Competition and regulation in a platform-oriented industry

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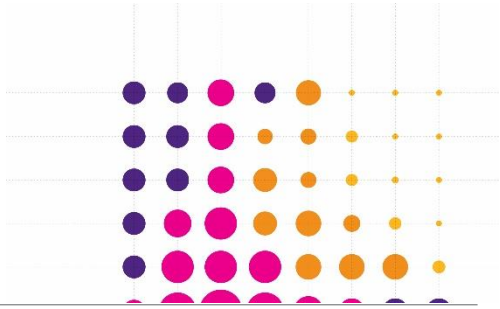

A technology platform can be considered (at a basic level) to bring together buyers and sellers, or consumers and businesses. Such facilities are not new – town marketplaces have been doing the same thing for centuries – but the geographic and demographic scope of these new platforms means they are more effective than anything that has existed before. Not only do they cover a wider area, but data collected by the platforms themselves can be used to make searches and transactions more effective. However, the dominance of a few large platforms, along with concerns over privacy and how data is used, has led to questions over the appropriateness of this market structure. In particular, concerns exist over the impact on competition and market entry, potential suppression of innovation, and the significant economies of scale that can be attained both within a market and through the use of network externalities. This paper looks at how platforms work as a two-sided market, and seeks to address the inherent competition concerns arising from platforms that might be considered dominant in their markets. It then goes on to consider whether regulatory intervention may be appropriate.

The growth of two-sided markets

A two-sided marketplace is one that allows suppliers and customers to interact with one another, creating additional value through better matching of supply and demand. While two-sided markets have existed before, such as in the form of brokers or agents, the spread of broadband, apps and communications technology has led to a rapid increase in both numbers and popularity. In the transportation industry, Uber and Lyft bring together vehicle owner drivers and passengers; Airbnb have introduced a successful two-sided market in accommodation; Amazon Marketplace brings together buyers and sellers for all types of consumer goods. Each of these companies has developed a technology platform that is initially specific to the market they are concerned with, but in many cases this has expanded into other areas – such as food delivery via Uber Eats.

The purpose of such platforms is to balance supply and demand, developing technology that facilitates faster and more efficient service, predicting demand, enabling dynamic pricing and providing an enhanced customer experience. This is how they prosper – by enabling buyers to find sellers, and by offering sellers a larger marketplace of potential buyers.

Technology platforms rely on automated algorithms and pricing models to balance supply and demand, keeping users engaged, and ensuring supplier participation. If successful, the platform owners generate profit through commission (Uber), advertising (Google) or product placement fees (Amazon).

By its default nature, a two-sided marketplace will have to manage fluctuating supply and demand. This is where a dynamic incentive model (such as surge pricing) can be effective. Suppliers need an incentive to provide service at all hours or to meet shorter deadlines, whereas customers need high speed of delivery when supply is low and at times of crisis. Whereas such adjustments would previously have taken weeks to take effect, with the automated nature of technology platforms changes can be made in minutes. However, such a system can be problematic – surge pricing on the Uber platform has been criticised when implemented during times of public emergencies, where the economics of demand and supply break down and public opinion (should) take precedence.

The balance of demand and supply can also be complicated by the lack of control that the technology platform has over the services bought through it. Uber cannot control how its drivers choose to treat riders and vice versa. Instead, what they can do is provide some sort of curation in terms of minimum standards, quality checks to enter the platform and guidelines or non-negotiable rules in the absence of, or complementing, existing ride regulations. By ensuring that both sides of the transaction understand the service, the market can be made more robust.

Taking advantage of network effects

As described above, a number of successful platforms have expanded their scope of services into similar or adjacent markets. eBay has introduced new pricing mechanisms which mean that businesses are able to operate traditional storefronts within the original auction platform. Amazon's partnership with Morrisons in the UK has led to an online grocery delivery option through its Prime Now service.

