



THE INTEROPERABILITY HOPE



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Interoperability is being put forward as a structural remedy to resolve issues of market power in networks – particularly, social media. When network effects are present, this means that it is possible that having one or a few operators is not only what arises but also efficient at any given point in time. Regulators can only be assured that a situation is efficient if there is potential competition that can bolster innovation by incumbents. A degree of interoperability to make any centralised outcomes contestable even if it does not lead to lower concentration per se. For social media networks, it is suggested that the principle of allowing the portability of identity (similar to interconnection in telecommunications) would be an appropriate goal with respect to the practical implementation of interoperability.

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INTRODUCTION

Social media was built for network effects. Launch a social media platform, and its entire success is built upon whether people use it to interact with other people (regardless of knowing them personally or not). From a media perspective, the content is (mostly) provided by users, but the attention garnered and a platform's ability to monetize it through advertising rivals all forms of old media where the content was created by skilled practitioners. The difference is that user-generated content has the potential to be 'two-way.' That is, I provide content intending that others will interact with it and vice versa. In this respect, a virtuous cycle, whereby people join a social network because others have joined it and so on, can be generated. The flip side is that once network effects have been ignited, they are hard to unravel.

With strong enough network effects, a platform can establish a dominant position in the market for attention. With every unit of attention they attract, advertisements can be offered. Moreover, if people tend to concentrate their attention on just one platform, then advertisers have limited options for placing ads in front of those people.

Regulators have, not surprisingly, become concerned about these effects. Facebook (known these days as Meta) has attracted particular notice. One reason is its ubiquity worldwide, with almost 3 billion monthly active users. Another is that it acquired two other platforms – Instagram and WhatsApp – that rival Facebook for attention. Combined, no other social network comes close. Both Twitter and Snapchat are in the 330 million user range. That said, in terms of user-generated content, YouTube with 2 billion and TikTok with 1 billion users attract considerable attention. The other reasons Facebook has attracted regulatory notice has to do with concerns about privacy and concerns about content (including political manipulation). Those concerns are hardly unique to Facebook, but its size makes it a natural target. And, as we will see, when it comes to network effects, these numbers matter.

The end result of this is that Meta and other social networks have some degree of market power and their exercise of it arguably sits outside the traditional instruments of antitrust policy. That, of course, does not prevent antitrust enforcers from trying to regulate Meta's power by challenging acquisitions and conducting privacy investigations. But there is a strong argument that if competition is to be promoted amongst such platforms, then the use of alternative regulatory approaches is warranted. One such hope is interoperability.

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BEING CONFIDENT IN OUTCOMES

Before delving into the weeds of interoperability, it is useful to calibrate what a regulatory goal for competition in social media might be. When competition operates as a force that disciplines firms, then consumers have a choice as to where they spend; in this case, their time. The more frictionless that choice is, the more we can be confident that the social media platforms that exist are the most efficient; that is, produce the highest quality for the lowest cost.

Notice that this does not require there to be many social media platforms. One platform could be dominant, but so long as consumers can freely choose to switch to another, then we can be confident that the platform being used by many is what they all want.

This is an ideal of **contestable centralization**. If a market is contestable (that is, consumers have a frictionless choice), then we need not worry that it is centralized. Consider, for example, office applications. Microsoft is easily the most dominant firm (still) in providing office applications such as word processing, spreadsheets, presentation tools and email clients. I would gather that more people have Microsoft Office installed on their computers than have Facebook accounts. However, in contrast to twenty years ago, Microsoft does not attract regulatory attention. Why? Because there are numerous alternatives, both bundled and unbundled, for Microsoft's office products. There are free options from Google and Apple. And there are specialist apps like Ulysses and Scrivener that satisfy particular needs. Consumers do not complain about their choice because they can switch to alternatives frictionlessly.

