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## INNOVATION LETTER

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# FROM CREATIVE DESTRUCTION TO DESTRUCTION OF THE CREATIVES: INNOVATION IN WALLED- OFF ECOSYSTEMS

### **Abstract**

For a long time, a prevailing view was that due to the dynamic nature of competition in digital markets intervention by antitrust authorities may do more harm than good. It was assumed that Joseph Schumpeter's "perennial gales of creative destruction" would sufficiently discipline any incumbent digital firm as rivals were only 'one click away', switching costs low and network effects reversible. Based upon the economics of innovation, the article first examines the market conditions under which significant product improvement and/or disruptions from outside may develop and unfold. It then examines why such conditions are lacking where a single undertaking largely controls a digital ecosystem. The article concludes that the protective moats and walls that digital gatekeepers have built around their "cash cow" services significantly reduce the incentives and abilities to innovate for any participant within such ecosystem and to disrupt the incumbent's service. Due to common interests and mutual interdependencies of the operators of the largest digital ecosystems, it also cannot be presumed that the lack of innovation within ecosystems (intra-ecosystem competition) is sufficiently outbalanced by innovation across ecosystems (inter-ecosystem competition). In such a setting, competition policy may no longer assume that dynamic competition sufficiently disciplines even dominant companies and that there is a higher risk from over-enforcement than from underenforcement. Accordingly, the measures proposed, for instance, in the European Digital Markets Act and the American Choice and Innovation Online Act to open up markets for innovation go into the right direction

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### **SUMMARY**

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## 1 Introduction

For a long time, a prevailing view amongst economists and antitrust lawyers was that due to the dynamic nature of competition in digital markets intervention by antitrust authorities would do more harm than good.<sup>1</sup> Based upon some early toppling of market leaders, it was assumed that the permanent risk of disruptive innovations, the Joseph Schumpeter's "perennial gale of creative destruction"<sup>2</sup>, would sufficiently discipline any incumbent digital firm. Even any position of dominance was assumed to be inherently temporary as rivals were only "one click away", switching costs low and network effects reversible. In any case, the persistent strong potential competition from disruptive innovations would render antitrust enforcement unnecessary.

This "innovation letter" outlines why such assumptions are no longer sustainable and, on the contrary, state intervention is indispensable to keep dominated digital platform markets contestable through dynamic competition.

## 2 Creative destruction in digital ecosystems

### 2.1 Schumpeter's innovation theory

Proponents of a *laissez-faire* approach in digital markets have frequently turned to the theories of Joseph Schumpeter on "creative destruction". Schumpeter believed that

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<sup>1</sup> See, for instance, D Daniel Sokol and Roisin E Comerford, 'Does Antitrust Have a Role to Play in Regulating Big Data?' in Roger D Blair and Daniel Sokol (eds), *The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech* (Cambridge University Press 2017) 19; Geoffrey A Manne and Joshua D Wright, 'Google and the Limits of Antitrust: The Case Against the Antitrust Case Against Google' (2011) 34 Harv. J.L. & Pub. Pol'y 171; Michael A Salinger and Robert J Levinson, 'Economics and the FTC's Google Investigation' (2015) 46 Rev Ind Organ 25, 55; David S Evans, 'Why the Dynamics for Online Platforms Leads to Sleepless Nights But Not Sleepy Monopolies' (2017) <<https://bit.ly/3QABnZg>> accessed 22 June 2022; Ryan Bourne, 'Is This Time Different? Schumpeter, the Tech Giants, and Monopoly Fatalism' (Cato institute, Policy Analysis Nr. 872, 2019); Aurelien Portuese, 'Biden Antitrust: The Paradox of the New Antitrust Populism' (2022, forthcoming) Geo. Mason L. Rev.; Marixenia Davilla, 'Is Big Data a Different Kind of Animal? The Treatment of Big Data Under the EU Competition Rules' (2017) 8 J. of EU Comp. Law & Practice 370; Maren Tamke, 'Big Data and Competition Law' (2017) 1 Journal of Competition Law (ZWeR) 358, 384 ff.

<sup>2</sup> Joseph Schumpeter, *Capitalism Socialism & Democracy* (first published 1943, Taylor & Francis e-Library 2003) 84, 87.

competition is driven less by the number of buyers and sellers or elements such as the price or output of a product but rather by innovation. What really matters would be “competition from the new commodity, the new technology, the new source of supply, the new type of organisation – competition [...] which strikes not at the margins of the profits and the output of the existing firms but at their foundations and their very lives”.<sup>3</sup> He argued that such innovation – perennial gales of “creative destruction” – is the centre of economic change, driving both economic development and business cycles. A company, even a successful one, would consistently feel such threat. This in turn could discipline its behaviour in a similar manner as a perfectly competitive market would.<sup>4</sup>

## 2.2 Role of innovation for platform competition

Schumpeter’s rationale worked well for digital (platform) markets as it coincides with some economic particularities of such markets.

The economics of multi-sided markets has taught us that competition for such platforms is driven by network effects<sup>5</sup> that make the strong become stronger and the weak become weaker. Where a platform has accumulated so many users and therefore generates such strong positive network effects that, from a user’s perspective, any other platform appears inferior, a market may “tip” towards such platform. Once a market has tipped, newcomers offering the identical product are unlikely to attract a critical mass of users to generate sufficient network effects to trigger any growth. Therefore, where products and services are not interoperable (thereby “sharing” and neutralising the network effects created by the joint user bases), such tipping of a market towards one platform may be irreversible. The competition “for the market” has been decided.<sup>6</sup>

As a consequence, new competition may arise only from products and services that are so different to the “winner” that the user groups generating the strongest network effects, typically consumers, do not directly compare the benefits of such platforms but consider the new offering as complementary and therefore start using both, i.e., multi-home. Where, as in most cases, the digital service is offered to consumers at zero-price, such differentiation may not follow from any lower prices, but from a significantly different quality or product design. Thus, for incumbent platforms, the most serious threat does not come from incremental improvements of equivalent platforms, even if they

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<sup>3</sup> *ibid* 84.

<sup>4</sup> *ibid* 85.

<sup>5</sup> Network effects exist where an increased number of users improve the value of a good or service.

<sup>6</sup> See generally Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, ‘Competition policy for the digital era, Final report’ (European Commission 2019); Jason Furman, ‘Unlocking digital competition. Report of the Digital Competition Expert Panel’ (2019) <[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/785547/unlocking\\_digital\\_competition\\_furman\\_review\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf)> accessed 25 July 2022.

are offered at a lower price. Instead, the biggest threat comes from drastic product differentiations, that is from a platform that – while offering (at least the low-end) functionalities of the incumbent – gains separate attention through different and new features that the incumbent does not provide but add value. If such significant product differentiation originates from a neighbouring market rather than from within the incumbent’s market and therefore catch the latter off-guard, economists refer to them as “disruptive innovations”.<sup>7</sup> However, the boundaries between significant product differentiations *within* an existing market and disruptive innovations from *outside* are fluent.<sup>8</sup> The difference is not so much that incumbents are blind to disruptions from outside but that they can do less to prevent them (as compared to innovations within their markets) as they escape their web of influence. This article will therefore refer to both (i) drastic product differentiations from within and (ii) disruptive innovations from outside as “significant innovations”.

Since digital markets that have tipped may only be contested by means of significant innovations that overcome the incumbent’s network effects, such innovations are tantamount to Schumpeter’s “creative destructions” that even dominant firms need to fear and which may discipline them most.

### 2.3 Laissez-faire approach

The conceptual overlap between Schumpeter’s innovation theory and the functioning of multi-sided digital markets is striking. However, courts and economists drew different conclusions from such overlap. Often, the dynamic arguments were used to dismiss antitrust interventions.<sup>9</sup> Because innovation-driven digital markets are highly dynamic, it was argued that even high market shares did not imply dominance<sup>10</sup> and that, in any case, due to short innovation cycles any dominance was either ephemeral or permanently subject to threats by disruptive forces. Since this would sufficiently discipline

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<sup>7</sup> Alexandre de Streel and Pierre Larouche, ‘Disruptive Innovation and Competition Policy Enforcement’ (OECD Background Note, DAF/COMP/GF(2015)7, 2015) para 4.

<sup>8</sup> At least from a legal perspective, for instance, it should make no difference whether a niche general search engine seeks to supplant the incumbent by adding social media features (frontal competition) or whether, conversely, a large social media platform includes general search functionalities to challenge the incumbent (disruption).

<sup>9</sup> See references in (n 1); Michael L. Katz and Howard A Shelanski, ‘“Schumpeterian” Competition and Antitrust Policy in High-Tech Markets’ (2005) 14 Competition 47.

