
PLURALISM OF NEWS AND INFORMATION IN CURATION AND INDEXING ALGORITHMS

POLICY FRAMEWORK

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Forum on
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& **D**emocracy

CONTENTS

Foreword	5
Executive Summary	7
About this Working Group	12
About the Forum on Information and Democracy	13
Glossary	14
I: RECOMMENDER SYSTEMS AND THEIR IMPACTS ON NEWS AND INFORMATION	15
1. Introduction and Context	15
2. Recommender Systems	17
2.1 Types of Recommender Systems	20
2.1.1 Open vs Closed Recommendations	20
2.1.2 Pull vs Push Recommendations	20
2.1.3 Personalization in Recommender Systems	21
2.1.4 Customization in Recommender Systems	22
2.1.5 Echo Chambers and Filter Bubbles	23
2.2 Recommender Systems in Broader Content Curation Processes	25
3. Impacts of Recommender Systems on News and Information	27
3.1 Production	27
3.1.1 Threats to Professional and Trustworthy Journalism	27
3.1.2 A Participatory Public is Setting the Agenda	29
3.2 Distribution	30
3.2.1 Distribution, Curation, and Prioritization Practices	30
3.2.2 Amplifying Toxic Content	32
3.3 Consumption	34
3.3.1 Platforms Imagine a Future Without News	36
II: POLICY AREAS TO ENSURE PLURALISM IN ALGORITHMS	38
4. Policy Areas To Ensure Pluralism in Algorithms	38
4.1 Digital Services Policy Frameworks	39
4.1.1 Transparency and Accountability of Platforms and their Recommender Systems	39
4.1.2 Competition in Digital Markets and Recommender Systems	41
4.2 Privacy and Data Protection Policy Frameworks	43

4.2.1 Lack of Enforcement of Existing Instruments	43
4.2.2 Illusionary Self-Determination	44
4.2.3 Interoperability and Data Portability	45
4.2.4 Profiling and Targeting	47
4.3 Media and News Policy Frameworks	49
4.3.1 Media Pluralism and Diversity Frameworks	49
4.3.2 News-to-Platforms Business Relations	51
4.3.3 Dis-, Mal-, and Misinformation	52
4.4 Human Rights and Protections	54
4.4.1 Freedom of Opinion and Expression	54
4.4.2 Freedom to Access and Receive Information	55
4.4.3 Online Safety, Harm, and Platforms' Liability	57
4.5 Case Study from Latin America	59
III: BUILDING RESPONSIBLE RECOMMENDER SYSTEMS	61
5. New Avenues to Promoting Pluralism and Diversity	62
5.1 Creating Alternative Incentive Structures and Business Models	62
5.2 Open and Interoperable Recommender Systems	64
5.3 Safe Design	67
5.4 Privacy	69
5.5 Empowering Users	70
5.6 Safeguarding Access to Trustworthy News and Information	72
5.7 Anticipating and Responding to Real Harms caused by Information Disorder	74
5.8 Competition	76
5.9 Transparency and Accountability	77
6. Measuring the Effectiveness of Interventions on Pluralism	79
6.1 Diversity and Pluralism in Production	79
6.2 Diversity and Pluralism in Distribution	81
6.3 Diversity and Pluralism in Consumption	82
Acknowledgements	83
Bibliography	86

FOREWORD

BY PROFESSOR PIER LUIGI PARCU

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The digital transformation, with the advent of the internet in the 1990s, has changed communication in modern society. The consumption of online information has created a new ecosystem for the circulation of information. First, the quantity and spread of information have increased at unprecedented levels. Second, new actors, especially large online platforms, have emerged as gatekeepers of the news, severing the relationship that linked users and media. On the one hand, this expansion of digital communication has somehow favored important socio-political processes, such as the Arab Spring, the Fridays for Future movement, and the Black Lives Matter movement. On the other hand, it has increased the risks and threats for the formation of public opinion, as the misuse of these gigantic platforms, devoid of editorial responsibility, has sharpened opinion polarization, allowing the circulation of massive manipulation and disinformation campaigns.

The role of digital platforms as the main points for access to, and exchange of, news and information, immediately raises the question of their legal and editorial responsibility for allowing the spread of harmful or illegal content. Digital platforms have reacted to any demand for action by presenting themselves as mere hosts, with different roles when compared to traditional media, an argument that was generally accepted and incorporated into legal frameworks around the world, leading to digital platforms' legal-liability exemption for the content they carried. However, starting from these premises, the spread of harmful online content rapidly increased and has reached unimaginable levels, deeply affecting social and political discourse, as was seen during the Brexit referendum and the 2016 US presidential elections, to recall just some of the highly debated historical moments. As a response, digital platforms started exploring ways to limit the diffusion of harmful content, acting on the detection and removal of this type of material. Since this could not be fully done by human action, the solution was to develop algorithms that could undertake actions such as moderation, curation, and recommendation.

One of the main issues arising from the use of recommendation systems, specifically those that attempt to personalize the distribution of news based on its perceived relevance for users, is the need to ensure the protection of users, including their right to access diverse and plural information. In effect, these types of algorithmic systems exploit historical user data to predict the content or information the user would prefer to engage with more in the future. However, in this way, recommendation systems severely alter the role that media play in a democratic society, affecting the distribution of news and, potentially, preventing citizens from collecting information from a diverse mix of sources with different viewpoints. Moreover, the high levels of concentration among digital platforms increases the risks to the access and exchange of news and information, as the control of recommender systems tends to be decided by a few influential business actors, who may be uninterested in pursuing solutions that respect democratic goals. As a burning example, these days the world awaits with anxiety the paths to be followed by Twitter, and its future internal policies following its acquisition by a controversial tech tycoon.

Taking this scenario into account, the Working Group on Pluralism of Information in Curation and Indexing Algorithms, formed by the Forum on Information and Democracy, proposes several recommendations, addressing both states and platforms. These recommendations are aimed primarily at enhancing the transparency and plurality of recommender systems and, consequently, in increasing users' control over the information that is presented to them by digital platforms. From a legal and policymaking perspective, the proposals focus on enforcing and expanding current digital services policy frameworks; data protection and privacy policy frameworks; media and news policy frameworks; and human rights frameworks. Some of these recommendations have already been adopted by states, whereas certain others are now being examined, while still others require further improvement and greater detail. Though one may not support each and every proposal, it must be recognized that, altogether, they constitute an important step forward. **They indicate a framework that finally takes full account of the opinion-forming power of the recommender systems of a few dominant digital platforms, and that seeks to delineate a comprehensive policy response.** For this purpose, the recommendations suggest the achievement of pluralism and diversity through a series of actions that are to be adopted by states and platforms, such as promoting alternative incentive structures and business models; promoting platforms' functional unbundling, aiming at an open and interoperable market for recommender systems; requiring a rigorous implementation of privacy and data protection rules; and enhancing transparency with the aim of giving users more control over the content they see. Above all, the recommendations design a human-rights-centered approach that is intended to guide and unify policies in this field, with a particular emphasis on guaranteeing freedom of expression and freedom to access information.

The report seeks to propose solutions that are valid worldwide, but it must be borne in mind that context and culturally-based specificities are crucial when designing any governance system in the information sphere. While several countries across the globe have already taken action to tackle some of the problems arising from the misuse of digital communication, others run far behind and have not yet started any significant policy effort. These recommendations thus aptly cover both the initial steps that governments can take to promote and ensure the pluralism and diversity of news and information in algorithmic recommender systems while, in the meantime, proposing new insights through which to improve policies that have already been adopted in several countries.

Finally, these recommendations are not intended to offer a solution for the whole range of issues arising from the increased use of digital platforms but, rather, they attempt to advance specific policies that may directly improve the way people around the world access and exchange news and information in the digital sphere. In summary, they may serve as a source of inspiration for those governments around the world that are committed to improving the access to information for the good functioning of democracy, but they could also be used by digital platforms to improve their internal policies and to show a commitment to democratic values that is consistent with their central role in today's digital communication.

EXECUTIVE SUMMARY

The Forum on Information and Democracy convened the Working Group on the Pluralism of Information in Curation and Indexing Algorithms in September 2022 to research and gather input from internationally recognized experts in order to develop recommendations to: (1) give users more control to enhance the quality and pluralism of news and information presented to them by platform recommender systems; (2) give users more transparency and control over how their personal information is being used to recommend content to them; and (3) pave the way for a more decentralized and open digital market for recommender systems, with viable alternatives to the dominant models.

CHAPTER 1: INTRODUCTION AND CONTEXT

- > Online communication platforms such as social networks, search engines, news aggregators, and video-sharing services are now structuring how people around the world access news and information.
- > These platforms serve as intermediaries between the public, professional and public service media, the private sector more broadly, and governments.
- > A handful of platforms hold a monopoly-like position over their market. Given this, and how their systems determine what content to amplify or hide, they have the power to shape public opinion.

CHAPTER 2: RECOMMENDER SYSTEMS

- > One of the means used by platforms to structure the information and communication space is their recommender systems, which suggest content to users based on what their algorithms predict will result in the most engagement and/or revenue.
- > Items are suggested to users based on information about the user (profiling them based on their interests) and/or information about the content (signals such as indexing and/or predicting virality).
- > Recommender systems have the potential to amplify problematic content to large audiences. Because these same systems lie at the heart of delivering behaviorally targeted advertisements, the use of this technology is perceived by platforms as important for their growth and, therefore, their financial sustainability.

CHAPTER 3: IMPACTS OF RECOMMENDER SYSTEMS ON NEWS AND INFORMATION

PRODUCTION:

- > Among the significant challenges impacting the production of high-quality and diverse news and information are: (1) the expansion of 'information deserts', communities with little to no supply of trustworthy information; (2) the spread of infodemics; and (3) the sensationalist drive of certain news media providers.
- > However, platforms also democratize the ability to speak to mass audiences. User-generated content on platforms is: (1) a means of disruption, allowing independent creators to penetrate the news media oligopoly; (2) a form of individual expression; and (3) source material for journalists to draw upon.

DISTRIBUTION:

- > A platform's 'choice architecture' shapes how users access and engage with content. Content is distributed based on data targeting and profiling techniques, which are to some extent premised on behavioral nudges.
- > Social media platforms in particular have promoted misleading, sensationalist, and conspiratorial content because users engage more with such content.
- > Newer platforms are more focused on presenting material to users in a format that is fun and engaging, and less easily compatible with the ways in which professional news media currently produce and prefer to share their content.

CONSUMPTION:

- > Recommender systems have changed the ways in which audiences consume news and information. Key changes include: (1) a growing portion of media consumption happening through aggregators; (2) media diets becoming more fragmented; and (3) declining trust in traditional media publishers.

CHAPTER 4: POLICY AREAS TO ENSURE PLURALISM IN ALGORITHMS

Existing legislative frameworks that impact on platforms' recommender systems, news online, and user-generated content are extremely fragmented. We have identified four key, relevant policy areas:

DIGITAL SERVICES POLICY FRAMEWORKS:

- > These instruments tend to focus on 'transparency' and 'accountability', however this can result in a checkbox compliance exercise where platforms produce regular reports without actually changing their practices to tackle problems.

PRIVACY AND DATA PROTECTION FRAMEWORKS:

- > 145 countries now have privacy and/or data protection laws and regulations in effect. While many of these laws are robust, the supervisory authorities for these laws and regulations do not sufficiently enforce these statutes.

MEDIA AND NEWS POLICY FRAMEWORKS:

- > These contain instruments that can impact the ways in which recommender systems influence news and media production and distribution processes. Illustrative examples of relevant interventions can be found in: (1) media plurality and diversity frameworks; (2) the commercial relationships between news providers and platforms; and (3) attempts at addressing information disorder.

HUMAN RIGHTS FRAMEWORKS:

- > When creating policies and regulations for communication platforms, states and platforms should ensure any measures taken are necessary and proportionate to the issue being addressed. However, platforms have demonstrably fallen short of the expectations set within existing human rights frameworks such as the UN Guiding Principles on Business and Human Rights.

CHAPTER 5: NEW AVENUES TO PROMOTING PLURALISM AND DIVERSITY

- > Platforms can play a unique and important role in orienting human attention to news and information. However, this task is inextricably linked with social responsibility. Platforms are not currently meeting this challenge, and existing regulatory frameworks have significant limitations.
- > The obligation to build responsible recommender systems is not one that platforms can abdicate from, however it is also not a goal they can achieve alone.

- > We have identified nine sets of potential policy remedies that should sit at the heart of any framework seeking to promote pluralism and diversity of news and information in algorithmic recommender systems:

(1) PROMOTING ALTERNATIVE INCENTIVE STRUCTURES AND BUSINESS MODELS

- > Very Large Online Platforms have dominant positions in their respective markets. Even if it were possible to lower the barriers to entry for new platforms, this might not be desirable, as the issue with communications platforms is their surveillance-capitalist business model.
- > Policymakers could diminish and decentralize platforms' gatekeeping power by unbundling content hosting from content curation. In doing so, a marketplace of alternative recommender systems could emerge.
- > The advertising-driven business model that funded many publishers through the 20th century now has limited viability. Business model innovation, and possibly public funding or funding from platforms, is necessary to ensure the economic viability of media production.

(2) OPEN AND INTEROPERABLE RECOMMENDER SYSTEMS

- > Interoperable recommender systems could help promote news and information pluralism by allowing people to choose who has access to their personal data, and to migrate to preferred systems with minimal switching costs.
- > Interoperability in recommender systems would be intended to give audiences wider choice and more agency in terms of curation, not necessarily in terms of content.

(3) IMPLEMENTING SAFE DESIGN PRINCIPLES

- > As many platform users do not change default settings, it is important that the default recommender system is one which is suitable for widespread use.
- > Design choices should support safe, pluralistic systems. This includes implementing appropriate labeling for choices, so that users understand who they are engaging with, and where the recommendations they see are coming from.

(4) RESPECTING PRIVACY

- > Existing privacy and data protection frameworks already impose restrictions on targeting and profiling. However, these instruments are inadequately enforced.
- > If these laws and regulations were enforced, it is possible that business model innovation on the part of platforms would see them become less dependent on targeted advertisements for revenue.
- > Privacy is intertwined with user choice and control. Some more advanced users have already set browser-level privacy controls to signal their privacy expectations to incoming websites. However, platforms and/or recommender systems either do not detect or ignore these privacy beacons.

(5) EMPOWERING USERS WITH NEW CONTROLS AND SETTINGS

- > Giving users more control over the content they see can be achieved through enhanced transparency requirements, implementing new controls to allow users to make conscious choices, and through a 'right' to customize a content offering.
- > When users do make conscious decisions on one platform, these decisions should be able to be rolled out cross-platform where feasible. For example, if a user makes a choice not to see certain content on Facebook, their preference should optionally be able to apply to Meta's other algorithmic platform Instagram.
- > Media and digital literacy skills are fundamental to ensuring that not only the most tech-savvy users benefit from alternative options and enhanced transparency, but to ensure that these solutions are accessible and understandable by the wider public.

(6) SAFEGUARDING ACCESS TO TRUSTWORTHY NEWS AND INFORMATION

- > Interventions that mandate prominence of, or recommendation to, specific content must be carefully considered and narrowly scoped, as they raise complex questions pertaining to freedom of expression, media pluralism, privacy, and human autonomy.
- > In limited areas related to vital information – such as public health, elections, social security services, suicide prevention, and support for victims of violence – credible official sources of public interest information should be highlighted and prioritized by algorithms and recommender systems.
- > If standards and criteria to differentiate public interest media are established and adopted by platforms and/or recommender systems, it could increase the visibility of, and access to, higher-quality news sources.

(7) RESPONDING TO REAL HARM CAUSED BY INFORMATION DISORDER

- > Creating liability for spreading dis- or misinformation could result in platforms over-censoring what is otherwise legal and protected expression.
- > However, it is reasonable to impose liability on platforms when they knowingly and intentionally amplify content that a reasonable person could comprehend as harmful. In doing so, there is no prior restraint on speech, nor liability for hosting content, but a responsibility not to promote content that has been flagged as harmful or unlawful.

(8) COMPETITION AND ANTI-TRUST REFORMS

- > In case of a process of unbundling Very Large Online Platforms, platforms should not be required to dispose of any existing assets.
- > Platforms should not purposefully nullify the efforts of their competitors and should provide fair, transparent, and nondiscriminatory access to competitors to develop, maintain, and grow their own recommender systems.

(9) TRANSPARENCY AND ACCOUNTABILITY REFORMS

- > Platforms and the developers of recommender systems should be required to keep anonymized records on how, why, and when they have recommended material to users.
- > These anonymized records should be made available – with appropriate privacy safeguards in place – to independent auditors, researchers, and oversight bodies.
- > Platforms should not fire, ‘shadow ban’, suspend, or retaliate by other means against people who report or identify systemic issues with their practices.

Recommended in this report must be understood within the framework of international human rights law. No recommendation in this report may be interpreted or used as a pretext for any state, group or person to undermine or destroy human rights and freedoms.

KEY RECOMMENDATIONS

- Launch a citizens' dialogue to determine what, if any, new charters of rights, institutions, or regulatory frameworks may be necessary to ensure that the algorithmic curation of news and information complements societal norms, international human rights agreements, and public expectations.
- The default recommender system should be either (1) selected at random from the 'recommender system' store, or (2) non-personalized.
- States and platforms should support the development of recommender systems that promote serendipity and exposure diversity.
- Consider providing public funding to support the development and maintenance of meaningful, public alternatives to for-profit recommender systems so that timely, accurate, local knowledge is always available through online platforms.
- Platforms and recommender systems should disclose to a user the selection criteria that determined the sorting and presentation of the content they are seeing, in an accessible and easily understandable manner.
- Platforms must educate users on how they can customize the recommendations they see.
- Very Large Online Platforms should give priority and prominence to matters of vital public interest to the extent that legacy media were required to broadcast public service announcements.
- Discuss with the platforms a process of functionally separating content hosting from content curation on Very Large Online Platforms by (1) unbundling hosting and curation, and (2) enabling users to choose their curation method(s).
- Very Large Online Platforms and/or the developers of recommender systems should evaluate existing professional standards and criteria for defining public interest news media and may consider increasing the visibility of such sources through their recommender systems, reducing in turn the circulation and amplification of dis- and misinformation.
- The minimum standards for pluralism in recommender systems, and for separating content hosting from content curation, should be developed in an open, transparent, multistakeholder manner. These minimum standards should be informed by existing human rights frameworks such as the UN Guiding Principles on Business and Human Rights.
- Further research is required to understand the impacts of platforms and recommender systems on how audience self-selection, consciously or unconsciously, influences the news and information they consume. Independent researchers should be granted reasonable access to platform data so this research can be conducted in a safe but rigorous manner.

ABOUT THE **WORKING GROUP**

The Working Group on Pluralism of News and Information in Curation and Indexing Algorithms was announced during the second Summit for Information and Democracy, held in New York City on 22 September 2022.

The working group is composed of an independent steering committee and a team of rapporteurs. The steering committee offered guidance to the rapporteurs and to the Forum.

A global call for contributions has allowed the working group to gather input from different regions and disciplines. In addition, the rapporteur team has conducted interviews with 85 subject-matter experts from academia, civil society, industry, and government to collect detailed insights into curation and indexing algorithms.

STEERING COMMITTEE CHAIR

- **Pier Luigi Parcu**, director of the Center for Media Pluralism and Media Freedom at the European University Institute, Italy

STEERING COMMITTEE MEMBERS:

- **William Bird**, director of Media Monitoring Africa, South Africa
- **Taina Bucher**, associate professor, University of Oslo, Norway
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- **Dominique Cardon**, director of MediaLab, SciencesPo, France
- **Luis Fernando García**, director, R3D, Mexico
- **Anita Gurumurthy**, executive director and senior fellow, IT for Change, India
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LEAD RAPPORTEUR

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RAPPORTEURS

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- **Eleonora Maria Mazzoli**, PhD researcher, London School of Economics

FORUM ON INFORMATION AND DEMOCRACY

- **Christophe Deloire**, chair
- **Camille Grenier**, operations director
- **Julia Madrazo**, policy manager
- **Julie Pailhes**, project officer

The report of this working group reflects the views expressed during the rapporteur teams' discussions with the steering committee, interviews with subject-matter experts, and in written contributions received from experts and organizations engaged in the field. The team of rapporteurs did not seek unanimity on every conclusion or recommendation, recognizing that diverse perspectives could not always be reconciled. This report should not be understood to be the result of a formal negotiation validated by the steering committee members, but as the rapporteur team's best efforts to offer a path forward.

ABOUT THE FORUM ON INFORMATION AND DEMOCRACY

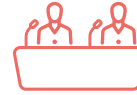
Providing democratic safeguards for the global communication and information space



Commission on Information and Democracy

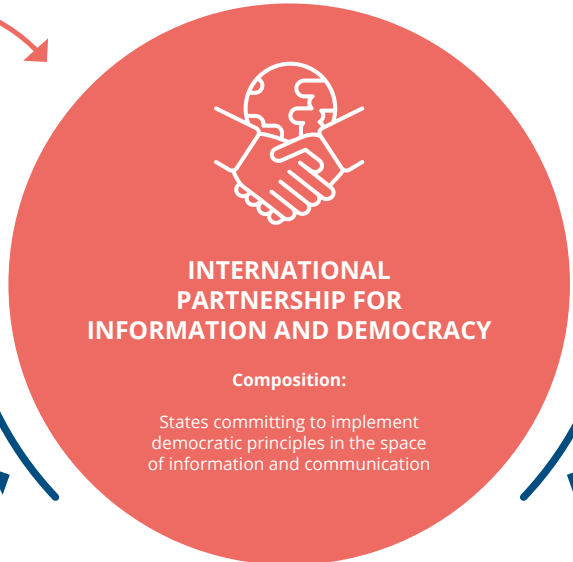
Composition:
Nobel Prize laureates (peace, economics, literature), tech experts, journalists.

Mission:
- Published the International Declaration which defines the universal principles for Information and Democracy and inspires the Partnership



Annual Summits for Information and Democracy

Objectives:
- Strengthening international cooperation
- Working towards the implementation of the Forum's recommendations
- Promoting dialogue between governments and the civil society



EVALUATIONS

PUBLISHES an assessment report ahead of the Summits of the Partnership

EVALUATES the norms, structures and architectures of the information and communication space



International Observatory on Information and Democracy

Missions:
- Providing states and society as a whole with periodic evaluations of the information and communication space

IMPLEMENTING ENTITY



RECOMMENDATIONS

DEVELOPS regulation frameworks addressed to signatory States

GATHERS contributions and recommendations from experts



International working group

Assignments:
- Gathering international contributions and expertises
- Suggesting recommendations to the states and stakeholders

MOBILIZES



Civil society organizations and academia

Missions:
- Contributing to develop recommendations and to the evaluation of the information space
- Promoting the implementation of democratic safeguards in this space

GLOSSARY

Algorithm:

A computational process used to make decisions.

Curation:

Decisions related to filtering and ranking content for human attention.

Diversity:

The range of content and sources to which individual communication platform users are exposed, and, therefore, indirectly referring to the extent to which audiences can access and consume a diverse array of content.

Indexing:

Processing content to add features and metadata which can be used for filtering and ranking.

Interoperability:

The ability to transfer and render useful data and other information across systems, applications, or components, including platforms.

Media:

“Those responsible for the periodic creation of information and content and its dissemination over which there is editorial responsibility, irrespective of the means and technology used for delivery, which are intended for reception by, and which could have a clear impact on, a significant portion of the general public.”¹

Middleware:

Software that enables interoperability in and between multiple platforms.

Platform:

Software architecture from which to express and access ideas and opinions and/or to receive information.

Pluralism:

The degree to which an information ecosystem offers and represents multiple voices, opinions, and sources of information.

Recommender Systems:

Systems that algorithmically suggest items to a user, potentially based on information about the user (profiling them based on their interests); information about the content (including signals such as indexing and/or predicting virality); and/or the organizations' interests.

Very Large Online Platform:

As stated in the report of the Working Group on Accountability Regimes for Social Networks and their Users, this term “refers to platforms that meet a threshold of 10% of consumers in the regional market.”²

1 Council of Europe (2007). Recommendation CM/Rec(2007)15 of the Committee of Ministers to Member States on Measures Concerning Media Coverage of Election Campaigns. Preamble. Available at: https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=09000016805d4a3d

2 Forum on Information and Democracy (2022). Final Report of the Working Group on Accountability Regimes for Social Networks and Their Users. Available at: https://informationdemocracy.org/wp-content/uploads/2022/09/ID_Report-on-Accountability-regime_Sept22.pdf.

I. RECOMMENDER SYSTEMS AND THEIR IMPACTS ON NEWS AND INFORMATION

1. INTRODUCTION AND CONTEXT

Online communication platforms such as social networks, search engines, news aggregators, and video sharing services are increasingly structuring how people around the world access news and information. These platforms serve as intermediaries between the public, professional private and public-service media, the private sector more broadly, and governments and regulatory authorities. They even mediate speech between individuals.

According to the 2022 Reuters Digital News Report,³ we have now reached “a tipping point” with 28% of news consumers preferring to access news exclusively through social networks, with even fewer (23%) consumers heading directly to a news source. Across all markets surveyed, Facebook was the most-used social network for news, however TikTok has become the fastest growing network among a younger demographic, reaching 40% of 18–24-year-olds in 2022, with 15% using the platform as their primary news source.