Platforms benefit from network effects, enabling them to easily move their userbase into new markets; this is particularly true of the most successful platforms provided by companies in China such as Tencent, Alibaba, and Baidu – each of these maximises network effects through integrating services including messaging, payment, cloud computing, social media, storage, as well as ecommerce. When a consumer signs up to one service, they automatically have access to all others, meaning each has

hundreds of millions of subscribers. Facebook's Marketplace, Messenger, and Oculus services show a similar ambition.

Platforms do not need to serve existing legacy industries; a platform can also be a pure technology play bringing together users and digital businesses. Android began as an open source Operating System (OS) originally created for mobile devices, but which now extends to wearables, watches and other IoT devices under the ownership of Google. Android allowed Google to indirectly challenge existing mobile manufacturers and is now the primary OS for mobile devices. While Android is a free system, its use allows Google to monetise search on mobile through prominent placement of its search bar and its apps including Google Maps, Google Play and YouTube. Similarly, on traditional computing platforms, Google moved from its original search function to proving email, blogs, cloud storage and personalised search, again building up a portfolio of applications.

Antitrust investigations of Android

Google has fallen foul of a number of EU antitrust rulings. While a number of US commentators have claimed these appear to be a reaction to the disproportionate size of US tech firms compared to EU tech firms, these areas have been the subject of investigation by FTC, FAS and others in the past.

Of particular interest is the ruling on Android which in the past would have been viewed by antitrust regulators as an example of tying or bundling, with Google requiring OEMs as a condition of use of Android being obliged to also install a suite of apps including search bar placement, maps, browser, app store and YouTube (amongst others) on their devices.

The European Commission ruled[i] that Google was unfairly using Android to push Google search on users, giving them an unfair and uncompetitive advantage. When imposing a fine of €4.34bn, they cited three elements.

First, Google requires device makers to include both Google search and Chrome in order to have access to the Play Store and other Google apps and services.

Second, Google "made payments to certain large manufacturers and mobile network operators" to exclusively bundle the Google search app on handsets in favour of other search engines.

Third, Google has allegedly blocked phone makers from creating devices that run forked versions of Android. In other words, in order to get any Google apps – including the Play Store and Google search – phone makers had to agree not to develop or sell any devices at all that ran on an Android fork (like Amazon's Fire OS for tablets).

Big data analytics on platforms

Any platform can start collecting a large stream of location, behavioural, personal, demographic, social and business-related data, otherwise referred to as 'big data'. Uber uses this to great effect in ensuring drivers are positioned close to areas of passenger demand and applying surge pricing to smooth out demand. Airlines routinely use their ecommerce platform to price seats to consumers, maximizing yields and manage capacity across cabins as well as cross selling key partner products such as, insurance, car hire and hotels earning additional commissions.

Such data is made even more valuable when collected by platforms which span many services. The value of Google's advertising platform is that it can send acutely targeted adverts to subscribers of its services, since it knows interests and preferences through analysis of travel data, search history, contents of emails, video viewing habits, and previous purchase history.

The use of such acquired data could be viewed as having a large potential for abuse as the algorithms used to predict demand are not subject to independent audit, or may not have transparency obligations. This also leads to fears of discrimination when combining disparate sources of data, such as those from hosted cloud computing platforms and other apps or services that have acquired data either as a condition of use or who have deployed targeted and pressure advertising. Facebook, when acquiring WhatsApp in 2014, told the EC that it was not planning, or it was technically not feasible, to combine data from reliable automated matching between the two platforms. This might have been reassuring to users who previously provided their contact number data freely for use within WhatsApp. In fact, after acquisition clearance by the EC, Facebook did just that, linking user numbers with Facebook IDs – it was subsequently fined by the EC.

APIs, privacy and data storage

As well as services run directly by the technology platform itself, increasingly third parties are being permitted to link their services to the platform automatically. This can range from automated upload of goods to an eBay marketplace, to a way of presenting Twitter within an entirely separate application. For this to happen, the platform holder must enable application platform interfaces – APIs – and provide third parties with details over how to link their services.

