Market power in digital platforms

Prepared for
European Commission

30 September 2018

www.oxera.com

This paper is a contribution by Oxera to the European Commission's one-day conference entitled 'Shaping competition policy in the era of digitisation', to be held on 17 January 2019. It is one of three Oxera contributions, the other two covering the topics of data in digital markets and algorithmic competition. Oxera is a European economics consultancy specialising in competition and regulation, and actively participating in key policy debates on digital markets.

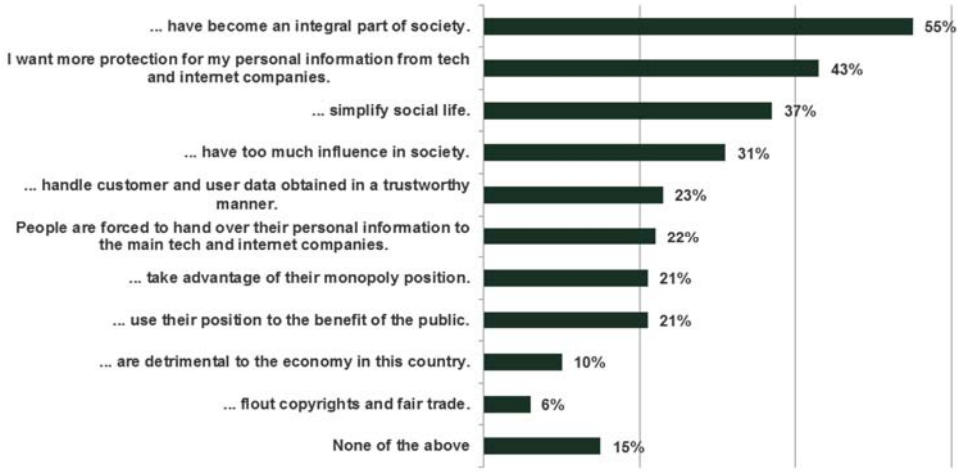
1 Introduction

The influence of digital platforms has expanded significantly over the past decade. Some of today's largest companies and best-known brands did not even exist 20 years ago. The innovative products, services and commercial opportunities that these digital power houses provide have become central to many aspects of modern-day life. While this might lead authorities to question the concentration of market power within these platforms, the wealth of value the platforms provide to European consumers and businesses should not be overlooked. It is crucial that competition policy be applied thoughtfully in these transformative markets.

The first challenge facing policymakers and regulators when assessing the issue of market power on digital platforms is identifying whether and where any detrimental outcomes are arising. Often the focus is on the 'GAFA' group of companies: Google, Apple, Facebook and Amazon (sometimes also referred to as 'FAANG', including Netflix).

A 2017 Statista survey in the USA finds widely polarised views. A majority (55%) agree that these companies 'have become an integral part of society', but views on their impact vary considerably. While 21% of respondents agree that the GAFAs 'take advantage of their monopoly position'; another 21% believe that they 'use their position to the benefit of the public'. Only 10% consider them 'detrimental to the economy', while 37% find they 'simplify social life'. Figure 1.1 presents additional responses—highlighting in particular the increasing prevalence of privacy concerns.

Figure 1.1 Perceptions of the GAFA companies



Note: Percentage of individuals that agree with each statement. Based on 995 respondents from survey carried out in the USA between March 22 and March 27 2017.

Source: Oxera based on Statista survey.

Having identified a potential concern, the next question authorities face is how to define the market in which the platforms in question operate. While the traditional tools of market definition remain largely fit for purpose, some may need to be adapted or reinterpreted to account for the particular characteristics of digital markets.

Most notably, many digital platforms represent multi-sided markets, whose success is drawn from a virtuous circle of consumers and businesses choosing to use the same platform (in economics terms: an indirect network effect). This puts a strong emphasis on platforms attracting and retaining user attention; while raising the prospect of definitional complications such as 'negative prices' for consumers.[1]

Finally, authorities must grapple with the very *meaning* of market power in digital platform markets. While traditional indicators such as high operating margins or significant market shares remain a useful part of the toolkit, there are additional considerations.