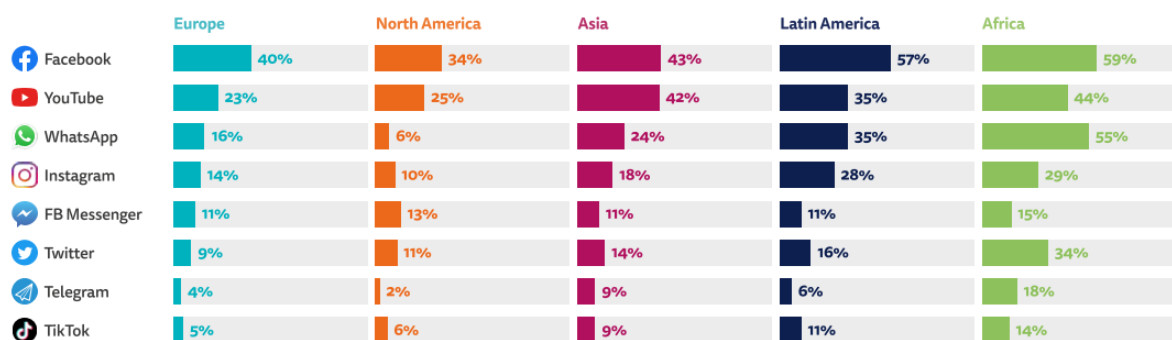


Figure 1: Proportion of people surveyed who used social networks for news in the past week (2022)⁴

Platforms describe themselves as matching people with the content that is most relevant to them. This relevance is measured by predicted engagement: how likely users are to click, comment on, or share a piece of content. The platforms’ business models are sustained through behaviorally targeted

³ Newman, N. et al. (2022). *Digital News Report 2022*. Reuters Institute for the Study of Journalism, pp. 10-11.

⁴ Adapted from *Ibid.*, p. 25

advertisements and are therefore reliant on tracking user interests and behavior so as to predict or influence future interests and behavior.

The rapid development of platforms was initially hailed as a driver of economic progress and technological innovation because these organizations discursively promise personalized services and advancement in innovation and economic growth, while efficiently bypassing incumbent organizations, cumbersome regulations, and unnecessary expense. However, in recent years, researchers, civil society organizations and policymakers have started to question these assumptions and to investigate the drawbacks of the ongoing “platformization of society”,⁵ which has caused deeper structural shifts driven by private gain and interests, rather than public and collective benefits.

Many different regulatory approaches have been proposed to reign in communication platforms. These approaches primarily attempt to limit the distribution of content perceived as harmful. In practice, this has meant that content is subject to filtering, takedowns, and moderation, with platforms maintaining poor track records for correctly identifying harmful material, while also erroneously censoring content that should be kept online. Because of the scale of content that is being indexed and amplified by communication platforms, and the psychological harm involved in routinely subjecting human moderators to potentially abusive material,⁶ many of these processes are now to some degree automated.

The internet has become a transformative resource for social change in no small part because of the power of communication platforms to give voice to ordinary people. Given this, when communication platforms are regulated, it is the speech of natural persons, and not the platforms themselves, that is potentially being stifled. Similarly, when platforms make decisions about what lawful content they will host, their interventions have the potential to infringe on the expression rights of their users.

Researchers have debunked the myths of ‘platform neutrality’⁷ and demonstrated that these organizations come embedded with specific norms and values inscribed in their architectures, as their services are primarily driven by a profit-logic based on the processes of datafication, commodification, and selection.⁸ This logic is often incompatible with broader societal and public expectations that characterize (at least in theory) a well-functioning system of professional content provided in a democratic society. Indeed, values like privacy, safety, consumer protection, accountability, solidarity, equality, fairness, transparency and democratic control are often at odds with the values inscribed in their architectures.⁹

The International Declaration on Information and Democracy states that “architectures that shape choices and norms for communication”¹⁰ and which “contribute to the structure of the information and communication space” shall “respect the principles and guarantees that nourish and underpin the democratic nature of this space.” In addition, such entities “shall promote diversity of ideas and information, media pluralism and favor serendipity.”

One of the principal means used by platforms to structure the information and communication space is their recommender systems, which suggest content to users based, primarily, on what their algorithms predict will result in the most engagement and/or revenue. Items are suggested to users based on information about the user (profiling them based on their interests) and/or information about the content (signals such as indexing and/or predicting virality). As much of the content on platforms is generated by their users, content that might not be problematic when seen by a handful of friends can go ‘viral’ and be amplified to an audience of millions. As a result, recommender systems have shown that they have the

5 Dijck, J. et al. (2018). *The Platform Society: Public Values in a Connective World*. New York, Oxford University Press.

6 Elliott, V. et al. (2020). The Despair and Darkness of People Will Get to You. *Rest of World*. Available at: <https://restofworld.org/2020/facebook-international-content-moderators/> (Accessed: November 7, 2022).

7 Gillespie, T. (2010). “The Politics of ‘Platforms’”. *New Media & Society*, 12, 3, pp. 347–64. Available at: <https://doi.org/10.1177/1461444809342738> (Accessed: October 27, 2022).

8 Dijck, J., et al. (2018)

9 Gillespie, T. (2010); Schäfer, Mirko Tobias et al. (2018). *The Datafied Society: Studying Culture through Data*. Amsterdam University Press.

10 Reporters Without Borders (2018). *Global Communication and Information Space*. Available at: <https://rsf.org/en/global-communication-and-information-space-common-good-humankind> (Accessed: October 30, 2022).

potential to amplify problematic content to large audiences. Because these same systems lie at the heart of delivering behaviorally targeted advertisements, it may be argued that the use of this technology is important for the growth, and therefore the sustainability, of platforms.

A handful of platforms hold a monopoly-like position over their market.¹¹ Given this, the deployment of recommender systems – and how these systems determine what content to amplify or hide – gives these platforms the power to shape public opinion.

We are at a crossroads: continue down a path that is eroding social cohesion and fundamental freedoms, or radically change course. This report proposes answers to these questions by proposing reforms to recommender systems and by identifying gaps in existing regulatory frameworks. This report is an invitation to think and imagine how we can collectively develop a new social contract for the algorithmic curation and indexing of news and information by aligning incentives and promoting responsibility.

2. RECOMMENDER SYSTEMS

Recommender systems drive the most widely used communication platforms in the world today: Facebook’s ‘Feed’, Twitter’s ‘Timeline’, TikTok’s ‘For You’ page, and YouTube’s ‘Up Next’ list all operate on a similar recommendation architecture. The common problem across these platforms is processing a vast inventory to decide what content to show audiences. The prevailing approach involves indexing an inventory to label each piece of content with descriptive features, training and applying machine-learned models to the inventory, ranking content for audiences, and evaluating the system’s performance.

Platforms possess the key ingredients for successful recommender systems: vast content inventories, massive daily audiences, and detailed records of audience behavior. This combination enables key competitive advantages for attracting and retaining audiences as well as content creators. However, as explored in Table 1 below as well as in the rest of this report, the combination also presents myriad challenges for the media ecosystem, including potential threats to media pluralism in each step of the recommender system.

	Step	Potential Threats to Pluralism
↓	1. Inventory	Only items in the inventory can be recommended to audiences
↓	2. Features	Features may not capture meaningful dimensions of diversity and pluralism
↓	3. Models	Models based on audience behavior can reinforce previous audience behavior rather than promote serendipity
↓	4. Ranking	Higher-ranked content receives more engagement from audiences
↓	5. Evaluation	Systems may be evaluated based on goals and metrics unrelated to pluralism

Table 1: Threats to media pluralism posed by the different components of recommender systems

11 Dolata, U. (2017). “Apple, Amazon, Google, Facebook, Microsoft: Market Concentration, Competition Innovation Strategies”. Available at: <https://ideas.repec.org/p/zbw/stusoi/201701.html> (Accessed: November 7, 2022).

Recommender systems *algorithmically* suggest items to platform users. Recommendations can be based on explicit or inferred information about the user, such as their age, interests, and location, as well as information about the content, such as inferred topics and predicted virality. In total, Facebook's recommender system, for example, is powered by a deep neural network consisting of 12 trillion parameters.¹² Algorithmic recommendations systems are extremely effective for driving user engagement: Twitter has shared¹³ that automated recommendations helped attract and retain millions of users, and on YouTube, more than 70% of video views result from recommender systems.¹⁴ At the same time, many people do not understand the role that algorithms play in shaping what they see online. A 2018 study by the Pew Research Center found that 53% of Americans did not know "why certain posts but not others are included in their news feed".¹⁵

Platforms argue that they personalize their services for the benefit of the user. While this may sometimes be true, the underpinning corporate objective is to show content to users that will increase engagement both in terms of total sessions and the lengths of those sessions. Platforms report their "daily active users" and other related metrics to shareholders. With this in mind, it is perhaps more accurate to say that platforms show users content that they are likely to engage with, rather than content they are interested in seeing but predictably will not share or comment. When users actively consume or create content, they generate revenue, which further entrenches the dominant positions of platforms through their surveillance- capitalism business models.¹⁶

The surveillance-capitalism business model lends itself to a feedback loop that can often reinforce previous behavior rather than promote diversity and serendipity. Although many definitions exist,¹⁷ a serendipitous recommendation can generally be understood as one that helps a user discover an interesting item that might have not been discovered otherwise.¹⁸ However, when recommender systems are tuned to promote content that a user is most likely to click on, recommendations can narrow to specific interests expressed in previous consumption patterns, potentially leading to degenerate feedback loops.¹⁹ These can hinder individual autonomy and may have long-term impact on user's ability to participate in democracy. Promoting diversity and serendipity through machine-learned models is thus a core challenge in recommender systems.²⁰

It should be noted, however, that platforms do not always use algorithmic recommender systems to distribute content. For example, Facebook offers a reverse-chronologically-sorted Feed,²¹ and Twitter offers a reverse-chronologically-sorted 'latest Tweets' timeline,²² both of which display the most recent posts at the top of the feed. Even in chronological feeds, content may still reach the audience through a targeted delivery mechanism such as a paid advertisement.

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- 12 Mudigere, D., Hao, Y., Huang, J. et al (2022). "Software-Hardware Co-Design for Fast and Scalable Training of Deep Learning Recommendation Models". In *Proceedings of the 49th Annual International Symposium on Computer Architecture (ISCA '22)*. Association for Computing Machinery. Available at: <https://doi.org/10.1145/3470496.3533727>. (Accessed November 20, 2022.)
 - 13 Kastrenakes, J. (2020). Twitter Says AI Tweet Recommendations Helped it Add Millions of Users". *The Verge*. Available at: <https://www.theverge.com/2020/2/6/21125431/twitter-q4-2019-earnings-daily-user-growth-machine-learning> (Accessed: November 2, 2022).
 - 14 Solsman, J. (2018). *Ever get caught in an unexpected hour-long YouTube binge? Thank YouTube AI for that*. CNET. Available at: <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/> (Accessed: October 25, 2022).
 - 15 Smith, A. (2018). Many Facebook Users Don't Understand How the Site's News Feed Works. Pew Research Center. Available at: <https://www.pewresearch.org/fact-tank/2018/09/05/many-facebook-users-dont-understand-how-the-sites-news-feed-works/> (Accessed: October 29, 2022)..
 - 16 Surveillance capitalism refers to the commodification of personal information by commercial actors for the purpose of profit-making. See: Zuboff, S., (2015). "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization", *Journal of Information Technology*, 30(1), pp. 75-89; and Foster, J.B. and McChesney, R.W., 2014. "Surveillance Capitalism: Monopoly-Finance Capital, the Military-Industrial Complex, and the Digital Age", *Monthly Review*, 66(3), p.1.
 - 17 Reviglio, U. (2019). Serendipity as an Emerging Design Principle of the Infosphere: Challenges and Opportunities. *Ethics and Information Technology*, 21(2), pp. 151-166.
 - 18 Herlocker, J.L., Konstan, J.A., Terveen, L.G. and Riedl, J.T. (2004). Evaluating Collaborative Filtering Recommender Systems. *ACM Transactions on Information Systems*, 22(1), pp. 5-53.
 - 19 Jiang, R., Chiappa, S., Lattimore, T., György, A. and Kohli, P. (2019). Degenerate Feedback Loops in Recommender Systems. In *Proceedings of the 2019 AAAI/ACM Conference on AI, Ethics, and Society*, pp. 383-390.
 - 20 Kunaver, M. and Požrl, T. (2017). Diversity in Recommender Systems – A Survey. *Knowledge-Based Systems*, 123, pp. 154-162.
 - 21 Facebook Newsroom (2022). *Introducing Home and Feeds on Facebook*. Meta. Available at: <https://about.fb.com/news/2022/07/home-and-feeds-on-facebook/> (Accessed: November 4, 2022).
 - 22 Twitter (no date). *About Your Home Timeline on Twitter*. Available at: <https://help.twitter.com/en/using-twitter/twitter-timeline> (Accessed: November 4, 2022).



RECOMMENDATIONS TO **STATES**

- > **Request explanations from platforms and recommender system developers as to how they generate recommendations on a technical level.**
 - ◆ If platforms are unable or unwilling to provide sufficient explanation, structural remedies may be necessary, such as a supervisory authority having a power of inspection of corporate records.
- > **Require that platforms provide users with accurate, accessible and fair explanations as to why they are being recommended certain content.**
- > **Require that platforms regularly publish measurements of diversity and pluralism, from inventory to consumption.**
- > **Very Large Online Platforms should offer users a choice between three or more sorting logics, at least one of which should not be algorithmic.**
- > **Small platforms should offer users a choice between two or more sorting logics, including one non-algorithmic option.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Explain to platform users, in accurate, accessible, and fair language, why they are being recommended certain content.**
- > **Provide users with a genuine choice of sorting logics, including non-algorithmic options such as reverse-chronological feeds, to empower people to engage with content that they are comfortable with.**
- > **Introduce and enforce reasonable restrictions on the posting of bulk content. Duplicate content, posted simultaneously or frequently by multiple users, has the potential to 'drown out' a chronologically sorted news feed.**
- > **The default sorting logic should be one where a reasonable person would be able to understand how and why they are being displayed content, without having to actively seek out an explanation.**
- > **Regularly publish measurements of diversity and pluralism in all stages of recommendation, from inventory to consumption.**

2.1 TYPES OF RECOMMENDER SYSTEMS

This section briefly outlines how recommender systems work and what the different models most commonly used by platforms are, in order to facilitate an understanding of how platforms can promote or reduce pluralism through their algorithmic recommendations. Broadly speaking, recommender systems are applications used to provide suggestions for information, content, products, and services that are deemed to be relevant to an end-user. The recommendations provided by the systems therefore curate and surface specific information and content, guiding and potentially influencing users' access, choice, and consumption behavior on the platform service(s) where they are offered. They are applicable across a number of platforms and services, but for the purposes of this report, we primarily focus on intermediary services like social media, search engines, and news aggregators. As outlined in the introduction and related reports,²³ these systems are key gateways to news and information online.

2.1.1 OPEN VS CLOSED RECOMMENDATIONS

Among the many ways of classifying recommender systems,²⁴ one helpful distinction is between 'open' and 'closed' systems.

Open systems are those that allow anyone to contribute to the content inventory. For example, Reddit allows all users to submit posts to be included in their recommender systems. Similarly, Google indexes and ranks content from across the internet.

In contrast, **closed systems** index and rank only 'first-party' content. The BBC's recommender systems, for instance, includes only BBC content.

2.1.2 PULL VS PUSH RECOMMENDATIONS

Another part of what defines a recommender system is whether it pushes recommendations to users, or requires some kind of explicit request from the user.

Push recommendations proactively suggest content to audiences.

Pull recommendations suggest content in response to a user's request.

In the case of a search engine, for example, users 'pull' recommendations from a platform by specifying a search query. Conversely, 'push' recommendations come without users explicitly requesting recommendations, such as when a user visits the Reddit homepage and receives recommended 'popular posts' without specifying any request.

It should be noted that a platform may include multiple ways of bringing content to the surface. On Facebook, for example, users can receive 'pushed' content by scrolling through their feed, but they might also search the platform and 'pull' content from a specific page. We refer to this as a **hybrid**.

23 Markkula Center for Applied Ethics (2022). *News Distribution Ethics Roundtable*. Available at: https://www.scu.edu/media/ethics-center/journalism-ethics/MCAE-Publication_-News-Distribution-Ethics-Roundtable-Key-Principles-and-Recommendations-2022.pdf (Accessed: October 10, 2022).

24 Bobadilla, J. et al. (2013). Recommender Systems Survey. *Knowledge-Based Systems*, 46, pp. 109-132.

2.1.3 PERSONALIZATION IN RECOMMENDER SYSTEMS

Recommender systems can also be categorized based on their degree of personalization. An extensively personalized system might tailor recommendations based on a user's location, age, or recent activity, among other variables. These attributes can also be indirectly targeted: recent reporting showed that Facebook advertising campaigns effectively used interest-based targeting as a proxy for racial targeting; for example, using interest in 'Black History Month', 'historically Black colleges and universities', 'gospel music', and 'Afrocentrism' that "appeared to specifically target Black Facebook users".²⁵ A completely non-personalized recommender system would not use any such information.

Systems that target people individually can obtain personal information through mechanisms such as browser cookies to track users' web history. Such data enables systems to infer demographic attributes and interests of individual users. Platforms and websites have also developed methods in "canvas fingerprinting",²⁶ which exploits slight variations in hardware to identify individuals without persistent cookies.

In addition to fine-grained, individualized targeting, many systems use group-based mechanisms to reach target audiences. A common mechanism for this group-based targeting is 'lookalike audiences', first launched by Facebook and then by Google, LinkedIn, and other platforms. Lookalike audience targeting requires advertisers to provide a 'seed' audience, which the platform uses to identify a broader audience with similar characteristics. As with interest-based targeting, research has found²⁷ that lookalike targeting can reproduce discriminatory effects based on gender, age, and race.

As another example of group-based targeting, as part of their "privacy sandbox", Google has developed and tested a number of targeting techniques that do not rely on individual cookies or fingerprinting. In March 2021, Google started testing²⁸ "Federated Learning of Cohorts" (FLoC) as a group-based alternative to cookies. FLoC was later abandoned²⁹ in favor of a more general interest-based targeting system.

In some cases, personalization enables advertisers to innocuously reach target audiences to sell products and services more effectively. In other cases, personalization enables more malicious behavior. Researchers theorized that targeting posed potential harm to democratic processes by allowing advertisers to emphasize divisive 'wedge' issues, intentionally disenfranchise voters, and more.³⁰ These potential harms have come to fruition in cases such as the 2016 US presidential election³¹ and the 2016 United Kingdom referendum on European Union membership.³² Generally, targeting mechanisms allow political actors to strategically bombard certain population segments, especially segments which are less likely to get news and information from other sources.

25 Keegan, J. et al. (2021). *Facebook Got Rid of Racial Ad Categories. Or Did It?* The Markup. Available at: <https://themarkup.org/citizen-browser/2021/07/09/facebook-got-rid-of-racial-ad-categories-or-did-it> (Accessed: November 1, 2022).

26 Kohno, T. et al. (2005). Remote Physical Device Fingerprinting. *IEEE Transactions on Dependable and Secure Computing*, 2(2), pp. 93-108.

27 Sapiezynski, P., Ghosh, A., Kaplan, L., Rieke, A. and Mislove, A., 2022, July. Algorithms that "Don't See Color" Measuring Biases in Lookalike and Special Ad Audiences. In proceedings of the *2022 AAAI/ACM Conference on AI, Ethics, and Society*, pp. 609-616.

28 The Economist (author uncredited). (2021). Why is FLoC, Google's New Ad Technology, Taking Flak? . *The Economist*. Available at: <https://www.economist.com/the-economist-explains/2021/05/17/why-is-floc-googles-new-ad-technology-taking-flak> (Accessed: November 1, 2022).

29 Roth, E. (2022) *Google Abandons FLoC, Introduces Topics API to Replace Tracking Cookies*. The Verge. Available at: <https://www.theverge.com/2022/1/25/22900567/google-floc-abandon-topics-api-cookies-tracking> (Accessed: November 1, 2022).

30 Barocas, S., (2012, November). The Price of Precision: Voter Microtargeting and its Potential Harms to the Democratic Process. In proceedings of the *First Edition Workshop on Politics, Elections and Data*, pp. 31-36.

31 DiResta, R., Shaffer, K., Ruppel, B., Sullivan, D., Matney, R., Fox, R., Albright, J. and Johnson, B., 2019. The Tactics and Tropes of the Internet Research Agency. Available at: <https://digitalcommons.unl.edu/senatedocs/2/>. (Accessed: November 17, 2022.)

32 Cadwalladr, C., 2017. The Great British Brexit Robbery: How Our Democracy was Hijacked. *The Guardian*. Available at: <https://www.theguardian.com/technology/2017/may/07/the-great-british-brexite-robbery-hijacked-democracy> (Accessed: November 17, 2022).



RECOMMENDATIONS TO **STATES**

- > **Platforms should only collect information about their users that is relevant, necessary, and limited to the specific purpose(s) for which it is collected.**
- > **All content on platforms, including unpaid communications, by or on behalf of political actors, campaigns, or parties should be clearly labeled as such.**
- > **Prohibit political campaigns and politically affiliated actors from targeting (or intentionally not targeting) lookalike audiences with personalized messages.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Ensure political communications are clearly labelled as such.**
- > **Reflect on what data elements genuine businesses need to target advertisements towards population segments. Carefully evaluate what demographic information can be used without resulting in discrimination.**
- > **Do not allow political campaigns or politically affiliated actors to pick a particular audience in society to target with personalized advertisements.**

2.1.4 CUSTOMIZATION IN RECOMMENDER SYSTEMS

Platform users, to some extent, can adjust how recommender systems source their content. Google News, for example, allows users to ‘hide’ news sources that they do not wish to see content from. Users choose who they follow on Twitter or ‘friend’ on Facebook. YouTube allows users to subscribe to certain channels and to customize how frequently they are notified about new content being uploaded from such a channel. Given the freedom that users have to choose their news sources (or to follow accounts that will in turn share news and information), it is assumed that people have effective media literacy skills to assess the quality and credibility of the news and information that they will be exposed to. In our consultation, critics of this approach noted that this assumption puts the onus on the individual to prevent platform-caused harms, but still believed media literacy skills are important because they can contribute to behavioral change.



RECOMMENDATIONS TO **STATES**

- > **Invest in media literacy programs that empower citizens, at an individual level, to be able to critically evaluate media messages.**



RECOMMENDATIONS TO **PLATFORMS**

> **Provide users with expanded customization capabilities to make responsible, informed news and information consumption decisions.**

2.1.5 ECHO CHAMBERS AND FILTER BUBBLES

As recommender systems become more widely used, concern has grown around the potential for these systems to create digital information silos.

Two terms in particular have driven conversations around this topic: echo chambers and filter bubbles. An early and influential definition described an **echo chamber** as “a bounded, enclosed media space that has the potential to both magnify the messages delivered within it and insulate them from rebuttal”.³³ Although the two terms are often used interchangeably, it is helpful to distinguish a **filter bubble** as a *type* of echo chamber, “primarily produced by ranking algorithms engaged in passive personalization without any active choice on our part”.³⁴ In other words, echo chambers can occur for many different reasons, and in the case of filter bubbles, they are driven by algorithmic recommender systems. Filter bubbles pose a number of potential harms to the platform ecosystem. Generally, they can reduce the diversity of news and information available to audiences. This might entail limiting a person’s exposure to only specific sources, topics, and/or viewpoints, for example, namely by recommending content the user is most likely to enjoy. Worded differently: because algorithms infer, or attempt to infer, the preferences of a user based on their past behavior on the platform, recommender systems can replicate undesirable and problematic biases in human behavior.

Importantly, limiting the news and information available to a person is one way of constraining that person’s autonomy. Challenges of information and autonomy are not unique to new technology, however algorithmic recommender systems introduce new considerations.³⁵ In part, this is because users are not aware of how algorithms are making decisions about content they see. The results here are not necessarily problematic. Recommender systems often return results “from a source that people might not normally access directly”³⁶ or already be familiar with, a consequence known as “automated serendipity”³⁷ (and the opposite of what the filter bubble theory hypothesizes). However, it should be noted that concerns about lack of self-determination can go deeper. Some scholars describe threats to autonomy as threats to “what makes us human”, pointing out that over-automation may lead to “widespread deskilling, atrophy, ossification of practices, homogenisation and cultural diversity”.³⁸

A key challenge related to algorithmically driven echo chambers and filter bubbles is that platforms share limited information about the extent of these phenomena. While there is a “a growing amount of research rejecting the filter bubble hypothesis”,³⁹ much of this research relies on incomplete data rather than first-party, real-world data owned by platforms. Even a Facebook study of the filter bubble

33 Jamieson, K.H. and Cappella, J.N. (2008). *Echo Chamber: Rush Limbaugh and the Conservative Media Establishment*. Oxford University Press.

34 Arguedas, A. R, Robertson, C. T., Fletcher, R. and Nielsen, R. K. (2022). Echo Chambers, Filter Bubbles, and Polarization: A Literature Review. Reuters Institute for the Study of Journalism. Available at: <https://reutersinstitute.politics.ox.ac.uk/echo-chambers-filter-bubbles-and-polarisation-literature-review>. (Accessed November 6, 2022.)

35 Cows, J., King, T., Taddeo, M. and Floridi, L. (2019). Designing AI for Social Good: Seven Essential Factors. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3388669. (Accessed November 20, 2022.)

36 Arguedas, A. R, et al.. (2022).

37 Fletcher, R., & Nielsen, R. K. (2018). Automated Serendipity: The Effect of Using Search Engines on News Repertoire Balance and Diversity. *Digital Journalism*, 6(8), pp. 976–989. Available at: <https://www.tandfonline.com/doi/full/10.1080/21670811.2018.1502045>. (Accessed November 21, 2022.)