This is not true for social media networks. If you wanted to move away from Facebook because you were worried about its privacy, content, or use of the color blue, you could not easily gain the same functionality elsewhere. This is because your social network – that is, your friends, followers, and those you follow – would not be elsewhere. You would have to coordinate a move from them all, but this is unrealistic since networks are interlocking. Suffice it to say, there would have to be a pretty good reason for 3 billion people to switch to something new.

For regulators, with these frictions in place, they cannot be confident that what we see in the social media market is what is efficient. Maybe Meta is the best we can hope for, but the frictions mean we cannot be assured of that. Moreover, regulators cannot be assured that it isn't wholly

inefficient, with many users compelled to use a platform they don't like as it is the only way to connect with certain people.

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CHILLING INNOVATION

When incumbents have advantages that entrants do not, this tends to lead to market power and all of its potentially detrimental consequences. The most familiar of these consequences is that lower entry leads to higher prices. For digital platforms, the problem is not higher prices *per se* – their main product is monetarily free. Instead, market power concerns could manifest in the form of higher prices to the other side of the market – to advertisers who might have few options for reaching customers through online platforms.² Of course, advertisers do have other options for reaching customers outside of online platforms.

It is more likely that the primary impact of exclusivity-related barriers to competition is on innovation. Innovation can take a variety of forms, but, in general, it is concerned with improving the quality of a platform's product for users. Some of these improvements take the form of increases in quality that are beneficial to all users, such as platform responsiveness or security. Another type of quality improvement takes the form of product innovations that appeal to some subset of consumers. Examples of such innovations include the platform's operation using different technologies (e.g. mobile vs. desktop) and the ways that algorithms serve up information to users, including what captures user attention, as well as the user, interface itself. This might also include variation in the balance between national news and local news, opinions and facts, videos and pictures, or information from family and information from friends. For instance, when Google launched its social network (Google+) it emphasized the ability of users to more easily curate who saw particular posts. In this respect, product innovation can raise welfare not because it improves the experiences of all users but because it improves quality for particular groups of users. Sometimes, however, innovations that initially appeal to niche groups can evolve to have broader appeal and to exert competitive pressure.³

How do switching costs impact innovation? In the presence of switching costs, entrants can attract market share only if they have something very significant to offer consumers that outweighs the difficulty of switching. In a market where consumer prices are already zero, overcoming switching costs can be very challenging. Indeed, a new entrant may face returns to innovation that are too low to justify the resources necessary for entry. This lack of innovative pressure from entrants means that incumbent firms are themselves less likely to invest in innovation.⁴

That said, in advertising-driven markets, the unit of competition is not the consumer *per se* but rather the consumer's attention. It is rare for an Internet-delivered service to capture the entirety of a consumer's attention over a substantial period of time, during which consumers can divide their attention between numerous platform activities. To compete, a new entrant must capture some attention from some consumers. When there are network effects, entrants may be unable to capture any attention even if their platform would otherwise have greater value for a subset of users. It is innovation on platforms with network effects that economic theory predicts will be most dampened by the presence of switching costs.

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ELIMINATING NETWORK EFFECTS

Interoperability wades into this environment. But what is interoperability?

Let's start with what it is not. It is not data portability. Data portability refers to the ability of a user to remove their data from one platform and port it for use on another. Web-based email platforms offer tools for this (e.g. you can port all of your emails and email archive from Gmail to Outlook). Social media networks also allow you to download your data, and these can potentially be uploaded elsewhere. However, data portability only addresses one form of switching cost for users. The switching costs that accompany network effects are untouched by these capabilities.

2 Athey, Susan, Emilio Calvano, and Joshua S. Gans. 2016. "The Impact of Consumer Multi-Homing on Advertising Markets and Media Competition." *Management Science* 64 (4): 1574 – 90.

3 Gans, Joshua S. 2016. *The Disruption Dilemma*. Cambridge, MA: MIT Press.

4 Segal, Ilya, & Michael D. Whinston. 2007. "Antitrust in Innovative Industries." *American Economic Review* 97 (5): 1703–30.

Interoperability is designed to counter network effects. Recall that a network effect arises for a specific network when having more users on that network raises the value to others of using that network above other alternative networks. That increased value is a feature, but when it is tied to a specific network, it becomes a bug.