By their very nature, platform businesses lend themselves to high market shares (at least for a period) as the indirect network effects take hold. Rather than competing *in* the market, firms may compete vigorously *for* the market—forcing established players to continue investing in new technologies and services to entice users. Similarly, a typical digital business model is characterised by a large up-front investment, followed by low operating costs—making significant operating margins normal for these businesses. As such, authorities may need to put more weight on alternative indicators to get a true sense of the power being wielded in a market. For instance, the pooling of hard-to-replicate data drawn from a range of online service by a single firm may provide a sustained advantage that can hinder effective competition.

Overall, it appears that with some tweaks, the existing tools of competition and market analysis remain well placed to tackle most theories of harm in the digital realm. To the extent that gaps do exist, policymakers should approach these carefully, and on a case-by-case basis, to ensure an appropriate balance is struck between platforms' incentives to innovate and the preservation of healthy competition.

[1] In the context of multi-sided markets, consumers may enjoy 'negative' prices when instead of paying for a service they *receive* a payment (either by monetary or non-monetary means).

2 Considerations for market definition

Complex market definition questions can arise in digital platform markets. It can be hard to assess whether similar—and yet different—services such as WhatsApp, Twitter, Instagram and Snapchat should be considered one market (e.g. messaging), split into separate markets (e.g. text messaging and picture messaging), or narrowed down even further (e.g. persistent messages and temporary messages). This is even before asking how other social media services (such as Facebook, LinkedIn, YouTube, SoundCloud) feature in this landscape.

The particular characteristics of multi-sided markets mean that traditional market definition tools may need to be tweaked before being applied to digital platforms. The SSNIP test for market definition can still be applied, with the hypothetical monopolist platform setting prices on both sides of the market and taking into account the network effects between the sides.[2]

As multi-sided markets, platforms' successful growth stems from entering a virtuous circle of user adoption on both sides of the market. Businesses will be attracted to a platform (and willing to pay to use it) only if the users on the other side are valuable to them. Users, meanwhile, are interested in accessing a service at a low—typically free—price (such as a wide variety of videos on YouTube; a comprehensive selection of flights on Skyscanner; or a large number of contributors on Facebook). Zero prices inevitably complicate the application of the SSNIP test.

Another common theme running through digital platforms is the control of consumer *attention* and the consumer *data* that comes with it, which is gathered and monetised in a variety of ways.[3] This has at least two significant implications:

1. while on the surface platforms might appear to compete in the market for a specific service, underlying that is a broad competition for consumers' attention, potentially calling for wider market definitions;

2. the analysis may be complicated by the short-run, pro-competitive effects of platforms offering consumers zero (or even negative) prices to maintain their share of user attention and attract businesses on the other side of the market.

As such, a tension arises between the specific, service-focused way in which competition authorities often regard digital platforms, and the bigger picture of competing for a share of consumer attention in all its forms.

The European Commission's investigation into Google Shopping illustrates this. The Commission found that Google Shopping belongs to a distinct market of 'comparison shopping services' that excluded merchant platforms such as Amazon.[4] This was based (at least in part) on the different functionalities that

[2] For an explanation of the basics of market definition in multi-sided platform markets see Niels, G., Jenkins, H. and Kavanagh, J. (2016), *Economics for Competition Lawyers*, Oxford University Press, second edition, section 2.11. SSNIP stands for small but significant non-transitory increase in price.
[3] Data can be most notably used to improve algorithms used in pricing, ranking and matching. For example, algorithmic pricing based on AI has the potential of learning and adapting constantly as new data is fed to it, and can be useful as a mechanism to reduce costs and increase revenues for platforms.
[4] Commission Decision of 27.6.2017 relating to proceedings under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the Agreement on the European Economic Area (Case AT.39740 *Google Search (Shopping)*), Section 5.2.2.4.

the platforms offer (e.g. comparison shopping services can be used only to compare price and do not offer the direct purchase options).

