulations. More concretely, the authors suggest that broader regulatory frameworks, such as General Data Protection Regulation exert a post-publication gatekeeping power on Finnish media organizations. Enforcement of legislation is seen as a key lever of change and an explicit articulation of data ethics upon which media self-regulation is not equipped to act upon.

But despite the notion that regulation has an important role to play, the reactionary stance of policy initiatives is often perceived as late and fragmented. In their aim to translate normative dimensions of media diversity into a framework for operationalizing exposure diversity into tangible policy goals, Ranaivoson and Domazetovikj (2023) expose the challenges in which EU regulation

finds itself in a time of digitalization and datafication. Through a review of policy initiatives and interviews with policy experts in various countries, the authors acknowledge the many potential benefits of regulatory frameworks, but they caution policymakers to include measures, metrics, methods, and data requirements to achieve more diversity.

And while current regulatory practices seem to disadvantage small media organizations in favor of tech giants, Seipp (2023) argues that media concentration law is the relevant legal tool to curb the scale and power gained by platforms due to datafication. The research emphasizes exposing the gaps and promises for a digital media concentration law from the macro to the micro levels. This contribution proposes a united piece of legislation that draws from multiple policy fields with shared policy goals such as normative public values (media pluralism, equality, power dispersal, and transparency) and fair competition.

#### 5. Conclusions

This thematic issue contributes to the debate on datafication by: (a) making the infrastructures that support datafication visible, enabling insight into the power dynamics, data control, and regulatory frameworks that shape citizens' access to information on which inclusive decision-making relies; (b) expanding the empirical basis on which to critically interrogate what the privatization of communication infrastructures and what the data structures mean for citizens' inclusion and communication rights within datafied societies; and (c) providing policymakers insight into the complex dynamics in which datafication rests so that they can incorporate the impact of foreign players on the diversity of the media landscape, and maintain universal communications provisions in policy formations. Together these contributions shed new light on the depth of infrastructural dependencies (cf. Plantin & Punathambekar, 2019) that media organizations face as they datafy their practices.

While datafication has an undoubtedly technological background, the articles in this thematic issue have approached the underlying social and economic dynamics of a process that is rapidly questioning the current social order (Couldry, 2020). In the final commentary of this issue, Gillespie (2023) uses the case of content moderation as a call to social scientists to caution against "solving the platforms' problems for them." We agree with his assessment that media and communication studies is a discipline institutionally caught between its critical commitment to social issues and the actors that set in motion those issues. We hope we have not overplayed the sense of urgency and that instead of solving problems, this thematic issue has deconstructed some of the often unseen issues, failings, and risks associated with datafication, and made them visible for regulators and policymakers, who are tasked with addressing them.

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## Conflict of Interests

The authors declare no conflict of interest.

