

Fostering the wealth of networks

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The digital information space is potentially subject to a significant loss of value¹. The aim is to establish a framework that encourages a virtuous circle of enrichment in the information space. It is then a matter of ensuring the future of “the wealth of networks”².

Long considered spaces for entertainment, information, and free expression, social networks have also become something else³: misinformation, harassment, advertising, attention capture, harm to individuals, self-devaluation, and more. Additionally, they constitute closed spaces where no external innovation is possible, capturing a significant portion of the value of the content that feeds them and, when operating according to the attention economy model, aiming to expose users to an ever-increasing amount of advertising.

The democratization of generative artificial intelligence, initiated by the release of ChatGPT to the public at the end of 2022, has sparked speculation about the future of our digital lives and, more broadly, its implications in our daily lives, including access to information. Replaying now-familiar scenarios, some actors could appropriate the value of content produced by numerous entities and individuals.

To avoid past pitfalls - the appropriation of the digital information space by a few hegemonic private actors -, it is necessary to perceive the momentum created by the intrusion of generative AI as an opportunity to steer innovation toward the creation of a virtuous circle of enrichment of the digital information space. To achieve this objective, the assessment of the economic value generated by the information used by generative

¹ C. DOCTOROW, [The ‘Enshittification’ of TikTok](#), Wired.com, 23 janvier 2023.

² Y. BENKLER, *The Wealth of networks*, Yale University Press, 2006.

³ See G. BEKNAZAR-YUZHASHEV et al., [Toxic Content and User Engagement on Social Media: Evidence from a Field Experiment](#), disponible sur SSRN, 2022 ; E-ENFANCE. [67% des 8-10 ans déjà sur les réseaux sociaux révèle l'étude de l'Association e-Enfance3018-Caisse d'Épargne](#), E-enfance.org, 17 octobre 2023; J. HAIDT, [Social Media is a Major Cause of the Mental Illness Epidemic in Teen Girls. Here's the Evidence](#), 22 February 2023 et G. WELLS, Georgia, HORWITZ et al., [Facebook knows Instagram is toxic for teen girls, company documents show](#), Wsj.com, 14 september 2021 ; CCDH, [Deadly by design](#), Counterhate.com, 2023. Et plus généralement K. CHAYKA, [Why the internet isn't fun anymore](#), Newyorker.com, 9 octobre 2023 ou I. BOGOST, [The age of social media is ending](#), Theatlantic.com, 10 november 2022.

artificial intelligence and other intermediaries in the digital economy has become an essential prerequisite (I). This will enable, in particular, the establishment of conditions under which the opening of social networks can be leveraged for more democratic uses and diversified innovations, thereby generating new value (II).

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I. Understanding the economic models of digital platforms through a trusted platform

It is essential to assess the economic value generated by the information used by generative artificial intelligences and other intermediaries in the digital economy. This is a necessary condition for establishing a system of fair remuneration for rights holders that does not depend solely on the balance of power between the parties.

1. The evaluation of economic value created by the information used by generative artificial intelligence (and other intermediaries in the digital economy)

Generative artificial intelligence has revived the question of a few companies capturing the value generated by numerous actors, including press entities. Confronted with this scenario, the involved parties have implemented various strategies.

The Axel Springer group decided to negotiate access conditions⁴, illustrating that a few press groups might benefit by negotiating compensation, which can, in reality, be particularly meager, with significant risks to pluralism and media freedom⁵. Taking a more aggressive approach, The New York Times has initiated legal proceedings against OpenAI⁶, citing very significant amounts without, however, assessing the damage⁷.

Furthermore, some entities restrict access to their data by asserting an opt-out option⁸ while awaiting satisfactory conditions, without specifying what those conditions are or how to establish them. The primary demand made so far involves a form of transparency regarding the opt-out and defense of copyright⁹. The closure of resources to generative artificial intelligence access is already observed in the case of press publishers who have chosen not to be indexed by Google News, for example. More recently, social networks have also closed their public APIs to prevent exploitation by generative artificial intelligence. Reddit and Twitter¹⁰, for instance, have erected significant tariff barriers to API access, challenging public and researcher access to their resources through third-party applications.

As a result, access to digital resources is locked or frozen due to the fear of capture, to the detriment of the opportunity to benefit from services based on French or European data, and thus our culture. Meanwhile, in the United States, generative artificial intelligences with substantial financial resources continue to advance by paying for

⁴ REUTERS, Le groupe de presse Axel Springer s'associe avec OpenAI et son outil ChatGPT, Challenges.com, 13 december 2023

⁵ GESTE, IA générative. Analyse des enjeux et perspectives pour les médias en ligne, 17 january 2024.