38 Whittlestone, J., Nyrup, R., Alexandrova, A. and Cave, S. (2019). The Role and Limits of Principles in AI Ethics: Towards a Focus on Tensions. In *Proceedings of the 2019 AAAI/ACM Conference on AI, Ethics, and Society*, pp. 195-200.

39 Arguedas, A. R, et al. (2022).

phenomenon included only 10.1 million users who self-reported their ideological affiliation.⁴⁰ Facebook researchers concluded, in a separate, more comprehensive study into its role in polarization, that “our algorithms exploit the human brain’s attraction to divisiveness”, finding that “64% of all extremist group joins are due to our recommendation tools”.⁴¹ Facebook subsequently shelved the research and rotated the researchers into different business units. In other words, findings from external research are limited due to limited data access, and findings from internal research are limited due to data curation choices and executive interference.

Addressing this lack of transparency will require independent researchers having access to platform data, which may require empowering a supervisory authority with the right to compel platforms to make records available for inspection by independent researchers. It is crucial that any supervisory authority or regulatory body responsible for overseeing the activities of platforms and recommender systems be independent from state capture and able to exercise its functions without interference. This is especially important in countries where democratic institutions may be weak or prone to state capture. To ensure the independence and effectiveness of such an authority, it will likely be necessary to establish strong safeguards and checks on its powers, such as the ability to scrutinize its action and enforce transparency obligations over its own activities. It is also important to recognize the potential for states to use platform algorithms to aggrandize their own power and to address this issue through appropriate measures such as oversight and accountability mechanisms.



RECOMMENDATIONS TO **STATES**

- > **A supervisory authority should be empowered to compel platforms to share data with independent auditors and researchers in a manner that internal company research teams can access. The agency itself should only be empowered to collect this data, not analyze it.**
- > **A supervisory authority should have the resources and capacity to evaluate independent researchers and research projects and determine if there are cases when it is not appropriate for a researcher and/or research project to be granted access to platform data.**
- > **Platforms should work in good faith with independent researchers to provide data securely in common, machine-readable formats. Data should reside on the platform’s network(s), and researchers should not access data or publish results in a manner that compromises user safety or privacy.**



RECOMMENDATIONS TO **PLATFORMS**







- > **Further research is required to understand the impacts of platforms and recommender systems on how audience self-selection, consciously or unconsciously, influences the news and information they consume. Independent researchers should be granted reasonable access to platform data so this research can be conducted reliably and accurately.**

40 Bakshy, E., Messing, S. and Adamic, L.A. (2015). Exposure to Ideologically Diverse News and Opinion on Facebook. *Science*, 348(6239), pp. 1130-1132.

41 Horwitz, J. and Seetharaman, S. (2020). Facebook Executives Shut Down Efforts to Make the Site Less Divisive. *The Wall Street Journal*. Available at: <https://www.wsj.com/articles/facebook-knows-it-encourages-division-top-executives-nixed-solutions-11590507499>.

2.2 RECOMMENDER SYSTEMS IN BROADER CONTENT CURATION PROCESSES

Table 2 presents a non-exhaustive examination of the most-used communication platforms, which reveals how these platforms deploy recommender systems (among other content curation techniques) to propel user engagement and thus further their commercial interests. However, not all recommender systems have the same objectives, nor do they utilize the same criteria to recommend content to different users.

Organization	Type of online intermediary service	APPROACHES TO CONTENT CURATION AND RECOMMENDER SYSTEMS		
		Open/closed recommender	Push/pull functions	Ranking techniques of recommender
APPLE NEWS 	News aggregator	Closed	Hybrid	The Top Stories section of Apple News is curated by a team of editors. Editors also curate a Spotlight section, push notifications, and other collections. Some other sections are algorithmically ranked, including the Trending section that shows widely viewed articles, and a For You section that suggests personalized articles.
FACEBOOK 	Social media	Open	Hybrid	An analysis of patents and press releases describes Facebook's Feed as "a constantly updated, personalized machine learning model, which changes and updates its outputs based on your behavior, the behavior of people you are connected with, and the behavior of the affinity and personality-based sub-group of users the system judges you to belong to". ⁴²
GOOGLE 	Search engine	Open	Pull	Originally built on the PageRank algorithm, ⁴³ Google's ranking system now uses "many factors and signals, including the words of your query, relevance and usability of pages, expertise of sources, and your location and settings." ⁴⁴
INSTAGRAM 	Social media	Open	Push	Both user-generated content and advertisements are ranked algorithmically on the home screen of the app. Users cannot sort or view 'posts' in chronological order. 'Stories' – temporary posts – are displayed in reverse chronological order when clicked, however the order of profiles of users who have published recent stories is algorithmically sorted. On the search page, algorithmically sorted recommended content from public profiles unknown to the user is displayed.
NETFLIX 	Streamer	Closed	Hybrid	Content on the Netflix homepage is a mix of human curation and algorithmic curation. In the most prominent elements of the home screen, human curators select content to spotlight, but as the user scrolls down the page, algorithmically generated recommendations appear. After a film or TV series is watched, a personalized recommendation appears suggesting other content to consume. Users can upvote or downvote content after watching it, and this data feeds into Netflix's personalized match score that supposedly predicts one's interest for future recommendations.
REDDIT 	Social media	Open	Hybrid	The homepage recommends items. For users who are logged in to their account, the homepage recommends items from the subreddits that they follow; for users without an account, the homepage recommends items from trending subreddits. Users can sort content in different ways, both algorithmically (i.e., top posts, controversial posts) or non- algorithmically (i.e., content is sorted chronologically according to most recent posts).

42 DeVito, M. A. (2017). From Editors to Algorithms: A Values-Based Approach to Understanding Story Selection in the Facebook news feed. *Digital Journalism*, 5(6), pp. 753-773.

43 Page, L. et al. (1999). *The PageRank Citation Ranking: Bringing Order to the Web*. Stanford InfoLab.

44 Google (no date). *Ranking Results - How Google Search Works*. Available at: <https://www.google.com/search/howsearchworks/how-search-works/ranking-results/> (Accessed: November 1, 2022).




<p>TIKTOK</p> 	Social media	Open	Hybrid (mainly push with some pull)	<p>The default screen on TikTok is an algorithmically ranked feed of videos 'for you', commonly known as the For You Page (FYP). In a blog post,⁴⁵ TikTok has described the basic mechanisms that underpin FYP algorithms, including user interactions, video information, device characteristics, account settings, and more. In addition to pushing videos based on personal interest, TikTok also takes measures to avoid showing "an increasingly homogenous stream of videos". TikTok also includes functionality that allows users to 'pull' videos from a specific topic or sound.</p>
<p>TWITTER</p> 	Social	Open	Hybrid	<p>Since 2016, Twitter has shown algorithmically ranked home timelines by default, driving "desperately needed increases in key metrics such as monthly active users, impressions, and time spent on the site".⁴⁶ While many users expressed concerns about the change, fewer than two percent of all users switched back to the chronologically sorted timeline once the algorithmic timeline was launched.⁴⁶ Twitter describes the home timeline algorithm as ranking tweets that "you are likely to care about most, and we choose them based on accounts you interact with frequently, Tweets you engage with, and much more".⁴⁷ This includes recommended tweets from outside a user's network, which can also be pushed via notifications. Similar to other platforms, Twitter also supports 'pull' interactions such as searching for tweets and navigating to a specific user.</p>
<p>YOUTUBE</p> 	Video-sharing service	Open	Hybrid	<p>Users with an account are recommended new content from the channels they subscribe to, along with algorithmically generated content from channels based on their past browsing history and perceived interests. As videos are played, links appear to other recommended videos which auto-play after a short time delay. Users can 'like' or 'dislike' content via buttons to provide the recommender system with feedback. For users without an account, the homepage displays videos that have received a high volume of traffic in the preceding 24 hours, along with other recommendations algorithmically generated based on the user's geographic location and Google browsing history.</p>

Table 2: A brief review of how the most commonly used platforms rely on content curation and recommender systems

45 TikTok (2020). *How Tiktok Recommends Videos #ForYou*. Available at: <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you> (Accessed: November 9, 2022).

46 Oremus, W. (2017) *Inside the Changes that Could Save Twitter's Business - and Reshape Civil Discourse*. Slate. Available at: https://www.slate.com/articles/technology/cover_story/2017/03/twitter_s_timeline_algorithm_and_its_effect_on_us_explained.html (Accessed: November 1, 2022).

47 Twitter (no date), op. cit.

3. IMPACTS OF RECOMMENDER SYSTEMS ON NEWS AND INFORMATION

Platforms are key communication channels in contemporary society, used by billions of people every day. While they do not themselves produce content, they do fund and distribute content. Through their community guidelines and terms of service, they increasingly determine what is or is not acceptable content to be uploaded to the platform. In this sense, as the ability to share content with mass audiences has been democratized, it is not surprising that some speech expressed through the platforms is abusive, defamatory, discriminatory, untrue, or infringes upon the intellectual property rights of others. Yet while some speech may be offensive or hurtful, expressing it is not illegal. Protecting free speech in a democratic society requires protecting legal expression. A subtheme within the broader societal, cultural, and political impacts of platforms and their recommender systems is how they are affecting information and news systems, including how they enable, amplify, or hide alternative voices, dissenting opinions, and inconvenient truths, because platforms do play a role in shaping how the general public receives ideas and facts.

The International Declaration on Information and Democracy affirms that the “global communication and information space should serve the exercise of freedom of expression and opinion and respect the principles of pluralism, freedom, dignity, tolerance and the ideal of reason and understanding” because “knowledge is necessary for human beings to develop their biological, psychological, social, political and economic capacities. Access to knowledge, particularly knowledge of reality, is a fundamental right”. Given this, dominant positions in the production, distribution, and curation of information and news online must be prevented where possible and controlled when unavoidable, in order to preserve the variety of viewpoints that gain visibility.

This section briefly summarizes the key challenges that recommender systems bring to the production, distribution, and consumption of news and information, especially in terms of diversity and pluralism. This will in turn prompt a reflection on what kinds of policy areas and regulatory instruments could be used to address such challenges (see Chapters 4 and 5).

3.1 PRODUCTION

3.1.1 THREATS TO PROFESSIONAL AND TRUSTWORTHY JOURNALISM

The rise of algorithmic platforms has introduced many challenges for professional journalism. As highlighted by working groups convened by the Forum on Information and Democracy in 2020⁴⁸ and 2021,⁴⁹ threats to pluralism in news media production are particularly challenging for the future sustainability of news online.

48 Forum on Information and Democracy (2020). *Final Report of the Working Group on Infodemics*. Available at: https://informationdemocracy.org/wp-content/uploads/2020/11/ForumID_Report-on-infodemics_101120.pdf.

49 Forum on Information and Democracy (2021). *Final Report of the Working Group on the Sustainability of Journalism*. Available at: https://informationdemocracy.org/wp-content/uploads/2021/06/ForumID_New-Deal-for-Journalism_16Jun21.pdf.

At least three phenomena are worth highlighting as significant challenges for the production of high-quality and diverse news and information: (1) the expansion of ‘information deserts’ with little to no supply of trustworthy information; (2) the spread of infodemics; and (3) the sensationalist drive of certain news media providers.

The spread of information deserts refers to the fact that some communities are simply not served, or feel they are not served, by traditional news media providers. As the Working Group on the Sustainability of Journalism highlighted in its report, “studies show that a growing feeling of mistrust and criticism of the lack of representativeness among journalistic stakeholders and content can be seen as a direct consequence of such desertification”.⁵⁰ This phenomenon poses particular risks for local journalism, and the void left by some of these deserts is filled by user-generated content.

In addition to this trend, the spread of infodemics is a growing cause of concern. This is especially pertinent as infodemics, which often jointly involve dis- and misinformation as well as hate speech, tend to emerge in situations of global crisis.⁵¹ Infodemics can also refer to the “overabundance of information – some accurate and some not – occurring during an epidemic”.⁵² As shown by a 2022 World Health Organization review with reference to the COVID-19 pandemic, infodemics not only negatively impacted people’s mental health and increased vaccine hesitancy, delaying the provision of health care, they also reduced the impact of the production of trustworthy and fact-checked news.

While news providers and journalists in liberal democracies tend to respect certain professional standards of content production, which some believe distinguishes them from other content creators, online they have to compete with a growing number of voices, creators, and producers that do not always uphold such standards. In addition, some news providers do not uphold high professional standards of accuracy or neutrality. On the contrary, “it’s not just algorithms that create filter bubbles, news media ... can also do so.”⁵³ (Refer to Section 2.1.5 for a discussion on echo chambers and filter bubbles.) Environments that reward engagement and sensationalism, over impartiality and fact-checking, have both short-term and long-term impacts on the quality of production of information and news. The flawed business models of platforms and their commercially driven logics have exacerbated this tendency, fueling a vicious cycle that has impacts on the types and quality of content produced by news media organizations, because polarization is profitable and financially lucrative on these services. Some journalists and news media organizations have bought into this trend in order to maximize their revenue and increase their visibility online, as “even in the main democracies, media organizations that take part in partisan squabbling enjoy record audiences and can be highly profitable”.⁵⁴

It is extremely challenging for newsrooms to keep up with ongoing technological innovations and changes. Our consultations revealed that smaller organizations with limited resources lack the critical mass of intellectual and production capacity needed to maintain high standards of production while addressing the growing challenges of information deserts and infodemics. For large organizations with more substantial resources, it is hard to convince corporate executives to see the upside of adopting technologies that serve the sector or society as a whole, with limited or no impact on their bottom line, because they already see themselves as leaders in their field.

50 *Ibid.*, p.7

51 Forum on Information and Democracy (2020), p. 50; World Health Organization (2022). Infodemics and Misinformation Negatively Affect People’s Health Behaviours, New WHO Review Finds. Available at: <https://www.who.int/europe/news/item/01-09-2022-infodemics-and-misinformation-negatively-affect-people-s-health-behaviours--new-who-review-finds> . (Accessed: 15 October 2022.)

52 Forum on Information and Democracy (2020), p. 16.

53 Forum on Information and Democracy (2021), p. 7.

54 *Ibid.*



RECOMMENDATIONS TO **PLATFORMS**

- > **The recommender systems of Very Large Online Platforms should provide different combinations of filtering and ranking techniques that incentivize the distribution (and, therefore, the production) of high-quality content. They should not simply optimize for sensationalist or engaging content.**

3.1.2 A PARTICIPATORY PUBLIC IS SETTING THE AGENDA

The rise of algorithmic platforms has changed the relationship between the news media, the subjects they cover, and audiences. Increasingly, news subjects cut the news media out of the equation altogether, taking their perspective straight to an audience by releasing their own statements or content on social media. Platforms have made it possible for citizen journalists, artists, influencers, other independent content creators, and the general public to express their ideas and opinions without having to pass media gatekeepers.

Different stakeholders have different motivations for turning to platforms, but broadly speaking, they fall into one of three categories:

USER-GENERATED CONTENT AS A MEANS OF DISRUPTION

Independent creators have been able to use the monetization of large audiences as a means of penetrating the news media oligopoly. However, these independent creators are subject to the same commercial imperatives that the professional media face, and this prioritizes the production of sensational content. Even if wealth is not a creator's ultimate goal, a larger audience may mean fame, popularity, or status. In this sense, user-generated content is subjected to many of the same production pressures as professional media face in order to have their work favored by recommender systems.

USER-GENERATED CONTENT AS A FORM OF INDIVIDUAL EXPRESSION

Members of the general public use platforms like Facebook and Twitter merely to express themselves. These users seek personal interaction, and there is no intrinsic need for their content to be monetized in order to incentivize the production of this material.

USER-GENERATED CONTENT AS SOURCE MATERIAL FOR JOURNALISM

Audiences upload content to social media to make their voices heard, and journalists draw upon this material to inform or provide the basis for their own reporting. Most research into the Arab Spring, for example, points to the importance of user-generated content in influencing the media, thus creating a feedback cycle in which knowledge was exported across the world.⁵⁵

55 Harkin, J., Anderson, K., Morgan, L. and Smith, B. (2012). A Case Study of Al Jazeera Arabic and BBC Arabic. In: *Deciphering User-Generated Content in Transitional Societies*. University of Pennsylvania. Available at: https://monoskop.org/images/a/a4/Deciphering_User-Generated_Content_in_Transitional_Societies_A_Syria_Coverage_Case_Study_2012.pdf. (Accessed November 20, 2022.)



RECOMMENDATIONS TO **PLATFORMS**

- > **Algorithms should improve their ability to identify interesting and productive speech from users with small audiences, and not only draw upon interesting and productive speech from influencers with large audiences.**
- > **In principle, the same standards for high-quality information should apply regardless of whether the information is user-generated or produced by professional media.**

3.2 DISTRIBUTION

Platforms have reshaped the distribution of news and information, as audiences come to spend more time on platforms and less time engaging directly with publishers. As Philip Napoli and others have argued, platforms, through their algorithms, determine the contours of expression in the digital age.⁵⁶ In doing so, they have assumed powers historically associated with the media and news organizations, who search, filter, and sort information, yet operate without the accountability, obligations, and responsibility that comes with the democratic roles that these organizations have.⁵⁷

Some researchers argue that social media platforms should be equated to media organizations, and in that sense should be regulated within public interest frameworks.⁵⁸ Other researchers argue that defining platforms as media companies is an argument based on superficial analogies.⁵⁹ Both perspectives concur that the lines between platforms and professional media are to some extent blurring and clearer distinctions between their roles and related responsibilities are needed.

Positioned in this way, the role of platforms, and their algorithmic recommender systems, is extremely significant on the distribution side of the media and news value chain, as they impact on how content is distributed, monetized, curated, and ultimately discovered online.

3.2.1 DISTRIBUTION, CURATION, AND PRIORITIZATION PRACTICES

From a determinist perspective, the structure of online spaces shapes what is possible on a platform, like the governance system of a country shapes what is possible in politics.⁶⁰ Accordingly, a platform's 'choice architecture' guides users through the overabundance of content and information online. These design choices, and related recommender systems, shape the access and distribution of content based on data targeting and profiling techniques, which are to some extent premised on behavioral nudges. In the absence of these technologies, it is likely that most users would find the volume of information available online so overwhelming that using the internet could be perceived as a burden.

These nudges are intended to help users make a decision, to encounter and acknowledge different perspectives, and to promote serendipity. However, unlike static nudges such as placing the salad in front of the lasagne to encourage healthy eating,⁶¹ targeted nudges delivered through modern data-

56 Napoli, P., (2019). *Social Media and the Public Interest: Media Regulation in the Disinformation Age*. Columbia University Press.

57 *Ibid.*

58 *Ibid.*

59 Winseck, D. (2022). The Broken Internet and Platform Regulation: Promises and Perils. In: Flew, T., Martin, F.R. (eds) *Digital Platform Regulation*. Palgrave Global Media Policy and Business. Palgrave Macmillan. Available at: https://doi.org/10.1007/978-3-030-95220-4_12

60 Gillespie, T. (2010); Gillespie, T. (2018). *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media*. Yale University Press.

61 Sunstein, C. R. (2015). *Why Nudges? The Politics of Libertarian Paternalism*. Yale University Press; Thaler R. et al (2013). Choice Architecture. In: Shafir E (ed.) *The Behavioral Foundations of Public Policy*. Princeton University Press.

driven analytics are subtler and more powerful, “due to their networked, continuously updated, dynamic and pervasive nature”.⁶² These mechanisms are relevant not only for platforms and content providers (as the former can enable the latter to connect with the right audiences online), but also for advertisers, who pay to deliver content to specific audiences so as to affect their behavior, and are therefore targeting potential customers. In other words, the real product of social media platforms is “the gradual, slight, imperceptible change in [one’s] own behavior and perception”.⁶³

Our consultations revealed that the profiling and targeting techniques that drive the distribution and curation logics on platforms are influenced by the platforms’ underlying business models. While there are important differences in the business models, technicalities, and functioning of different platforms and their recommender systems, the common commercial logic(s) behind these services inevitably impacts the kinds of information and news media environment(s) they create. For instance, even if search engines and social media platforms present different technicalities and business models, in both systems the primary criteria and principles used to distribute and organize the overabundance of content online are driven by commercial interests and a need to maximize advertising revenues. This means that popularity, virality, and search optimization techniques are increasingly impacting the way in which news is produced, distributed, and circulated.⁶⁴

The power to actively guide and shape individuals’ exposure to news and information by those who have a vested interest in increasing their following⁶⁵ has significant implications for democracy,⁶⁶ because popularity, advertising interests, and commercial agreements have become the primary drivers for prominence online, rather than integrity and diversity of news and information.

Numerous scholars have expressed concerns about the implications of the circulation of news on platforms where it is no longer an editor who decides what is newsworthy, but instead opaque curation and prioritization processes informed by the quantified interests and preferences of the audience, related targeting mechanisms, and the commercial interests of the platform.⁶⁷ Indeed, because of problematic business models and incentive structures, some news providers try to play recommender systems to increase their chances of being algorithmically prioritized, and therefore more visible to platform users.⁶⁸ This in turn can contribute to an increase in the circulation of sensationalist or fringe material on social media, as well as to an amplification of such content.

However, while these concerns are legitimate, it is important not to discount the role of professional media in surfacing user-generated ideas and opinions expressed on communication platforms that are not algorithmically amplified by platforms. For example, the Black Lives Matter movement was almost invisible on Facebook, because the then-popular ‘ice-bucket challenge’ was receiving more engagement through user ‘likes’ and comments.⁶⁹ News coverage of Black Lives Matter protests, which relied initially on user-generated content uploaded to social media, elevated awareness of the movement into the

62 Yeung, K. (2016). ‘Hypernudge’: Big Data as a Mode of Regulation by Design. *Information, Communication & Society*. 20(1), pp. 118–136.

63 Stearns, G. (2020). The Social Dilemma: Review. *Carlow Chronicle*. Available at: <https://carlowchronicle.com/2020/11/08/the-social-dilemma-review/>. (Accessed: November 9, 2022)

64 Phillips, A. and Mazzoli, E. (2021). Minimizing Data-Driven Targeting and Providing a Public Search Alternative. In: Moore M., Tambini D., *Regulating Big Tech: Policy Responses to Digital Dominance*. Oxford University Press. pp. 110–126.

65 See: Bradshaw, S. and Howard, P. (2018). Challenging Truth and Trust: A Global Inventory of Organized Social Media Manipulation. Oxford Internet Institute.

66 Organization for Security and Co-operation in Europe (2021). Spotlight on Artificial Intelligence and Freedom of Expression: A Policy Manual. pp. 57-58. Available at: https://www.osce.org/files/f/documents/8/f/510332_1.pdf.

67 See also: Helberger, N. (2019). On the Democratic Role of News Recommenders. *Digital Journalism* 7 (8): 993–1012; Newman, N. (2018). Journalism, Media, and Technology Trends and Predictions 2018. Reuters Institute for the Study of Journalism; Turow, J. (2005). Audience Construction and Culture Production: Marketing Surveillance in the Digital Age. *Annals of the American Academy of Political and Social Science*. 597 (1), 103-121. <https://doi.org/10.1177/0002716204270469>

68 European Commission, Directorate-General for Communications Networks, Content and Technology (2022). Parcu, P., Brogi, E., Verza, S., et al., *Study on Media Plurality and Diversity Online: Final Report*. Publications Office of the European Union. Available <https://data.europa.eu/doi/10.2759/529019>

69 Tufekci, Z. (2015). Algorithmic Harms Beyond Facebook and Google: Emergent Challenges of Computational Agency. *Colorado Technology Law Journal*, 13, pp. 207-208. Available at: <https://ctlj.colorado.edu/wp-content/uploads/2015/08/Tufekci-final.pdf>.

national consciousness.⁷⁰ As stated in the International Declaration on Information and Democracy, “journalism’s task is not just to portray events but also to explain complex situations and changes, ... allowing the public to distinguish the important from the trivial ... reflect[ing] both positive and negative aspects of human activities and expos[ing] potential constructive solutions to important challenges”.⁷¹



RECOMMENDATIONS TO STATES

- > **Require that platforms be transparent with their users as to their business models, disclosing in clear and accessible terms how the content being shown to people is monetized and by whom.**



RECOMMENDATIONS TO PLATFORMS

- > **Be transparent with users as to why they are being shown certain content.**
- > **Develop a way of assessing the quality of content, and track how changes to recommender systems impact the attention given to high-quality content.**
- > **Consider turning to international standards to provide signals as to the quality of news sources.**
- > **Structural or behavioral measures aimed at increasing news content need not only prioritize daily news, but should also make findable documentary content, long-form investigative journalism, and other high-quality forms of news and information.**

3.2.2 AMPLIFYING TOXIC CONTENT

The spread of dis-, mal-, and misinformation online – sometimes referred to colloquially as fake news – has come to symbolize the negative implications of the aforementioned shifts in the production and distribution of news by online intermediaries.⁷² While these shifts point to broader cultural, political, and legal challenges,⁷³ social media platforms in particular have promoted misleading, sensationalist, and conspiratorial content because users engage more with such content.⁷⁴

Addressing this issue is challenging. As the United Nations Special Rapporteur on Freedom of Opinion and Expression opined in 2017, ‘general prohibitions on the dissemination of information based on vague and ambiguous ideas, including “false news” or “non-objective information”, are incompatible with

⁷⁰ *Ibid.*

⁷¹ Reporters Without Borders, (2018).

⁷² In this report we refer to the definitions of disinformation and misinformation advanced by the 2022 European Code of Practice on Disinformation. Thus, by disinformation we refer to false or misleading content that is spread with an intention to deceive or secure economic or political gain and which may cause public harm; and by misinformation we mean false or misleading content shared without harmful intent though the effects can be still harmful. By malinformation, we refer to the definition by First Draft News, which describes genuine information that is shared with an intent to cause harm. Collectively we refer to these three terms as “information disorder”.