## References

- Baack, S. (2015). Datafication and empowerment: How the open data movement re-articulates notions of democracy, participation, and journalism. *Big Data & Society*, 2(2), 1–11. <https://doi.org/10.1177/2053951715594634>
- Cheung, A. S., & Chen, Y. (2022). From datafication to data state: Making sense of China's social credit system and its implications. *Law & Social Inquiry*, 47(4), 1137–1171. <https://doi.org/10.1017/lsi.2021.56>
- Couldry, N. (2020). Recovering critique in an age of datafication. *New Media & Society*, 22(7), 1135–1151. <https://doi.org/10.1177/1461444820912536>
- de-Lima-Santos, M.-F., Munoriyarwa, A., Elegu, A. A., & Papaevangelou, C. (2023). Google News Initiative's influence on technological media innovation in Africa and the Middle East. *Media and Communication*, 11(2), 330–343. <https://doi.org/10.17645/mac.v11i2.6400>
- Dutt, B. (2023). Wellbeing amid digital risks: Implications of digital risks, threats, and scams on users' wellbeing. *Media and Communication*, 11(2), 355–366. <https://doi.org/10.17645/mac.v11i2.6480>
- Ferrer-Conill, R., Karlsson, M., Haim, M., Kammer, A., Elgesem, D., & Sjøvaag, H. (2023). Toward "cultures of engagement"? An exploratory comparison of engagement patterns on Facebook news posts. *New Media & Society*, 25(1), 95–118. <https://doi.org/10.1177/14614448211009246>
- Flensburg, S., & Lai, S. S. (2023). Follow the data! A strategy for tracing infrastructural power. *Media and Communication*, 11(2), 319–329. <https://doi.org/10.17645/mac.v11i2.6464>
- Flynn, J. (2004). Communicative power in Habermas's theory of democracy. *European Journal of Political Theory*, 3(4), 433–454. <https://doi.org/10.1177/1474885104045914>
- Gillespie, T. (2018). *Custodians of the internet: Platforms, content moderation, and the hidden decisions that shape social media*. Yale University Press.
- Gillespie, T. (2023). The fact of content moderation; Or, let's not solve the platforms' problems for them. *Media and Communication*, 11(2), 406–409. <https://doi.org/10.17645/mac.v11i2.6610>
- Hesmondhalgh, D. (2021). The infrastructural turn in media and internet research. In P. McDonald (Ed.), *The Routledge companion to media industries* (pp. 132–142). Taylor & Francis. <https://doi.org/10.4324/9780429275340-13>
- Hesmondhalgh, D., Valverde, R. C., Kaye, D. B. V., & Li, Z. (2023). Digital platforms and infrastructure in the realm of culture. *Media and Communication*, 11(2), 296–306. <https://doi.org/10.17645/mac.v11i2.6422>
- Hintz, A., Dencik, L., & Wahl-Jorgensen, K. (2017). Digital citizenship and surveillance society: Introduction. *International Journal of Communication*, 11(2017), 731–739.
- Hintz, A., Dencik, L., & Wahl-Jorgensen, K. (2018). *Digital citizenship in a datafied society*. Wiley.
- Kennedy, H. (2016). *Post, mine, repeat: Social media data mining becomes ordinary*. Springer.
- Kitchin, R. (2014). *The data revolution*. SAGE.
- Kristensen, L. M., & Hartley, J. M. (2023). The infrastructure of news: Negotiating infrastructural capture and autonomy in data-driven news distribution. *Media and Communication*, 11(2), 307–318. <https://doi.org/10.17645/mac.v11i2.6388>
- Mayer-Schönberger, V., & Cukier, K. (2013). *Big data: A revolution that will transform how we live, work, and think*. Houghton Mifflin Harcourt.
- Okafor, C. C. (2023). "I think quality is more important than a lot of data" in cities datafication. *Media and Communication*, 11(2), 344–354. <https://doi.org/10.17645/mac.v11i2.6510>
- Parks, L., & Starosielski, N. (2015). *Signal traffic: critical studies of media infrastructures*. Oxford University Press.
- Pellegrino, G. (2019). Inside "the below": Ambivalences of datafication and infrastructuring of everyday life. *Tecnoscienza*, 10(1), 89–96.
- Plantin, J.-C., & Punathambekar, A. (2019). Digital media infrastructures: Pipes, platforms, and politics. *Media, Culture & Society*, 41(2), 163–174. <https://doi.org/10.1177/0163443718818376>
- Ranaivoson, H., & Domazetovikj, N. (2023). Platforms and exposure diversity: Towards a framework to assess policies to promote exposure diversity. *Media and Communication*, 11(2), 379–391. <https://doi.org/10.17645/mac.v11i2.6401>
- Redden, J. (2018). Democratic governance in an age of datafication: Lessons from mapping government discourses and practices. *Big Data & Society*, 5(2), 1–13.

<https://doi.org/10.1177/2053951718809145>

Ruppert, E. (2016). Big data economies and ecologies. In L. McKie & L. Ryan (Eds.), *An end to the crisis of empirical sociology? Trends and challenges in social science research* (pp. 13–29). Routledge.

Salonen, M., Ehrlén, V., Koivula, M., & Talvitie-Lamberg, K. (2023). Post-publication gatekeeping factors and practices: Data, platforms, and regulations in news work. *Media and Communication*, 11(2), 367–378. <https://doi.org/10.17645/mac.v11i2.6486>

Seipp, T. J. (2023). Media concentration law: Gaps and promises in the digital age. *Media and Communication*, 11(2), 392–405. <https://doi.org/10.17645/mac.v11i2.6393>

Sjøvaag, H., & Ferrer-Conill, R. (2023). Digital communications infrastructures and the principle of universality: Challenges for Nordic media welfare state jurisdictions. In P. Jacobsson, J. Lindell, & F. Stiernstedt (Eds.), *The future of the Nordic media model: A digital media welfare state?* Nordicom.

van Dijck, J. (2014). Datafication, dataism and dataveillance: Big data between scientific paradigm and ideology. *Surveillance & Society*, 12(2), 197–208. <https://doi.org/10.24908/ss.v12i2.4776>

van Es, K., & Schäfer, M. T. (2017). *The datafied society. Studying culture through data*. Amsterdam University Press.

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