⁶ M. M. GRYNBAUM et R. MAC, The Times Sues OpenAI and Microsoft Over A.I Use of Copyrighted Work, Nytimes.com, 27 december 2023

⁷ The New York Times Company v. Microsoft Corporation (1:23-cv-11195), District Court, S.D. New York, Jan. 29. 2024

⁸ L. FAURENT, Interview d'Olivier Martinez. « Les médias français ne pourront s'opposer à OpenIA qu'en restant unis », Challenges.com, 29 december 2023.

⁹ A. BENSAMOUN, To be or not to be...transparent - Pour un principe matriciel de transparence dans l'environnement numérique, Revue Dalloz IP/IT et Communication, 3 december 2023

¹⁰ M. CLAVEY, Quand les réseaux sociaux ferment l'accès à l'analyse de leurs données par les chercheurs, Nextinpact.com, 20 june 2023.

access to necessary resources or awaiting legal decisions that may take time to materialize.

This situation is notably due to the fact that it remains challenging to establish the value of information exploited by artificial intelligence services, especially by large language models¹¹. To begin with, generative artificial intelligence was trained on data whose legitimacy and legality in terms of exploitable use without compensation are difficult to ascertain. On the other hand, it is currently impossible to determine to what extent the prevailing factors in the produced result are the quantity and/or quality of the data, computing capabilities, or the quality of the models. Additionally, the role of training data differs from fine-tuning data. Furthermore, beyond these initial training and fine-tuning data, generative artificial intelligence will continue to need both produced and not yet accessible data to enhance the quality of their results. They will require real-time access, given that an increasing portion offer synthesis functionalities based directly on web-extracted results. In this still uncertain world in terms of causality, the question of data transparency does not seem to be an adequate solution to the encountered problems. It aims to verify the potential payment of copyright fees but does not in any way resolve the difficulty of its evaluation. Defining compensation models now doesn't make much sense given the ongoing evolution of business models. This would lead to favoring actors with the deepest pockets.

To avoid the press and media facing a situation similar to the one that pitted content creators against social networks and search engines regarding neighboring rights, it is necessary to go beyond positions of distrust. In the case of neighboring rights, the information asymmetry, and the lack of methods, and metrics to evaluate the (direct and indirect) contribution of the press and media led to compensating them in the end - seemingly rather modestly considering their contributions to the created value, but reliable analyses are lacking - and especially in complete opacity.

2. The need for a trusted platform to make data available

The situation encountered with generative artificial intelligences is not new and is ultimately just the latest expression of a systemic and well-known problem. It is specified that the opacity of the creation and sharing mechanisms of the value of advertising revenues generated on major social networks and search engines has the same

¹¹ In this regard, refer to Benoît Sagot's presentation during the [Dauphine Digital Days](#) on November 20, 2023. The utilized data can be categorized into black, gray, or white data based on their varying degrees of legitimacy for exploitation. However, it remains unclear what role these data played in the training of the models.

consequences. This difficulty is largely due to the fact that we are unable to understand the underlying mechanisms (What advertising? At what price? When? With what impact?) other than through the information and indicators provided by the platforms themselves; this probably deviates, considering the ongoing disputes and challenges, from a fair distribution among the platform, advertisers, and content creators. **However, statistical or market information is at the heart of any economic regulation.** Currently, web data mostly comes from the economic players, allowing them to define the rules. While keeping in mind that the issue of value distribution is, in reality, a systemic problem that deserves a comprehensive approach, it is necessary to focus on the information that artificial intelligence feeds on independently and impartially.

Thus, **an expectation from the Etats Généraux de l'Information** [*Editor's note: An initiative launched by the French President in late 2023 aimed at producing recommendations to protect information against foreign interference and sustain the funding of media*] **is to create a trusted platform to make available a significant and varied amount of data without preempting the future.** This platform should be able to rely on information sources and research available on language models, and likely commission and guide studies and research that are opposable, enabling it to understand and evaluate the relative importance of information, its quality, and variety, develop tools, establish metrics, etc. For this platform to operate under real-world conditions, a form of guarantee should be provided to content providers so that they can agree on a moratorium on opt-out. Otherwise, we will not have a real-world understanding of what has value or not.