When local telephony was deregulated away from its original monopoly providers back in the 1990s, imagine what would have happened if, to reach a number on AT&T or British Telecom, you had to actually be a customer of those networks? The more users on one network, the more likely it is that you would want to call them and hence, join the same network. But that situation did not happen because regulators intervened and required networks – not just fixed but cellular as well – to be interconnected. That meant that you did not have to be on the same network as someone else to call or receive calls from them. To be sure, the more people who had phones, the more valuable it was to have a phone yourself. But it did not matter which network had more consumers or which one housed your friends and family. At least in so far as reaching them was concerned, there was no difference. (Initially, some incumbents tried to obtain network effects in through a back door by charging customers more if calls were made off-network, but these attempts were eventually curtailed).

Interoperability is the same goal but for non-telephony applications. But the question is: what does this mean for users of social media platforms? Recall that the goal is to make consumers indifferent about where people they are linked to or friends are.

We actually have a clue to what this would look like by examining how Meta interconnects its own networks of Facebook, Instagram, and Messages. It has linked the infrastructure of these networks so that, if a user wants to, they can post to a Facebook account from Instagram and vice versa. And when they comment on posts, that conversation can also take place through Messages. There are still frictions there, but there is less reason for a user to choose between those networks based solely on where their friends are.

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MARKET-WIDE INTEROPERABILITY

For social networks, market-wide interoperability would allow posts and other messages to be made across different platforms. Basically, it would take what Meta tries to do internally and make it market-wide. In this case, suppose a new network was created. With interoperability, a user who joins that network would create posts and these posts would be posted to their friends or followers regardless of which network they were on. Similarly, if that user's friends posted or commented, that content would be relayed to the user on their new network. If this could be achieved, an entrant could attract users without those users necessarily missing the value of their social connections. Ideally, no one would be the wiser.

In this respect, interoperability in social media is quite familiar; it is exactly the same concept that we saw for interconnection in telecommunications. There, calls can be made and received, and consumers rarely know which network their connections are on. This eliminates any network-level network effects but preserves the value created by communication across the market.

For social media, the issue would be what would be the equivalent of a phone number that was associated with an individual and allows others to communicate with them. In a recent paper, I suggested that the equivalent would be some sort of *identity*.⁵ Social networks already use identity as the substrate for how they organize their networks internally. The goal here would be to expand that concept for external use. In effect, consumers could port their identity from one network to another.

5 Gans, Joshua. "Enhancing competition with data and identity portability." *The Hamilton Project* (2018): 1-28.

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GETTING TO INTEROPERABILITY

How might identity portability be implemented? One way would be for the government to set down a set of technical standards for interoperability that all social networks would have to comply with. However, that faces the challenge that there would be a potentially lengthy process of agreeing to and legislating such standards.

An alternative would be to establish a set of rights that social networks would have to provide as to an individual users' identity and verification if they change the platform they are using.⁶ What this would mean is that if users on a particular platform give permission to send messages to Person A, then, should Person A change digital platforms, they can opt to have all messages forwarded to them on the new network. Because users were already sending messages to a person with a verified identity, that identity should persist along with the permissions that establish from whom to receive messages and to whom to send them.

Under this proposal, should a user change to a new platform, the new platform will receive all of the messages sent by the user's friends and other correspondents on the old platform, and it will transmit to the old platform any messages sent by the user from the new platform, assuming that the parties concerned do not revoke their consents. For the user, the new platform will be used to read and compose messages. For the user's friends, nothing will change. It will be as if their friend continues to reside on the old platform. In each case, a user's platform will control how the information is presented to the user.

If any users make changes to their permissions, then the old platform will send these changes to the new platform, and vice versa. For instance, users on the old platform can opt to withdraw permission for their posts to be sent to the user, and the user can opt to withdraw permissions to users on the old platform. The reverse would be true for new permissions. Ideally, this process would be seamless — an extension of verification and permissions that platforms already provide to their users.