<sup>10</sup> *United States v. Microsoft Corp.* [2001] 253 F.3d 34, 49 (D.C. Cir. 2001); Case T-79/12 *Cisco Systems and Messagenet v Commission* [2013] para 69 confirming *Microsoft/Skype* (Case No COMP/M.6281) Commission Decision [2011] para 78.

the incumbent firm, antitrust intervention was deemed unnecessary.<sup>11</sup> Accordingly, for two decades, authorities argued against interventions in digital markets on the grounds that “Type 1 errors” (the risk of any over-enforcement) could reduce the crucial incentive to innovate and invest in the dynamic digital markets, while “Type 2 errors” (the risk of under-enforcement) would matter far less as such errors would quickly be corrected by new market entries.<sup>12</sup>

### 3 Destruction of the creatives in digital ecosystems

Twenty years ago, such reasoning bore some empirical backing. In the early days of the internet, we did indeed witness an open and dynamic economy, in which new firms sprung up frequently, no internet company appeared to enjoy dominance for long, and fluctuation among them was high. Amongst others, we witnessed AltaVista/Yahoo! being pushed aside by Google as the dominant general search engine and Meta’s Facebook toppling over the once strong social media platforms Friendster, Orkut and MySpace.<sup>13</sup>

However, twenty years later, the internet world looks different.

There are still vast areas of the digital economy that witness a high level of significant innovation. Yet, at least in the vicinity of some of the commercially most relevant online platform services, vigorous competition appears to have significantly cooled down and market concentration has risen to new highs. This includes services which were previously marked by significant shifts in the market such as for general search services, web browsers or marketplaces. For some monopolised services, such as the provision of app stores, there has never been any genuine competition. The rising number of antitrust complaints and investigations into abuses of dominance<sup>14</sup> do not suggest that the small number of digital gatekeepers is sufficiently disciplined by any genuine risk of “creative destruction”. On the contrary, today, some incumbent firms appear to focus more on innovative means to reduce competition and suppress significant innovation rather than on improving their own services. So where did reliance on Schumpeter’s innovation theory run short?

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<sup>11</sup> See Case T-79/12 *Cisco Systems and Messagenet v Commission* [2013] para. 69; *Facebook/WhatsApp* (Case No COMP/M.7217) Commission Decision [2014] paras 132, 135; David S. Evans, ‘*Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms*’ (2016) Coase-Sandor Working Paper Series in Law and Economics Research Paper No 753.

<sup>12</sup> See Cristina Caffarra, Gregory Crawford and Tommaso Valletti, ‘How tech rolls’: Potential competition and ‘reverse’ killer acquisitions’ (*VoxEU.org*, 11 May 2020) <<https://bit.ly/3QGSH3o>> accessed 13 June 2022.

<sup>13</sup> Some also refer to the Microsoft’s Internet Explorer being overtaken by Google’s Chrome as leading web browser as example of dynamic competition. However, this toppling was only enabled by antitrust intervention in the US and Europe and hence provides more arguments for rather than against regulatory intervention.

<sup>14</sup> For an overview of pending investigations see the case “tracker” at <https://www.digital-competition.com/tracker>.

The main reason is that, contrary to the assumptions of some laissez-faire proponents, significant innovations do not just emerge out of nowhere and then magically topple over any incumbent firm if they are just good enough. For significant innovations, two requirements must be fulfilled. First, companies need to have an incentive to innovate (see below at 3.1) and, second, they must have the ability to effectively develop and, more importantly, bring any innovation to market (see below at 3.2). Both requirements are closely interlinked. Where it is unlikely that an undertaking would be able to diffuse and monetise an innovation, there is no incentive to innovate in the first place. And where there is no incentive, even the best abilities do not suffice.

This is where Big Tech comes into play. As has been mentioned in the European Digital Markets Act<sup>15</sup>, “[s]ome of those gatekeepers exercise control over whole platform ecosystems in the digital economy and are structurally extremely difficult to challenge or contest by existing or new market operators, irrespective of how innovative and efficient those market operators may be.”<sup>16</sup> Gatekeepers that control the operation of entire ecosystems around their core “cash cow” platform services lack the incentive to innovate against their own technology themselves. And they have an incentive and the ability to suppress any significant innovation from third parties within their ecosystems which could, potentially, weaken their core platform business (see below at 4). Where, due to the very presence of a digital gatekeeper, no significant innovation is likely to succeed, it is no longer justified to rely on dynamic competition. On the contrary, in such a structural setting, state intervention needs to pro-actively render markets contestable again by removing any barriers that gatekeepers have set up to prevent significant innovations that could challenge their business (see below at 6).

### **3.1 Incentives to innovate**

Experience from intellectual property law has proven that to a large extent incentives to innovate rest upon the innovator’s prospect of a financial reward.<sup>17</sup> Such reward can follow from selling own products that implement the innovation or from selling or licensing the innovation to third parties that are in a better position to monetise an innovation. There is also broad consensus that, all factors equal, fierce competition creates stronger incentives to innovate than highly concentrated markets.<sup>18</sup>

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<sup>15</sup> Regulation (EU) 2022 of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act).

<sup>16</sup> Recital (3) Digital Markets Act (n 15).

<sup>17</sup> See David Abrams, ‘Did TRIPS Spur Innovation? An Empirical Analysis of Patent Duration and Incentives to Innovate’ (2009) 157 *University of Law Review* 1613; Herbert Hovenkamp, ‘Antitrust and Innovation: Where We Are and Where We Should Be Going’ (2011) 77 *Antitrust Law Journal* accessed 22 June 2022.

<sup>18</sup> Richard Gilbert and A Douglas Melamed, ‘Innovation Under Section 2 of the Sherman Act’ (2021) 84 *Antitrust Law Journal* 602, 606 ff.

*Innovation incentives of dominant incumbents*

Larger firms may have more resources to finance major research and development (R&D) initiatives. They may also be better positioned to subsequently diffuse any resulting innovations and appropriate its value. “But monopolies, if protected from competition, are unlikely to be vigorous innovators.”<sup>19</sup> To be sure, digital incumbents are aware of the constant threat from significant innovations disrupting their business. They cannot afford a “quiet life”<sup>20</sup>. However, a dominant firm with sunk investments in its technology has no incentive to invest in innovation that could not gain any additional business but may only cannibalise its existing business by replacing revenues it already secured<sup>21</sup> or even opening the door for third parties to displace such business in the long run. A monopolist on market A may still have an incentive to innovate for a market B that it does not yet dominate. But due to the mentioned “replacement effect”<sup>22</sup> a dominant firm is unlikely to bite the hand that feeds it – to disrupt the technology on which its revenues rest.

The more entrenched and profitable a company’s service, the higher its incentive to shift all its creative efforts from innovating own products to suppressing third-party innovation that could challenge the service.<sup>23</sup> This incentive goes beyond preventing innovation relating to the incumbent’s core platform service. It extends to the incumbent’s entire business model. A dominant provider of search-based advertising<sup>24</sup>, for instance, does not just have an incentive to stifle innovation challenging its search service. It will also seek to prevent innovation that could make the use of search engines unnecessary or render alternative forms of offline or online advertising more attractive

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<sup>19</sup> Gilbert and Melamed (n 18) 607.

<sup>20</sup> Which according to Sir John Hicks famously is the “best of all monopoly profits”, J.R. Hicks, ‘Annual Survey of Economic Theory: The Theory of Monopoly’ (1935) 3 *Econometrica* 1, 8.

<sup>21</sup> See Steve Jobs, ‘[W]hat’s the point of focusing on making the product even better when the only company you can take business from is yourself?’, ‘Voices Innovation: Steve Jobs’ (*Bloomberg Businessweek*, 11 October 2004) <<https://bloom.bg/3HLjy5y>> accessed 22 June 2022.

<sup>22</sup> See Kenneth J Arrow, ‘Economic Welfare and the Allocation of Resources for Invention’ in Richard R Nelson (ed), *The Rate and Direction of Inventive Activity: Economic and Social Factors* (Princeton University Press 1962) 609; Gilbert and Melamed (n 18) 620.

<sup>23</sup> Gilbert and Melamed (n 18) 620; Herbert J. Hovenkamp, ‘Schumpeterian Competition and Antitrust’ (2008) 4 *Competition Pol’y Int’l* 273, 277: ‘[T]here are good reasons for believing that market-dominating firms or joint ventures with a significant investment in their technology are more likely to use exclusionary practices to restrain the innovations of rivals or potential rivals than to develop or promote their own innovations.’