It is clear that APIs provide useful advantages to platform operators in extending the reach of platforms through enabling their business partnerships. However these can also expose consumers to adverse effects including privacy and data breaches when API access is exploited, such as the use of data acquired by Cambridge Analytica in 2016 political campaigns.

Amazon data collection

The EC is informally investigating how Amazon uses the data it collects from third-party sellers hosted on Amazon Marketplace. The issue revolves around major platforms hosting sellers on their platforms while simultaneously competing against them.

Amazon openly collects data from its sellers and is legally allowed to use that information to improve its service. The question raised by EU regulators, however, is whether Amazon is putting third-party merchants at an unfair disadvantage by analysing their sales in an effort to boost Amazon's own profits.

Third-party sellers are an important part of Amazon's income, generating $9.7 billion of revenue in the second quarter of 2018, up 40% year-on-year. However, if it were able to transfer those sales over to its own internal business, Amazon could make a significantly larger profit margin.

The German competition authority has also announced an investigation into Amazon treatment of sellers on its platform encompassing reviews, blocking and barring of sellers on the marketplace, withholding or delaying payment and use of seller information.

For platform owners such as Google who make extensive use of programmatic advertising techniques, profitability relies on the sharing of consumer data through ad exchanges and 3rd party data brokers including ad aggregators; these again can make use of APIs to automate processes. However, with the introduction of increased privacy laws, Google is being pushed in conflicting directions. First, it must share data with third parties in order that it cannot be considered to be abusing its dominant position[ii], where it can collect the most detailed profile data on its users and use this to exclusively target adverts. Second, it must not share data with third parties, and this does not respect the right to privacy of the consumer.

The online advertising market is being looked at by EC regulators and the UK DCMS[iii]. Such action may lead to constraints on the sharing of data, with current concerns around the data of millions being freely shared to support targeted advertising without either sufficient controls on user privacy or the delivery of inappropriate age-related content. Google has additionally faced pressure from consumer groups across the EU and FTC in US, over location tracking, including obfuscation or overriding of user privacy settings regarding their location status.

EC regulation through GDPR requires openness and transparency on use of data and ensuring companies take account of their privacy obligations. App store owners can expect to see increased pressure on apps being tested before marketed on the platform to ensure global apps meet the standard being set by GDPR when selling to EU consumers, this was demonstrated recently when VPN apps on both Google and Apple app stores were found to be storing user data in China. Indeed, a key aspect of GDPR is the location of data storage, which applies not just to EU service providers but to any service provider with EU citizens as customers.

Regulation and proposed remedies

Internet technology platforms largely operate absent formal regulation, much like Standard Oil, IBM and AT&T did in their respective markets – before becoming under scrutiny by antitrust regulators and being forced to break up, due to concern over their monopoly positions and effects on competition and consumer welfare. However, there are two key differences between those previous examples: these three companies constituted a larger proportion of the total economy; and Internet platforms often provide services for 'free' to the end consumer.

Platforms have increasingly been drawn into regulation through initiatives such as the GDPR addressing concerns over data privacy. Some have faced renewed scrutiny over distribution of misinformation, terrorist material and content, allowing unfettered access to third parties via APIs, concerns over data combination and acquisition, their role in tax avoidance (BEPS) and more recently investigations into the markets for online advertising, including programmatic advertising.

Steps that might prove useful to the wider economy would rely on there being some version of a sector regulator for the Internet economy that currently does not exist, with sector regulators and competition authorities largely acting ex post, using existing powers. Countries as diverse as US, UK, EU 27, Australia are considering a range of measures addressing some of the issues raised above.

However, absent an Internet-specific regulator, other industry bodies are becoming more involved in the regulation of technology platforms. Apple indicated in its last earnings report the strength of its growth in services over devices; an example of this is the 4th generation Apple Watch which has been approved for use as medical device. Categorised as such, the use and storage of data will be closely watched by healthcare regulators, particularly when used in any prescription regime.