With identity portability, the network effects insulating digital platforms from competitive pressure will be mitigated. In effect, the switching cost associated with potentially

losing connections will be fully mitigated. This means that individuals could switch between platforms based on their tastes and preferences as well as the innovations devised by different platforms. There would be no need for a coordinated move among users to recreate network effects on a new platform. Note that this change does not disadvantage incumbent platforms *per se* but places all platforms on an equal footing. Some incumbent platforms could benefit in terms of attracting users as much as new entrants.

The prize for attracting a user to a platform will be the ability to earn money from those users. For instance, users who do not like to see advertisements might be attracted to a platform that charges them fees instead of sending them advertisements. The point is that the ability to earn money from a user's attention will become more contestable as a result of identity portability.

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SOME TECHNICAL CHALLENGES

Currently, social media platforms verify identity and have an internal means of ensuring the management of permissions. For identity portability, these techniques would have to be extended beyond a particular platform. How that would be best achieved is an open question.

One possibility is that platforms continue to manage identity verification and permissions, but with messages forwarded to other platforms. However, one important concern is that incumbent platforms might not manage the receipt of messages in a neutral manner. They might, for instance, delay messages from people outside the network or give them reduced priority in a list of messages. This lack of neutrality has happened in other digital platforms, such as online travel bookings. This, however, would be verifiable *ex post* and can potentially be made subject to regulatory sanction.

Another possibility is that an independent entity could be vested with responsibility for the management of identity verification and permissions. There might be competitive options for providing this management, as occurs currently with credit reporting. Alternatively, decentralized verification might be possible using blockchain technologies. Yet

6 This rights-based approach was already used in telecommunications with number portability rights; see Gans, Joshua S., Stephen P. King, & Graeme Woodbridge. 2001. "Numbers to the People: Regulation, Ownership and Local Number Portability." *Information Economics and Policy* 13: 167–80

another possibility is for a public organization to manage verification and permissions, as is already done in Estonia.⁷ and in India with Aadhaar. Ultimately, this management may evolve into a set of open protocols like those that power the commercial Internet, such as TCP/IP, POP, IMAP, SMTP, and HTML.⁸

Given the uncertainty over what might be the best technical solution, I propose making identity portability a right and allowing market participants to determine the ideal approach to implementation. When market participants are forced to bear the costs of identity portability, participants are more likely to devise the lowest-cost technical solution.

Some companies might initially rely on their own solutions for identity portability. Facebook currently offers an identity management service called Facebook Connect that allows others to use Facebook to manage identity effectively. Facebook also has the ability to track identity across services, including browsers that users are logged in to. If a user switches services, Facebook Connect can provide a means of porting their identity to that service. That said, a user might prefer that a platform discontinue collecting data on them after they have exited the platform. As messages are sent between platforms, this data collection could occur. Here again, Facebook's services offer a potential solution; in this case, the company's privacy management services could help navigate these issues. In addition, Apple, Google, Twitter, and others (including third parties like OAuth) offer identity management services that could also perform these functions.

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CONCLUSION

Interoperability is the great hope to deal with market power amongst social networks. It is attractive because it targets the heart of what gives networks power while preserving value amongst consumers. It frees up the market for new entry and new product experimentation. Put simply, it enables real competition.

But interoperability is easier said than done. The good news is that we have antecedents in important industries such as telecommunications. The bad news is that this could take time to sort out standards and protocols. Thus, I have proposed using the principles of telecommunications interconnection and marrying them with new user-rights to identity portability to speed the process along. That may be the best way of turning the interoperability hope into reality. ■

“It is attractive because it targets the heart of what gives networks power while preserving value amongst consumers

7 Heller, Nathan. 2017. “Estonia, The Digital Republic.” *New Yorker*, December 18 and 25.

8 Greenstein, Shane. 2015. *How the Internet Became Commercial: Innovation, Privatization and the Birth of a New Network*. Princeton, NJ: Princeton University Press.

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