<sup>24</sup> Search-based advertising is considered to form a distinct online advertising market (separate from display advertising) due to the particular abilities it provides for advertisers to target consumers at the time of their highest intent to purchase as expressed by their query. See *Google Search (AdSense)* (Case AT.40411) Commission Decision C/2019/2173 [2019] at section 6.2.

to advertisers (e.g., by increasing its targeting capabilities).<sup>25</sup> Where such alternative advertising format already exists (e.g., programmatic display advertising), the search advertising incumbent will seek to prevent any innovation that would facilitate or increase the deployment of such alternatives in order to prevent that demand and prices for its search-based advertising business drop.<sup>26</sup>

#### *Innovation incentives of third parties*

Where the incumbent cannot be expected to innovate in relation to its business model, any dynamic competition depends on the incentives of third parties to invest in innovations that could overcome the incumbent's existing technology. The most likely candidates would be remaining (niche) rivals within the relevant market or firms operating on neighbouring but related markets from which an attack could be launched. The prospect of getting a share of the incumbent's monopoly revenues will likely create a sufficient financial incentive for such attack. However, any third party's innovation incentive will also depend on the party's likely ability to appropriate any value from a significant innovation, in particular by opening the door to the incumbent's revenues. And here again, Big Tech has a word to say.

### **3.2 Abilities to innovate**

To appropriate value from any innovation, an entrepreneur needs to master several phases. First, he or she needs to actually invent something new. Then he or she has to diffuse this invention so that consumers adopt it broadly. Already Schumpeter highlighted that for an innovation to lead to a "creative destruction" the initial phase of the invention is far less relevant than the subsequent diffusion, which is the period when the profitable potential of a new product or service is realised and it is widely rolled out.<sup>27</sup> This also applies to digital services.

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<sup>25</sup> This is at the heart of the pending investigations in Google's Privacy Sandbox/Topics (*Google Ad Tech* (Case AT.40670) Formal antitrust proceedings initiated on 22 June 2021) and Apple's App Tracking Transparency (ATT) framework (German Federal Cartel Office, 'Bundeskartellamt reviews Apple's tracking rules for third-party apps' (Press Release of 14 June 2022) <<https://bit.ly/3zTr7e>> accessed 22 June 2022). Both investigations concern a joint effort by Google and Apple to deprive programmatic display advertising of the data it requires to match the targeting capabilities of search-based advertising. Google's bulk of revenues comes from Google Ads in Search. Via a (monopoly) Revenue-Sharing-Agreement for searches on Safari and Siri, Apple directly benefits from Google's search ads. In addition, Apple benefits from selling more Apple Search Apps for searches in the Apple app store.

<sup>26</sup> This is at the heart of the competition cases relating to Google's measures to prevent 'Header-Bidding', a mechanism developed by publishers to facilitate multi-homing between ad intermediaries that enable programmatic advertising, which would enhance its efficiency. See Autorité de la Concurrence, Decision 21-D-11 of 7 June 2021 (<<https://bit.ly/3HK726z>> accessed 22 June 2022) regarding practices implemented in the online advertising sector.

<sup>27</sup> Joseph Schumpeter, *Konjunkturzyklen. Eine theoretische, historische und statistische Analyse des kapitalistischen Prozesses* (first published 1939, Vandenhoeck 1961).

Where strong network effects are at play, for any significant innovation (irrespective of product differentiation or disruption<sup>28</sup>) to displace an incumbent, it first needs to gain a critical mass of users to generate any positive network effects. The common strategy to gain such foothold on the market is to aim for customers at the “low-end” of the market. As first described by Christensen<sup>29</sup>, incumbent firms tend to focus on constantly improving their products to pull the market to the (more lucrative) “high-end”. This creates opportunities for other firms to attract users through low-end products that meet the basic requirements of users (the “value network”<sup>30</sup>) while offering added value through their respective innovation. If this initial phase of gaining a foothold is successful, the innovator can successively redefine the factors that matter to users (i.e., the value network) and progress to also cater to the interests of mainstream users of the incumbent, thereby ultimately replacing it.<sup>31</sup>

The problem we are facing today, however, is that with a view to effectively prevent innovation that could challenge their business, some incumbents can and actively do interfere in all stages of the innovation process within an ecosystem, from the invention to the diffusion. This can be observed, in particular, in digital ecosystems that are largely walled-off from other industries.

#### **4 Gatekeepers’ suppression of innovation in walled-off ecosystems**

Based upon the principles outlined above, the more entrenched an incumbent’s market position for its core “cash cow” service and the higher the threat that an innovation could displace such service, the lower the incumbent’s incentive to itself invest in such innovation but the stronger its incentive and ability to also prevent any third party from doing so.<sup>32</sup>

Applying this to digital markets, twenty years of under-enforcement of antitrust law leaves us with a very dim prospect for innovation. Over these years, a small group of companies has built up and connected a web of products and services around their core “cash cow” businesses that effectively shields off such business from competitive

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<sup>28</sup> See above Section 2.2 on the differences.

<sup>29</sup> Clayton M. Christensen, *The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail* (Harvard Business Review Press 1997).

<sup>30</sup> Christensen (n 29) defines a value network as a ‘collection of upstream suppliers, downstream channels to market, and ancillary providers that support a common business model within an industry’.

<sup>31</sup> de Streel and Larouche (n 7) para 4.

<sup>32</sup> Compare Gilbert and Melamed (n 18) 620: ‘All other things equal, for products sold at positive prices, this replacement effect is likely to be greatest for firms with the largest market shares, and thus the most profits to lose’.

threats, in particular from disruptive innovation or disintermediation.<sup>33</sup> At a global level, this is most striking for

- Alphabet/Google<sup>34</sup>,
- Apple<sup>35</sup>,

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<sup>33</sup> Disintermediation means the process of reducing the use of intermediaries between producers and consumers, in particular by cutting out one or more middlemen from a transaction. See Thomas Hoppner, Felicitas Schaper and Philipp Westerhoff, 'Google Search (Shopping) as a Precedent for Disintermediation in Other Sectors – The Example of Google for Jobs' (2018) 9 J. of Euro. Comp. Law & Practice 626 ff.

<sup>34</sup> Google dominates multiple central touchpoints to access end users and business users alike. Its core business is general internet search and search advertising (Google Search). To shield this core business from indirect competition by aggregators, Google developed and integrated multiple specialised search services (for example, Google Shopping, Google Travel, Google Local Search) and content services (for example Google Streetview) into the search results pages of Google Search. Google also own YouTube, a video-ad funded social media platform. To shield Google Search from direct competition (that is, other general search services) and in anticipation of the shift towards mobile internet usage, Google acquired the mobile operating system developer Android. Besides Android, Google also developed its own web browser (Google Chrome) as an additional distribution channel for its general search service. To wall this mobile ecosystem further off and to ensure that the purportedly open-source Android platform was not used by others to compete against Google, the search giant developed and distributed the Google Play app store. Google Play is a must-have software product for all Android users, as it is the only credible way of installing apps on Android devices and comes pre-installed on nearly all Android smart mobile devices globally. Hundreds of ancillary services tie the Google ecosystem further together, for example its 'super app' Google Maps along with productivity and communication software such as Gmail, Google Docs and Drive, Photos and Google Meet and its own voice assistant. Taken together, Google has at least eight properties with more than one billion users each (Search, YouTube, Maps, Assistant, Gmail, Chrome, Android, and Play). All products and services collect valuable user data and information, thus reinforcing each other. Google even made specific acquisitions to get access to additional user data, for example Fitbit. In addition, Google not only dominates search advertising (Google Ads, formerly known as AdWords) and owns highly valuable advertising real estate such as YouTube. Since acquiring DoubleClick in 2007, Google also dominates every single level of the digital value chain for display advertising, the lifeblood of the digital economy (Google Marketing Platform, Google Ad Manager, AdSense, AdMob, to name a few). Lastly, Google also owns and operates the tools to monitor and control marketing performance (e.g., Google Analytics, Search Console) as well as a cloud service (Google Cloud Platform).

<sup>35</sup> Originally being a hardware manufacturer, today, Apple controls a complex walled-off ecosystem. Unlike Google, Apple always pursued the strategy of operating tightly closed-off, vertically-integrated platforms, combining its own hardware with proprietary software solutions. Its core product is the iPhone, which nowadays is not only a hardware product but includes the entire iOS platform together with the App Store – the only way users can download and install apps on iOS – and multiple additional software solutions (for example, the Safari browser, which is also available for Apple's other product lines, e.g., Macs). To complement its hardware-software-ecosystem, Apple pushed its Wearables, Home, and Accessories business (Apple Watch, AirPods, HomePod, Beats headphones etc.). Given the saturation of the market for smart mobile devices and the corresponding decline in iPhone sales, in recent years Apple shifted more and more towards its highly-lucrative services segment, integrating more and more subscription services, such as Apple Pay (the only payment service who used to have access to the iPhone's NFC chipset) along with content services such as Apple TV+, Music and Arcade (among others). With Search Ads in the App Store, in 2020 Apple also entered the advertising business, with expected revenues of more than USD 5 bn. in 2022.

