**Fake news and sharing limits**

**A decentralized model for the market of ideas online**

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1. **Introduction**

Over the last decades, the market for news has been radically transformed by the ICT revolution. On the supply side, digitalization disrupted traditional barriers to entry, allowing the emergence of new distribution platforms such as search engines, news aggregators and social media. A distinguishing feature of these novel information channels is the sharp separation between news production (no longer in the hand of professional editors) and distribution, controlled by algorithmic curators that maximize advertising revenue and market share in online traffic by fostering interconnectivity in web-mediated interactions. On the demand side, it granted consumers unlimited access to the market, reducing fixed and marginal costs to almost nothing. Perhaps more importantly, it blurred the boundaries between supply and demand by allowing social media users to take an active part in news propagation through the novel possibility of content-sharing, without providing adequate incentives to screen the information being shared.

As a result, user-generated contents circulate at inflated rates, boosting fake news diffusion to unprecedent levels. According to Google Trends, the very label “fake news” was uncommon until November 2016, when the Russian government interfered in the US presidential elections through willingly manipulated online information (for details, see Grinberg et al., 2019). Despite consumer trust in these platforms is still low when it comes to information quality (especially if compared to traditional media), two thirds of consumers worldwide access information via algorithm-driven channels, with 80% of US adults admitting to have consumed false information at least once and 12% realizing to have shared a story that was later revealed to be unfounded (Martens et al., 2018). Unsurprisingly, the World Economic Forum listed fake news among major global challenges of today (Howell, 2013).

In the quest of limiting this spread of misinformation, policy-makers has been focusing on suppliers, asking platforms to invest resources in fact-checking and news screening to increase their control over the pieces of information circulating in their domains. The European Commission Communication on Tackling Online Disinformation released in 2018 is revealing of this approach. While the intent of nipping the problem in the bud by improving fake news detection is understandable, these top-down solutions may counterintuitively increase rational agents’ incentives to strategically spread misinformation by boosting competition between fake news creators (Grunewald and Kräkel, 2017) and constrain the users’ digital communication behavior through chilling effects that ultimately limit free speech (Büci, 2019). But for the case of verifiably false information, in fact, fake news is often difficult to identify, as witnessed by current challenges in defining the latter (see Martens et al., 2018: ch. 2). Imagining situations where central controllers would find it hard to distinguish between news that are genuinely manipulated and others that are simply uncommon, bizarre or that embed extreme but legitimate opinions is not unrealistic. The market for news and that for ideas, in fact, are too closely connected to always allow a sharp distinction between facts and opinions, and centralizing authority over the former may undesirably imply centralizing authority over the latter. In the hunt for fake news, designated fact-checkers may use pre-defined criteria to qualify those pieces of information that, although seemingly suspicious, are not verifiably false. Beside encompassing the possibility of mistakes in fake news detection, this would induce an arguable standardization of news circulation, ultimately impoverishing the quality of public debate. Hence, the ability of controllers to detect fake news should not be overstated, and the spillover effects of such tools on free speech not overlooked.

If filtering news can reduce the mass of manipulated information that arrives at consumers, complementary actions must be taken to incentivize the latter to screen the contents they share. Since users are both consumers and distributors in contemporary news markets, tackling fake news creation is not enough to contain misinformation. Costly news verification has thus been the object of both policy proposals and scholarly attention (Papanastasiou, 2020; Pennycook et al., 2020; Ershov and Morales, 2021; Cisternas and Vásquez, 2023). User empowerment via facilitated access to fact checking has the benefit of preserving freedom of speech in sharing decisions, a purpose that we believe should be carefully pursued in the struggle to contain misinformation.

In this paper, we propose a different though largely complementary instrument to tackle the role of content-sharing in fake news diffusion, which we call “sharing limits”. Leveraging on the metaphor of speed and pollution limits, we propose to artificially create an opportunity cost for users who share pieces of information through their social media profiles. With this model, we aim to show how quantitative limits on the release of information on a platform create opportunity costs that generate the incentive conditions for individuals to invest time and resources in vetting the information being consumed and released. At the same time, each user can leverage personal tacit knowledge when sharing information, creating a discovery process of shared interpretive tools (Romero and Storr, 2023) without having to rely on standardised 'truth' imposed by central planners or censors. This decentralised model does not guarantee the elimination of 'fake news' - a goal that is impossible per se - but it does allow the circulation of manipulated and false information to be kept under control, while offering alternatives to current solutions of surveillance and collateral censorship.

To do so, we develop a model where a population of users interact through a social media where pieces of information arrive discretely and non-overlappingly according to a simple Poisson process. As in and Acemoglu et al. (2022) and Cisternas and Vásquez (2023), we assume that users derive relational benefits when sharing truthful contents, but dislike sharing misinformation. While intuitive, this is consistent with recent studies by Pennycook et al. (2021) and Altay et al. (2022) that show that individuals care about sharing accurate news and incur in reputational costs when these turns out to be fake. Upon observing the news, each user attributes a subjective probability to the event “the news is fake”, which measures the amount of doubt in the user’s mind. and must decide whether to share it (and derive relational benefits if truthful and costs if fake) or not. Our working assumption is that the platform policy features a simple sharing limit: users who share at time $t$ cannot post in $t+1$.

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