⁷³ Del Campo, A. (2021). Disinformation is not Simply a Content Moderation Issue. *Issues on the Frontlines of Technology and Politics*. Carnegie Endowment for International Peace, pp. 23-24. Available at: <https://carnegieendowment.org/2021/10/19/disinformation-is-not-simply-content-moderation-issue-pub-85514>. (Accessed October 17, 2022.)

⁷⁴ Vosoughi, S., Roy, D. and Aral, S. (2018). The Spread of True and False News Online. *Science*, 359(6380), pp. 1146-1151.

international standards for restrictions on freedom of expression'.⁷⁵ Living in a democratic society with free expression means that some kinds of false information, such as satire or parody, must be accepted and protected in order to safeguard the right to communicate personal truths and unpopular facts. The issue with false or misleading information is not its existence. A conspiracy theory seen by five friends on Facebook is not a public policy issue. However, when a conspiracy theory is amplified to a large audience, and paired by recommender systems with like-minded content, there is the potential for harmful consequences for individuals and society as a whole, especially in the context of politically sensitive and turbulent periods, such as during elections and wars, and on topics of general interest, such as health and climate change, where individuals require access to trusted, accountable and fact-checked sources to form their opinions independently and appropriately without being misled or deceived.

Platforms have created new opportunities and incentives for malicious actors to amplify harmful, insincerely held views. A 2021 investigative report⁷⁶ showed how Facebook and Google allow clickbait farms to “generate thousands of US dollars a month in ad revenue” by producing provocative content designed to attract engagement. “Thousands of clickbait operations have sprung up, primarily in countries where Facebook’s payouts provide a larger and steadier source of income than other forms of available work.” Platforms have even directly funded some disinformation operations: in Brazil, for example, the YouTube channel Jovem Pan, which researchers from the Federal University of Rio de Janeiro, labeled a “hyperpartisan vehicle ... often identified by disseminating misinformation”⁷⁷ was funded as part of the Google News Initiative.⁷⁸ In addition, in our interviews with experts, it was flagged that a relatively small number of prominent politicians disproportionately animate public debates by spreading dis- and misinformation. Given the public offices they hold, their views can then be amplified widely.

Platforms also distribute news and information through opaque mechanisms that create extreme information asymmetries compared with legacy media. As noted earlier in this report, platforms collect and infer extensive personal information about billions of people, including their age, location, income, and other demographic attributes that support targeted advertising. By contrast, users have little to no information about platforms.

Research shows that users want specific types of transparency from platforms.⁷⁹ This includes how personal data is collected, how it is used, and what control users have over the data. Users also want information about algorithms, as well as details about any data collected and shared outside the platform. Current transparency efforts such as Facebook’s Transparency Center,⁸⁰ Google’s Transparency Reports for YouTube,⁸¹ and the TikTok Transparency Center⁸² focus on policy enforcement and content removal. Aside from general information about TikTok’s recommender system, and quarterly reports from Facebook that include some details about widely viewed content, there is little transparency that meets user demands.

75 United Nations Office of the High Commissioner for Human Rights (2017). Joint Declaration on Freedom of Expression and “Fake News”, Disinformation and Propaganda. Available at: <https://www.ohchr.org/en/press-releases/2017/03/freedom-expression-monitors-issue-joint-declaration-fake-news-disinformation>. (Accessed November 18, 2022.)

76 Hao, K. (2021). How Facebook and Google Fund Global Misinformation. *MIT Technology Review*. Available at: <https://www.technologyreview.com/2021/11/20/1039076/facebook-google-disinformation-clickbait>.

77 Campos Mello, P. (2022). YouTube Favors Pro-Bolsonaro Videos in Recommendations to Users, Says Study. *Folha de S.Paulo*. Available at: <https://www1.folha.uol.com.br/poder/2022/09/youtube-privilegia-videos-pro-bolsonaro-em-recomendacoes-a-usuarios-diz-estudo.shtml>. (Accessed November 9, 2022.)

78 Shu, C. (2018). YouTube is Fighting Fake News with \$25M to Promote Journalism. Available at: <https://techcrunch.com/2018/07/09/youtube-is-fighting-fighting-fake-news-with-25m-to-promote-journalism-and-more-context-in-search-results/>. (Accessed November 9, 2022.)

79 Luria, M. (2022). “This is Transparency to Me”: User Insights into Recommendation Algorithm Reporting. Center for Democracy and Technology. Available at: <https://cdt.org/wp-content/uploads/2022/10/algorithmic-transparency-ux-final-100322.pdf>

80 Transparency Center (no date). Facebook. Available at: <https://transparency.fb.com>. (Accessed: November 8, 2022.)

81 Transparency Report on YouTube Community Guidelines Enforcement (no date). Google. Available at: <https://transparencyreport.google.com/youtube-policy/removals>. (Accessed: November 8, 2022.)

82 Transparency Center (no date). TikTok. Available at: <https://www.tiktok.com/transparency/>. (Accessed: November 8, 2022.)



RECOMMENDATIONS TO STATES

- > As the use of platforms by political actors can shape public opinion and news coverage, politicians and political parties must take extra care not to be dis- and misinformation superspreaders.
- > Require that journalistic content used by platforms is fairly remunerated, and if and when this is done, require that publishers who benefit allow platforms to exercise nondiscriminatory indexing and to share the content.



RECOMMENDATIONS TO PLATFORMS

- > Acknowledge that political elites can be dis- and misinformation superspreaders, and subject these actors to the same level of content moderation as average platform users.
- > Expect that bad actors will try to play the system. Platforms should run new features through integrity models and risk assessments in order to understand how a feature could be abused.
- > All bots or non-human activity on a platform should be labeled and identifiable.

3.3 CONSUMPTION

Algorithmic platforms and their recommender systems have also changed the way audiences consume news and information. Key changes include (1) a growing portion of media consumption happening through aggregators; (2) media diets becoming more fragmented; and (3) declining trust in traditional media publishers.

First and foremost, audiences have come to spend more time on aggregators and less time directly consuming broadcast, cable, and print media. The shift is especially significant given the extent to which media consumption is driven by habitual behavior, often referred to as media routines,⁸³ rituals,⁸⁴ or repertoires.⁸⁵ Habits of *direct* news consumption (such as flipping through a newspaper or watching a continuous public broadcast) have been overtaken by *aggregated* news consumption (such as scrolling through a feed of articles from different publishers, or watching a playlist of recommended videos from various sources).

Research suggests that aggregated digital media consumption coincides with fragmented audience behavior. Whereas direct media consumption tends to generate ‘audience loyalists’ who mainly consume

83 Broersma, M. and Swart, J. (2022). Do Novel Routines Stick After the Pandemic? The Formation of News Habits During COVID-19. *Journalism Studies*, 23:5-6, 551-568.

84 Swart, J., Peters, C., and Broersma, M. (2017). New Rituals for Public Connection: Audiences' Everyday Experiences of Digital Journalism, Civic Engagement and Social Life. In: Schwanholz J., Graham T. and Stoll P., eds. (2017) *Managing Democracy in the Digital Age: Internet Regulation, Social Media Use, and Online Civic Engagement*. Springer, pp. 181-200.

85 Taneja, H. et al. (2012). Media Consumption Across Platforms: Identifying User-Defined Repertoires. *New Media & Society*, 14(6), pp. 951-968.

news and information from a small set of publishers, aggregated consumption leads people to consume many different sources.⁸⁶ As audiences experience more content options and more distribution platforms, audience fragmentation is “straining and undermining the traditional, exposure-based approaches to audiences that long have served as the foundation of the audience marketplace”.⁸⁷

A twin trend associated with audience fragmentation is that digital media exacerbates a number of pre-existing gaps both in groups of publishers and groups of audiences.⁸⁸ For example, as algorithmic intermediaries like search engines favor large publishers, audiences consume less content from small and medium-sized publishers, which widens the gap between them.⁸⁹ A similar trend is observed in audience behavior: while the underlying availability of news and information may be diverse and plentiful, the increased choice often means “the politically interested consume more news and current affairs than before, while those who are uninterested in politics now have the opportunity to avoid news and current affairs altogether”.⁹⁰ These patterns are often referred to as ‘information gaps’ or ‘news consumption gaps’. Finally, as audiences consume more news through aggregators and in a fragmented manner, the rise of digital news media has coincided with declining trust in news organizations around the world. In the United States, reports⁹¹ and polls⁹² show trust in the news media at historic lows. A study of 35 different countries found that “using social media as a main source of news is correlated with lower levels of trust in news”.⁹³ Another longitudinal study of 26 countries found that “an increase in social media use for accessing news resulted in a decline in trust in news media generally across the globe”.⁹⁴

Some scholars have proposed that providing audiences with the ability to perform their own end-user audits – “system-scale audits led by non-technical users” – would heighten individual awareness of how recommender systems harm, distort, or filter information.⁹⁵ This is because individuals “do possess this rich situated knowledge of the particular impacts that algorithmic systems have on their own communities, and they already identify problematic behaviors of algorithmic systems through their everyday interactions with such systems”,⁹⁶ however they do not currently have the ability to systematically test an algorithm’s outputs. One study has shown, however, that when non-technical end-users are provided with a web-based tool to see how social media platforms are using their data, and where they can test their hypotheses, “users were successfully able to lead their own audits that yielded previously underreported insights on a host of potential system issues”.⁹⁷ With this awareness, it is possible that audiences may change their consumption practices.

86 Webster, J. and Ksiazek, T. (2012). The Dynamics of Audience Fragmentation: Public Attention in an Age of Digital Media. *Journal of Communication*, 62(1), pp. 39-56.

87 Napoli, P. (2011). *Audience Evolution: New Technologies and the Transformation of Media Audiences*. Columbia University Press.

88 Prior, M. (2007). *Post-Broadcast Democracy: How Media Choice Increases Inequality in Political Involvement and Polarizes Elections*. Cambridge University Press.

89 Hindman, M. (2008). *The Myth of Digital Democracy*. Princeton University Press.

90 Aalberg, T., Blekesaune, A. and Elvestad, E., (2013). Media Choice and Informed Democracy: Toward Increasing News Consumption Gaps in Europe?. *The International Journal of Press/Politics*, 18(3), pp.281-303.

91 Knight Foundation (2020). American Views 2020: Trust, Media and Democracy. Available at: <https://knightfoundation.org/reports/american-views-2020-trust-media-and-democracy/>. (Accessed November 9, 2022.)

92 Brenan, M. (2021). Americans’ Trust in Media Dips to Second Lowest on Record. Gallup. Available at: <https://news.gallup.com/poll/355526/americans-trust-media-dips-second-lowest-record.aspx>. (Accessed November 9, 2022.)

93 Kalogeropoulos, A. et al. (2019). News Media Trust and News Consumption: Factors Related to Trust in News in 35 Countries. *International Journal of Communication*. 13. Available at: <https://ijoc.org/index.php/ijoc/article/view/10141>

94 Park, S. et al. (2020). Global Mistrust in News: The Impact of Social Media on Trust. *International Journal on Media Management*, 22(2), pp. 83-96.

95 Michelle, S. L. et al. (2022). End-User Audits: A System Empowering Communities to Lead Large-Scale Investigations of Harmful Algorithmic Behavior. *Proceedings of the ACM on Human-Computer Interaction*, 6, Article 512, p. 1. Available at: https://hci.stanford.edu/publications/2022/Lam_EndUserAudits_CSCW22.pdf.

96 *Ibid.*

97 *Ibid.*, p. 4.



RECOMMENDATIONS TO **STATES**

- > **Encourage platforms to provide their users with the tools needed to perform end-user audits so users can make conscious, intentional, and sustained changes to how they use the platform based on data the platform has voluntarily provided the user.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Consider providing users with the tools to perform end-user audits that calculate personalized metrics that estimate system performance given their choices on, and use of, the platform.**

3.3.1 PLATFORMS IMAGINE A FUTURE WITHOUT NEWS

During our consultation, experts flagged that the relative importance of news as platform content varies significantly across platforms. While news content is moderately important for a search engine like Google, because people depend on search engines to index everything, news content is less important for entertainment-focused platforms like TikTok.

As consumer demand for entertainment-driven platforms rises, while at the same time news providers demand payment from platforms for indexing their content and regulators demand higher levels of responsibility, platforms are looking away from news organizations for content. Meta and its flagship platform Facebook, for example, has ended its investments in local news initiatives and is building a metaverse that one expert described as a “game-like, super-detached-from-the-real-world Disneyfied type of reality”. For platforms, news is perceived as having a short shelf-life; it can leave users feeling distressed and uninterested in consuming more content; and it can result in polarizing debates that require content moderation. For these reasons, newer platforms are less interested in news content. Instead, they are more focused on presenting material to consumers in a format that is fun and engaging, and less easily compatible with the ways in which professional news media currently produce and prefer to share their content.

If platforms do not include in their roadmap a long-term vision for news distribution, how will people then get a view of the real world? How will the equivalent of a public service announcement, such as a weather warning, be broadcast? What will the implications for democracy be? Further research is required to understand what the future of news on platforms may look like, especially for consumers with lower levels of education and/or media literacy.



RECOMMENDATIONS TO **STATES**

- > Governments should consider providing public funding to provide a meaningful, public alternative to for-profit communication platforms, including potentially funding alternative recommender systems, to ensure arenas where timely, accurate, local knowledge is always available.

II. POLICY AREAS TO ENSURE PLURALISM IN ALGORITHMS

4. POLICY AREAS TO ENSURE PLURALISM IN ALGORITHMS

Regulatory interventions may provide some solutions to the pluralism problems posed by algorithmic curation. However, to advance relevant policy recommendations, we should first consider both the advantages and limitations of existing legislation. Such a review can provide insights into what has worked so far and what more can be done in this area.

Existing legislative frameworks that impact on platforms' recommender systems, news online, and user-generated content are extremely fragmented. A new wave of digital policy initiatives at the national, regional, and international levels has advanced new regulatory instruments to address some of the impacts, but there has been no concerted effort. Instead, there is a patchwork of legislation, codes, action plans, and public commitments that build on top of existing laws.⁹⁸

Experts in our public consultation highlighted that a combination of self-regulatory standards and protocols, with co-regulatory and statutory regulatory solutions, will be needed to address the impacts that platforms and their recommender systems have on today's online information environment and news systems. However, isolated public interventions may also be insufficient. We are addressing shared issues, which require us to think of multisectoral mechanisms of regulation that can combine different instruments and foster a more coordinated and collaborative approach. Accordingly, this report focuses its attention on those areas that have – and will likely have in the future – impacts on how recommender systems affect the distribution of news and information on online communications platforms. We have identified four key policy areas that could contribute to building more responsible recommender systems: (1) digital services, (2) privacy and data protection, (3) media and news, and (4) human rights and protections.

While it is beyond the scope of this report to provide a comprehensive mapping of all these policy frameworks around the world, the following sections will briefly review and discuss these areas through illustrative examples taken from national and regional policy frameworks in order to highlight their advantages and limitations in ensuring the pluralism of information and news online. This has in turn informed our thinking on new avenues that could be taken to build more responsible recommender systems (see Chapter 5).

⁹⁸ Mazzoli, E. and Tambini, D. (2020). Prioritization Uncovered. The Discoverability of Public Interest Content Online. Council of Europe. Available at: <https://rm.coe.int/publication-content-prioritisation-report/1680a07a57>.

4.1 DIGITAL SERVICES POLICY FRAMEWORKS

Online platforms have been associated with a variety of harms that have been identified by civil society organizations and researchers over the past 15 years. Despite these well-documented inadequacies in existing regulatory frameworks, only in recent years have concrete policy and regulatory initiatives emerged to address issues related to information disorder, privacy, surveillance, and other manipulative practices.

In the aftermath of political debates surrounding perceptions and realities of electoral interference, certain governments have introduced punitive legislation or threatened to force companies to open their applications and services to security services or other agencies for scrutiny. However, such ex-post ('after the fact') and rushed interventions are likely to have unintended repercussions on citizens and democracies. They may, for example, lead communications platforms to become more interventionist, to gain even further control over their users' data, to become 'arbiters of truth' and to unduly restrict users' autonomy, self-determination, and freedom of speech and association.

On the one hand, China is leading a top-down and state-driven approach to internet policy, exacerbated by the recent and unexpected renewal of the World Internet Conference in Wuhan. On the other hand, the US is still left in a policy vacuum with an overall lack of intervention at the federal level, though individual states such as California have introduced pieces of legislation to curtail some activities. At the international level, new US leadership at the International Telecommunications Union may make the road to implementing the US-led Declaration on the Future of the Internet easier. In between these two ends of the spectrum, the European Union, European countries, as well as countries like Australia, Canada, and Brazil are gearing up for new rounds of domestic policy-making. At the same time, the United Nations Secretary-General has proposed the Global Digital Compact as part of a 2024 Summit of the Future, which may see the formation of a new international venue with a political mandate to address some perceived online harms.

Even though the road ahead is winding and long, it should be recognized that a number of relevant initiatives have been launched between 2020 and 2022 in several countries to tackle the growing digital dominance of platforms and the impacts of their recommender systems.

4.1.1 TRANSPARENCY AND ACCOUNTABILITY OF PLATFORMS AND THEIR RECOMMENDER SYSTEMS

'Transparency' and 'accountability' are key components in every digital services policy proposal. An important question raised by previous work of the Forum is: Why transparency? And for whom?

A new, legally binding approach to transparency is needed to solve many issues related to the use of recommender systems, and broader online content moderation and curation practices. As emphasized by the Working Group on Infodemics, "legally binding transparency is the first step to better oversight, greater accountability, and to regaining trust between platforms, governments and the public. It is the first step towards strong evidence-based policies and potentially further regulation by governments. It is the first step in enabling online service providers to face problems and weaknesses they can no longer hide."⁹⁹

⁹⁹ Forum on Information and Democracy (2020), p. 19.

So, what are regulators and policy makers doing about meaningful transparency and accountability requirements? At the European level, transparency obligations for platforms' recommender systems have been introduced through various instruments. They are at the forefront of the Digital Services Act (DSA), which has introduced three types of transparency measures for online platforms: (1) mandated transparency over recommender systems and their algorithms; (2) routine and comprehensive transparency reporting; and (3) transparent disclosures to users about online advertising.¹⁰⁰ In practice, this means that platforms must clearly lay out how their algorithmic recommender systems work in their terms of service, they must give users clear information about why they were targeted with an advertisement, as well as guidance on how to change advertisement targeting parameters. These new obligations do not apply equally to all platforms, but are tailored, asymmetric obligations, which are proportionate to the impacts that different types of platforms have. In addition, platforms are required to share data on recommender systems, and content policies upon request with independent auditors, supervisory authorities, and researchers from academia and civil society. By providing independent external stakeholders with access to this data, these actors can thereby help in identifying systemic risks.

In parallel to the DSA, the European Union has intervened through the Strengthened Code of Practice on Disinformation, a regulatory tool with some attempts at external supervision, which uses transparency as a key means of addressing the perceived impacts of platform recommender systems on political polarization, the spread of false information, and data profiling and targeting techniques.

The Code has provisions that partially address these issues through (1) transparency on political advertising, and (2) transparency on the artificial intelligence systems used to distribute news and information online. Sections 5 and 6 increase transparency over political advertising and targeting so that users can easily distinguish such content from other kinds of information and news disseminated by platforms. Section 15 prompts platforms to commit to developing artificial intelligence systems that are transparent and fair. More specifically, platforms should put in place policies that "ensure that their algorithms used for detection, moderation and sanctioning of impermissible conduct and content on their services are trustworthy, respect the rights of end-users and do not constitute prohibited manipulative practices." Sections 18 and 19 ask platforms to make their recommender systems more transparent by disclosing the main criteria and parameters used for prioritizing or de-prioritizing information.

In addition to these European-level initiatives, national legislators are taking steps to increase transparency of these services. In the UK for instance, the Online Safety Bill is expected to introduce new transparency requirements for platforms and their recommender systems, particularly as it relates to combating illegal content and legal, but harmful content.

From these legislative interventions, transparency appears to be perceived as an initial solution to the issues facing platforms and recommender systems. However, there are limitations to these proposals. First, it is clear that every state and public institution sees transparency as a means to an end, but the end is often unclear, as is how this increased access to data and information will be used. Regulators often do not have the skills or resources to analyze and understand these systems, thus increasing reporting obligations might be useful for monitoring and enforcement purposes, but not necessarily to increase general knowledge and to adequately inform people on how current industry practice impacts their daily lives. Second, transparency is not a panacea. It is an important first step, but it can also result in a checkbox compliance exercise where platforms produce regular reports without changing their practices to tackle problems. Transparency can be meaningful only if it is combined with adequate accountability frameworks, as well as the necessary resources and skills to make the most appropriate use of this new load of data and information on digital services.

¹⁰⁰ European Union (2020). Regulation of the European Parliament and of the Council on a Single Market For Digital Services (Digital Services Act) and amending Directive 2000/31/EC. Available at: <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=COM:2020:825:FIN>.



RECOMMENDATIONS TO STATES

- > **Supervisory authorities should build the capacity to be able to analyze and understand the complex technical systems and algorithms that are being deployed by platforms.**
- > **Develop adequate accountability frameworks, including empowering supervisory authorities with powers of inspection, so that platforms can be required to hand over the data necessary to conduct a comprehensive independent investigation into their activities.**
- > **Platforms and recommender systems should open up to independent researchers to facilitate wider understanding of their impacts on society.**
- > **Support increased training opportunities through both traditional academic environments and continuous learning settings so that civil society organizations, government institutions, and others are abreast of how to monitor the activities of platforms and recommender systems.**

4.1.2 COMPETITION IN DIGITAL MARKETS AND RECOMMENDER SYSTEMS

Antitrust scholars and other researchers argue that competition law is not fit to tackle the fundamental rights and media pluralism concerns that are at stake when it comes to regulating platforms.¹⁰¹ This is because competition law looks at whether you are creating market power through a strong concentration of revenues. It does not explore whether a merger will reduce the offer of news and information that is available to the public, as seen for instance in the merger decisions concerning Facebook, WhatsApp, and Instagram.¹⁰²

Competition law is not a good defender of a plurality of ideas, nor do existing frameworks adequately consider the implications of there being concentration in access to data for the purposes of profiling and targeting users. As flagged in a recent study, control and access to user data may lead to an uncompetitive media market, where a handful of platforms can leverage their gatekeeping power to exercise significant control over the market, with news and media organizations even further dependent on them for their future sustainability.¹⁰³

The limitations of competition law to curb digital dominance can be traced back to the fact that the impact of platforms on the distribution of information – and on the economy as a whole – are ‘macro problems’ that require a broader basis, while current competition interventions are de facto a ‘micro instrument’ that operates on a case-by-case basis.¹⁰⁴

In recent years, regulators and policymakers have started to grapple with the need to reform or complement competition law in order to adequately address such shortcomings. For instance, at the European level, the Digital Markets Act (DMA) aims to create an ex-ante (‘before the event’) regulation for

¹⁰¹ European Commission, Parcu, P., Brogi, E., Verza, S., et al. (2022), p. 39.

¹⁰² Lynskey, O. (2017). *Regulating Platform Power*. LSE Law, Society and Economy Working Papers. London School of Economics and Political Science. Available at: <https://eprints.lse.ac.uk/73404/>.

¹⁰³ European Commission, Parcu, P., Brogi, E., Verza, S., et al. (2022), p. 39.

¹⁰⁴ Parcu, P. L. and Rossi, M. A. (2021). *Policy Changes to Strengthen the Protection of Media Freedom and Media Pluralism in the EU*. In Parcu, P.L., Brogi, E. (eds). *Research Handbook on EU Media Law and Policy*. Edward Elgar Publishing.

platforms that play a gatekeeping role in digital environments.¹⁰⁵ Under the DMA, gatekeeping platforms must provide interoperability to allow third parties to interoperate with the platforms' own services, and they are forbidden from leveraging their gatekeeping position to unfairly discriminate against services on their platforms. They may not grant preferential treatment to their own products, content or information through legal, commercial or technical means, which includes but is not limited to, their ranking and recommender systems.

In addition, under Article 29 of the Digital Services Act (DSA), Very Large Online Platforms must provide users with the ability to "modify or influence th[e] main parameters" of the recommender system, "including at least one option [for engaging with the service] which is not based on profiling".¹⁰⁶ According to the digital rights nonprofit Article 19, this language "sets an unacceptably low bar for platforms on transparency and information diversity" because it "bundle[s] the provision of recommender systems to the provision of hosting services, locking in end users [to the platform], who are left with no alternatives".¹⁰⁷ A better solution would be to unbundle recommender systems from the hosting of content.

In this way, platform users would have the ability to choose their preferred recommender system from a marketplace of recommender systems, much like they can download mobile apps of their choice from the Android or iOS App Stores. As with these app stores, there could still be minimum standards for recommender systems to meet in terms of security, safety, and pluralism, and there would be challenges involved in educating users on their options, and on how to assess which recommender system(s) are most suitable for their needs, but decentralizing control over what people can see and access would provide people with greater choice and autonomy over their online experiences.

Through the obligations embedded within the DMA and the DSA, and through the functional separation of recommender systems and platforms, it is possible to improve the choice architecture of platforms in a way that moves beyond merely relying on transparency and accountability. Rather, by intervening through a set of prescriptive dos and don'ts that are intended to improve how users experience platforms, policymakers stand equipped to cultivate healthier digital markets.



RECOMMENDATIONS TO STATES

- > Discuss with the platforms a process of functionally separating content hosting from content curation on Very Large Online Platforms by (1) unbundling hosting and curation, and (2) enabling users to choose their curation method(s).
- > The unbundling of services should be shaped as a form of functional separation, not a structural one.
- > Very Large Online Platforms should provide access to their 'recommender system' store in a fair, reasonable, non-discriminatory, transparent manner.

