

INVIGORATING COMPETITION IN SOCIAL NETWORKING: AN INTEROPERABILITY REMEDY THAT ADDRESSES DATA NETWORK EFFECTS AND PRIVACY CONCERNS



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The persistent dominance of Facebook has led many scholars and policymakers to generate proposals to invigorate competition in social networking. In this piece we address a remedy that has received renewed attention: interoperability. Prior proposals of interoperability have focused on eroding entry barriers that exist due to user-based network effects. We focus here on data-generated network effects: the more data Facebook acquires from its users, the more its AI algorithms can learn and improve the content Facebook provides its users. Without access to a rich stream of user data, a social network is merely a static interface, with limited capacity to serve engaging or personalized content. As such, we propose a version of interoperability that addresses both user and data-driven network effects. In doing so, we also explicitly tackle the privacy issues that invariably arise whenever data is shared across firms.

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I. INTRODUCTION

The persistent dominance of the largest digital platforms has led many scholars and policymakers to generate proposals to invigorate competition in these markets.² These proposals have ranged from splitting up firms, to stepping up antitrust enforcement, to imposing regulations on the sharing of data. In this piece, we address a remedy that has recently received renewed attention: interoperability for social media platforms.³ Interoperability has the potential to open up markets in the digital sector, and we seek to build on the timely and well-crafted contributions made by authors so far in the context of social networking.

A primary goal of interoperability is to erode the barriers to entry that exist due to the presence of network effects. Network effects that endow firms with market power can arise from having a large number of users and from having access to large amounts of user data.⁴ The ability of Facebook's AI algorithms to learn from users' behavior and generate compelling content for its users increases with additional data on how users interact with its content.⁵ Without access to a continuous stream of rich user data, a social network is merely a static interface, with limited capacity to serve engaging or personalized content. In this piece, we propose a version of interoperability that will alleviate both types of platform-level network effects. Indeed, our proposal shifts user and data-generated network effects from the platform level to the market level and allows all competitors to benefit from these two types of network effects. We also explicitly address privacy concerns related to the monetization of data that invariably arise when data is shared across firms. We believe that our proposal can elevate the odds of success of competing entrants and thus elicit entry that will increase competition in social networking.⁶

II. INTEROPERABILITY BASICS

One method of implementing an interoperability remedy would involve the use of compulsory royalty-free licenses that social media firms would be required to provide to each other.⁷ For example, a user on an entrant social network that accepts the license from Facebook would be able to send a friend request to a user on Facebook. If the Facebook user accepts the request, then the two users would be connected even though they belong to different social networks. Any time the Facebook friend posts something on Facebook, the post (in some standardized form) would appear in the newsfeed of the friend using the entrant platform. The reverse would also be true in that the Facebook friend would be able to see posts by their friend on the entrant platform. The proposed license would impose restrictions motivated by privacy concerns on the use of the data shared across platforms. For example, one proposal imposes the restriction that a licensee "would not be permitted to store information contained in incoming posts on their users' friends, learn from the data in any way, or monetize those friends." (emphasis added).⁸ We believe that any restrictions imposed on the licensees should balance the benefits of obtaining access to a potentially significant amount of user data that could lead to product improvements with the cost of privacy concerns.

2 See, e.g. the UK's Unlocking Digital Competition Report (2019), The Stigler Center Report on Digital Platforms (2019), the EU Competition for the Digital Era Report (2019), the Australia Competition and Consumer Commission Report (2019), and Tom Wheeler et al, "New Digital Realities; New Oversight Solutions in the U.S." Working Paper, Shorenstein Center, Harvard JFK School, August 2020.

3 See, e.g. Michael Kades & Fiona Scott Morton, "Interoperability as a competition remedy for digital networks," Working Paper, Washington Center for Equitable Growth, September 2020; Sinan Aral, "Breaking up Facebook Won't Fix Social Media," Harvard Business Review, September 30, 2020; CMA Final Report on Digital Platforms (2020); "Investigation of Competition in Digital Markets," Majority Staff Report and Recommendations, Sub-Committee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary, U.S. House of Representatives (2020); and Federalist Society's *Deep Dive*, Episode 141, "Interoperability and Data Sharing: An Antitrust Remedy in Search of a Market Problem?," <https://fedsoc.org/events/interoperability-and-data-sharing-an-antitrust-remedy-in-search-of-a-market-problem> (last visited on Oct. 26, 20). Related proposals include data portability and data sharing but we focus exclusively on interoperability here.