Potential future regulatory action

Consumers are providing the large platforms unprecedented access to personal data, and in the process these large platform owners are acquiring vast data stores which cannot be matched by challengers. A regulator may take a dim view of such big data if the platform has acquired such data without a clear transparency obligation on data use towards the consumer. Remedies could include payment to the consumer for data, limitations on data use without explicit permission or development of codes of conducts and roles for data brokers

and trusted third party data providers who sign up consumers in return for reward

The competitive threat from China to other developed economies is growing, with action being demanded through trade discussions on IPR protection and initiatives against cyber theft. Chinese platforms such as Tencent and Alibaba in their home markets have grown pervasive in B2C and B2B activity through providing a combination of services including messaging, payment music, ecommerce, social media and cloud computing. So far this activity is restricted to their home market but might easily be extended to other developed markets.

Should platforms continue to become significantly larger through continuing to have high levels of profit (over the costs of investment and capital) and following the Chinese model of combining services without offering greater benefits to consumers, including the offering of fair payment for use of personal data, there could be case for splitting up these companies – perhaps through forcing the sharing of acquired data, exchange and interoperability of services using acquired data, or through the creation of separate divisions.

EC countries are considering changing M&A thresholds which used to be largely based on company turnover when considering acquisitions. Country competition authorities are now considering other metrics than revenues, such as strategy and industrial policy, national security, consumer remuneration for personal data, and whether companies suppress competition in markets by acquiring nascent challengers. M&A restrictions might be applied to companies using their closed home markets as springboard for entry in new markets, when negotiating trade deals for services, perhaps in return for reciprocal enabling access to their home market.

Large patent holdings or data being held by a single company may be seen to be acting as a brake on innovation by raising barriers to entry by challengers. Action could be taken on mandating access to anonymised data sharing, open APIs, agreeing for patents to be shared on FRAND terms, opening up data and patent libraries for other companies to monetize and so drive innovation.

Defining the consumer

Many of these potential actions are designed to protect consumers – although from the point of view of the platform holder, their consumer is also the business they supply the marketplace for. Indeed, on platforms where the consumer does not pay anything to the platform holder – such as Uber, Google, or Tencent – the seller is the key consumer, and the buyer is effectively a product.

This is not true of the other technology giant, Apple. Apple is a vertically integrated ecosystem and as such does not license its OS to other manufacturers unlike Google. In terms of market share for devices, Apple is a minority player compared to Google, with Android devices holding nearly 90% of the total market – but iOS users are often more loyal to Apple services. Apple also escapes scrutiny around the use of user data, with the company famously being a strong advocate of privacy, eschewing ad-funded models based on big data techniques in favour of device high end premium pricing and apps. This may change as Apple derives more revenue from services.

The closed ecosystem surrounding Apple has brought its own regulatory concerns, albeit on the consumer experience side. Apple has faced complaints on device maintenance, including iPhone processor performance being constrained by failing batteries, and customers being tied to its own accredited repairers, notably 'bricking' customer phones[iv] when they had screen repairs done outside the Apple network. Apple claims this was carried out to protect user privacy and prevent compromising device security with the touch ID sensor button included with screen replacement.

Conclusions

Two-sided markets enabled by technology platforms can enable more efficient transactions and increase the overall welfare of consumers and businesses. However, the size of these platforms, along with the amount of data they collect on users, causes unease over their impact on competition. Due to the very nature of the platforms, specific regulation is being considered to ensure that end consumers are not adversely affected by a lack of competition and high switching costs.

[i] See http://europa.eu/rapid/press-release_IP-18-4581_en.htm

[ii] Google was recently fined $1.7bn for past abuse in the market for online advertising by restricting advertising on other platforms: see http://europa.eu/rapid/press-release_IP-19-1770_en.htm

[iii] Plum recently conducted an analysis of this market for DCMS. https://plumconsulting.co.uk/online-advertising-in-the-uk/

[iv] If a technical device is 'bricked' it is no longer of any use – its internal firmware has ceased to function and it cannot be repaired.