¹⁰⁵ European Union (2022). Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on Contestable and Fair Markets in the Digital Sector and Amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act). Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2022.265.01.0001.01.ENG. (Accessed November 18, 2022.)

¹⁰⁶ European Union (2020), Article 29.

¹⁰⁷ Stasi, M. L. (2021). Digital Services Act: Proposed Amendment to Article 29. Article 19. Available at: <https://www.article19.org/wp-content/uploads/2021/05/Amendment-recommender-systems.pdf>.

4.2 PRIVACY AND DATA PROTECTION POLICY FRAMEWORKS

4.2.1 LACK OF ENFORCEMENT OF EXISTING INSTRUMENTS

Some 145 countries now have privacy and/or data protection laws and regulations in effect.¹⁰⁸ While many of these laws are robust, requiring that people provide their ‘informed consent’ before their personal information is processed, it is widely accepted by privacy scholars and outside observers that the supervisory authorities for these laws and regulations do not sufficiently enforce these statutes.¹⁰⁹ Recent reporting indicates that in the four years since the European Union’s General Data Protection Regulation (GDPR) came into effect, the European Data Protection Board has published only 254 ‘final decisions.’¹¹⁰ Some national authorities, like Ireland’s Data Protection Commission, issued no rulings or fines in the first three years that the GDPR was in effect, despite being the European home for all Big Tech companies.¹¹¹ Outside of Europe, the situation is no better. In Australia, Brazil, Canada, and South Africa, supervisory authorities have similarly taken few enforcement actions.

Our consultations with experts brought a number of reasons to light for why supervisory authorities do not enforce these laws and regulations. These are: complexities in understanding precisely how platform algorithms make decisions; difficulties in assessing or evaluating harm for theoretical risks; political interventions; jurisdictional challenges, as many cases require cross-border cooperation; and an overall lack of resources, particularly to fund legal disputes against multinational corporations, as they typically defend themselves vigorously.



RECOMMENDATIONS TO STATES

- > The onus is on data protection authorities to enforce the privacy and data protection laws and regulations in their jurisdiction fairly and evenly.
- > In those jurisdictions that do not have data protection authorities, or whose existing supervisory authorities lack enforcement competencies, we recommend development assistance be agreed to support the development of these capabilities.



RECOMMENDATIONS TO PLATFORMS

- > Comply with the letter and the spirit of privacy and data protection laws.

108 Greenleaf, G. (2021). Global Data Privacy Laws 2021: Despite COVID Delays, 145 Laws Show GDPR Dominance. UNSW Law Research Paper No. 21-60. Available at: <https://ssrn.com/abstract=3836348>. (Accessed November 10, 2022.)

109 Heine, I. (2021). 3 Years Later: An Analysis of GDPR Enforcement. Center for Strategic and International Studies. Available at: <https://www.csis.org/blogs/strategic-technologies-blog/3-years-later-analysis-gdpr-enforcement>. (Accessed November 18, 2022.)

110 Burgess, M. (2022). How GDPR is Failing. *Wired*. Available at: <https://www.wired.co.uk/article/gdpr-2022>. (Accessed November 18, 2022.)

111 Vinocur, N. (2019). How One Country Blocks the World on Data Privacy. *Politico*. Available at: <https://www.politico.com/story/2019/04/24/ireland-data-privacy-1270123>. (Accessed November 18, 2022.)

4.2.2 ILLUSIONARY SELF-DETERMINATION

Due to information asymmetries between platforms and data subjects, the complexity of flows of data processing activities, and the centrality of communication platforms to everyday life, it is often impossible for people to meaningfully exercise control over how their own data is used. Even if platforms did offer people more choices over how their personal information is used, many people may find it burdensome or difficult to make decisions in their own interests. Some refer to this as the ‘Privacy Paradox’ – the observation that people profess to care about their privacy, but act in ways that expose their personal information widely.¹¹²

Among the theories for why this paradox exists is the perception some users have that any choices they make will not ultimately make a difference. Popup cookie windows, for example, create a sense that privacy laws and regulations are a checkbox compliance exercise, and not a meaningful way for people to control how their information is used. In our consultation, one expert said that because platforms “may not fully comply with data protection rules, specifically transparency ones” in the first place, this therefore affects data subjects’ knowledge of data processing practices.

Indeed, recent reporting indicates that Facebook’s own privacy engineers have been unable to piece together how the company processes the data of Facebook users.¹¹³ “We do not have an adequate level of control and explainability over how our systems use data, and thus we can’t confidently make controlled policy changes or external commitments such as ‘we will not use X data for Y purpose.’ And yet, this is exactly what regulators expect us to do, increasing our risk of mistakes and misrepresentation,” the document read.

In November 2022, the Irish Council for Civil Liberties sent a letter to the European Commission drawing on thousands of pages of documents from long-running litigation against Facebook’s parent company Meta that found “despite having conducted a year-long investigation of those systems” the company “does not know what its systems or business units or divisions do with peoples’ data”.¹¹⁴ If this is true, and platforms are currently unable to explain to their users how their systems make decisions, this stands in contrast to the requirements within the GDPR around transparency and accountability. Article 13(1)(c) of the GDPR requires that a data processor disclose to a data subject the precise “purposes of processing” their data.¹¹⁵ Similarly, Recitals 42 and 43 of the GDPR outline the granularity with which “different personal data processing operations” need to be disclosed.¹¹⁶

The European Union’s DMA, a competition law which came into force in November 2022, also contains provisions that limit how large gatekeepers like platforms can use the data they collect. For example, Article 5(2)(c) requires that platforms do not “cross-use personal data from the relevant core platform service in other services provided separately by the gatekeeper, including other core platform services, and vice versa”.¹¹⁷ This means that Facebook, for example, must not combine personal information collected through another platform that Meta owns, like Instagram or WhatsApp. In addition, where a user has refused their consent or withdrawn their consent for a processing activity, the DMA says, “the gatekeeper shall not repeat its request for consent for the same purpose more than once within a period of one year”.¹¹⁸

112 Gerber, N., Gerber, P., and Volkamer, M. (2018). Explaining the Privacy Paradox: A Systematic Review of Literature Investigating Privacy Attitude and Behavior. *Computers & Security*, 77, pp. 226-261. Available at: <https://www.sciencedirect.com/science/article/pii/S0167404818303031>.

113 Franceschi-Bicchierai, L. (2022). Facebook Doesn’t Know What It Does With Your Data, Or Where It Goes: Leaked Document. *VICE*. Available at: <https://www.vice.com/en/article/akvmke/facebook-doesnt-know-what-it-does-with-your-data-or-where-it-goes>. (Accessed November 9, 2022.)

114 Irish Council for Civil Liberties (2022). Meta’s Internal Use of Data and the DMA. Available at: <https://www.iccl.ie/wp-content/uploads/2022/11/ICCL-to-Commission-17-November-2022.pdf>. (Accessed November 18, 2022.)

115 European Union (2016). Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation). Available at: <https://eur-lex.europa.eu/eli/reg/2016/679/oj>. (Accessed November 18, 2022.)

116 *Ibid.*, Recitals 42 and 43.

117 European Union (2022).

118 *Ibid.*, Article 5(2)(d).



RECOMMENDATIONS TO **STATES**

- > **Obtain from platforms on a periodic basis a complete and granular inventory of their data processing activities, including the legal basis for collecting and processing individual data elements, and impact assessments on how platforms are monitoring and mitigating against likely risks.**
- > **If platforms are unable to provide a complete and granular inventory of their data processing activities, or adequate risk assessments, data protection authorities should evaluate what structural remedies can be imposed to ensure that platforms are processing personal information responsibly.**
- > **Request explanations from platforms as to their processing activities, as well as details on how platforms educate and inform their users as to how and when their personal information is collected and processed.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Comply with privacy and data protection laws, including by.**
 - ◆ proactively documenting all data collection and processing activities;
 - ◆ providing users with understandable explanations of how their personal information is collected and processed; and
 - ◆ separating out data across products, platforms, and functions.
- > **Provide accessible, fair, and secure mechanisms for users to exercise meaningful control over how their personal information is used.**

4.2.3 INTEROPERABILITY AND DATA PORTABILITY

Some components of privacy and data protection laws are difficult to put into operation in practice. For example, Article 20(1) of the GDPR states: “The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller.”¹¹⁹ Article 20(2) further states: “The data subject shall have the right to have the personal data transmitted directly from one controller to another, where technically feasible.”¹²⁰ Recital 68 of the GDPR reads: “Data controllers should be encouraged to develop interoperable formats that enable data portability.”¹²¹ Plainly read, these clauses within the GDPR provide European residents with a general right to transfer their personal information from one service to another. The terms “structured”, “commonly used” and “machine-readable” are a set of minimal requirements that are intended to facilitate the interoperability of the data format provided by the data controller. In that way, “structured, commonly used and machine readable” are specifications for the means, whereas interoperability is the desired outcome. The DMA builds upon this from a competition angle, with

119 European Union (2016), Article 20(1).

120 *Ibid*, Article 20(2).

121 *Ibid*, Recital 68.

Article 6(9) stating: “The gatekeeper shall provide end users and third parties authorized by an end user, at their request and free of charge, with effective portability of data provided by the end user or generated through the activity of the end user in the context of the use of the relevant core platform service, including by providing, free of charge, tools to facilitate the effective exercise of such data portability, and including by the provision of continuous and real-time access to such data.”¹²²

However, interoperability is a puzzle: because personal information is likely to be provided in various formats, and a fundamental principle of the GDPR is data minimization, receiving organizations potentially stand to receive data in excess of what their service requires. Data portability also implies additional data processing by a controller, in order to extract data from the system and to remove that which is outside the scope of a portability request (such as a user’s password). It is not clear how much metadata should be transferred to preserve the precise meaning of exchanged information, particularly where that metadata contains the personal information of someone else. For example, should people who switch platforms be able to access content posted by someone else on another service, if that entails a platform retrieving someone else’s personal information without their permission? If you take your Facebook data to another platform, should you expect to preserve the names of the people who ‘liked’ your Facebook photos? What responsibilities, if any, does a controller have to ensure that a user is transferring their personal information to another service that is secure? There is little case law we can rely on to properly understand interoperability.

Our consultation indicated that the lack of interoperability and data portability allows platforms to benefit from strong network effects, which in turn further exacerbates entry barriers for alternative providers of such services, increases costs for end-users to switch, and ultimately can have a negative impact on the plurality of services that can be present and fairly compete in digital markets.



RECOMMENDATIONS TO STATES

- > **Data protection authorities should provide guidance on the extent to which platforms are expected to guarantee the security of personal information that is transferred between two independent platforms or services.**
- > **Data protection authorities should help individuals make informed decisions about the risks involved in transferring their personal information from one platform to another, and recommend appropriate measures to help individual data subjects perform this function safely.**



RECOMMENDATIONS TO PLATFORMS

- > **Cooperate with other industry stakeholders, civil society, and data protection authorities to develop a common framework and standards for securely and effectively operationalizing the right to data portability that is established in existing data protection laws and regulations.**

¹²² European Union (2022), Article 6(9).

4.2.4 PROFILING AND TARGETING

Profiling is the process of using personal information to create a profile of an individual, which can then be used to make predictions about that individual's behavior so as to target them with advertisements and content.

A particularly problematic practice in this area concerns advertising-driven profiling and targeting and the potential for discrimination, especially for more vulnerable groups. The entire legitimacy of tracking consumer behavior for online targeted advertising is under intense discussion, as it involves the online tracking of individuals often without their knowledge and consent.¹²³ Despite the resistance of numerous stakeholders in the advertising sectors, the DSA has in the end prohibited platforms from using targeting techniques involving the data of minors for the purpose of displaying ads, as well as targeting individuals on the basis of special categories of data which allow for targeting vulnerable groups.

Concerns about these practices also emerged in our consultation: interviewees criticized and questioned the use of profiling and targeting – especially micro-targeting – for advertising purposes. A possible solution, as discussed in a recent EU-funded study, could be to replace targeted online advertising with more contextual online advertising. Contextual advertising does not need incessant tracking and profiling of users, instead, the ads relate to the content or the specific search query.¹²⁴ Some public service media actors have found themselves at odds with their mission if they use extensive tracking, and organizations like the Dutch public service broadcaster Nederlandse Publieke Omroep have noticed that their ad revenue actually increased after switching from tracking-based behavioral to contextual advertising.¹²⁵ At the same time though, most media actors currently seek to retain their ability to use consumer data for targeted online advertisements,¹²⁶ and existing privacy and data protection regulations already impose restrictions on profiling and targeting.

Typically, profiling is permitted only with the informed and freely given consent of the data subject. However, because the threshold for obtaining consent is so high, platforms like Facebook argue that they deliver targeted advertisements to users on the basis of a voluntary contractual relationship. In its enquiry into Facebook, the Irish Data Protection Commission said relying on this legal basis implies that the serving of personalized advertisements constitutes a core element of the platform's service.¹²⁷

Article 22(1) of the GDPR states: "Someone has the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her."¹²⁸ Article 21(2) and (3) further state that a data subject always has the right to object to the processing of personal data for marketing purposes.¹²⁹ While platforms have argued that profiling or targeting individuals for advertising purposes does not have a legal or significant impact, the Austrian Supreme Court recently referred a case to the Court of Justice of the European Union to evaluate whether Facebook's processing of personal information for the purpose of advertising is compatible with the principle of data minimization enshrined within the GDPR.¹³⁰

¹²³ European Commission, Parcu P. L., Brogi E., Verza S., et al. (2022), p. 292.

¹²⁴ *Ibid.* p. 294.

¹²⁵ Lomas, N. (2020). Data from Dutch Public Broadcaster Shows the Value of Ditching Creepy Ads. TechCrunch. Available at: <https://techcrunch.com/2020/07/24/data-from-dutch-public-broadcaster-shows-the-value-of-ditching-creepy-ads/>. (Accessed November 19, 2022.)

¹²⁶ European Commission, Parcu P. L., Brogi E., Verza S., et al. (2022), pp. 292-293.

¹²⁷ Facebook Ireland Limited and NOYB/Maximilian Schrems, (2021). Case reference IN-18-5-5 further to a complaint-based inquiry commenced pursuant to Section 110 of the Data Protection Act 2018. Irish Data Protection Commission. Available at: <https://noyb.eu/sites/default/files/2021-10/IN%2018-5-5%20Draft%20Decision%20of%20the%20IE%20SA.pdf>. (Accessed November 19, 2022.)

¹²⁸ European Union (2016), Article 22(1).

¹²⁹ European Union (2016), Article 21(2),(3).

¹³⁰ Noyan, O. (2021). Austrian Court Refers Schrems' Facebook Complaint to EU Court. Euractiv. Available at: <https://www.euractiv.com/section/data-protection/news/austrian-court-refers-schrems-facebook-complaint-to-eu-court/>. (Accessed November 18, 2022.)

The GDPR is a European instrument with extraterritorial effect,¹³¹ and therefore organizations established outside the European Union are required to comply with the law when processing the data of residents of the European Union. Because of the complexities that platforms face in identifying the residency of their users, and the financial penalties for non-compliance, many platforms extend the protections afforded to European residents under the GDPR to all of their users. Furthermore, according to the privacy scholar Graham Greenleaf, 23 countries outside of the European Union have now updated their data protection laws and regulations to be modeled on the GDPR, and four of the world's five most populous countries (China, India, Indonesia, Pakistan) are in the process of revising their existing, limited data protection laws to incorporate "strong GDPR-like elements", including restrictions on profiling and targeting by the private sector. Around the world, different regimes acknowledge that profiling and targeting has the potential to infringe on fundamental rights, but enforcement of these laws and regulations remains spotty and inconsistent.



RECOMMENDATIONS TO **STATES**

- > **Ensure that existing privacy and/or data protection laws and regulations are adequate, and contain provisions that impose high barriers to using personal information for the purposes of profiling and targeting individuals.**
 - ◆ The processing of personal information for the purposes of profiling and targeting individuals should require that a reasonable person anticipate and be aware the activity is occurring; provide the individual with a right to an explanation as to why they have been profiled or targeted; and not permit overly granular targeting.
- > **Require that platforms maintain and make available for public inspection anonymized written records documenting how, why, and when data elements are being collected and/or processed; the legal basis for doing so; and details of impact assessments that justify the activity as being of low or no risk to a reasonable person.**
- > **Empower supervisory authorities with a power of inspection to obtain internal work products and other documentation to enable investigations into platforms where they are reasonably suspected of not being in compliance with privacy and data protection laws and regulations.**
- > **The onus is on data protection authorities to enforce the privacy and data protection laws and regulations in their jurisdiction fairly and evenly.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Comply with the letter and the spirit of privacy and data protection laws.**

131 European Union (2016), Article 3.

4.3 MEDIA AND NEWS POLICY FRAMEWORKS

Media and news policy frameworks contain regulatory instruments and other interventions that can impact the ways in which recommender systems influence news and media production and distribution processes. Rules that applied to legacy media organizations have not always translated very well in the online sphere. However, this has rapidly changed in recent years as policymakers and regulators have tried to level the playing field – not always successfully – between media organizations and platforms. Illustrative examples of relevant interventions can be found in (1) media plurality and diversity frameworks, (2) the commercial relationships between news providers and platforms, and (3) attempts at addressing information disorder.

4.3.1 MEDIA PLURALISM AND DIVERSITY FRAMEWORKS

Media pluralism is a democratic value, an enabler of other fundamental rights, and essential to the integrity of democratic discourse. Pluralism is essential for a well-functioning democracy because it allows for the exchange and consideration of a diversity of viewpoints, which can help to facilitate informed decision-making and promote the inclusion and representation of a wide range of voices. When this pluralism is undermined, it can lead to the emergence of information deserts, where access to diverse and reliable sources of information is limited, and to the proliferation of infodemics, or the rapid spread of misinformation. These phenomena can have serious consequences for democracy, including the erosion of trust in institutions, the suppression of marginalized voices, and the manipulation of public opinion. The ways in which policy and regulation can support media pluralism vary depending on the national contexts.

As highlighted by a recent study,¹³² it is necessary to reaffirm the social functions of media and news pluralism, and the importance of preserving high-quality journalism. Otherwise, as the challenges this sector faces continue to grow, the significance of media and news in the process of democratic participation and governance will continue to decline, and other communication functions and institutions will take their place.¹³³

Traditionally, media pluralism policies were geared towards ensuring a diversity of voices and perspectives in the publicly available media offering. With the rise of platforms and their recommender systems, policymakers are faced with new challenges in achieving media pluralism.¹³⁴ There are still significant gaps between existing regulatory frameworks, applicable to legacy media organizations in print and broadcasting, and new emerging rules that are applicable to online media organizations.

The different policy frameworks that safeguard media pluralism and diversity at the national, regional and international level are multi-faceted and heavily dependent on the competences and powers of intervention that different regulators and policymakers have. As is discussed in Section 6.2 below, ideological differences also contribute to how different countries and regulatory regimes approach this matter: in the US, the ‘marketplace of ideas’ defers to competitive markets to provide a plurality of voices; in Australia, Canada, and Europe, a public choice competes with commercial players to address market failures.

Algorithmic curation and recommender systems impact on three interrelated aspects of media pluralism and diversity: external media pluralism, internal media pluralism, and exposure diversity. For example,

¹³² European Commission, Parcu, P., Brogi, E., Verza, S., et al. (2022), p. 21

¹³³ Pickard, V. (2008). *Media Democracy Deferred: The Postwar Settlement for U.S. Communications, 1945–1949*. University of Illinois, Urbana. Available at: <https://www.ideals.illinois.edu/handle/2142/86600>. (Accessed November 9, 2022.)

¹³⁴ European Commission, Parcu, P., Brogi, E., Verza, S., et al. (2022), pp. 90-91.

emerging policy debates on news prominence and the findability and discoverability of content online intersects with both internal media pluralism and exposure diversity.¹³⁵ At the moment of writing, existing rules are derived from legacy broadcasting systems, where the prominence of public interest services and/or public service media are being expanded to cover a limited range of internet-connected devices, such as smart TVs, as is the case in Germany's Interstate Media Treaty and the UK's Electronic Program Guide Prominence Review. However, there are also attempts to introduce new sets of rules and/or self-regulatory codes that could promote the prioritization of public interest news and services on a wider range of platforms. For instance, the Canadian government has recently developed non-binding guiding principles that include the promotion of diverse and pluralistic sources of news and information through recommender systems.¹³⁶ These guidelines are intended to foster greater exposure to diverse cultural content, information, and news online, and to in turn contribute to a healthier public discourse.¹³⁷

Any positive content intervention in this space must be carefully balanced against potential undue consequences for media freedom and freedom of expression. Any regulatory interventions must be accompanied by relevant systems of transparency and accountability to avoid news prominence rules being misused as soft forms of propaganda or censorship.¹³⁸



RECOMMENDATIONS TO **STATES**

- > **Affirm or reaffirm respect for human rights, including freedom of expression, and be clear that this principle applies equally online and offline.**
- > **Understand that media convergence, and the shift of news consumption to communication platforms, has an impact on content creation and consumption, and explore what media literacy skills citizens need in this new environment to support strong civic participation.**
- > **Develop guidelines in consultation with civil society and industry that contextualize and localize understandings of what diverse and pluralistic news and information looks like in your part of the world.**
- > **Require that platforms make information about their ownership and funding sources accessible to the public.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Work with civil society, governments, and other relevant actors to develop a common understanding of what diverse and pluralistic news and information constitutes in different local contexts.**

135 Mazzoli, E. and Tambini, D. (2020); European Commission, Parcu, P., Brogi, E., Verza, S., et al. (2022).

136 Government of Canada (2021). Guiding Principles on Diversity of Content Online. Available at: <https://www.canada.ca/en/canadian-heritage/services/diversity-content-digital-age/guiding-principles.html>. (Accessed November 7, 2022).

137 Government of Canada (2021). Diversity of Content Online. Available at: <https://www.canada.ca/en/canadian-heritage/services/diversity-content-digital-age.html>. (Accessed November 7, 2022).

138 *Ibid.*

4.3.2 NEWS-TO-PLATFORMS BUSINESS RELATIONS

The imbalance of power between media organizations and platforms, and the lack of a level playing field between these two industry actors, can have an impact on the production and distribution of news online.¹³⁹ To rectify such market power imbalances, governments in Australia,¹⁴⁰ Canada, and Europe through the EU Directive on Copyright in the Digital Single Market have taken more interventionist and corrective approaches.

In Australia, to address the effects that large search engines and social media platforms have on competition in media and advertising, especially for the news media, a News Bargaining Code¹⁴¹ was introduced to support public interest journalism by making platforms – or more specifically Google and Facebook – pay for content. Similarly, the Canada Online News Act,¹⁴² intends to ensure fair revenue sharing between digital platforms and news outlets through collective bargaining power and the promotion of voluntary commercial agreements. Government intervention in both cases is minimal, as it is intended as a backstop in case news outlets and platforms cannot come to mutually beneficial and fair business relations.

These new frameworks have not yet been implemented, but have faced strong opposition from platforms. In the case of the Australian News Bargaining Code, the public response from Facebook and Google was to threaten the interruption of their services in the country and to note dangers posed to citizens if the legislation was enacted, suggesting that “it would ‘break’ not only their business models but also search engine capabilities and online interactivity”.¹⁴³ Similar concerns were raised also for the proposed Canadian bill, which is heavily inspired by the Australian example.¹⁴⁴

It is not surprising that platforms oppose these kinds of interventions. However, it is notable that there is an increasing appetite amongst policymakers to intervene in ways that run contrary to the commercial interests of platforms. This points to a growing international consensus around platforms contributing to the funding of journalism, and an increasing willingness amongst governments, policymakers, and regulators to introduce mechanisms that could secure this outcome, while still maintaining minimal government interventions.¹⁴⁵



RECOMMENDATIONS TO STATES

> Explore ways to fund public interest journalism through extra non-taxed profits earned by large online platforms by the use of news content.

139 Australian Competition and Consumer Commission (2019). Digital Platform Inquiry: Final Report. Commonwealth of Australia. Available at: <https://www.accc.gov.au/publications/digital-platforms-inquiry-final-report>.

140 Bossio, D., Flew, T., Meese, J., Leaver, T. and Barnet, B. (2022). Australia's News Media Bargaining Code and the Global Turn towards Platform Regulation. *Policy and Internet* 14 (1), pp. 136–50. Available at: <https://doi.org/10.1002/poi3.284>.

141 Australian Competition and Consumer Commission (2021). News Media Bargaining Code. Available at: <https://www.accc.gov.au/focus-areas/digital-platforms/news-media-bargaining-code>. (Accessed October 9, 2022.)

142 Government of Canada (2022). The Online News Act. Available at: <https://www.canada.ca/en/canadian-heritage/services/online-news.html>. (Accessed October 9, 2022.)

143 Bossio, D., Flew, T., et al. (2022), p. 140.

144 Meta (2022). Sharing Our Concerns With Canada's Online News Act. Available at: <https://about.fb.com/news/2022/10/metas-concerns-with-canadas-online-news-act/>.

145 Bossio, D., Flew, T., et al. (2022), p. 143.



> Allow media organizations to benefit from the earnings that platforms receive from their use of news content in a manner that does not unduly advantage larger media organizations at the expense of smaller ones.

4.3.3 DIS-, MAL-, AND MISINFORMATION

Since 2016, greater attention has been paid to issues around dis-, mal-, and misinformation online, as well as their impacts on opinion-forming and democratic processes. Policymakers, media organizations, and civil society organizations have proposed and tested different regulatory avenues to address these issues at the platform recommender system-level. Interventions in this space have primarily focused on content moderation practices, and only recently have some countries advanced positive content interventions that seek to modify existing normative content curation and prioritization practices.