- Amazon<sup>36</sup> and (to a lesser extent),
- Meta/Facebook<sup>37</sup> and
- Microsoft<sup>38</sup> (the “gatekeepers”).<sup>39</sup>

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<sup>36</sup> Amazon started as an online bookstore. However, Amazon rapidly grew into a giant, vertically-integrated but at the same time conglomerate corporation. Today, the company is best-known as an “Everything Store”, a place where consumers can buy nearly anything online. Combining its own sales operations (including many own brands) with that of a merchant platform, the Amazon Marketplace has become the global e-commerce site. For its own use but also thousands of merchants globally, Amazon offers all kind of warehousing and fulfilment solutions, and even its own logistics services, including its own airline. Such logistics infrastructure can, in turn, be used for additional services such as Amazon Fresh (food deliveries). Amazon even went so far as to acquire brick-and-mortar businesses like Whole Foods, which operates more than 500 retail locations in the US, Canada and UK. While Amazon pursued a strategy purely focused on growth for many years regarding this core business (meaning that it operated with very low margins), its most profitable, cross-subsidising services are offered under the brand Amazon Web Services (AWS) and operate the by far leading on-demand cloud computing platform along with server farms located throughout the world as well as various software tools. Not only by rival content platforms such as Netflix rely upon these cloud solutions, but also its own content platforms like Amazon Music, Prime Video or the audiobook platform Audible. For such content platforms, Amazon heavily invested into high-quality content (licenses and own productions). With its recent acquisition of the film and television studio MGM (for nearly USD 8.5 billion), Amazon added thousands of premium titles to its streaming business. Its Prime membership ties its ecosystem together – premium fulfilment and logistics for online orders on Amazon.com and content services come as a bundle for many consumers globally. With its own voice assistant Alexa and other smart home devices, Amazon has also conquered their homes – and allows them to shop on Amazon.com even more easily. Around 2014, Amazon also entered the market for advertising. At its heart are search based ads by merchants active on the Amazon Marketplace. But Amazon also offers display advertising and operates a growing ad tech (intermediation) stack. Net sales increased from USD 12.6 in 2019 to USD 31.2 billion in 2022 – making Amazon the third largest advertising business (after Google and Meta) in the world – after just a few years in business.

<sup>37</sup> Starting out as a social network, Facebook became the by far most used personal social network globally. The company is well known for what is referred to as “killer acquisitions”, i.e., the acquisitions of nascent, potential future competitors (such as Instagram). The company, recently renamed to “Meta”, however, diversified its business significantly – with WhatsApp, it operates one of the leading global communication services, complementing its communication tool Messenger. With Facebook and Instagram, Meta offers some of the largest online advertising real estate globally. A must-have for many advertisers. In addition, Meta provides one of the largest advertising networks for app monetisation (Meta Audience Network). The company’s future lies in augmented and virtual reality products such as Oculus – which are closely linked to the social network operation.

<sup>38</sup> Microsoft built its ecosystem around its professional and home software products, such as the operating system Windows (which is still by far the leading desktop operating system worldwide), server software, and the productivity software suite Microsoft Office (Word, PowerPoint, Excel etc.). With the Internet Explorer, it used to operate the leading Internet browser, and with its current Edge browser, it is starting to challenge the current market leader Google Chrome again. It also operates the general search engine Bing. In addition, Microsoft is the second largest cloud computing provider (Microsoft Azure) and over time bought many companies to diversify its ecosystem (e.g., the communication software Skype, which is complemented with its business communication tool Microsoft Teams) and the professional social network LinkedIn. With the planned acquisition of Activision Blizzard, Microsoft will again become one of the largest computer games developers globally.

<sup>39</sup> Note that in some countries, in particular China, other companies (such as Alibaba and Tencent) have created ecosystems that are no less walled off.

One motivation for setting up such ecosystems is to be included in all the most profitable value chains built on or around their platform (advertising, subscriptions/payments, data). Another reason is to gain influence on the innovation process to protect the core platform monopoly from entry and disruption. The ancillary services serve as a protective “moat”<sup>40</sup> or “wall” around the incumbent’s “castle”, i.e. its core revenue-generating services to identify any potential disruptive innovation and prevent that it may gain a foothold.

Such moat-building permeates the strategies of all gatekeepers and is a core business principle in digital markets. In their combination, such protective web of services may develop into full-scale ecosystems which are, in varying degrees, closed to third parties (“walled off ecosystems”).<sup>41</sup>

The control over such walled-off ecosystems allows digital gatekeepers to suppress innovation. In particular, it enables them to effectively

1. deprive third parties of the assets required to innovate;
2. set the conditions for any innovation to reach end users;
3. monitor any innovation on related markets for pre-emptive defensive measures;
4. prevent disruptive market entry by acquiring and “killing” innovations;
5. hamper the diffusion of any innovation within their ecosystem;
6. quickly imitate, integrate and thereby outcompete any innovation within the ecosystem.

## 4.1 Depriving rivals of innovation assets

“A firm that controls the inputs required to innovate has the ability to suppress innovation and can be said for that reason to have market power over innovation.”<sup>42</sup>

Digital gatekeepers (as defined above) typically control several inputs that may be crucial for participants of their ecosystem (hereafter “business users”) to innovate.

### *Data & Usage Rights*

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<sup>40</sup> The moat analogy, famously used by Warren Buffet for investment decisions, was first considered in an antitrust context in the European *Google Android* investigation (see *Google Android* (Case AT.40099) Commission Decision [2018] para. 116). It was subsequently adopted by Assistant Attorney General J. Kanter of the DOJ, ‘Keynote’ (Speech at CRA Conference, Brussels, 31 March 2022) <<https://bit.ly/3tSFsyk>> accessed 13 June 2022.

<sup>41</sup> Generally, see Daniel Crane, ‘Ecosystem Competition and Antitrust Laws’ (2019) 98 *Nebraska Law Review* 412.

<sup>42</sup> Gilbert and Melamed (n 18) 611.

The central asset is data. Another asset is the (data protection/privacy) right to combine, share or otherwise use personal data. Gatekeepers can typically control both assets. Gatekeepers operate central digital gateways for business users to reach end users. The control over such gateways allows a gatekeeper to unilaterally determine how business users may engage with end users and what kind of data they may access and collect in this process. They may also introduce, design and present interfaces and choice screens to effectively influence whether and under which conditions end users grant consent for any business user to use their personal data. This allows a gatekeeper to effectively reduce the business users' ability to access data and to obtain usage rights for such data.

By technically withholding any relevant data or preventing business users from receiving permission to use it, gatekeepers can render it more difficult for business users to identify their users' interests and/or to measure the success of any new features they introduce. With Apple's so-called App Tracking Transparency (ATT) framework, introduced in 2021, and Google's Privacy Sandbox/Topics solution, announced around the same time, we have already witnessed two gatekeepers taking advantage of such control over data flows.<sup>43</sup> Under the guise of enhancing privacy, both campaigns aim at increasing the data gap between themselves as operators of their ecosystem and any business active within.<sup>44</sup> The less data actual or potential rivals obtain within an ecosystem, the smaller their potential to innovate.

#### *Infrastructure*

Similarly, by controlling an ecosystem, gatekeepers may also be able to deprive rivals of crucial storage capacities (cloud services), premium content and corresponding usage (IP-)rights (through exclusivity) or crucial know-how (by artificial non-transparency). They may also preclude or restrict third-party access to key standards or technology features that is necessary to develop innovative products within the respective ecosystem.<sup>45</sup> Conversely, this means that gatekeepers holding a monopoly over crucial research and development (R&D) assets will be the only potential innovators within their walled-off ecosystem.<sup>46</sup>

<sup>43</sup> See German Federal Cartel Office (n 25); Feng Zhu and Daniel Sokol, 'Harming Competition and Consumers Under the Guise of Protecting Privacy: An Analysis of Apple's iOS 14 Policy Updates' (2021) Competition Policy International <<https://bit.ly/3n7iXBY>> accessed 22 June 2022; Thomas Hoppner and Philipp Westerhoff, 'Privacy by Default, Abuse by Design: EU Competition Concerns About Apple's New App Tracking Policy' (2021) Hausfeld Competition Bulletin Spring 2021.

<sup>44</sup> German Federal Cartel Office (n 25); Zhu and Sokol (n 43) Hoppner and Westerhoff (n 43).

<sup>45</sup> An example is the Apple NFC-Case (European Commission, 'Antitrust: Commission sends Statement of Objections to Apple over practices regarding Apple Pay' (IP/22/2764, Press release of 2 May 2022) <<https://bit.ly/3Oc2E2D>> accessed 22 June 2022) in which the Commission takes issue with Apple preventing innovative mobile wallets apps by limiting third-party access to necessary hardware and software for Near-Field Communication (NFC).

<sup>46</sup> Gilbert and Melamed (n 18) 624.