In summary, this platform must be able to integrate into ongoing research and regulatory processes and operate under real-world conditions. The legal forms that this platform could take are varied, but in any case, it should ideally involve different stakeholders or a trusted intermediary. This intermediary could leverage dedicated research institutions such as Inria and/or other academic structures and align as much as possible with a European dimension.

Once the questions of value distribution and economic models are clarified, it will become possible to determine to what extent it can be expected that a given economic actor (media, social networks, or any other data holder) opens up to a form of interconnection with other actors (generative artificial intelligence, search engines, social networks). When considering the relationship between generative artificial intelligence and content providers like information produced by the press, the question also emerges regarding the relationship that social networks have with third-party actors.

II. Rethinking the architecture of the digital information space by opening up social networks

In the coming years, digital regulation will have to address several issues like user protection, preservation of openness, innovation, and competition in the era of generative artificial intelligence, as well as the defense of media pluralism and freedom of expression.

To tackle these challenges, the European Union has adopted regulations on digital markets and services and is currently finalizing the adoption of the regulation on artificial intelligence. Discussions, research, and investigations are ongoing to determine the best solutions to the identified problems. The obligations outlined in the Digital Markets Regulation, its adjustment mechanisms, interoperability review clause, and the systems and remedies introduced by the Digital Services Regulation can serve as a basis to consider a broad and holistic intervention field, touching the core of social networks' economic and technical models.

1. The problem of the closure of social networks and algorithmic recommendation

Social networks have significantly transformed the digital information space. During the emergence of the web, there was a belief that digital platforms would lead to a form of horizontal communication, as opposed to traditional analog media such as press, radio, or television, which are unidirectional (from content producers to recipients). Digital networks constitute multi- or bidirectional media through which recipients can produce content.

However, this hope obscured the fact that producing content alone is not sufficient; the content also needs to be made visible. It holds for all types of media: a newspaper or a channel not only produces content but also filters what will be seen or not (visible or invisible). **Thus, the challenge lies not only in the ability to produce or emit content but rather in the ability to define its level of visibility, a power that has been assumed by intermediary actors.**

This function is not in the hands of citizens but mainly in the hands of private actors who have created and governed social networks in a centralized manner. They design all the platform's functionalities, from moderation mechanisms to recommendation

algorithms, and more. As a result, the way content is produced is indeed horizontal and decentralized, but the way it is classified, made visible, or invisible is very vertical and centralized in the hands of a few private companies, often in oligopolistic or monopolistic situations¹².

Thus, the problem of misinformation is largely attributed to automatic recommendation algorithms that rely on statistical calculations and systematically amplify the most viewed content, reinforcing herd or mimetic tendencies. The disinformation industry exploits these algorithms and uses fake accounts or bots to amplify certain content for propagandist purposes. The challenge with "toxic" content lies less in its creation or existence, but more in the algorithmic recommendation and business models rooted in the attention economy. These models encourage a select few profit-driven entities to emphasize such content.

Currently, the Digital Services Regulation aims to identify systemic risks posed by very large online platforms, including the most widely used social networks. Article 35 of the regulation allows for a variety of extensive remedies, including the alteration of recommendation functions as they are currently designed.

However, the current situation partly results from the closure of social networks to any external innovation and, consequently, a low level of competition on their essential features such as recommendation and moderation. These platforms are more like closed spaces where their economic models, primarily based on capturing user attention, would see their revenues decrease if opened to alternative modes of operation.

2. The need to open social networks to third-party actors

To preserve this model, the most widely used social networks restrict the integration of technical innovations or access to other external services on their platform, thus exercising a monopoly over functionalities that could be open markets for free initiative. For example, transparency reports reveal that French-language moderation on X (formerly Twitter) is carried out by fewer than 100 moderators. Allowing third-party companies to offer a moderation service on X would envision that companies, even small and medium-sized ones, could compete with X on moderating its platform, offering an added-value service to users. This moderation capability could be offered for compensation, shared across multiple social networks, etc. This principle can apply to all

¹² A. ALOMBERT et J. CATTAN, « Et si les réseaux sociaux devenaient une chance pour nos démocraties ? », *The Conversation*, January 2024

functionalities of any social network, starting with recommendations. **Considering social networks as a sum of functionalities expands the realm of possibilities beyond the problems posed by the networks themselves and the solutions they provide.**