4 See Cristian Santesteban & Shayne Longpre, "How Big Data Confers Market Power to Big Tech," *Antitrust Bulletin*, September 2020. See, also, Andrei Hagiu & Julian Wright, "Data-enabled learning, network effects, and competitive advantage," June 2020, <http://andreihagiu.com/wp-content/uploads/2020/06/Data-enabled-learning-June2020.pdf>.

5 As Hagiu & Wright (2020) have pointed out, this learning can take place across users and within users. The former aggregates data from all users and allows for content to be improved for all users; the latter utilizes data from a single user to improve the product for that user only. Only the first type of data-driven learning they consider to be a data network effect. In the context of Facebook, there is both across-user and within-user learning; thus we can safely address this learning as a data-generated network effect. See supra 3.

6 Competition will be further enhanced if structural separations are imposed separating Instagram and WhatsApp from Facebook. However, these breakups would be effective in restoring competition in the long run only if data related remedies like interoperability are in place.

7 Alternatively, the licensing could be made compulsory only for those firms deemed to have substantial market power, such as Facebook, and optional for other firms and new entrants. The determination of which firms have substantial market power would be made by the regulatory body imposing the interoperability remedy.

8 See Kades & Scott Morton (2020) at p. 24.

III. IMPORTANCE OF DATA IN AI APPLICATIONS

Social networks rely heavily on AI algorithms for their content recommendations, personalized advertising, and other differentiating features. AI algorithms, especially those involving neural networks, require tremendous amounts of data to learn effectively and unleash their full predictive capabilities. Restrictions that prohibit storage and learning from data-rich networks like Facebook would impair an entrant's ability to offer its users compelling content and services. Social networks are first and foremost content generators and recommenders, and an entrant with limitations on its capacity to learn about how users interact with content will likely face diminished engagement. The fewer impediments placed on entrants on accessing data that allow its AI algorithms to learn, subject to limits imposed by privacy considerations, the more likely the entrant is to become an effective competitor.

IV. IMPORTANCE OF SHARING A RICH SET OF DATA TYPES

A second consideration in the design of an effective interoperability remedy is determining the types of data that would be shared. As a preliminary matter, we believe that an effective interoperability proposal should include not only posted user content such as text, photos, and videos, but also all interactions with that content. For instance, when a user on a social media platform posts some content, it is typical that other users, friends and non-friends, will react to the post by adding comments or "liking" it. User engagement is maximized when a user sees not only their friends' posts, but also how other users, who may or may not be friends, interacted with those posts. If a user in an entrant platform cannot see how all users interact with their friends' posts, then it makes the content less appealing. Further, if the entrant platform cannot learn from information on how all users interact with a post, it would face significant blind spots that would impede its ability to discern and show compelling content for its own users.⁹

More generally, for its newsfeed and targeted advertising, Facebook's algorithms rely on: (i) engagement data (clicks, impressions, reactions, comments, mouse hovers), (ii) usage data (time spent on site/post, searches), (iii) personal data (biographical information, stated preferences, emails, phone numbers, friends), and (iv) inferred data (links to other accounts, interests, most popular friends).¹⁰ These incidental and other data types are critical to the development of compelling content and should be candidates for inclusion in the licensing standard; however, they do raise significant privacy concerns that we address below.

V. PRIVACY CONSIDERATIONS

When a user posts or comments on a social media platform, the platform has the ability to monetize the user's data by selling it to third parties or selling targeted ads. These targeted ads could be based solely on the user's behavior on the platform, e.g. based on the user's own posts or how the user interacts with others' posts. The targeting could also be based not only on a user's interactions on the platform but also on their interactions on other sites or apps where the social network tracks the user.¹¹ Finally, a user's data could also be sold to third-party data brokers that resell the user's data to advertisers that can target the user on other sites or apps. All of these types of behavior by the social network are forms of monetization of user data that may violate users' privacy if done without their consent.

With interoperability, a firm like Facebook would be able to obtain data on users who are on platforms with potentially stricter privacy restrictions than Facebook. For example, let's say that a user is on an entrant platform that doesn't sell user data to third-party data brokers. If this entrant platform now starts sharing a user's posts and comments with Facebook, Facebook could build a profile on that user and sell that data to third-party brokers.¹² Any interoperability proposal must ensure that whatever privacy restrictions exist on a network with regards to monetization will apply equally when a user's data is shared with other networks, regardless of the other networks' own privacy rules.