### *Funding*

Gatekeepers may not preclude innovative ideas from being funded. Yet, they can significantly reduce any incentive to do so. Having watched Big Tech squash competition time and again, venture capitalists are well aware of the endless options (further outlined below) that unregulated gatekeepers enjoy to use the monopoly profits from their core services to detect, pre-emptively clone, suppress and/or anti-competitively outperform any innovation within the ecosystem they control to deprive newcomers of any profit margin in the crucial phases of their business development. Today, the reality is that “[w]hen entrepreneurs and investors consider companies to start and fund, they shy away from sectors where tech monopolies might abuse their mighty power and destroy them.”<sup>47</sup> There is simply no incentive to invest in challengers that are at the mercy of the incumbents they seek to challenge.

## **4.2 Limiting rivals’ scope for innovations through technical settings**

In addition to withholding crucial inputs, gatekeepers may also limit third-party innovation by setting the rules for business within their ecosystem in a way that no innovation may arise that seriously threatens their core “cash cow” service.

All core platform services such as operating systems, web browsers, search engines, app stores or online marketplaces that directly intermediate between end users and business users unilaterally set the rules and commercial conditions by which businesses on downstream (intermediated) markets may access end users through the respective (upstream) platform.<sup>48</sup> Gatekeepers that exercise control over entire ecosystems typically even set general terms and conditions for business within the system. They define the characteristics a business user and its offerings need to fulfil to be accepted to and to reach end users through a core platform service. This allows a gatekeeper to unilaterally determine what kind of technology and business will be the “winners” or the “losers” when competing via its core platform service – and hence within its entire ecosystem.

Digital services can only succeed if they reach end users. To achieve that, they need to be present on the main platforms used by end users to access services. This renders businesses dependent on intermediation services. Where success on a downstream market depends on the outcome of any upstream intermediation service, the rules set by the upstream intermediary determine the success and hence the competitive structure of the downstream market more than any other factor.<sup>49</sup> This allows an upstream

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<sup>47</sup> Rand Fishkin, ‘Google, Apple, and Amazon Stifle Innovation When They Favor Their Own Products’ (*SparkToro*, 14 June 2022) <<https://bit.ly/3QEJcwV>> accessed 22 June 2022.

<sup>48</sup> See Recital (13) Digital Markets Act (n 15).

<sup>49</sup> See Case T-612/17 *Google Shopping* [2021].

intermediary to set conditions disfavouring any downstream innovation that could threaten its upstream or any other of its core businesses.

For instance, to enter the market, apps need to be available on app stores. By defining the conditions an app needs to fulfil to be admitted to an app store, the dominant app store may effectively determine what kind of app, with what kind of offerings and ancillary features (payment, advertising etc.), may enter the market.<sup>50</sup> Equally, by defining which websites and which advertisers may appear on Google's general search results pages, which have "characteristics akin to those of an essential facilities"<sup>51</sup> for most B2C services, the gatekeeper unilaterally defines what kind of innovations on any website are admissible and will actually be found by end users and which are not.<sup>52</sup> Similarly, a dominant online marketplace may unilaterally determine what kind of sellers get access to its marketplace and what kind of products or services they may sell on it and how often these offerings will be displayed.<sup>53</sup> All such intermediaries can make any innovative product less visible on their platforms if they pose a competitive threat to their own offerings.

In addition to suppressing innovations through the conditions for any intermediation, gatekeepers may also set the technical framework for carrying out business within their ecosystem in a way that prevents any significant innovation. For instance, through the technical settings of mobile devices such as their interoperability with other technologies or access to features and standards, gatekeepers may enable or prevent certain technologies from entering their ecosystem.<sup>54</sup>

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<sup>50</sup> As seen in cases relating to Apple and Google, the operator of a monopoly app store may simply ban any innovative apps from the store that would compete with the gatekeeper or could disrupt their business. The case of the exclusion of *Epic Games* (Fortnight) from both app stores after it implemented its own purchasing functionalities demonstrates this. See also the CMA's current investigation into Apple's restrictions on cloud gaming where the CMA is concerned that "Apple has also blocked the emergence of cloud gaming services on its App Store. Like web apps, cloud gaming services are a developing innovation, providing mobile access to high-quality games that can be streamed rather than individually downloaded. Gaming apps are a key source of revenue for Apple and cloud gaming could pose a real threat to Apple's strong position in app distribution. By preventing this sector from growing, Apple risks causing mobile users to miss out on the full benefits of cloud gaming." (CMA, 'CMA plans market investigation into mobile browsers and cloud gaming' (Press Release of 10 June 2022) <<https://bit.ly/3ybbcRA>> accessed 22 June 2022).

<sup>51</sup> Case T-612/17 *Google Shopping* [2021] EU:T:2021:763, para 224.

<sup>52</sup> As outlined in Case T-612/17 *Google Shopping* [2021], Google, for instance, actively demotes within general search results pages any websites with the characteristics of a specialised search services – well aware that such services are best placed to successively expand to become general search services.

<sup>53</sup> It has been reported, for instance, that Amazon removes a seller's 'Buy Box' (without which a seller loses 95% of sales), if the seller offers its products cheaper at any other platform or refuses to use Amazon products. See Adrienne Jeffries and Leon Yin, 'When Amazon Takes the Buy Box, It Doesn't Give it UP' (*The Markup*, 14 October 2021) <<https://bit.ly/3ObVRWP>> accessed 22 June 2022.

<sup>54</sup> See the Apple-NFC case on this (above n 45); see also Recitals (43) and (55-57) Digital Markets Act (n 15) for web browsers and hardware functionalities.

### 4.3 Monitoring rivals' innovations for swift defensive measures

Besides blocking or hiding rival offerings on their core platform services, gatekeepers have several other options to effectively suppress significant innovation.

Gatekeepers have been very successful in spreading and deploying sophisticated surveillance tools to constantly monitor the development and performance of businesses within and even outside of their digital ecosystems.<sup>55</sup> Such monitoring is not limited to the dynamics in the markets for their core platform services but covers the developments in all relevant areas that may serve as starting point for a disruption.<sup>56</sup> Gatekeepers are therefore amongst the first to spot which new products or services are getting traction and pose a competitive threat. This enables them to defend their dominance in a highly targeted manner, either by acquiring any promising innovation or by anti-competitively preventing its success.<sup>57</sup> As has been observed in the field of online advertising (relating to Meta and Google<sup>58</sup> as well as Apple<sup>59</sup>), gatekeepers also (ab-)use such free measuring and performance tools to present their own offerings to business users as more effective and superior compared to innovative rival offerings.

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<sup>55</sup> To this end, Google uses Google Analytics, Google Search Console and data from its ad tech services. Amazon famously measures everything within its ecosystem (see Colin Bryar and Bill Carr, *Working Backwards: Insights, Stories, and Secrets from Inside Amazon* (Macmillan 2021)). In 2013, Meta acquired Onavo, a surveillance company, with "an eye towards identifying competitive threats for acquisition or for targeting under its anticompetitive platform policies," see FTC, Case 1:20-cv-03590-JEB (13 January 2021) paras. 74-75 – *FTC v. Facebook*. As revealed by the FTC, Facebook used Onavo data to generate internal "Early Bird" reports for Facebook executives, which focused on 'apps that are gaining prominence in the mobile eco-system in a rate or manner which makes them stand out.'

<sup>56</sup> Google Analytics, for instance, provides data on the success of any website, irrespective on which market such website is active.

<sup>57</sup> See FTC (n 55) quoting an internal Facebook slide deck 'With our acquisition of Onavo, we now have insight into the most popular apps. We should use that to also help us make strategic acquisitions'; Lina M Khan, 'Remarks of Chair Lina M. Khan' (Speech at CRA Conference, Brussels, 31 March 2022) <<https://bit.ly/3HGp4Xo>> accessed 22 June 2022.

<sup>58</sup> See CMA, 'Online platforms and digital advertising' (Market study, final report, 1 July 2020), para. 53: "This has led to the perception on the part of advertisers and agencies [...] that Google and Facebook are able to 'mark their own homework' for the measurement of viewability of ad impressions".

<sup>59</sup> See CMA, 'Mobile ecosystems' (Market study, final report, June 2022), para. 6.175; Eric Seufert, 'Apple privileges its own ad network with ATT. What's its privacy endgame?' (*Mobile Dev Memo*, 1 February 2021) <<https://bit.ly/3naw8Ss>> accessed 22 June 2022: 'advertisers running ads through Apple's Search Ads advertising platform (and measuring API) get more granular data about the campaigns they operate on Apple's own ad network than they do for those run on any other network (e.g. Facebook). This potentially makes it easier to optimise – and spend more money on – Apple ad network campaigns than campaigns run on other platforms.'