The most notable example at the European level is the Code of Practice on Disinformation, which establishes a framework for platforms to collaboratively reduce the access and dissemination of dis- and misinformation on their services. This tool emphasizes accountable content moderation practices, along with risk assessment and mitigation practices in diluting, decreasing, deranking and deleting dis- and misinformation. The Code introduces new commitments for platforms to improve the findability of trustworthy or authoritative content through recommender systems or other technical means. These commitments could be linked to existing self-regulatory standards like the Journalism Trust Initiative, which has advanced a set of technical standards, professional norms and principles for news media organizations.¹⁴⁶

Similarly, the Australian Code of Practice on Disinformation adopts both positive and negative approaches to content regulation. The Code attempts to reduce the propagation of false information by disrupting the monetization of such content, and promoting the use of technological means like recommender systems to prioritize or rank digital content in a way that enables users to easily find diverse perspectives on matters of public interest.¹⁴⁷

It should be noted that these codes are the first examples of connecting two regulatory areas that were previously siloed at the national level: media plurality frameworks, and digital services regulation. However, “content moderation and content curation are two sides of the same coin”,¹⁴⁸ and they are both tightly related with the use of recommender systems to de-prioritize and prioritize information and content online.

Existing frameworks in this area primarily rely on self-regulatory practices, hence, they are self-designed and self-implemented by the platforms that have voluntarily decided to adhere to them. The shortcomings of this approach were also highlighted by both the European Digital Media Observatory and the European Regulators Group for Audiovisual Media Services. Even the strengthened version of the

¹⁴⁶ The Journalism Trust Initiative has developed a standardization instrument for evaluating news media organizations. This instrument is in line with ISO protocols and is published by the European Committee of Standardization. See: <https://www.journalismtrustinitiative.org>.

¹⁴⁷ Digital Industry Group (2021). Australian Code of Practice on Disinformation and Misinformation. Available at: <https://digi.org.au/wp-content/uploads/2021/10/Australian-Code-of-Practice-on-Disinformation-and-Misinformation-FINAL-WORD-UPDATED-OCTOBER-11-2021.pdf>. (Accessed: October 9, 2022.)

¹⁴⁸ Mazzoli, E., and Tambini, D. (2020), p. 5.

European Code, which was presented as a co-regulatory intervention aimed at addressing the drawbacks of the previous framework, could de facto fall into the same trap. There are no enforcement powers nor obligations, and therefore it is highly unclear how the compliance to a 'strengthened' code will differ from the self-assessment methods of the first version. Possible solutions to addressing the drawbacks of self-regulation include the development of commonly shared definitions of key concepts, clearer monitoring and reporting procedures, more precise and more comprehensive commitments, and functional data access provided by platforms to allow for independent auditing and monitoring based on transparent key performance indicators.¹⁴⁹



RECOMMENDATIONS TO **STATES**

- > **Establish a national supervisory authority with a mandate to foster cooperation between platforms and other regulatory actors, including indirect regulators like independent researchers.**
- > **Build the capacity of regulatory actors to have structured cooperation with platforms, without being captured.¹⁵⁰**
- > **Establish binding commitments with platforms to explore and address issues posed by dis- and misinformation.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Work with regulators and researchers to monitor and understand changes in online news and information environments. This will include establishing fair and responsible procedures for providing access to platform data for research purposes.**

¹⁴⁹ European Digital Media Observatory (2021). Implementation of the Code of Practice on Disinformation: Lessons from the Assessments and Proposals for the Future. Available at: https://edmo.eu/wp-content/uploads/2021/02/EDMO_CoP_workshop281020_report-003.pdf. (Accessed: October 9, 2022.)

¹⁵⁰ 'Capture' describes a situation where "regulators have failed to do their job because they have come too close to the interests of those they are supposed to regulate" (Lodge & Wedrich, 2012, pp. 29-30). The regulatory process and hence the output has been seized by the industry, and thus does not represent the public's best interest.

4.4 HUMAN RIGHTS AND PROTECTIONS

4.4.1 FREEDOM OF OPINION AND EXPRESSION

Article 19 of the Universal Declaration of Human Rights states: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.”¹⁵¹

In accordance with generally accepted international standards on free speech and with due regard to the rights and reputation of others, Article 19 implies the right to criticize any systems of thought and cannot be constrained or limited by the beliefs or sensitivities of others.

When creating policies and regulations for communication platforms, states and platforms should ensure any measure taken is necessary and proportionate to the issue being addressed. In interviews, experts said that platforms have demonstrably fallen short of the expectations set within existing human rights frameworks that are backed by clear political mandates. One such framework is the UN Guiding Principles on Business and Human Rights,¹⁵² which provides a blueprint for how companies can assess the impacts of their activities against internationally agreed norms and standards. These principles have the potential to serve as a sound normative basis to impose human rights obligations on platforms and to govern the working of their recommender systems.

Several organizations, public institutions, and international bodies have thus formulated recommendations to ensure that the governing mechanisms of platforms respect freedom of expression, while protecting users from harm through reinforced notification and appeal mechanisms on platforms’ content decisions, and risk mitigation measures to limit the adverse effects of automated moderation techniques.¹⁵³

However, while the emphasis in these frameworks has typically been on content moderation, it is important to note that recommender systems can also impact on freedom of expression through their prioritization practices, and they should therefore respect the same principles and human-rights-driven assessment frameworks.



RECOMMENDATIONS TO STATES

- > **Pluralism is an enabler of freedom of opinion and expression. Recognize that communication platforms, while private spheres, are in practice places for public discussion, and venues where citizens form their opinions.**
- > **Empower supervisory authorities to develop a more symmetrical relationship with platforms so that public authorities can audit and understand how speech is being protected or stifled through private ordering.**

151 United Nations (1948). Universal Declaration of Human Rights. Available at: <https://www.un.org/en/about-us/universal-declaration-of-human-rights>.

152 United Nations (2012). Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework. Available at: <https://www.ohchr.org/en/publications/reference-publications/guiding-principles-business-and-human-rights>.

153 Building on the reports of the UN Special Rapporteur on the Promotion and Protection of the Right to Freedom of Expression and Opinion, and the work of civil society organizations such as Access Now, the Center for Democracy and Technology, EDRI, and Global Partners Digital, the Forum on Information and Democracy’s Working Group on Infodemics has advanced a series of recommendations and mechanisms in its final report. See: Forum on Information and Democracy (2020).



RECOMMENDATIONS TO PLATFORMS

- > **Adhere to the UN Guiding Principles on Business and Human Rights.**
- > **Recognize the role that platforms play in democratic society, and ensure that perspectives from traditionally excluded communities are accessible and discoverable by recommender systems.**

4.4.2 FREEDOM TO ACCESS AND RECEIVE INFORMATION

Platforms are not mere conduits or carriers of content. Platforms shape the decisions that users are able to make, as their architecture shapes what is possible on the platform, just as the governance system of a country shapes what is possible in politics. Regulation in this space is a careful balancing act between freedom of expression and freedom of choice on the one hand, and positive safeguards to foster media pluralism and diversity of exposure, on the other.¹⁵⁴ The European Union's 2022 Code of Practice on Disinformation paves the way for some potentially useful developments that could empower users' choices by requiring that default options be based not simply on commercial incentives and data profiling techniques.

Sections 19 and 20 of the Code highlight the importance of "safe design" in the architecture of platform services, including their recommender systems, and prompt platforms to "recognise the importance of the potential of provenance technology to empower users with tools to interrogate the provenance and authenticity of content to help the users determining the veracity of content", calling on platforms to "enhanc[e] their efforts in the area of media literacy including to protect and empower vulnerable groups".¹⁵⁵ While not referenced in the Code, one example of a provenance technology is the Content Authenticity Initiative,¹⁵⁶ a standard developed by Adobe, the BBC, Microsoft, and *The New York Times*. This technology embeds metadata inside images, which are secured with digital signatures, so that platforms are able to detect the origins of a file and whether there have been any unauthorized modifications to it. In addition, the Code "acknowledge[s] the significant impact that recommender systems have on the information diet of users, and therefore recognize[s] that recommender systems should be transparent and provide users with the possibility to modify at any time their preferred options for the way that information is recommended to them".¹⁵⁷ If adequately implemented, this commitment could therefore allow users to employ different types of recommender systems that are not solely based on past consumption habits and behaviors, but also on maximizing diversity of exposure, or prioritizing trustworthy content.

While we are still in the realm of self-regulation and its shortcomings, these commitments could be further reinforced by a newly introduced "right of customization of audiovisual media offer" in the proposed European Media Freedom Act regulation.¹⁵⁸ According to this new right, platforms' user interfaces shall include a functionality that enables "users to freely and easily change the default settings controlling or managing access to and use of the audiovisual media services offered".¹⁵⁹

¹⁵⁴ Mazzoli, E. and Tambini, D. (2020).

¹⁵⁵ European Commission (2022a). 2022 Strengthened Code of Practice on Disinformation. p. 18. Available at: <https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation>.

¹⁵⁶ Content Authenticity Initiative (2022). Available at: <https://contentauthenticity.org>.

¹⁵⁷ *Ibid.*

¹⁵⁸ European Commission (2022b). European Media Freedom Act - Proposal for a Regulation and Recommendation. Available at: <https://digital-strategy.ec.europa.eu/en/library/european-media-freedom-act-proposal-regulation-and-recommendation>.

¹⁵⁹ *Ibid.*

These solutions presume that users would use such options, and therefore envision an ideal ecosystem of technologically savvy users capable of making informed decisions about their information and content diets. This may not always be the case. Thus, different levels of media and digital literacy could impact the implementation and success of these kinds of users' empowerment measures, potentially exacerbating existing digital inequalities.



RECOMMENDATIONS TO **STATES**

- > **Pluralism is an enabler of the right to access and receive information. Recognize that there is a relationship between access to timely, accurate, local knowledge and a free, democratic society.**
- > **Encourage the voluntary adoption of open standards for content authenticity and provenance, and begin using these technologies when developing and sharing government content online.**
- > **Support efforts to bolster the media literacy of citizens by designing, implementing, and monitoring the success of programs that are targeted at citizens of all educational levels.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Adhere to the UN Guiding Principles on Business and Human Rights.**
- > **Design and implement tools to improve the media literacy skills of users so they are empowered to make decisions in their own interests.**
- > **Take measures to improve the prominence of authoritative information, and to reduce the prominence of dis- and misinformation, based on clear and transparent methods and approaches that are developed in a multistakeholder fashion in collaboration with civil society, governments, and other relevant actors.**
- > **Adopt standards and technologies that provide users with tools to verify the provenance and authenticity of information, where possible.**

4.4.3 ONLINE SAFETY, HARM, AND PLATFORMS' LIABILITY

The question of platforms' liability for the content they host is a particularly controversial one. Interventions in this area vary widely and often build on existing frameworks for broadcast media and/or electronic communications. For instance, in South Africa, the question of intermediary liability did not come anew from policy debates on platforms and recommender systems, but was legislated in the 2002 Electronic Communications and Transaction Act, paving the way for this kind of legislation in Africa.¹⁶⁰

However, intermediaries cannot reasonably be expected to be aware of all the content transmitted, posted, shared, distributed on their services, especially given the pace of change and the immense user-base of platforms such as social media. This is why, in many countries, legislated limitations on liability for intermediaries exist.

Most notably, given that many large communication platforms are headquartered in the United States, Section 230 of the Communications Decency Act states: "No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider."¹⁶¹ Similarly, in Latin American jurisprudence, while intermediaries are not completely immune to liability, the general principle is that they should not be held accountable or liable for third-party content posted or shared on their services. Likewise, in the European Union, the eCommerce Directive "exempt[ed] intermediaries from liability for the content they manage if they fulfill certain conditions", such as removing or disabling access to illegal content when made aware that hosted content is unlawful.¹⁶² This shield remains in the DSA.¹⁶³

In France, with the 2018 Law on Combating the Manipulation of Information,¹⁶⁴ platforms are not considered liable for misinformation content posted by third parties, but new intervention powers are introduced in election periods. For instance, it enables judges to take proportionate and necessary measures against Internet Service Providers and hosting services to stop the spread of misinformation in the three months before an election.¹⁶⁵



RECOMMENDATIONS TO STATES

- > **Platforms and associated service providers (such as the developers of recommender systems) should have conditional protection for hosting and/or recommending user-generated or externally sourced content. However, if certain content hosted in a platform and/or promoted by a recommender system causes harm and/or is unlawful, and they have been given a reasonable time to systematically address the matter and have not done so, they should be legally responsible for resulting harm.**
- > **Governments should work with civil society, industry, and other relevant actors to collaboratively determine what constitutes 'harm', while balancing and respecting human rights, including the rights to free expression and to**

¹⁶⁰ Association for Progressive Communications (2012). The Liability of Internet Intermediaries in Nigeria, Kenya, South Africa and Uganda: An Uncertain Terrain. Available at: https://www.apc.org/sites/default/files/READY%20-%20Intermediary%20Liability%20in%20Africa_FINAL_0.pdf.

¹⁶¹ 47 U.S.C. § 230. Available at <https://www.govinfo.gov/app/details/USCODE-2011-title47/USCODE-2011-title47-chap5-subchapII-partI-sec230-summary>.

¹⁶² European Commission (2021). eCommerce Directive. Available at: <https://digital-strategy.ec.europa.eu/en/policies/e-commerce-directive>.

¹⁶³ European Union (2020), Article 12.

¹⁶⁴ French National Assembly (2018). Law on Combating the Manipulation of Information. Available at: https://www.assemblee-nationale.fr/dyn/15/textes/l15b0799_proposition-loi.

¹⁶⁵ European Union DisinfoLab (2019). Resources - France. Available at: <https://www.disinfo.eu/resources/france-2/>.

access information. At a high level, content that incites violence, infringes on intellectual property, or has been found by a court to communicate abuse or be defamatory, likely meets a definition of harm that is also unlawful.



RECOMMENDATIONS TO **PLATFORMS**

- > **Do not knowingly and intentionally recommend or amplify content that you have been made aware is harmful.**
- > **Make it possible for users and other stakeholders to easily report content that is harmful, in all languages that a platform serves, and review these submissions in an expeditious but thorough manner.**

4.5 CASE STUDY FROM LATIN AMERICA

By Ana Laura Pérez, Associate Consultant, Observacom

Latin America faces challenges similar to those of the rest of the world, as well as some specific to this region, in terms of the distribution of diverse and balanced information by indexing and curation algorithms of digital information and communication platforms.

BACKGROUND

The experts consulted for this case study point to 2018 as a key year in the incorporation of concepts such as algorithmic distribution, previously absent in the public debate. Although, to this day, these conversations take place only among a small group of activists and specialists on issues of freedom of expression and digital environments.

In October 2019, a period of social unrest took place in Ecuador, Chile and Colombia. In mid-October of that year, the Chilean government declared a curfew for a weekend, and reports of deaths, injuries, and clashes between police and social activists began actively to circulate. “There we saw much more frequently that hundreds of people denounced the disappearance and blocking of content on social networks,” one activist explained.

In response, the organization Datos Protegidos launched a survey to analyze content distribution and its reach. That survey, which was active until December 2019, was completed by hundreds of organizations, media, groups, and individuals. In the following months, very similar situations occurred in other countries on the continent, generating numerous complaints for content removal. The Colombian organization Karisma used the same method to survey cases in that country, finding similar results.

CHALLENGES

The first challenge for Latin America is the **lack of knowledge about the phenomenon** and its impact on access to information and the distribution of a diversity of voices. This occurs paradoxically in a continent deeply colonized by social networks as a means for the distribution of information. According to the latest 2022 Digital News Report from the Reuters Institute, almost 40% of those consulted say that they start their news agenda on social networks (39%); in countries like Argentina or Peru these figures exceed 60%.¹⁶⁶

In this sense, the experts we consulted point to the beginning of a positive process in recent years in which some actors have begun to visualize the intervention of social networks in the distribution of information. In particular, they point to the social upheavals in different countries during 2018 and 2019, as a turning point which made clear the influence of content distribution and its particular importance in times of information crisis and high demand for high-quality information.

“I think this is the main point that we have noticed in our countries.... In 2018 in Chile, there was a prelude to the social unrest of 2019, which was the feminist May in universities, when it became very important to understand this more political dimension of online content moderation.... It happened when videos uploaded on feminist accounts began to be removed, or there were episodes of invisibility of content such as ‘shadowbanning’, and organizations complained, but without much understanding of what was happening,” explained one expert.

¹⁶⁶ Newman, N. et al. (2022).

For several of the experts consulted, the tools available for content distribution are put to the test during times of information crisis, and they generally fail. This implies that just when a diversity of voices and access to reliable information is most necessary, that possibility is most threatened.

The aforementioned episodes also demonstrate a further challenge for Latin America and other areas affected by the distribution of content on platforms. The scarcity, and in many cases the **total absence, of legal representation of platforms in Latin American countries** has an impact in many ways on issues such as the distribution of diverse and balanced information on the continent.

RECOMMENDATIONS AND CONCLUSIONS

The experts consulted agree that lack of information and transparency regarding online content distribution processes leads to difficulty in making recommendations or suggestions to improve pluralism of news and information in the distribution of content. They acknowledge that although this is a global problem, in Latin America the problem is deepened because platforms, and their executives, do not feel obliged by governments to give any degree of explanation as to how these tools are applied, as is the case in Europe and the US.

In this sense, the first clear recommendation for any path of regulation is the **demand for greater transparency in the distribution processes of social platforms, as well as “the weight of economic incentives” in the weighting of the algorithms that define reach.** “When the platform maximizes the engagement of people with the platform, the content that is most attractive is privileged, and this is usually content that appeals to emotions and is not necessarily anchored in facts, that repeats and reinforces beliefs that can be controversial and even wrong – and that type of algorithmic curation should have another level of transparency,” claimed one expert.

Experts question how this is to be resolved; if it is possible to outline some recommendations; and, above all, if it is possible to apply strategies used in other continents, or at least use them as a starting point. Some of the specialists consulted point out that for Latin America, “it is difficult to generate something of its own because the logic of these companies is the logic of the market”, and that perhaps an **appropriate path arises from creating alliances between countries to create something similar to European legislation**, in the sense that it covers more than one territory and so replicates the transnational logic of the platforms themselves.

Latin America is debating whether regulation should include a greater weight of the state and its institutions in platforms’ decision-making processes. Experts mentioned the **existence of a strong objective (and subjective) distrust in the transparency and effective role of the state in many Latin American countries.** “These are two different things that need to be taken into account. There is mistrust in Latin America regarding the role of the state, so it is not a recommended path to go through a state regulator for places where democratic institutions have significant weaknesses and where the risk of this regulation being captured by political interests is high and can be dangerous.” On the other hand, “there is legitimate distrust on the part of the citizenry and it is an objective problem. It is not a problem of fear, but that this legislation could pass and be captured for use for results that are not at all positive, because there is a political interest that seeks to use this as a censorship mechanism,” warned one expert. In this sense, for the experts consulted, **Latin America faces a double challenge: that people lack confidence in the role of the state as regulator of platforms and their distribution of online content, and that this regulation does not end up being captured by powers or incumbent governments.**

III. BUILDING RESPONSIBLE RECOMMENDER SYSTEMS

Platforms can play a unique and important role in orienting human attention to news and information. However, this task is inextricably linked with social responsibility. Platforms are not currently meeting this challenge, and existing regulatory frameworks have significant limitations. At the core of this report is the need to find new avenues for realizing a fairer, more transparent, and more diverse online news and information environment. The obligation to build responsible recommender systems is not one that platforms can abdicate from; however, it is also not a goal they can achieve alone. Building a co-regulatory policy framework that supports and fosters media pluralism and information serendipity will require just and equitable cooperation between platforms, governments, the media, and other non-state actors at the local, national, and international levels.

Based on the insights gathered from 85 expert interviews, our global call for contributions, and additional desk research, we have identified nine potential policy remedies that should sit at the heart of any framework seeking to promote pluralism and diversity of news and information in algorithmic recommender systems: (1) alternative incentive structures and business models, (2) open and interoperable recommender systems, (3) safe design principles, (4) respect for privacy, (5) empowering users with new controls and settings, (6) safeguarding access to trustworthy news and information, (7) responding to real harms caused by information disorder, (8) competition and antitrust reforms, and (9) transparency and accountability reforms.

5. NEW AVENUES TO PROMOTING PLURALISM AND DIVERSITY

5.1 CREATING ALTERNATIVE INCENTIVE STRUCTURES AND BUSINESS MODELS

Central to the problem with communications platforms today is their surveillance-capitalist business model. “The Internet as a self-regulating market has been revealed as a failed experiment,” wrote Shoshana Zuboff in a 2021 article.¹⁶⁷ “Surveillance capitalism leaves a trail of social wreckage in its wake: the wholesale destruction of privacy, the intensification of social inequality, the poisoning of social discourse with defactualized information, the demolition of social norms and the weakening of democratic institutions.” Any intervention that does not reckon with the foundational economic causes behind why platforms are incentivized to behave in the ways that they do is likely to be unsuccessful.

As Very Large Online Platforms have dominant positions in their respective markets, their monopolization of personal information and behavior allows them to target individuals with messaging and advertisements with a granularity that smaller players cannot. This gives them significant power and influence. Because of network effects, large platforms are also able to recruit new users more easily than smaller platforms can, further exacerbating the problem by hindering new competitors from emerging.¹⁶⁸ Realistically, it is not possible to lower the barriers to entry for new platforms, but policymakers can “diminish and decentralize” platforms’ gatekeeping power.¹⁶⁹ One method of doing so, proposed by the nonprofit human rights organization Article 19, is by unbundling content hosting from content curation on large platforms. In doing so, a marketplace of alternative recommender systems could emerge, unlocking economic value for both the platform and the developer of the recommender system. This also presents platform users with viable alternatives to recommender systems driven solely by maximizing engagement and profits, without users having to migrate to other platforms, where they may have no existing connections.

Some minimum standards for recommender systems would be needed to ensure that they do not fall prey to the same economic incentives that trouble the status quo. While it is not the place for this working group to propose such standards – these should be developed in a consultative, multistakeholder process informed by internationally agreed human rights frameworks – other committees and institutions have proposed some baseline content standards that may provide a starting point for further conversation. The Markkula Center for Applied Ethics, for example, convened a roundtable symposium with academics, representatives of platforms, and representatives of media organizations, who concluded that recommender systems that distribute news should ensure the content they provide “raises systemic issues”, “brings visibility to historically excluded, socially and economically marginalized voices”, and “elevates acts of journalism directly from people with professional or experimental knowledge”.¹⁷⁰ There may also be a role for public investment in funding the development and maintenance of a public interest

167 Zuboff, S. (2021). You Are the Object of a Secret Extraction Operation. *The New York Times*. Available at: <https://www.nytimes.com/2021/11/12/opinion/facebook-privacy.html>.

168 Stasi, M. L. (2021). Taming Big Tech. Article 19. p. 12. Available at: https://www.article19.org/wp-content/uploads/2021/12/Taming-big-tech_FINAL_8-Dec-1.pdf.

169 *Ibid*, p. 13.

170 Markkula Center for Applied Ethics (2022).

recommender system alternative that guarantees freedom of expression and prioritizes exposure diversity.



RECOMMENDATIONS TO STATES

- > **Launch a citizens' dialogue to determine what, if any, new charters of rights, institutions, or regulatory frameworks may be necessary to ensure that the algorithmic curation of news and information complements societal norms, international human rights agreements, and public expectations.**
- > **Discuss with the platforms a process of functionally separating content hosting from content curation on Very Large Online Platforms by (1) unbundling hosting and curation, and (2) enabling users to choose their curation method(s).**
- > **Consider providing public funding to provide a meaningful, public alternative to for-profit recommender systems so that timely, accurate, local knowledge is always available.**
- > **A supervisory authority must be empowered to exercise independent oversight over the activities of platforms and recommender systems**

As a downstream issue, and as highlighted in Chapter 3, traditional funding models for news and information have come under duress in the era of algorithmic platforms.¹⁷¹

With audiences spending less time engaging directly with publishers and more time on platforms, advertisers have switched from publishers to platforms as a primary medium for advertising. In short, the advertising-driven business model that funded many publishers through the 20th century now has limited viability.¹⁷² As one research team put it,¹⁷³ the problem is “not so much a loss of readers, but an outdated advertising-based business model combined with high operational costs that make it difficult to provide the on-demand news and information audiences want”. Some larger publishers have found success with a mix of traditional advertising and subscription-based revenue, but viability is likely limited for smaller publishers. During our interviews with experts, some expressed the sentiment that platforms should fund journalism or engage in some degree of profit sharing with content creators. While there was no agreement or consensus on what this should look like, there was agreement that at the system level there is a need for a sufficient loop between content creation and content flows, so that creators are able to produce the content that platforms need in order to generate revenue themselves.

Experts also flagged that the news media itself bears some responsibility for its funding crisis, by not investing in business model innovations sooner, and by offering its content for free, creating the public perception that news content is not worth paying for. Some emerging technologies, like the Interledger Protocol,¹⁷⁴ which enables users to stream micropayments to participating websites as they browse the web and consume media content, may provide media organizations with new revenue streams worthy of further exploration.

171 Picard, R. G. (2008). Shifts in Newspaper Advertising Expenditures and their Implications for the Future of Newspapers. *Journalism Studies*, 9(5), pp. 704-716.

172 For an in-depth exploration of this trend, see: Picard, R.G. (2014). *Media Firms: Structures, Operations, and Performance*. Routledge.

173 Kurpius, D. D., Metzgar, E. T. and Rowley, K. M. (2010). Sustaining Hyperlocal Media: In Search of Funding Models. *Journalism Studies*, 11(3), pp. 359-376.