⁹ How any user responds to a post is informative to determine the relevance or importance of a post. Of course, certain users' interactions with a post are more informative than others but limiting what the entrant platform observes impedes that platform from assessing its relevance accurately for its users.

¹⁰ See, e.g. Josh Constone, How Facebook News Feed Works, TECHCRUNCH.COM (2016), <https://techcrunch.com/2016/09/06/ultimateguide-to-the-news-feed/> (last visited Feb. 24, 2020).

¹¹ This tracking functionality is at the heart of the dispute between Facebook and Apple in light of the changes Apple is making to its app store. See, e.g. <https://www.nytimes.com/2021/04/26/technology/personaltech/apple-app-tracking-transparency.html>.

¹² It is also possible that when Facebook shares data with an entrant platform, the sharing of data itself could expose it to privacy violations more than if it stays within the walled gardens of Facebook. We do not find this argument convincing. If Facebook can protect data when it is shared across its own servers, it surely could design equally safe sharing protocols with servers owned by other firms. If these other firms do not follow industry-standard encryption or data-security protocols, then they would be ineligible for the license to begin with.

VI. OUR RECOMMENDATION

In light of the above discussion, we envision a broad and flexible interoperability license that seeks to maximize the pro-competitive benefits of interoperability without ignoring privacy considerations.

First, we recommend that license holders be able to access a broad set of data types beyond intentionally posted data. We suggest that, at least initially, any data collected by Facebook on behalf of a user be automatically included as part of the protocol. These data types would include engagement data, but also usage and personal data (as described above). It would not include inferred data. This would simplify the work of any regulatory body in charge of implementing the interoperability remedy as the included data types would follow data collection standards already in place by the largest social media platform. As discussed above, these varied and complex types of data are highly relevant in the learning process employed by AI algorithms in social networks.

Second, we propose a license that is flexible in terms of the restrictions imposed on licensees with regards to learning for purposes of displaying more compelling content but strict in terms of the monetization of user data. In our proposal a licensee would be free to store and learn from any data shared by other platforms to improve its product offerings. However, the storage would not be permanent. For example, the license could impose a restriction that the shared data must be deleted after 90 days. With regards to monetization of the shared data, we recommend imposing a restriction on the license that prohibits the licensee from doing anything with the data that the licensor prohibits on its own network. For example, if an entrant network has a policy that prohibits the sale of user data to third-party data brokers, then a licensee of that entrant network would also be bound by that policy. That would prevent a network from selling profiles on users coming from networks that restrict the sale of their users' data to data brokers.

The licensee would be further limited by additional privacy restrictions a user may choose to impose on their home network on how their data is monetized. In our interoperability remedy, a user would be given a choice by their home network over different forms of monetization of their data (applicable both on their home network and across networks the home network shares data with). For example, one option could be to accept the default restrictions imposed by the platform. Other options available to the user as long as they were stricter than the platform's default restrictions could include: (a) to prohibit targeted ads on other sites or apps tracked by the network (targeted ads based on the user's behavior on the platform could still be allowed); and (b) to prohibit the selling of the user's data to third-party data brokers.¹³ Each user would be offered a set of choices similar to those above when they open an account with a social network, and the chosen restrictions would then be applicable to any external platform receiving the user's posts or other data. For example, if a user chooses to prohibit tracking, that user's home network would be prohibited from tracking on other sites or apps. Moreover, if the user has friends on Facebook, the interoperability regime would also prevent Facebook from exploiting any data collected on the user and tracking the user on other sites or apps. Thus, if a user posts something on their home network and it shows up on a Facebook friend's newsfeed, Facebook would be free to learn from that content to improve its newsfeed, but it could not use that content to track the user elsewhere on the internet. (We provide an example of how this would work in the Breakout Box below.)

¹³ To be clear, there would not be an option for the user that is more permissive than the level of permissiveness of the user's home network. For example, if the network operates under a subscription model and doesn't monetize its users' data, then the user would be limited to the default option of a prohibition on all monetization of its data.