#### 4.4 Preventing the rise of innovations through “killer acquisitions”

Google, Amazon, Apple, Meta and Microsoft have acquired more than 400 companies from 2009 to 2020.<sup>60</sup> Many of those are seen as “killer acquisitions”, i.e., acquisitions with the sole purpose to discontinue the target’s innovation projects as they could potentially disrupt the acquirer’s technology.<sup>61</sup> Meta famously purchased Instagram whose photo and video sharing features was perceived as an innovative threat. WhatsApp was purchased as its message service could have evolved into a social network. Today, there is wide consensus that neither of those acquisitions should have been allowed. However, current merger review also did not stop Meta from acquiring several other social networks which it then shut down completely.<sup>62</sup> The gatekeeper’s strategy was and is straightforward – “simple – buy up any firm that shows even a modest potential to develop into a competitive threat”.<sup>63</sup>

Some argue that such acquisitions would only increase the incentives to innovate because start-ups would hope for a quick and lucrative “exit”.<sup>64</sup> However, society is not served if innovations are first developed at high costs, then purchased at even higher costs, only to then be shut down to preserve an existing inferior technology. This only increases prices without enhancing dynamic competition or technological progress.

#### 4.5 Hampering the diffusion of rival innovation

Luckily not all start-ups are willing to sell significant innovations (that managed their way through the gatekeeper’s protective terms and conditions into the ecosystem) to the incumbent. However, gatekeepers have several other means to suppress threatening innovation.

As outlined at 3.2, the minimum requirement to challenge an incumbent once a market has “tipped” is to gain a foothold, a critical user base that generates positive network

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<sup>60</sup> Oliver Latham, Isabel Tecu and Nitika Bagaria, ‘Beyond Killer Acquisitions: Are there more common potential competition issues in tech deals and how can these be assessed?’ (2020) CPI Antitrust Chronicle May 2020 <<https://bit.ly/3zVYBDp>> accessed 22 June 2022.

<sup>61</sup> See Colleen Cunningham, Florian Ederer and Song Ma, ‘Killer Acquisitions’, (2021) 129 Journal of Political Economy; OECD, ‘Start-ups, Killer Acquisitions and Merger Control’ (Background Note, DAF/COMP(2020)5, 2020).

<sup>62</sup> This includes the social networks Parakey (2007), FriendFeed (2009), Nextstop (2010), Divvyshot (2010), Beluga (2011), Gowalla (2012) and Lightbox (2012), a London-based photo sharing start-up. Tim Wu and Stuart Thompson counted as many as 39 killer acquisitions by Facebook between 2009 and 2019: ‘The Roots of Big Tech Run Disturbingly Deep’ (*The New York Times*, 7 June 2019) <<https://nyti.ms/3yd2mTI>> accessed 13 June 2022.

<sup>63</sup> Kanter (n 40).

<sup>64</sup> Katharina Warg, ‘The Acquisition Option and Startup Innovations’ (2022) Job Market Paper, <<https://bit.ly/3HMUPhq>> accessed 23 June 2022.

effects. The essence of a disruption is that, by targeting the “low-end” (the basic requirements) first, a disruptor creates a sufficient overlap between the existing and the innovative product.<sup>65</sup> Gatekeepers have an incentive and the ability to prevent this from happening.

In a closed ecosystem, a gatekeeper controls every aspect of the user experience.<sup>66</sup> This includes the choice and architecture of the interfaces (touchpoints) available for business users to reach out to end users. Through such interfaces a gatekeeper can impact the matching of supply and demand. The gatekeepers typically operate several core platform services through which the majority of businesses and the majority of end users (need to) interact. App stores, web browsers, search engines and marketplaces match a substantial part of supply and demand.<sup>67</sup> Such intermediation power can be weaponised against disruptive products further down in the value chain, simply by preventing such product from accessing the relevant user groups. Even the most innovative web service, e.g., a specialised search service, will never get a footing if it is not found in general search results pages and/or an app store. These are the central touchpoints to reach the relevant end user base (searchers). The mere technical option of end users to also find and switch to such new services through different means at no costs (e.g., through direct access/call-ups) does not justify the assumption that they ever will and that this threat would discipline the incumbent.<sup>68</sup> By hiding new products or services on core platforms (e.g., devices, operating systems, app stores, results pages), gatekeepers can directly influence user behaviour and thereby determine the diffusion

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<sup>65</sup> de Streel and Larouche (n 7) para 21 iii).

<sup>66</sup> See European Commission, ‘Antitrust: Commission sends Statement of Objections to Apple over practices regarding Apple Pay’ (IP/22/2764, Press release of 2 May 2022) <<https://bit.ly/3Oy59vT>> accessed 22 June 2022 – ‘Apple controls every aspect of the user experience in this ecosystem.’

<sup>67</sup> See Recital (20) Digital Markets Act (n 15)

<sup>68</sup> See Higher Regional Court of Berlin, indicative ruling of 11 February 2022, U 4/21 Kart, NZKart 2022, 215 – *Tipping-Risk*. For a concurring view see Evans (n 1) 17.

of innovations. They can use existing or may even create new user touchpoints<sup>69</sup> to exploit biases<sup>70</sup>, subvert user autonomy or otherwise impair their decision-making.<sup>71</sup> These tactics can be used to prevent the majority of end users from ever becoming aware of any significant innovation and/or from switching to it. Such behaviour may also be used to weaken or fully disintermediate service levels that have the highest potential to come up with significant innovations.<sup>72</sup>

A gatekeeper may discourage or disable any switching to a new technology even further by precluding access to or interoperability with central technical features of its ecosystem. A disruptor will find it much harder to gain a foothold and convince the mainstream customers of the gatekeeper's core platform service to migrate to the disruptor's product if this hampers such customers' access or the quality of core hardware and software elements or features that they cherish within the gatekeeper's ecosystem.<sup>73</sup>

Moreover, where a gatekeeper also controls the intermediation of advertising and/or the systems for the fulfilment of payments (subscriptions) within its ecosystem, as in the case of Google, Meta and Apple, it may also hamper any marketing and subscription activities of a newcomer. If a disruptor cannot effectively advertise or sell its service within an ecosystem, without having to ask the very incumbent that it intends to disrupt, the diffusion of its innovation will be difficult.

More generally, gatekeepers are offering a broad array of ancillary digital services to businesses of all sizes and sectors, including payment services, cloud computing, mon-

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<sup>69</sup> For instance, technically, operating systems are "upstream" of web browsers which are upstream of general and specialised search services. However, over the last years, several web browsers have started to integrate a news aggregation service directly on their homepage, thereby creating a new end user touchpoint upstream of search. Similarly, by integrating its "Display" feature in the starting page of Android phones, Google has pulled "forward" the intermediation between business users and end users (from search to operating system).

<sup>70</sup> User biases (or cognitive biases) are systematic patterns of deviation from norm or rationality in judgment. For example, the default or *status quo* bias is the tendency to hold to the current situation rather than an alternative situation, to avoid risk and loss (loss aversion). Thus, a decision-maker has the increased propensity to choose an option because it is the default option or the *status quo*. Such bias can affect economic decisions, as established by the Commission in the *Google Android* case with regard to the pre-installation of apps along with default setting and premium placement. See *Google Android* (Case AT.40099) Commission Decision [2018], paras 781, 782, 812, 851.

<sup>71</sup> Recital (70) Digital Markets Act (n 15).

<sup>72</sup> See (n 33) on disintermediation. For example, websites offering specialised search services (such as for hotels, flights and entertainment) pose the highest threat of disrupting Google's search-based ad business; in particular if they combine several such services. To prevent that such services reach a critical mass to expand, Google integrated such search functionalities into its general search service, thereby (at least partly) disintermediating the downstream search service level. A similar strategy can be observed when Google includes search and intermediation functionalities directly in the homepage of its web browser Chrome or even the home screen of Android devices.

<sup>73</sup> Compare de Streel and Larouche (n 7) para 28.

itoring or communication services to name a few. This can create “multiple nodes of dependency, any one of which [the gatekeeper] can exploit to dictate terms and get its way”.<sup>74</sup>

Thus, by controlling the digital infrastructure within walled-off ecosystems, gatekeepers can largely influence which products or services end users detect, see, engage with, and ultimately use – and which they do not. In fact, the European Digital Markets Act contains a long list of practices the primary purpose of which is for a gatekeeper to prevent or discourage end users from finding, switching to and using rival (novel) products and services.<sup>75</sup> And that list includes only “those practices (i) that are particularly unfair or harmful, (ii) which can be identified in a clear and unambiguous manner [...] and (iii) for which there is sufficient experience”.<sup>76</sup> Operators of walled-off ecosystems can create countless further hurdles for any innovation to get a foothold and to use that as a lever to grow.