It is essential to recognize that where social networks present themselves as a whole, they are, in reality, a sum of functionalities. The inability to configure our experience on social networks stems from these platforms presenting their solutions as monolithic entities, despite the diversity of their functionalities (recommendation, moderation, search, publication format, etc.). By adopting an alternative perspective, social networks can be designed as a set of distinct functionalities, each constituting potential markets on which social networks currently exert a de facto monopoly. **Considering each functionality as potentially provided by a third-party entity to the proprietary social network, each of these functionalities becomes a terrain for multiple innovations benefiting the user and possibly the social network itself.**

Opening social networks to third-party actors can enable them to introduce new value propositions to consumers, positively impacting information circulation (combatting misinformation, protecting audiences, media pluralism, better access to information, and moving away from the attention economy). These third-party actors can offer alternative content recommendations, third-party applications, more advanced moderation forms, etc. The challenge is to decentralize the decisions made about platform operations and place them in the hands of users who could thus regain control over the configuration of their digital informational environments.

Some social network providers, NGOs, researchers, and public entities have already contemplated the possibility of giving users more control over their experience (Bluesky, Mastodon, Cory Doctorow, Daphné Keller, Francis Fukuyama, Maria Luisa Stasi, Célia Zolynski, Marc Faddoul, Panoptikon, etc.).

The regulatory framework currently under construction, with recently adopted regulations being just a starting point, **allows envisioning a future where social networks are open to third-party innovations, and users can configure their experience as they wish**, addressing many previously identified problems and shortcomings. This is also one of the avenues identified in the European Parliament resolution on addictive design of online services¹³.

¹³ PARLEMENT EUROPEEN, *De nouvelles règles européennes pour lutter contre la dépendance numérique*, Europarl.europa.eu, 12 december 2023.

Among various other conditions related to privacy protection and legal oversight of third-party systems, **the opening of social networks is only conceivable with an economic regulation that determines under what conditions access can or should be open to a social network for the benefit of a third-party actor.** This supports the idea that economic regulation serves social regulation¹⁴ and makes a mechanism like the one proposed above even more necessary.

Once the economic question is addressed, what does it mean concretely and functionally to open social networks?

3. What concrete means to enable the opening of social networks?

There are various measures to provide users with greater decision-making power and ensure the opening of social networks to third-party innovations.

- A first course of action, aligned with the logic of the Digital Services Regulation and the Digital Markets Regulation, involves **imposing on social networks the obligation to offer greater choice in recommendation and moderation on the platform itself.** While the Digital Services Regulation mandates social networks to provide a non-profiled feed, considering the option to choose among other feeds, with more user maneuverability, would be essential. This is a particularly distinctive feature proposed by Bluesky. Similarly, where the regulation mandates the deployment of advanced moderation features, some could be at the user's discretion based on their preferences. While certain features are already offered today (hiding certain words or accounts), others, much more robust, are entirely conceivable.
- A second approach would be to **encourage and regulate the development of plugins for browsers and applications, allowing users to configure their experience on the social network.** Such plugins already exist on desktop browsers, constituting a marginal innovation movement known as tactical design¹⁵ with extensions that enable better configuration of the recommendation algorithm, such as the YouChoose proof of concept or the functional plugin from the Tournesol association. These two features, like many others, work from the browser to modify the display of the social network page, providing alternative recommendations to those of Youtube, for example. However, the number and

¹⁴ CONSEIL NATIONAL DU NUMERIQUE, *Explorer l'opportunité du dégroupage. Un échange avec Maria Luisa Stasi*, Cnumerique.fr, 27 november 2023.

¹⁵ N. MAUDET, *Design tactique*, Tèque, 2023/1, n°3.

scope of these initiatives are limited by the platforms' terms of service, emphasizing the need to regulate them to ensure they facilitate the development of these plugins.

- These tools, while providing greater freedom of choice for the user by ensuring a form of adversarial interoperability (a concept theorized by Cory Doctorow¹⁶), do not offer the ability to connect a third-party service to the social network beyond display or certain limited functionalities. **Other mechanisms can then be considered, such as "middlewares," which involve adding software, for example, for recommendation or moderation, that fits between the social network and the user** to add an overlay of functionalities or a different aesthetic¹⁷.
- As was the case until recently for networks like Twitter or Reddit, **ecosystems of third-party applications can allow users to choose the application environment in which they interact with the social network.** The existence of such applications, developed by any developer, depends on the ability of these applications to access the social network through the interfaces provided by the social network's APIs. While Mastodon's public API allows a rich ecosystem of third-party applications to exist¹⁸, this is no longer the case for other social networks that have decided to close their APIs, particularly by imposing excessively high tariff barriers¹⁹. Yet, in such applications, numerous valuable functionalities can be offered to users, allowing them not to rely solely on the network's own will.
- To envision the emergence of third-party applications and functionalities, **it is finally possible to encourage unbundling, defending a principle of access to certain resources that the social network possesses to allow their exploitation by a third party.** This was already formulated in the *Etats Généraux des Nouvelles Régulations du Numérique*²⁰ (*Editor's note: an initiative launched in 2018 by the French Secretary of State for Digital Affairs aimed at developing proposals for the regulation of the digital sector.*) and has been further developed by various entities and individuals, including Maria Luisa Stasi.