174 See: <https://interledger.org/rfcs/0003-interledger-protocol/>.

However, as with platforms and their ill-fitted commercial incentives, the issue the media sector faces may lie with their business models and ownership structures. The four main ownership models in the media industry are: (1) private ownership, (2) public ownership, (3) not-for-profit ownership, and (4) employee ownership.¹⁷⁵ Each ownership model is associated with different economic and managerial conditions, such as growth incentives, profit incentives, and incentives for sustainability. While “there is no perfect form of newspaper ownership”, public media can play a critical role in sustaining a pluralistic media ecosystem, giving a platform to traditionally excluded voices.



RECOMMENDATIONS TO STATES

- > As the money created and derived from investments in content flows in large part back to platforms, platforms and states need to reflect on what at the system level creates a sufficient loop for further investment in news content.
- > Governments should explore ways to fund public interest content, such as local journalism, through taxes or other surcharges imposed on Very Large Online Platforms.

5.2 OPEN AND INTEROPERABLE RECOMMENDER SYSTEMS

The closed and proprietary attributes of today’s most widely used platforms offer direction for building more responsible systems. To borrow Richard Whitt’s terminology,¹⁷⁶ platforms could be centered on “human autonomy and agency, via computational systems” rather than “surveillance, extraction, analysis, and manipulation” – HAACS rather than SEAMs. Interoperability offers one potential path to enabling greater human autonomy and agency.

Interoperability can be defined as “the ability to transfer and render useful data and other information across systems, applications, or components”.¹⁷⁷ Email offers a helpful example of interoperability. People can send emails from different devices (mobile or desktop, for example), using different internet service providers (think Xfinity or AT&T), and most importantly, different email servers. Whether a person uses Gmail, Yahoo! Mail, ProtonMail, a personal server, or something else entirely, they can exchange messages with any other email address because of shared communication protocols (such as the Simple Mail Transfer Protocol). Other popular examples of interoperability include open standards such as hypertext markup language (HTML), portable network graphics (PNG), portable document format (PDF), and the internet protocol (IP). As with email, these standards establish shared protocols which can be used by any actor.

Currently, recommender systems lack shared protocols and meaningful interoperability across platforms. For example, Facebook’s Feed indexes and ranks only content from within Facebook, Twitter’s Timeline only indexes and ranks tweets, and YouTube only indexes and ranks videos posted on YouTube.

175 Picard, R.G. and Van Weezel, A. (2008). Capital and Control: Consequences of Different Forms of Newspaper Ownership. *The International Journal on Media Management*, 10(1), pp. 22-31.

176 Whitt, R. (2021). Hacking the SEAMs: Elevating Digital Autonomy and Agency for Humans. *Colorado Technology Law Journal*. Available at: <https://ctlj.colorado.edu/?p=720>. (Accessed: September 1, 2022.)

177 Gasser, U. (2015). Interoperability in the Digital Ecosystem. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2639210. (Accessed: November 8, 2022.)

Interoperable recommender systems could help promote news and information pluralism in several ways, especially by promoting competition. Rather than each individual platform representing a single recommender system attached to a silo of content, platforms and other actors could compete to provide relevant recommendations, and audiences could easily choose the system they prefer. Interoperability could also allow people to choose who has access to their personal data, and migrate to preferred systems with minimal switching costs.

It is worth emphasizing that interoperability in recommender systems would be intended to give audiences more choices and agency in terms of *curation*, not necessarily in terms of content. There is already an overabundance of choices when it comes to content, however a small number of companies own and operate the recommender systems that curate this content for audiences. This translates to constrained choices and limited competition – major impediments for free markets.

In economic terms, interoperability requirements could counteract network effects and create more fair competition for reaching audiences. Existing structures and network effects have made large platforms larger and more successful, while making it increasingly difficult for new/smaller platforms to participate. It should be noted that companies have created standards for news content, including Facebook's instant articles, the Apple News API, and Google's accelerated mobile pages (AMP). These standards allow platforms to bring news content into their own inventory, however, they do not enable interoperability. In the case of the Apple News API, for example, Apple maintains full control over what is recommended to audiences: only Apple can access the inventory of articles for indexing and curation. The case is similar for Facebook's instant articles, however, Google's accelerated mobile pages present more nuance.

AMP is an open-source framework, such that any publisher can adopt the standard to be included and prioritized in Google's recommender systems. But the openness of this standard is complicated by Google's outsized role in hosting, rendering, and recommending content. Media executives have pointed out¹⁷⁸ that, as more mobile search traffic becomes hosted by Google through AMP, publishers lose control over the user interface, monetization, and other aspects of content distribution.

Some early efforts have pursued a greater level of interoperability for social media platforms. One such effort is the BlueSky project,¹⁷⁹ which has the stated goal of creating “a new foundation for social networking which gives creators independence from platforms, developers the freedom to build, and users a choice in their experience”. BlueSky has developed an open protocol¹⁸⁰ that supports identity management, data repositories, user accounts, moderation, and curation algorithms. These standards support open participation in social networking that does not require a central intermediary like Twitter or Facebook.

Most relevant to this report is the Authenticated Transfer (AT) protocol's support for “algorithmic choice” through “an open market of algorithms”. Rather than relying on one company to develop a recommender system that works for everybody, an open standard like AT would allow other actors to develop recommender systems, offer them in a sort of marketplace, and allow people to choose which recommender system they prefer. This would promote competition by allowing people to choose recommender systems designed for goals besides those goals pursued by private technology companies. A recent “platform migration” helps illustrate the pitfalls of closed platform design, as well as the potential benefits of interoperable recommender systems. After Elon Musk purchased Twitter in late-October 2022,¹⁸¹ Mastodon reported that its number of active users tripled in the two weeks that

178 Ingram, M. (2016). Google Says It Wants to Help Publishers Fight Facebook. *Fortune*. Available at: <http://fortune.com/2016/08/16/google-publishers-amp/>.

179 See: <https://blueskyweb.xyz/>.

180 See: <https://atproto.com/>.

181 Paul, K. and Milmo, D. (2022). Elon Musk Completes Twitter Takeover and 'Fires Top Executives'. *The Guardian*. Available at: <https://www.>

followed.¹⁸² However, as users migrated to Mastodon, longtime users expressed frustration with the influx,¹⁸³ and popular servers experienced service disruptions.¹⁸⁴ New users have also expressed a variety of frustrations and challenges related to ease of use, lack of high-profile celebrities, influencers, and government officials, and features that they enjoyed on Twitter, but which are missing from Mastodon (such as discovering new people to follow, creating lists of users, and searching content from a user).¹⁸⁵ Others have also expressed concerns about Mastodon's federated approach, with one user being arbitrarily suspended for being a capitalist,¹⁸⁶ and others expressing concerns over the lack of content moderation that allows hate speech to proliferate.¹⁸⁷



RECOMMENDATIONS TO STATES

> Require that platforms implement interoperability measures.

- ◆ Guidance will be required from states to aid platforms in defining the format(s), frequency of data to be included, and scope of data to be transferred. Broadly, the scope should be wide enough to allow users to switch platforms without incurring intolerable switching costs.

> Provide guidance on the extent to which platforms are expected to guarantee the security of personal information that is transferred between two independent platforms or services.

> Help individuals make informed decisions about the risks involved in transferring their personal information from one platform to another, and recommend appropriate measures to help individuals perform this function safely and easily.



RECOMMENDATIONS TO PLATFORMS

> Cooperate with other industry stakeholders, civil society, and supervisory authorities to develop interoperable standards for securely and effectively operationalizing the right to data portability that is established in existing data protection laws and regulations. provenance and authenticity of information, where possible.

theguardian.com/technology/2022/oct/27/elon-musk-completes-twitter-takeover.

182 Mastodon (2022). Twitter post. Available at: <https://twitter.com/joinmastodon/status/1591519312338210816>.

183 Ingram, M. (2022). Journalists Want to Re-Create Twitter on Mastodon. Mastodon is Not Into It. *Columbia Journalism Review*. Available at: <https://www.cjr.org/analysis/journalists-want-to-recreate-twitter-on-mastodon-mastodon-is-not-into-it.php>.

184 Perez, S. (2022). Mastodon's Microblogging App Saw a Record Number of Downloads After Musk's Twitter Takeover. *TechCrunch*. Available at: <https://techcrunch.com/2022/10/31/mastodons-microblogging-app-saw-a-record-number-of-downloads-after-musks-twitter-takeover/>.

185 Shrivastava, R. (2022). Mastodon Isn't A Replacement For Twitter — But It Has Rewards Of Its Own. *Forbes*. Available at: <https://www.forbes.com/sites/rashishrivastava/2022/11/04/mastodon-isnt-a-replacement-for-twitter-but-it-has-rewards-of-its-own>.

186 Karapetsas, E. (2022). Twitter post. Available at: <https://twitter.com/LefterisJP/status/1593934653114785793>.

187 Barro, J. (2022). Twitter post. Available at: <https://twitter.com/jbarro/status/1594035527166341120>.

5.3 SAFE DESIGN

While interoperability can give users more choice in the recommender systems they use, a remaining question is: What kind of design makes for safe, pluralistic systems that users will prefer? These safe design options do not necessarily need to reinvent the wheel: alternatives are already available, and some organizations have been experimenting with different recommender systems. For instance, in recent years public service media organizations have been trying to develop alternative recommender systems for their own services in an effort to reconcile the personalization and curation of their online services with their public service remits of universality and diversity.¹⁸⁸

Examples include the European Broadcasting Union’s recommender system, PEACH, which provides public service media with an off-the-shelf workflow to conveniently collect and process audience data so that targeted recommendations can be delivered to visitors on the public service media’s own website.¹⁸⁹ As part of this project, the European Broadcasting Union devised a selection of algorithms that can be used.¹⁹⁰ Beyond typical algorithms that rely on generic content-based filtering and collaborative filtering to deliver results, they have developed what is defined as a “diversified algorithm”.¹⁹¹

The goal of the diversified algorithm is to recommend content which will broaden a user’s horizon, thus optimizing its recommendations for diversity of exposure. This algorithm gives higher scores to content that other users similar to the data subject like, assuming that both data subjects have similar tastes, but it also selects the most mutually different items from these high-scored items.¹⁹² In this way, the resulting set of recommendations should be both diverse and relevant for users. Using this kind of algorithm as a safe design setting in recommender systems could be a way to balance the need for relevant but also diverse and pluralistic news and information content.

Related efforts can be seen in commercial recommender systems. Spotify’s shuffle algorithm, for example, uses a method called ‘dithering’ to increase diversity in its algorithm for shuffling songs.¹⁹³ Rather than using a fully randomized shuffle method, dithering combines deterministic rules (e.g., two songs by the same artist cannot appear back-to-back) with random sorting. YouTube also uses hybrid methods to increase diversity in video recommendations through a combination of rules and randomization.¹⁹⁴

Another aspect of safe design for recommender systems involves alternative measurements for ranking. As described throughout this report, the recommender systems driving dominant algorithmic platforms are often optimized along commercial interests such as user retention and engagement. However, researchers have proposed and studied promising alternatives. For example, a ‘bridging-based ranking system’ might actively reward an article that “helps the opposing sides understand each other”.¹⁹⁵ Similarly, Jonathan Stray explores attempts by YouTube and Facebook to incorporate community well-being in evaluation metrics for recommender systems.¹⁹⁶ These efforts demonstrate the potential for “value-sensitive algorithm design” for recommender systems,¹⁹⁷ including systems designed around journalistic

188 Sørensen, J.K. and Schmidt, J.H. (2016). An Algorithmic Diversity Diet? Questioning Assumptions behind a Diversity Recommendation System for PSM. In: *RIPE@2016 Conference: Public Service Media In A Networked Society*. Available at: <https://vbn.aau.dk/en/publications/an-algorithmic-diversity-diet-questioning-assumptions-behind-a-dj>.

189 See: <https://peach.ebu.io/products/recommendation-service/>.

190 See: <https://peach.ebu.io/technical/introduction-algorithms/>.

191 See: <https://peach.ebu.io/technical/tutorials/algorithms/diversified/>.

192 Ibid.

193 Poláček, L. (2014). How to Shuffle Songs? Spotify. <https://engineering.atspotify.com/2014/02/how-to-shuffle-songs/>.

194 Wilhelm, M., Ramanathan, A., Bonomo, A., Jain, S., Chi, E. H., and Gillenwater, J. (2018). Practical Diversified Recommendations on YouTube with Determinantal Point Processes. In *Proceedings of the 27th ACM International Conference on Information and Knowledge Management*. pp. 2165-2173.

195 Ovadya, A. (2022). Can Algorithmic Recommendation Systems Be Good For Democracy? Tech Policy Press. Available at: <https://techpolicy.press/can-algorithmic-recommendation-systems-be-good-for-democracy/>.

196 Stray, J. (2020). Aligning AI Optimization to Community Well-Being. *International Journal of Community Well-Being*, 3(4), pp. 443-463.

197 Zhu, H., Yu, B., Halfaker, A. and Terveen, L. (2018). Value-Sensitive Algorithm Design: Method, Case Study, and Lessons. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW), pp. 1-23.

values to promote high-quality news and information.¹⁹⁸ Value-sensitive design for recommender systems would extend more general work to incorporate human values in computer systems.¹⁹⁹

In interviews, experts flagged the importance of the default recommender system being one that is suitable for widespread use, as many platform users do not change default settings. While there was no agreement on what such a default setting should be, ideas mentioned included the default recommender system showing items in reverse-chronological order (in other words, not relying on algorithmic curation); a recommender system that was publicly funded; or one chosen at random from all available recommender systems, with disclosure and education offered to the user as to how and why they are seeing what they are seeing.

Experts also said that platforms should be more upfront with users when they are interacting with bots. While many bots are harmless or even helpful, such as a bot delivering a weather forecast, there is the potential for bots to artificially inflate content engagement rates. One expert said there should be reasonable and enforced limits around how many accounts a user may open on a platform in order to minimize artificial engagement (“No one has a natural right to send 20,000 Tweets a minute from 1,000 different accounts”). Even if such limits may be difficult to enforce, and platforms do already try to detect and limit some bots, as a guiding principle it was one which was generally supported in our expert interviews.



RECOMMENDATIONS TO **STATES**

- > **The default recommender system should be either (1) selected at random from the 'recommender system' store, or (2) non-algorithmic.**
- > **All bots or non-human activity on a platform should be labeled and identifiable.**
- > **Platforms should make sincere efforts to detect and eliminate artificial engagement on their services from bots.**
- > **Platforms should periodically publish reports indicating the number of accounts suspected of being fictitious, how this assessment was made, and how these suspicions were validated.**



RECOMMENDATIONS TO **PLATFORMS**

- > **Support or develop recommender systems that promote serendipity and exposure diversity.**
- > **Educate users as to why they are seeing certain content and provide them with guidance on how they can customize the recommendations they see.**
- > **Label all activity by bots in a clear and accessible manner.**
- > **Implement reasonable 'fair use' policies to restrict the ability of bots and other fake accounts to artificially increase engagement with content.**

198 Diakopoulos, N. (2019). Towards a Design Orientation on Algorithms and Automation in News Production. *Digital Journalism*, 7(8), pp. 1180-1184.

199 Friedman, B., Kahn, P.H., Borning, A. and Hultgren, A. (2013). Value Sensitive Design and Information Systems. In *Early Engagement and New Technologies: Opening up the Laboratory*, Springer, Dordrecht. pp. 55-95.

5.4 PRIVACY

Existing privacy and data protection frameworks already impose restrictions on targeting and profiling. However, these instruments are inadequately enforced. If these laws and regulations were enforced, it is possible that business model innovation on the part of platforms would see them become less dependent on targeted advertisements for revenue. It is outside the scope of this working group to comprehensively speculate as to what these business models may look like, but in interviews, experts theorized that a move away from surveillance-capitalism towards subscriptions, for example, might reduce the problem of dis- and misinformation. Other experts countered that this question was, in their evaluation, based on false assumptions, as platforms derive their outsized market value from their profiling and targeting capabilities.

If, however hypothetical the scenario is, platforms did adopt business models based on less-targeted advertising capabilities, this would eliminate their need to collect such extensive volumes of personal information in order to form detailed, personal profiles of users. The problem, according to one expert, should be: What data elements do genuine businesses need to target their products effectively to audiences? This is a narrower question than that desired by political audiences, which would be too invasive. A more sectoral approach to the profiling of users may help platforms comply with basic principles of data protection law around data minimization and proportionality. This would not necessarily solve issues to do with flawed business models and bad incentives, but could contribute to a healthier information ecosystem by reducing the intrusion of hyper-personalized political advertisements.

Privacy is in many respects intertwined with user choice and control. While ‘notice and consent’ is now seen as an outdated concept in the field of privacy and data protection (because it places the burden of protecting privacy on the data subject, who is asked to ‘agree’ to an endless text of terms and conditions without having any sort of choice other than to click ‘accept’), the equation is quite different when users actually do have the ability and freedom to make an informed, differentiated choice.

Some more advanced users have already set browser-level privacy controls to signal their privacy expectations to incoming websites.²⁰⁰ However, platforms and/or recommender systems either do not detect or ignore these privacy beacons.

In our interviews, experts expressed fears that too much granularity could leave users so confused and overwhelmed that they may not make decisions in their best interests. However, experts also agreed as a guiding principle that choice and control is a desirable goal. (See Section 5.5 for a more in-depth discussion around what choice and control could look like.)



RECOMMENDATIONS TO STATES

> The onus is on data protection authorities to enforce the privacy and data protection laws and regulations in their jurisdiction fairly and evenly.

²⁰⁰ See, for example: <https://globalprivacycontrol.org/>.



RECOMMENDATIONS TO **PLATFORMS**

- > **Comply with privacy and data protection laws.**
- > **If a user has configured a browser-level privacy control, these signals must be recognized and respected by platforms and recommender systems.**
- > **Reflect on what data elements genuine businesses need to target advertisements towards population segments. Carefully evaluate what demographic information can be used without resulting in discrimination.**
- > **Do not allow political campaigns or politically affiliated actors to pick a particular audience in society to target with personalized advertisements.**

5.5 EMPOWERING USERS

As highlighted in Chapter 3, recommender systems play a key role in influencing the distribution, access, and discovery of content. While having safe design options could provide a real alternative to the current dominant systems, any intervention in this space has to take into account the potential impacts that different types of choice architecture can have on restricting users' freedom of choice, whether they are privately driven or state-driven interferences.²⁰¹

Another way to foster information and news media plurality online, while respecting users' choice, is to empower users and give them more control over the content they see. This can be achieved through different means, from enhanced transparency to more conscious users' choices and a right to customize your own content offer.

Transparency is certainly the first step. As regulators and policymakers are introducing new obligations for platforms in this area (see Section 4.1.1), it is key to ensure that these new requirements cover both content moderation and content curation processes. More transparency over the criteria used to recommend content will raise users' awareness and knowledge over the customization and personalization of these systems.

In addition, users should be able to choose alternative systems, as well as to opt-in or opt-out from default settings. This choice can be facilitated through interoperable recommender systems (see Section 5.2) and the availability of safe design alternatives (see Section 5.3). The recently proposed European Media Freedom Act describes this as "the right to customization", which if passed, would require platforms to allow users to easily change default settings and manage access to media services to customize according to their interests or preferences.²⁰² As also outlined by the British regulator Ofcom in a recent report,²⁰³ a 'right to customize' could concern not only recommender systems but also broader choice architecture systems, requiring, for instance, platforms "to vary how choices are presented to their users and periodically provide them with options about the overall design of their news feeds".

The promotion of conscious choice²⁰⁴ is also an important stepping-stone in this process, and can be accomplished in various ways. For example, platforms can improve the labeling of providers and content

201 Mazzoli and Tambini (2020).

202 European Commission (2022b), Article 19.

203 Ofcom (2022). Media Plurality and Online News. pp. 50-51. Available at: https://www.ofcom.org.uk/_data/assets/pdf_file/0030/247548/discussion-media-plurality.pdf.

204 *Ibid.* p.51

shared on their services by highlighting whether a provider is affiliated with a government or specific political party, or by flagging content identified by an external fact checker as dis- or misinformation. Even though these measures do not stop consumers reading, accessing, or sharing flagged content, they do alert them to its nature. Platforms like Twitter have experimented with asking users to click a link to a news article before re-sharing it, and WhatsApp, in some markets (such as India) restricts the number of times a user may forward one message through its ‘quick forwarding’ feature, to try to signal that the user’s behavior is problematic. These are important experiments, but ultimately accurate labeling and the meaningful disclosure of information that users can trust to form opinions on an information source will require a higher level of transparency over the ownership structures and funding of the same news and information providers, and this varies significantly. Standards such as the Journalism Trust Initiative, or initiatives like NewsGuard and The Trust Project can also support platforms’ activities in this area. When users do make conscious decisions on one platform, experts told us in interviews, these decisions should be rolled out cross-platform by default where feasible. This should not be mandatory, as people may wish to view different material on different platforms, but it should be a possibility. For example, if a user makes a choice not to see certain content on Facebook, their preference should also be able to apply to Meta’s other algorithmic platform Instagram, if they desire.

Media and digital literacy skills are fundamental in ensuring that not only the most tech-savvy users benefit from alternative options and enhanced transparency, but also to ensure that these solutions are accessible and understandable by the wider public. As highlighted in our call for contributions, recommending investments in media and digital literacy is a recurrent point of argument in policy debates, and it is an important one. Media and digital literacy is a fundamental stepping stone for a functioning liberal democracy, and it is critical for everyone, from children to adults and the elderly. We cannot assume that people know the ‘why, what, and when’ behind what they are seeing when they view news and information on different platforms: the level of understanding that users have of algorithms and recommender systems differs widely, and bolstering this knowledge is key to increasing, informing, and educating the wider population if we want to truly empower users to make more conscious choices.



RECOMMENDATIONS TO **STATES**

- > **Invest in media and digital literacy programs that give all people the tools to (1) make conscious choices online, (2) understand what is trustworthy and not trustworthy, and (3) be able to leverage increased transparency over platforms’ systems for their own benefit(s).**



RECOMMENDATIONS TO **PLATFORMS**

- > **Platforms and recommender systems should disclose to a user the selection criteria that determined the sorting and presentation of the content they are seeing in an accessible and easily understandable manner.**
- > **Provide users with a personalized breakdown of how their account has been monetized in the preceding 12 months, including disclosing the names of advertisers who have targeted them, and the income the platform has generated from their use of the service. Consider providing benchmarks relative to other platform users.**

- > **Recommender systems should be able to operate cross-platform within a specific ecosystem, where other products within that system have algorithmic curation.**
- > **Promote conscious choices and periodically introduce users to new and/or existing methods of customizing how their algorithmic recommendations are generated.**

5.6 SAFEGUARDING ACCESS TO TRUSTWORTHY NEWS AND INFORMATION

The issues raised by content curation and recommender systems are tightly related to questions of the prominence of public interest media. As highlighted by recent studies in this area, the question of whether law and policy should intervene to mandate prominence or specific content and/or services should be carefully considered, as it raises complex issues that are at the intersection of freedom of expression, media pluralism, privacy, and human autonomy.²⁰⁵

Some interviews with experts emphasized the need to find new ways of ensuring the visibility and findability of independent, trustworthy, and public interest-driven media online. Structural or behavioral measures used by platforms in their recommender system could, for instance, prioritize daily news, or make certain public interest content more easily findable on their interfaces. Interviewees have highlighted that this is the direction of travel at the European level, but there is still a long way to go before adequate prominence regimes that could be applicable to open platforms like social media or search engines could be implemented without unwanted consequences. It should be noted, however, that interviews with experts outside of Europe did not support proposals to prioritize news or public interest content, noting the difficulties in their regions of identifying media that would fit this category.

In countries where it may be feasible to give prominence to public interest content, a recent study commissioned by the European Union has advanced a policy toolkit to support regulators and governments in the creation of such rules.²⁰⁶ To limit the risk of state capture, the researchers argue that care must be paid to trust and accountability measures from early on in the process to ensure that media actors will remain independent and free. This is particularly important when it comes to ensuring the criteria for determining public interest news and media services are established through processes and assessment frameworks that are independent and perceived as such.²⁰⁷

For instance, when it comes to defining public interest news providers, then principles-based criteria building on commonly shared professional norms and standards of independence, transparency, accountability and diversity could be applicable.²⁰⁸

Establishing standards and criteria to differentiate public interest media, including news media and journalism, could in turn be beneficial to those organizations themselves. If these standards and criteria are used by advertisers to select where to invest their resources, they could ideally drive advertising revenues to trustworthy news sources rather than to dis- or misinformation superspreaders. If they are

²⁰⁵ Mazzoli E.M. and Tambini D. (2020); European Commission, Parcu P. L., Brogi E., Verza S., et al. (2022).

²⁰⁶ European Commission, Parcu P.L., Brogi E., Verza S., et al. (2022), p. 164.

²⁰⁷ *Ibid.*

²⁰⁸ Examples of these criteria can be found in the standards developed by the Journalism Trust Initiative, in the trust indicators developed by the Trust Project, and in the nutrition label of NewsGuard.

adopted by platforms and/or recommender systems, it could increase the visibility of, and access to, higher-quality news sources.

Within this context, a subset of questions emerged during our consultation concerning what level of prominence should be given to genuinely independent public service media organizations. This is a core question to ask, as regulators in countries like France, Germany, Italy, Spain, and the United Kingdom update their rules for public service media prominence.²⁰⁹ Where public service media are truly independent from political and state interference, it is plausible that ensuring the accessibility and findability of these services can contribute to a more diverse news and information environment. However critical people might be towards public service media – and it was easy to find critics in our consultation – there was agreement that when they respect their public service remits, legal obligations, and principles,²¹⁰ they can provide a sense of what is the ‘middle ground’ and can inform and educate viewers in objective and relatively impartial ways.