#### **4.6 Leveraging dominance to advantage own imitations of rival innovations**

Even if an innovator succeeds in entering a market and getting a foothold, for instance with a low-end product, it will only ever topple over the incumbent if it can also convince the latter’s mainstream users to switch. However, gatekeepers also have effective measures to prevent such “ultimate” defeat. An incumbent may deprive its mainstream users’ incentive to switch by imitating and integrating the novel features of its rival’s innovation into its own offerings. To speed up the process it may also acquire and integrate a direct competitor with an emerging innovation in a still nascent market.<sup>77</sup> Such inclusion has been observed many times in the past. If an incumbent swiftly integrates the main features developed in the market and rapidly scales up its own operations, thereby leveraging its broad user base, its users will not even have a reason to try out a separate service, i.e., to ever multi-home. Over the years, Google, for example, has integrated several upcoming search technologies (such as semantic, social or voice search) to prevent rivals from differentiating their offerings on the basis of

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<sup>74</sup> Khan (n 57) 3.

<sup>75</sup> See in particular Article 5 paras 3 to 5; Article 6 paras 3 to 6, 9, 12, Article 7.

<sup>76</sup> Commission, ‘Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector’ (*Digital Markets Act*) (15 December 2020) COM(2020) 842 final, Explanatory Memorandum, p. 5 <<https://bit.ly/3ncBnkE>> accessed 23 June 2022.

<sup>77</sup> Khan (n 57) 3.

such technology.<sup>78</sup> Most recently, Apple has directly copied payment services offered by rival providers in its own Apple Pay offering.<sup>79</sup>

Such imitation strategy may also have been available in other sectors. However, because digital services are typically based on the same underlying software standards, despite being offered on separate markets, these services are closer interlinked than services within other industries. This makes it easier to integrate new services or features in existing, seemingly unrelated platform services, thereby leveraging the latter's market penetration to the former.<sup>80</sup> Hence, gatekeepers that control a digital ecosystem are likely to find it much easier than others to identify significant third-party innovations at an early stage, imitate them effectively and, most importantly, swiftly present such copy-cats in a prominent manner throughout their entire ecosystem as fulfilling at least the same functionalities as the original innovation. By means such as tying, bundling, pre-installation, self-preferencing, exclusivity agreements or discount schemes, incumbents can then ensure that their mainstream users follow their status quo bias<sup>81</sup> and stick with them. If the newcomer cannot grow, it cannot generate any positive network effects that are crucial to grow and succeed in digital markets.<sup>82</sup>

The power of such leveraging practices to stifle rivals' innovation has been well documented in the European *Google Shopping* case. Over the course of a decade, Google and its supporters had somewhat successfully<sup>83</sup> argued that promoting inferior own products within general search results pages while demoting more innovative rivals would constitute a pro-competitive product improvement.<sup>84</sup> Adopting the European Commission's reasoning<sup>85</sup>, the General Court explained, however, that depriving rivals

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<sup>78</sup> See Dan Nosowitz, 'Google Buys Metaweb, the One Company that Could Revolutionize Google Search' (*Fast Company*, 7 August 2010) <<https://bit.ly/3QJ1i18>> accessed 22 June 2022.

<sup>79</sup> See Martin Peers, 'Apple's Buy Now, Pay Later Move May Be a Little Late' (*The Information*, 6 June 2022) <<https://bit.ly/3xK2FnH>> accessed 22 June 2022: 'Witness the cleverly named Apple Pay Later, a feature of the company's Apple Pay digital wallet and a direct copy of buy now, pay later services offered by Affirm, Klarna and Block's Afterpay. [J]ust another example of what's wrong with big tech.'

<sup>80</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-03601, paras 1054, 1355, 1356.

<sup>81</sup> Status-quo bias describes the phenomenon that consumers prefer the more familiar choice over the less familiar option, even if the latter is potentially more beneficial.

<sup>82</sup> This is why Germany, for instance, has outright prohibited practices that hinder rivals from independently generating positive network effects (Sec. 20 para. 3a GWB), for a first precedent see Higher Regional Court of Berlin, indicative ruling of 11 February 2022, U 4/21 Kart, NZKart 2022, 215 – *Tipping-Risk*.

<sup>83</sup> *Streetmaps v Google* [2016] EWHC 253 (Ch) at 84.

<sup>84</sup> Thomas Graf and Henry Mostyn, 'Do We Need to Regulate Equal Treatment? The Google Shopping Case and the Implications of its Equal Treatment Principle for New Legislative Initiatives', (2020) 11 J. of European Comp. Law & Practice 561, 572; Aurelien Portuese, 'Fine is Only One Click Away', (2017) 1 CoRe 198, 201.

<sup>85</sup> See *Google Search (Shopping) (AT.39740) Commission Decision* [2017], para 595: 'the Conduct is likely to reduce the incentives of competing comparison shopping services to innovate;' see also paras 593 and 596.

of the ability to reach end users significantly reduces their incentives and financial ability to innovate in a sector in which innovation is key for commercial success.<sup>86</sup> A similar conclusion had already been drawn by the Court in the *Microsoft* case on the tying of the Windows client PC operating system and Windows Media player.<sup>87</sup> In fact, most anti-competitive leveraging practices by digital gatekeepers are capable of ending the potential innovation and wealth creation of hundreds of companies.

Overall, due to its cross-market activities, a digital gatekeeper is likely able to monitor and effectively suppress even such innovations that do not originate from rivals within the gatekeeper's core platform market but stem from neighbouring or even remote markets anywhere within the ecosystem. Such power can be seen as the main reason why even disruptive innovations do not cause digital gatekeepers' sleepless nights.<sup>88</sup> Typically, disruptive innovations are that powerful for two reasons. First, because they grow "under the radar" of incumbent firms.<sup>89</sup> Second, because incumbents cannot do anything to stop them from displacing their product. For instance, VCR producers were powerless against the production and sale of DVDs and DVD producers could not technically prevent the rise of video-streaming services. Similarly, Nokia could not stop Apple from selling smartphones. Neither could Kodak prevent smart phone producers from integrating camera functionalities. In contrast, gatekeepers that control the assets and the infrastructure on the basis of which all digital services are provided within their ecosystem may very well even suppress those disruptive innovations that do not originate from any market on which they are active themselves. There are few "blind spots" in such systems to hide, and even less to grow independently without having to deal with the dominant incumbent. Accordingly, the prominent examples of dominant companies that have been toppled over in the past may not serve as a reassurance that the monopolies of today are equally contestable. To quote Keynes, "in the long run this is probably true [...]. But this long is a misleading guide to current affairs. In the long run we are all dead".<sup>90</sup>

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<sup>86</sup> Case T-612/17 *Google Shopping* [2021] EU:T:2021:763, para. 171 "generating traffic initiated a virtuous circle [...] attracting more users and ultimately more revenue [...] which in turn meant that the undertaking concerned could invest more in improving or, at the very least, maintaining its competitive position in a sector – the digital sector – in which innovation is key to commercial success. Conversely, loss of traffic can lead to a vicious circle and, eventually, to market exit due to an inability to compete on essential elements such as the relevance of results and innovation, which are linked, since comparison shopping services innovate in order to improve the relevance of their results and thus attract more traffic and therefore more revenue".

<sup>87</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-03601, para. 1088 (confirming the Commission's finding at para. 980 of the Commission Decision in such case).

<sup>88</sup> But see Evans (n 1).

<sup>89</sup> de Streel and Larouche (n 7) para. 9.

<sup>90</sup> Johan Maynard Keynes, *A tract on Monetary Reform* (Macmillan 1923) 80.

## 5 Creative destructions across digital ecosystems? – The lucrative ecosystem-oligopoly

The main, if not the only, "blind spot" that a gatekeeper may have are disruptions originating from outside of the digital ecosystem it controls. Inter- rather than intra-ecosystem disruptions. So are Google, Amazon, Apple, Meta and Microsoft sufficiently disciplined and incentives to innovate ensured because their ecosystems somewhat compete on a meta level and there is a constant threat that these companies disrupt each other's core platform services, as some have argued?<sup>91</sup>

Most likely not.

Since Google's famously failed attempt to overcome Facebook with the launch of the social network "Google Plus" back in 2011, we have not seen any full-blown attack on a core platform service of another ecosystem. We have seen measures to limit the scope of the other ecosystem or its underlying business model but no attempts to disrupt another Big Tech's "cash cow" service.<sup>92</sup> There may be several reasons for that.

First, gatekeepers are well aware of the power of the protective moats around the core platform services in other ecosystems. They are also aware of the multiple means available to a gatekeeper to even prevent a disruptive market entry in its ecosystem (see above). They know that in order to neutralise all incumbent advantages they would have to take on the entire other ecosystem, not just a particular service. The barriers for such attack are very high.