An alternative approach to defining the market requires taking a step back and considering the underlying competition for consumer attention. Individuals spending time online can be doing a variety of things, such as shopping, gaming or watching videos. Regardless of what they are doing, the fact that they are online makes them valuable to companies that can successfully engage with them. If a consumer is shopping online, Google, Amazon and Facebook are all competing with differentiated offerings to attract that consumer's 'shopper' attention. Google might do so by offering the most relevant search results, while Amazon offers superior delivery services and Facebook makes the experience more social on 'Facebook Marketplace'.

As such, assuming that a given shopper will necessarily use a *comparison* service, rather than credible alternatives such as Amazon and Facebook Marketplace, may artificially narrow the market given the differentiated ways in which platforms seek to attract consumers. Under the alternative approach, the spotlight would shift away from competition in shopping comparison services and move instead to competition for consumers' 'shopping' attention—likely resulting in a wider market.

Indeed, emerging trends throughout the digital platforms economy may support a general presumption of wider market definitions. It is often observed that the large, well-known global tech players—such as Microsoft, Facebook, Google, Apple, Amazon, Netflix, Spotify, eBay, Tencent and Alibaba—compete vigorously with each other across a range of products and services. While these firms each come from a different 'home turf' (e.g. desktop operating systems, social media, search, hardware), they are increasingly converging into the same markets as they seek to uphold their share of consumer attention.

For example, Google moved from online search into the smartphone arena with Android and video streaming with YouTube; Facebook spun-off Facebook Messenger from its main social media platform, before later acquiring WhatsApp, Instagram and launching video-streaming platform Facebook Watch and shopping platform Facebook Marketplace; Apple acquired Beats before launching the Apple Music streaming service; and Amazon has grown from an online bookseller to provide online photo storage, music streaming and video streaming, as well as being one of the world's leading cloud computing providers.

As noted earlier, market definition is complicated by the dual practices of zero-pricing (or even 'negative' pricing) for the use of many digital platforms; and the subsequent harvesting of consumer data. Whereas a traditional approach might consider the alternative services consumers would use following a SSNIP, with many digital platforms consumers forfeit their *data* (rather than money) in exchange for the services they receive.

In that sense, it is inexact to think of digital platform services as truly *free of charge*, insofar as the privacy that users forgo has a value to them. Therefore, in theory at least, the traditional SSNIP test could be complemented with an equivalent 'decrease in privacy' test (or similar), recognising this as the trade-off that consumers face when 'paying' for the services they consume. In practice, the data required to undertake this analysis, and the inevitable cognitive biases among consumers when making the trade-off, makes this approach complicated.

Another approach to defining digital platform markets could be to focus on the *other* side of the market and consider which platforms businesses and advertisers consider reasonable substitutes. For example, in the case of Google and Facebook, while they do not compete head-to-head on their core services (general search and social media), they *do* compete to attract the advertisers that ultimately fund their businesses. Likewise, Amazon, eBay and Facebook Marketplace may attract different users, but they all compete for the same merchants to use their platforms to sell to consumers.

These considerations should be made on a case-by-case basis when dealing with digital platforms, as the competition for attention and role of indirect network effects are likely to differ depending on the precise platforms being considered. However, if businesses and advertisers regard two platforms as substitutes, these platforms are likely to impose a competitive constraint on each other in the monetisation of their services, implying that they could be considered to operate in the same relevant market.

3 Considerations for assessing market power

Market power can be complex to determine in digital platform markets. A combination of rapidly evolving consumer trends, strong network effects and large up-front costs for digital platforms mean that traditional metrics—such as market shares and operating margins—may not provide the full picture.