Public service media are, however, not the only public interest media. Thus, to safeguard the access, visibility, and sustainability of a broader category of public interest media, governments and regulators could consider other policy interventions. These interventions could include: “a combination of minimum legal, operational and technical standards over content curation processes that are introduced with a co-regulatory approach; regulatory obligations and voluntary incentives to promote exposure while respecting consumers’ freedom of choice; targeted media literacy initiatives; and sector-specific ownership and independence rules that can foster fair industry practices and avoid undue market and state power over content discovery.”²¹¹

Finally, as emerged during our consultation with experts, there was generally agreement that in limited areas related to vital information – such as public health, elections, social security services, suicide prevention, and support for victims of violence – credible official sources of public interest information should be highlighted and prioritized by algorithms and recommender systems. Such material should not have to compete for attention with unofficial or paid-for sources. As this is a slippery slope, an open and recurring multistakeholder process should be initiated to determine what constitutes vital information necessitating such prominence. It is worth noting that some experts took the position that while mandated prominence was undesirable, platforms could instead provide advertising credits to public authorities to communicate certain messages, free of charge, as clearly labeled advertisements.



RECOMMENDATIONS TO STATES

- > **Very Large Online Platforms should give priority and prominence to matters of vital public interest to the extent that legacy media were required to broadcast public service announcements.**
- > **Participate on an equal playing field with other stakeholders in an open and recurring multistakeholder dialogue, informed by international human rights frameworks, to determine (1) what constitutes information of vital public interest, and (2) what sources may be considered credible and/or in the public interest.**

209 For a fuller overview see: European Regulators Group for Audiovisual Media Services (ERGA), (2020). Ensuring Prominence and Access of Audiovisual Media Content to all Platforms (Findability). Available at: https://erga-online.eu/wp-content/uploads/2021/01/ERGA_SG3_2020_Report_Art.7a_final.pdf.

210 See, for example: Council of Europe (2012). Recommendation CM/Rec(2012)1 of the Committee of Ministers to Member States on Public Service Media Governance. Strasbourg. Available at: https://search.coe.int/cm/Pages/result_details.aspx?ObjectID=09000016805cb4b4.

211 Mazzoli E.M. and Tambini D. (2020), p. 3.



RECOMMENDATIONS TO **PLATFORMS**

- > **Very Large Online Platforms and/or the developers of recommender systems should evaluate existing professional standards and criteria for defining public interest news media, and might consider increasing the visibility of such sources through their recommender systems, reducing in turn the circulation and amplification of dis- and misinformation.**
- > **Recommender systems do not need to offer news. However, if a system does curate news, it should elevate acts of journalism from sources that respect professional norms and ethics.**
- > **Very Large Online Platforms should give priority and prominence to matters of vital public interest, in the same way that legacy media were required to broadcast public service announcements. This must not be imposed as a mandate to prioritize government information.**

5.7 ANTICIPATING AND RESPONDING TO REAL HARMS CAUSED BY INFORMATION DISORDER

When it comes to creating and enforcing standards for algorithmic platforms, an important and common concern relates to potential infringements on the right to free speech. The Authenticated Transfer Protocol (ATP) addresses this by separating speech and reach into different protocol layers as visualized in Figure 2. The base, 'speech' layer aims to serve as a neutral, distributing authority that gives everyone a voice and guarantees their right to free speech. On top of the speech layer is the 'reach' layer, which allows indexing services to aggregate and distribute content.

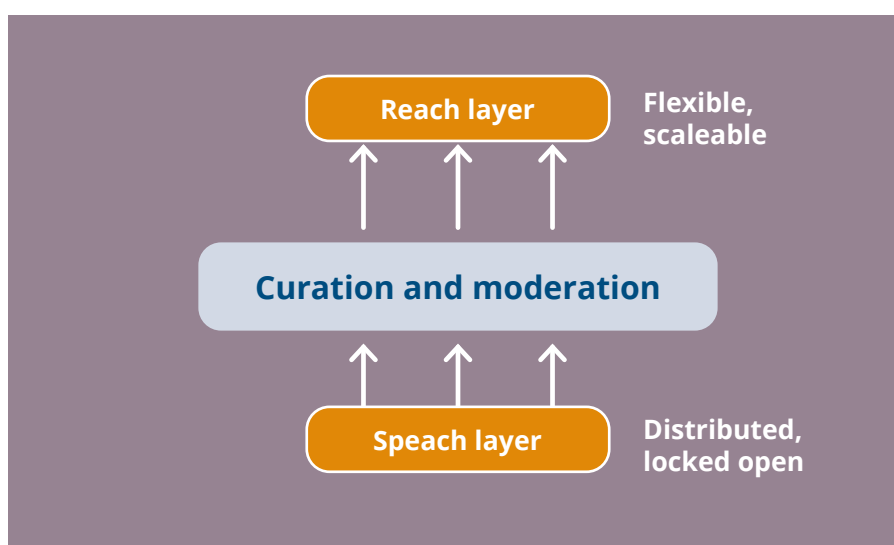


Figure 2: A visual representation of separate 'speech' and 'reach' layers as proposed in the Authenticated Transfer Protocol (ATP)

The separation of speech and reach helps safeguard the right to free speech, while also supporting basic governance around who is amplified. As outlined in Section 3.2.2, a conspiracy theory seen by a handful of friends on social media is not a public policy issue. However, the view expressed by experts during our consultation was that when an algorithm promotes misinformation beyond its natural home – for example, if problematic content catches the algorithmic wave and goes viral, amplifying a conspiracy theory to a large audience – then there is the potential for harmful consequences for individuals and society as a whole. Some content only becomes a problem at scale.

As explored in Section 4.4.3, in most countries, platforms are not currently liable for the content they host and distribute. One proposed bill in the United States, the Protecting Americans from Dangerous Algorithms Act,²¹² seeks to “remove liability immunity for a platform if its algorithm is used to amplify or recommend content directly relevant to a case involving interference with civil rights; and in cases involving acts of international terrorism”. In other words, platforms would be legally responsible for some content if it was algorithmically amplified. This extends to related work that seeks possibilities for “strategic amplification” in the press²¹³ without infringing on the right to free expression.

In our consultation, concerns were expressed that creating liability for spreading dis- or misinformation could result in platforms over-censoring what is otherwise legal and protected expression, as well as removing illegal and unprotected expression. A reasonable middle ground that emerged in consultations is to impose liability on platforms only when they knowingly and intentionally amplify content that a reasonable person could comprehend as harmful. In doing so, there is no prior restraint on speech, nor liability for hosting content, but merely a responsibility not to promote content that has been flagged as harmful or unlawful.



RECOMMENDATIONS TO STATES

- > **If a platform and/or a recommender system causes harm to users, and they have been given reasonable time to systematically address the matter and have not, they should be legally responsible for resulting harm.**
- > **Platforms and/or recommender system operators should initiate and continuously support a multistakeholder dialogue to develop understandings of what constitutes harmful content so they can work to minimize or eliminate exposure to such material.**
- > **Platforms do not necessarily need to keep all content online. However, platforms should be transparent about why they are taking down content and/or reducing its reach.**

212 Malinowski, T. and Eshoo, A. G. (2021). Reps. Malinowski and Eshoo Reintroduce Bill to Hold Tech Platforms Accountable for Algorithmic Promotion of Extremism. Available at: <https://malinowski.house.gov/media/press-releases/rep-malinowski-and-eshoo-reintroduce-bill-hold-tech-platforms-accountable>.

213 For example, Donovan, J., and Boyd, D. (2021). Stop the Presses? Moving from Strategic Silence to Strategic Amplification in a Networked Media Ecosystem. *American Behavioral Scientist*, 65(2), pp. 333-350.



RECOMMENDATIONS TO **PLATFORMS**

- > **Fair, reasonable, and enforceable standards should be in place to ensure that no recommender system will likely cause harm.**
- > **The minimum standards pluralism in recommender systems should be developed in an open, transparent, multistakeholder manner.**
- > **These minimum standards should be informed by existing human rights frameworks, such as the UN Guiding Principles on Business and Human Rights.**

5.8 COMPETITION

Communication platforms, through their algorithmic recommender systems, hold too much power and influence over the news and information that citizens see. As explored throughout this paper, network effects incentivize high levels of concentration and impose high barriers to market entry for new players. Accordingly, most citizens use only three platforms on average, and these platforms are not necessarily introducing people to content that is consistent with a pluralistic and diverse information diet. If the overarching goal is to create a market setting where diverse content can gain an audience, as explored in Section 5.1, a less interventionist approach to opening up the market is to unbundle the hosting of content on platforms from the business of recommending content to others. In doing so, we create the possibility for sustainable, long-term, market-led investments in content curation. While this will not necessarily reduce or remove the desire of citizens to engage with content that is sensationalist, it may succeed in reducing the formation of filter bubbles and echo chambers.

The unbundling of recommender systems should be shaped as “a form of functional separation,” as opposed to structural separation.²¹⁴ In simpler terms: platforms should not be required to dispose of any existing assets, and are welcome to develop their own recommender systems as well to compete in the recommender system marketplace *provided* they do not nullify the efforts of their competitors and do provide fair, transparent, and nondiscriminatory access to competitors to develop, maintain, and grow their recommender systems. Our rationale here is to minimize the economic impacts of unbundling on platforms, while also addressing market failures. However, this separation will only be effective if supervisory authorities strictly enforce the unbundling rules so that a diversity of market players forms in the recommender system arena.



RECOMMENDATIONS TO **STATES**

- > **Supervisory authorities should enforce unbundling efforts. Platforms should not attempt to nullify the success of any recommender system competitors or give undue prominence to their own recommender system(s).**

214 Stasi, M. L. (2021), p. 19.

5.9 TRANSPARENCY AND ACCOUNTABILITY

The general lack of transparency and independent access to platform data makes it difficult to exercise any meaningful oversight over platforms. We only know what platforms tell us. Moving forward, supervisory authorities, civil society, and independent researchers require a relationship that is more symmetrical and evidence-informed. Functionally, platforms and the developers of recommender systems should be required to keep anonymized records on how, why, and when they have recommended material to users. These records should be made available in fair, accessible terms to users themselves – and, with appropriate privacy safeguards in place – to independent auditors, researchers, and oversight bodies. It is understood that platforms and recommender systems deal with sensitive, thorny issues, including the handling of personal data of their users. Mistakes happen. Algorithms are imperfect. However, it is only through symmetrical data sharing that systemic patterns can be identified and behavioral corrections can be made.

Platforms have not been transparent in the past about how they have enforced their terms of service, and in order to rebuild public trust, should offer a proper accounting of their past practices and make public any changes they have made to strengthen their accountability. Further to this point, platforms must commit to extending whistleblower protections to all of their employees, contractors, and users. Platforms must not fire, ‘shadow ban’, or suspend people who report or identify systemic issues with their practices.

Given the sensitivity of platform data, there is a need for checks and balances to ensure that access is not granted to unsuitable third parties. Functionally, a public authority should have the ability to compel a platform to make records available, but it is preferable that the analysis of records be performed by independent actors outside of that regulatory body. Separating who views records from who decides who can view records is an attempt to minimize any violations of fundamental rights.



RECOMMENDATIONS TO STATES

- > A supervisory authority must be empowered to force platforms to share data akin to what internal company research teams can access. The agency itself should only be empowered to collect this data, not analyze it.
- > A supervisory authority should be resourced to have the capacity to evaluate independent researchers and research projects and determine when it is not appropriate for a researcher and/or research project to be granted access to platform data.
- > Platforms should work in good faith with independent researchers to provide data securely in common, machine-readable formats. Data should reside on the platform’s network(s), and researchers should not access data or publish results in a manner that compromises user safety or privacy.
- > Platforms should offer the public an accounting of their past content curation practices, and explain what, if anything, they are doing differently in the future to prevent a recurrence of past problematic practices.



RECOMMENDATIONS TO **PLATFORMS**

- > **Further research is required to understand the impacts of platforms and recommender systems on how audience self-selection, consciously or unconsciously, influences the news and information they consume. Grant independent researchers reasonable access to platform data so this research can be conducted reliably and accurately.**
- > **Extend whistleblower protections to all employees, contractors, and users globally. Do not retaliate against those who identify problematic practices.**

6. MEASURING THE EFFECTIVENESS OF INTERVENTIONS ON PLURALISM

An important aspect of any intervention will be assessing its effectiveness through measurements. This section overviews demonstrated metrics that can assess pluralism in the news and information ecosystem, in terms of production, distribution, and consumption. Table 3 gives a summary of the key metrics which extend prior work.²¹⁵

	METRIC	MEANING
PRODUCTION	Number of publishers	How many publishers are contributing to the inventory of news and information?
	Genres represented	To what extent do publishers provide content from different genres, topics, viewpoints, and roles played by the press?
DISTRIBUTION	Number of recommenders	How many recommender systems are available for audiences to choose from?
	Adoption of recommenders	To what extent do audiences adopt a diverse array of recommender systems? Do some dominate even if many are available?
CONSUMPTION	Audience reach	What size (or proportion) of an audience consumes content from a given publisher?
	Individual share	How many publishers does an individual use? How often do they use these publishers, and in what capacity? ²¹⁶

Table 3: Potential metrics for capturing pluralism and measuring the effectiveness of interventions. Each metric might be useful in the context of production, distribution, and/or consumption.

A core challenge in assessing interventions is the limited transparency and legibility of algorithmic platforms. Despite their substantial impact and implications for society, they remain opaque at the decision of the for-profit companies that own and operate them. Interviewees described this opacity as creating a situation where public citizens are poorly equipped to make informed decisions. Therefore, many measurements described in this section would first require companies to share more information about widely viewed content on their platforms.

6.1 DIVERSITY AND PLURALISM IN PRODUCTION

Any goals related to diversity and pluralism in the overall media environment require diversity and pluralism in the underlying availability of content. In other words, pluralistic distribution and consumption will be impossible if the initial supply of content is homogenous.

215 Ofcom (2015). Measurement Framework for Media Plurality: Ofcom’s Advice to the Secretary of State for Culture, Media and Sport. Available at: <https://www.ofcom.org.uk/consultations-and-statements/category-1/media-plurality-framework>.

216 Such measurements build on the “share of references” metric proposed and refined in Ofcom’s Measurement Framework for Media Plurality.

Several dimensions can be considered when measuring diversity in media production. The Center for Media Pluralism and Media Freedom (MPM)²¹⁷ includes three such dimensions: market plurality, political independence, and social inclusiveness. These dimensions can be described as follows.

Market plurality: How many independent publishers exhibit competitive, well-functioning, and/or economically sustainable operations?

Political independence: How many publishers exhibit editorial autonomy, free from outside commercial/political influence?

Social inclusiveness: To what extent is content relevant to local communities, women, and minority groups?

Pluralism in production can also be measured in terms of the different roles played by the press, including “the interventionist, the watchdog, the loyal-facilitator, the service, the infotainment, and the civic roles”.²¹⁸ A homogenous supply from any single role of the press will hamper the information ecosystem. Similarly, pluralism can be measured in terms of topics explored in the content, as well as the ideas, viewpoints, and perspectives. Journalistic fairness generally guides reporters to cover both sides of a topic or controversy, however, recent work has shown important caveats to this principle. As Ross Gelbspan explains in the context of the climate crisis,²¹⁹ the fairness principle “seems to demand that journalists present competing points of views on a scientific question as though they had equal scientific weight, when actually they do not”. Research has shown the principle can lead to “false-balance media coverage”²²⁰ which can exacerbate misinformation, though careful communication about argumentation techniques can help.

Measuring pluralism along dimensions such as social inclusiveness, the role of the press, topics, and viewpoints will require annotated data. A common method for generating this type of data is by conducting a **content analysis**. This involves researchers reading and annotating content to produce a set of labels for each article. Labels might be related to dimensions such as topical focus (e.g., sports, politics), genre (e.g., op-ed, investigative report, breaking news), viewpoint (e.g., politically liberal, politically conservative), and more. Content analyses often focus on a single publisher, but the same methods can be applied to content on aggregators and platforms.

Notably, some measures of diversity do not require content analysis. For example, descriptive metrics such as the number of authors producing content and the number of publishers contributing content to a platform can be tabulated without manual content analysis. In addition to these tabulations, more complicated metrics can also be useful for measuring diversity on standardized scales. To capture dynamics more comprehensively, these metrics can build on efforts to measure diversity and inequality in other contexts such as economics and ecology.

In economics, for example, the Gini index²²¹ measures inequality in a population on a standardized scale from 0 to 1 calculated via Lorenz curves.²²² While the index is often used for measuring income inequality, it can be reapplied to measure inequality in terms of content production. For example, Figure 3 shows the typical application of these metrics in terms of income inequality, as well as an application to measuring inequality in content production across a set of publishers.

217 Toma, R., Popescu, M. and Bodea, R. (2022). Monitoring Media Pluralism in the Digital Era: Application of the Media Pluralism Monitor in the European Union, Albania, Montenegro, the Republic of North Macedonia, Serbia and Turkey in the Year 2021. European University Institute. Available at: <https://cadmus.eui.eu/handle/1814/74702>.

218 Mellado, C. (Ed.). (2020). *Beyond Journalistic Norms: Role Performance and News in Comparative Perspective*. Routledge.

219 Gelbspan, R. (1998). *The Heat is On: The Climate Crisis, the Cover-Up, the Prescription*. Basic Books.

220 Cook, J., Lewandowsky, S. and Ecker, U.K. (2017). Neutralizing Misinformation through Inoculation: Exposing Misleading Argumentation Techniques Reduces their Influence. *PLOS one*, 12(5), p.e0175799.

221 Introduced by Corrado Gini, in his book *Variabilità e mutabilità*, published in 1912.

222 Lorenz, M.O. (1905). Methods of Measuring the Concentration of Wealth. *Publications of the American Statistical Association*, 9(70), pp. 209-219.

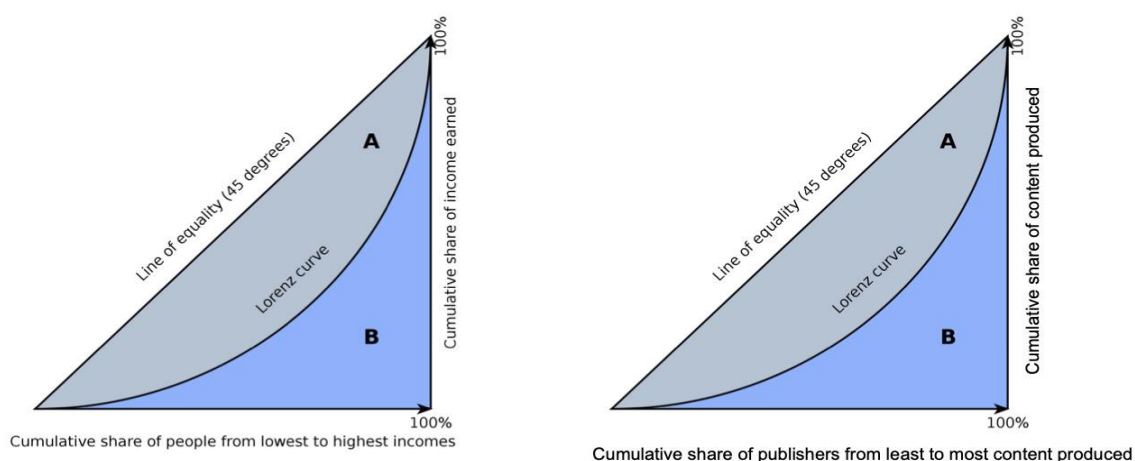


Figure 3: An illustration of the Lorenz curve to measure inequality and calculate the gini coefficient for income inequality (left) and content production inequality (right)

Other potentially useful metrics for measuring inequality and media pluralism include the Atkinson index – an alternative to the Gini index for measuring income inequality – and “tail share” calculations (e.g., the percentage of content produced by the top five publishers or the top 10% of publishers). Such metrics are often used to communicate economic trends to the general public, for example, mass communication about wealth inequality often mentions groups such as “the top 0.1% of earners”.²²³

Other metrics from ecology can also be useful. These metrics were designed to measure species diversity within an ecosystem, which is an analogous problem to publisher diversity within a media ecosystem. Examples include Pielou’s evenness index and the Shannon diversity index.²²⁴

6.2 DIVERSITY AND PLURALISM IN DISTRIBUTION

Currently, news and information distribution is characterized by increasing centralization and concentration. According to the 2022 Global internet Phenomena Report, six companies generate the majority (56.96%) of all web traffic: Google, Facebook, Netflix, Amazon, Apple, and Microsoft.²²⁵ These six companies have outsized influence in developing the distribution mechanisms that drive content consumption, which makes it all the more urgent to measure and improve diversity in distribution.

The ‘recommender system store’ offers one potential method for increasing diversity and pluralism in distribution mechanisms, rather than entrusting a few large companies to design dominant, centralized recommender systems. Measuring diversity and pluralism in a market for recommender systems will require tracking dynamics for both participation and usage. That is, the recommender system market should be assessed in terms of how many participants contribute systems to the market (e.g., are a few actors contributing most of the options?), and also how these systems are adopted by users (e.g., is there a set of systems that dominates the market?).

Multiple approaches may be helpful for assessing a free market of recommender systems. One common paradigm, particularly in the US approach to antitrust law, is to ensure a degree of competition between commercial entities. Historically, this antitrust paradigm has motivated restrictions on mergers and

223 Partington, R. and Inman, P. (2022). UK’s Top 0.1% Earners Have Annual Income of Over Half a Million, Says IFS. *The Guardian*. Available at: <https://www.theguardian.com/business/2022/apr/07/uks-top-01-earners-have-annual-income-of-over-half-a-million-says-ifs>

224 Heip, C. H., Herman, P. M., & Soetaert, K. (1998). Indices of Diversity and Evenness. *Oecanis*, 24(4), pp. 61-88.

225 Sandvine (2022). Global Internet Phenomena Report. Available at: <https://www.sandvine.com/global-internet-phenomena-report-2022>.

acquisitions, price fixing, and other monopolistic behavior.²²⁶ Another approach to promoting a free market, exemplified by European countries, Canada, and Australia, involves creating a public choice to compete with commercial participants. The guiding principle behind this and related approaches is that the government may be the only actor “powerful enough to set basic ground rules for public discourse.”²²⁷

6.3 DIVERSITY AND PLURALISM IN CONSUMPTION

Even if a diverse array of news and information is *produced*, for many reasons, it may not translate to diversity in audience news repertoires. It is thus critical to also measure diversity in terms of *consumption*: how audiences spend their time and attention. Audience measurement dates back to at least the 1930s, when rating services used surveys and telephone coinidentals to estimate the audience size for radio broadcasts.²²⁸ While audience measurement in today’s media ecosystem presents new challenges, some core principles remain.

First, panel data remains a common and effective way of measuring audience attention. Panel data involves a portion of the audience sharing their media consumption behavior. Nielsen Media Research uses panels to measure media consumption through the internet, radio, and television,²²⁹ with their television panel comprising 42,000 households.²³⁰ Panel data from firms like Nielsen and Comscore was primarily intended for advertisers, though some panel data was created for research and/or journalistic purposes. For example, Citizen Browser²³¹ collects panel data about Facebook, which *The Markup* uses in their investigative reporting. Similarly, Mozilla Rally allows users to contribute internet browsing data to researchers through a browser extension.²³²

Surveys offer another method for measuring diversity in terms of consumption, namely by directly asking people about their news habits. Pew Research Center²³³ commonly employs surveys to measure how audiences trust and engagement with different publishers. However, self-reported survey data may not be as accurate as passively collected panel data.

Another approach is to use platform-provided data. AlgoTransparency,²³⁴ for instance, monitors hundreds of widely viewed channels on YouTube to analyze YouTube’s recommendation algorithm. This is accomplished via YouTube’s API. A related effort is Facebook’s URL Shares dataset,²³⁵ which provides exposure and engagement statistics for URLs shared in the United States.

As with production, diversity in consumption can be measured along various dimensions related to sources, genres, framing, and more.²³⁶ For example, an individual might have a diverse news diet in terms of reading many different sources, but they might read exclusively sports articles.

226 Kovacic, W.E. and Shapiro, C. (2000). Antitrust Policy: A Century of Economic and Legal Thinking. *Journal of Economic Perspectives*, 14(1), pp.43-60.

227 Miller, E.L. (2021). Amplified Speech. *Cardozo Law Review*, 43, p. 1.

228 Beville, H.M. (1988). *Audience Ratings: Radio, Television, and Cable*. Psychology Press.

229 See: <https://panels.nielsen.com/panels-and-surveys/#panels>

230 Nielsen (2022). Nielsen’s Industry-Leading US National TV Panel Reaches Over 42,000 Households, Comprised of 101,000 Directly Measured Viewers. Available at: <https://www.nielsen.com/news-center/2022/niensens-industry-leading-u-s-national-tv-panel-reaches-over-42000-household/>.

231 See: <https://themarkup.org/citizen-browser>

232 See: <https://rally.mozilla.org/current-studies/>

233 See: <https://www.pewresearch.org/topic/news-habits-media/>

234 See: <https://data.algotransparency.org/>

235 Messing, S., DeGregorio, C., Hillenbrand, B., et al. (2020). Facebook Privacy-Protected Full URLs Data Set [Data set]. Harvard Dataverse. Available at: <https://doi.org/10.7910/DVN/TDOAPG>.

236 Benson, R. (2009). What Makes News More Multiperspectival? A Field Analysis. *Poetics*, 37(5-6), 402-418.

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