These various proposals represent different means of action to practice the opening of social networks. **The shift from a discretionary "gatekeeper" logic to a principle of openness under economic and technical conditions opens the possibility for users to**

¹⁶ C. DOCTOROW, *Adversarial interoperability*, Eff.org, 2 october 2019.

¹⁷ F. FUKUYAMA, et al., *Report of the Working Group on Platform Scale*, Stanford Cyber Policy Center, Stanford.edu, 17 november 2020.

¹⁸ <https://joinmastodon.org/fr/apps>

¹⁹ J. POT, *How to Make Reddit Suck Less on Your Phone*, Wired.com, 19 september 2023.

²⁰ CONSEIL NATIONAL DU NUMÉRIQUE, *Synthèse de la consultation. Concurrence*, Cnumerique.fr, may 2020, pp. 100 and following.

exercise real choice and decision-making power on social networks. However, once again, this possibility requires considering, among other things, the economic conditions for its realization. Whether through increased exposure to advertising, voluntary time donation, or additional payment, adding functionality comes with a cost, whether on the side of the social network or the new intermediary. The key question is what this cost represents, under what access conditions, and for what new functionalities.

4. Considering openness in the evolving relationship between social networks and conversational agents

Far from being a detached projection, the rapid proliferation of generative artificial intelligence leads to extending this reflection and considering access to social networks by third parties, specifically conversational agent providers. Because they offer a new means of accessing information now, they could allow different access to social network content tomorrow. This is also the horizon that emerges with the announcement of the commercialization of the Rabbit R1, a mobile device that breaks away from the traditional smartphone operating system and the myriad of applications relying on a generative artificial intelligence capable of learning how the user interacts with applications to replicate their behavior. Users will only need to make a request on a single interface. This change is accompanied by the ability for anyone to configure personal agents capable of performing specific tasks²¹. This dynamic stems from what can be called the agentification of our digital activities and would constitute a new form of generalized intermediation²². Beyond the case of the R1, it is crucial to consider the case of Perplexity, which already offers a mode of interaction with its conversational agent specifically focusing on YouTube and Reddit content. This shows that in the future, access to information provided by social networks can take a completely different form through conversational agents.

As for social networks, we can envision a world where anyone can configure their access to social networks by interacting solely with this new intermediary, the conversational agent. This would offer a potentially higher-quality experience, highly customizable beyond current practices. **Whether defining one's own recommendation and moderation settings, receiving tailored summaries of discussions on various topics, consolidating all conversations on a single interface, interacting with content of various kinds or origins, etc.** From this perspective, we understand the strategy of some actors

²¹ OpenAI, *Introducing GPTs*, 6 november 2023.

²² Bill Gates, *AI is about to completely change how you use computers*, 9 november 2023

to couple access to their generative artificial intelligence with a subscription to their social network²³. However, the risks of compartmentalisation are also increasing, given that the owners of the dominant social networks are the same companies that are developing the most widely used language models to date, making the possibility of integration between social networks and conversational agents, confined to a closed system, even more pressing.

The question facing us is whether we will:

1. If we settle for an environment in which we remain in closed silos where a social network is accessible through a conversational agent, which primarily feeds on a limited information space to which it has access, risking a loss of both pecuniary value and the quality of the produced content. This entails the risk of continuing to delegate to a private company the power to fully configure our "personalized" information space according to its private interests, definitively abandoning the idea of a shared digital public space.
2. Or if we aspire to have an open space where interconnection is advocated between all social networks and conversational agents, allowing for their enrichment, ensuring their cultural diversity and preventing abuses, giving users the ability to share their information spaces fully and choose their access modalities to social network content.

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²³ For example, [Grok](#), the generative artificial intelligence conversational agent developed by xAI, is available to Premium + subscribers to the X platform.