For example, search engines that were once popular, such as Yahoo! and Alta Vista, have been eclipsed by Google; while the ubiquity of Facebook is somewhat decreasing among younger generations who choose services such as Snapchat with alternative privacy offerings. This suggests that while there may be considerable competition *for* the market, high market shares for 'winners' could be the norm—until, that is, they themselves are unseated by further innovation.

Similarly, many digital platform business models may have more in common with R&D markets (such as pharma) than they do with the traditional industries that their digital services are disrupting. New platforms often begin with a large, sunk, up-front investment to create a technology; followed by an easily scaled, low-cost, high-margin operating model.

Meanwhile, advances in computing power—as well as machine learning techniques—have allowed firms to make use of the enormous quantities of data they collect about their users. However, not all data is created equal. Two dimensions to consider when determining whether—and to what extent—data can provide market power to a firm are:

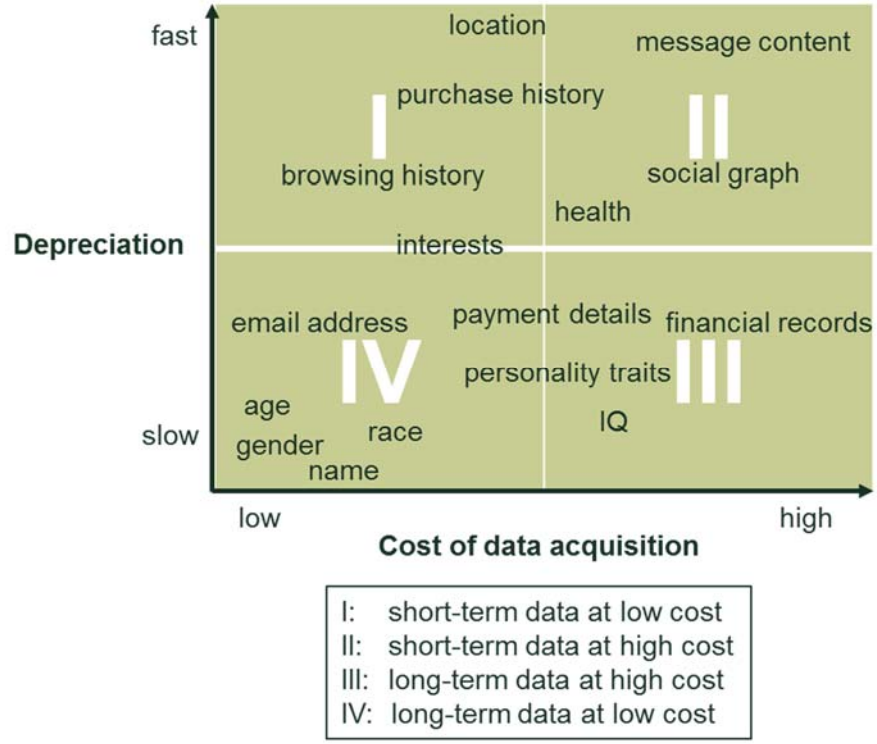
1. the cost of acquiring the data; and

2. the rate at which it depreciates.

Long-lasting, general data (e.g. a date of birth) is of low value and easy to replicate; while short-lived, precise details of consumer intentions (e.g. a search for 'nearby restaurant' on a mobile device) is highly valuable and difficult reproduce. Figure 3.1 provides some more examples of different data types, and where they lie along these two dimensions.[5]

[5] For further discussion, see Oxera's companion paper on 'Data in Digital Markets'.

Figure 3.1 Characteristics of types of consumer data



Source: Oxera.

For digital platforms to attract businesses and advertisers, they must offer a wide reach and good conversion rate. The former relates to the scale of the platform (i.e. the number of users it has and the amount of attention it can draw from them); while the latter depends on the 'match' it can offer between the consumers' needs and the business or advertiser's offerings. Since the quality of the match depends upon the data an algorithm has to work with, it is often the *concentration* of many different—but related—datasets that is most likely to provide an increase in market power (as well as providing the greatest opportunities for social gain).