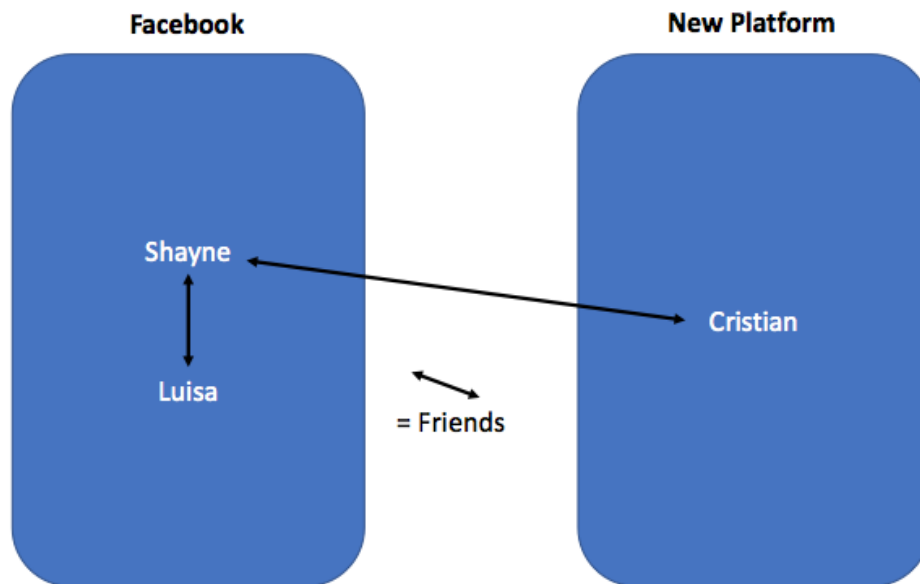
VII. CONCLUSION

In this piece, we propose an interoperability remedy that allows for the sharing of any type of data currently collected by Facebook on behalf of its users and not just intentionally posted data such as photos, text, or videos. We also recommend that social networks be free to temporarily store and learn from any shared data so they can create more compelling content for their users. However, our recommended interoperability regime imposes privacy-motivated restrictions on the monetization of shared data. These restrictions are based on the preferences of users about how their data should be monetized. In this way, we believe that interoperability will help to reduce the barriers to entry that arise from both user-based and data-generated network effects without ignoring privacy considerations. By facilitating an entrant's ability to learn from user data shared across platforms, we believe that our interoperability remedy will encourage entry and will invigorate competition in social networking.

BREAKOUT BOX

Here we illustrate our proposed interoperability regime using the example of New Platform that has entered to compete with Facebook. New Platform does not monetize users' data because it operates on a subscription model, but it does store and learn from users' data in order to offer relevant content for its users. We focus on three users distributed across Facebook and New Platform as in the figure below.

- Shayne is friends with Luisa and Cristian.
- Cristian is friends only with Shayne.



- Now consider the following situation:
- Shayne posts a picture.
- Cristian comments on it.
- Luisa “likes” it.

Under any version of interoperability, because Shayne and Cristian are friends, Shayne's original post would appear on Cristian's newsfeed on New Platform, and Cristian's comment would appear on Shayne's newsfeed on Facebook. In our proposal, Luisa's “like” would also appear on both Shayne's and Cristian's newsfeeds even though Luisa and Cristian are not friends and are not on the same network.

What could New Platform do with Shayne's post and Luisa's "like"? What could Facebook do with Cristian's comment?

Both platforms would be able to temporarily store and learn from the data generated by each of these user activities. However, whether and how the platforms can monetize the data depends on both the default privacy settings of each network and the privacy restriction level chosen by each user. Assume that Shayne is indifferent to how his data is monetized and has chosen Facebook's default monetization option, which imposes no restrictions. In that case, a platform receiving Shayne's data could in principle monetize Shayne's data in any manner it chose. In the current example, however, New Platform would not be able to monetize Shayne's data because of New Platform's own strict monetization restrictions. (For the same reason, regardless of the privacy restriction level chosen by Luisa, New Platform would not be able to monetize Luisa's data.)

Now, what could Facebook do with Cristian's comment? This would typically depend on the licensing restriction level chosen by Cristian if it happened to be stricter than the policy of Cristian's home platform. However, in this case, because New Platform already has a policy of non-monetization, Facebook would be prohibited from monetizing Cristian's generated data, say, by building a profile on Cristian and selling it to third-party data brokers.

To summarize, we recommend that the interoperability license (i) allow temporary storage and learning from the broadest set of data currently collected by Facebook about a post – not only intentionally posted data, but also data from users interacting with a post, regardless of which platforms those users belong to; and (ii) allow each user to independently control their own level of privacy restriction, which would apply to every social network observing the user's content.



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