Firms' market power depends on the price elasticity of demand. If consumers are sufficiently sensitive to price increases then firms will not be able to raise prices, regardless of whether they have a monopoly. The same principle can be applied to market power based on the collection and usage of personal data (the 'privacy elasticity of demand'). If consumers are sufficiently sensitive to having their data exploited, this will limit the platforms' ability to do so.

For this natural constraint on market power to work, sufficient transparency and awareness by consumers are key. Recent research suggests that if users can see and understand that the data being collected about them is being used in ways that benefit *them*, they take a pragmatic view.[6] It is the *use* and not the *collection* of the data itself that determines how people feel about sharing it. However, data usage is not as transparent as prices are. In the USA, only half of internet users surveyed thought their personal data and online behaviour were being frequently recorded and used for advertising purposes.[7]

[6] Which? and BritainThinks (2018), 'Control, Alt or Delete? Consumer research on attitudes to data collection and use', Policy Research Report, June.
[7] Statista survey carried out in the USA in May 2017.

Having a competitive advantage (such as the best available search algorithm) is not necessarily the same as having market power. To the contrary, digital platforms are often compelled to innovate and evolve continuously if they are to outcompete and survive. With several large, deep-pocketed firms able to fund innovation—either through organic R&D and/or market acquisitions—the result is a steady stream of new products and features for consumers as digital platforms seek to fend off the competition and the large technology companies enter new areas of business. For example, between them, ten leading technology companies (Google, Amazon, Apple, Intel, Microsoft, Uber, Twitter, AOL, Facebook and Salesforce) have invested over US$8.6 billion in the development of artificial intelligence since 1998, with the bulk being spent in the more recent years.[8]

[8] TechRepublic (2018), 'The 10 tech companies that have invested the most money in AI', January 12. https://www.techrepublic.com/article/the-10-tech-companies-that-have-invested-the-most-money-in-ai/, accessed 27 September 2018.

4 Conclusions

Where there is choice for consumers, adequate competition is usually well placed to prevent the issues that can arise from a concentration of market power in digital platform markets. The standard competition provisions laid out in Articles 101 and 102 of the Treaty on the Functioning of the European Union, combined with robust market analysis, appear to be a suitable enforcement tool for many (if not all) of the competition theories of harm that arise in digital platform markets.

The underlying principles of identifying relevant markets and specific harms resulting from market power remain relevant. However, the approaches taken to these traditional analyses may need some updating or adapting for the specifics of the modern digital platform markets. For example, in many cases a user's personal data is being used to 'pay' for access to services in lieu of money; and platforms are competing not just in specific service markets, but also in a broader market for overall consumer attention.

Care is needed to avoid unintended consequences arising from seemingly beneficial interventions, particularly those that could dampen innovation and thereby harm competition and social outcomes in the long run. For example, open data requirements may be proposed as a spur to competition in markets where the pooling of data appears to have created a concentration of market power. However, by forcing firms to be 'open' with their data, regulators risk creating a hold-up problem, where each firm may wait for another to incur the cost of gathering, processing and storing the required data. Over the long run, this may have a detrimental effect on new product creation and services offered to consumers.

Furthermore, competition issues are best kept distinct from *consumer protection* concerns—such as hate speech and privacy—which competition rules are generally ill-equipped to support. Authorities are advised to resist the temptation to over-reach with competition tools based on market power. If an enforcement gap is deemed to exist, it should be handled with thoughtful and specific regulation. There is no 'one size fits all' solution, as different technologies, different datasets and different business models all present very different risks and opportunities for society. Furthermore, while many digital platforms appear to be international, many of their products, services and associated regulatory issues are often localised.

A thorough, case-by-case understanding of the specific markets and mechanisms of harm is required to ensure a well-balanced and effective solution to any competition issues identified with digital platforms.


www.oxera.com
oxera
compelling economics