Second, any gatekeeper starting to invest in innovations to disrupt another gatekeeper would have to expect that latter to do the same and launch a counter-attack on the former. Given the comparable resources and technical means of their respective opponents, the likely financial damage suffered if, in retaliation to an innovation attack on a gatekeeper's core business this giant strikes back, is likely to be significant. In fact, such "retaliation effect" is likely to reduce innovation incentives no less than the "replacement effect" that discourages a dominant firm from investing into technology that may disrupt its *own* core business (above at 3.1).<sup>93</sup> The likely 'lose-lose' scenario for the gatekeepers serves as a strong deterrent to attack each other.

Third, with the notable exception of cloud services (which can be seen as a natural by-product to data-heavy own internet activities), the core business models of Google,

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<sup>91</sup> Evans (n 1) 22.

<sup>92</sup> Amazon, Meta and Apple would have the funds and technical means to develop and include a full-blown general search functionality into their core services. Google, in turn, could develop its shopping offerings into a full online marketplace, as many price comparison sites have done before, including the offering of fulfillment services. It could also enhance the social network functionalities of YouTube.

<sup>93</sup> This is because in the latter case the innovator is may (at least) foresee and somewhat control to which extent its innovation will harm/replace its existing cash cow service. He/she may also freeze its innovation process at any time, while it has no control over the strength and duration of its rival's retaliation.

Amazon, Apple, Meta and Microsoft are largely complementary rather than substitutive.<sup>94</sup> More importantly, at least over the last decade, these companies have all grown neatly side-by-side each other in terms of revenues and market capitalization. At a macro-level, each company contributed to their joint overall growth and thereby helped each other. That is because the largest growth still results from the overall increase in global internet consumption. Since 2015, nearly 3 billion people worldwide came online for the very first time.<sup>95</sup> “In the next four years, we expect another 1.2 billion new internet users”.<sup>96</sup> Their user experience typically starts at a mobile phone.<sup>97</sup> Big Tech’s joint goal is to increase such online usage. Their joint enemy is offline and non-consumption. Occupying the first touchpoints that shape the user experience and providing combined added value, together they all increased digitalisation and shifted consumer attention away from offline media and commerce to internet consumption – where these gatekeepers are unavoidable trading partners. “*Anything that increases Internet use ultimately enriches Google*”, Google’s chief economist Hal Varian<sup>98</sup> once said. The same is true for the other gatekeepers. Such common goal in enhancing overall consumption unites more than it divides. The more people Amazon and Meta pull online, the more will naturally also use Apple and Google products – and vice versa.

Fourth, against this background there are much stronger incentives for such gatekeepers to go out of each other’s way rather than to interfere. It makes more economic sense for them to focus their (static) innovation efforts on their own products and to cooperate with the other gatekeepers to enhance their mutual total revenues rather than to disrupt each other’s core platform services.

Over the last few years, more and more such co-operation emerged. Google has concluded many “Revenue Sharing Agreements” (RSA) with device manufacturers and web browsers<sup>99</sup> to use Google services, in particular the “cash cow” Google Search as a default service. The most valuable RSA was concluded with Apple. Apple now earns up to USD 12 bn per year simply for not introducing its own search service.<sup>100</sup> In effect, those RSAs serve as ‘no disruption-agreements’. Under the RSAs, the higher Google’s reve-

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<sup>94</sup> Sale of mobile devices (Apple), search advertising (Google), display advertising (Meta), online marketplace (Amazon), desktop devices and operating systems (Microsoft); see above footnotes [33-38].

<sup>95</sup> Digital 2022 Global Overview Report <<https://bit.ly/3NlnH1f>> accessed 23 June 2022.

<sup>96</sup> Google Developers, ‘Building better products for new internet users’ (*Google Developers Blog*, 5 May 2022) <<https://bit.ly/3bc33TY>> accessed 23 June 2022.

<sup>97</sup> Digital 2022 Global Overview Report (n 95).

<sup>98</sup> Google chief economist Hal Varian in interview with Steven Levy, ‘Secret of Googlenomics: Data-Fueled Recipe Brews Profitability’ (*Wired*, 22 April 2009) <<https://bit.ly/3tOtlST>> accessed 22 June 2022.

<sup>99</sup> *Google Android* (Case AT.40099) Commission Decision [2018], paras. 796(2)(c), 845, 1192; *United States v Google* (Case No. 1:20-cv-03010 (District Court, District of Columbia). DOJ amended complaint (15 January 2021), para. 4.

<sup>100</sup> DOJ amended complaint (n 99) para 118.

nues, the more its partner earns (for doing nearly nothing). Thus, there is an aligned interest to increase rather than challenge Google's monopoly revenues.<sup>101</sup> With a view to maximising their joint revenues, Apple and Google in particular have largely aligned their strategies also regarding privacy limitations for third parties<sup>102</sup> and conditions to access and use of app stores.<sup>103</sup> Already in 2007, former Google CEO Eric Schmidt joked with Steve Jobs that they "could just sort of merge the companies" and "could call them AppleGoo".<sup>104</sup> In a much younger document, a Google manager described the relationship with Apple as follows: "Our vision is that we work as if we are one company",<sup>105</sup>

Recent revelations relating to the "Jedi Blue" and "Project Bernanke" agreements<sup>106</sup> but also joint initiatives for the standardisation of central ad technology<sup>107</sup> reveal that also Google and Meta are co-operating very closely to prevent disruptions of their core advertising businesses. Further, Amazon and Apple meanwhile agreed that in future the Amazon marketplace will only offer Apple devices directly from Apple, not from any other merchants. We can assume that such emerged agreements are just the tip of the iceberg. Also, their several joint lobbying efforts<sup>108</sup> suggest that behind the scenes the current digital gatekeepers co-operate among each other with a view to defining their respective and joint spheres of influence.

Even where no agreements have been concluded between Google, Amazon, Apple, Meta and Microsoft, their narrow "attention oligopoly"<sup>109</sup> and common objective to in-

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<sup>101</sup> See DoJ amended complaint (n 99) para. 120 "Apple's RSA incentivizes Apple to push more and more search traffic to Google and accommodate Google's strategy of denying scale to rivals".

<sup>102</sup> See above footnotes [25] and [43] on Google Privacy Sandbox/Topics and Apple ATT.

<sup>103</sup> For instance, both charge a commission of 15% or 30% for any sales via an app store, and both disallow third party payments systems, see Manish Singh, 'Google Play drops commissions to 15% from 30%, following Apple's move last year' (*TechCrunch*, 16 March 2021) <<https://tcrn.ch/3Oi5V0e>> accessed 23 June 2022.

<sup>104</sup> Tim Wu, 'Steve Jobs, a New Mogul With Old Methods' (*slate*, 11 November 2010) <<https://bit.ly/3OwCQy2>> accessed 22 June 2022.

<sup>105</sup> DoJ amended complaint (n 99) para. 120.

<sup>106</sup> *Texas v. Google* (Case no. 1:21-md-03010-PKC (District Court, S.D. New York)) Complaint (14 January 2022), para 26.

<sup>107</sup> Amongst others, "in partnership" with the World Federation, both companies have proposed and are pushing for a new standard for the cross-media measurement of advertising which may present online advertising as being more effective than offline advertising. See Rahul Sachitanand, 'WFA says it has cracked cross-media measurement' (*campaign*, 17 September 2020) <<https://bit.ly/39PMMUv>> accessed 23 June 2022.

<sup>108</sup> Such as through funding the Connected Commerce Council, the Computer & Communications Industry Association (CCIA) and the Information Technology & Innovation Foundation (ITIF) to name few. See Eamon Javers and Meghna Maharishi, 'How Google and Amazon bankrolled a 'grassroots' activist group of small business owners to lobby against Big Tech oversight' (*CNBC*, 30 March 2022) <<https://cnb.cx/3QGK308>> accessed 22 June 2022.

<sup>109</sup> Andrea Prat and Tommaso Valletti, 'Attention Oligopoly' (2022) 14 *American Economic Journal: Microeconomics* 530.

crease online consumption increases the likeliness to engage in tacit collusion and oligopolistic parallel behaviour<sup>110</sup>. This further reduces any prospect of significant dynamic competition amongst them.

## 6 Schumpeter revisited in walled-off ecosystems

In order to prevent competition and disruption, you do not have to *own* all competitive resources yourself. It is sufficient to technically or commercially *control* them. The gatekeeper's operation of largely walled-off ecosystems with technically integrated business users allows them to exert such effective control over the use of innovation inputs. By setting the rules of the game and the technical parameters to play for every participant of a digital ecosystem, gatekeepers have endless means to suppress even radical innovation.<sup>111</sup>

Schumpeter would turn in his grave if he knew how some of his arguments on “creative destruction” are being used today to justify anti-competitive measures that destroy the creatives. Schumpeter was not against competition intervention. In fact, for him the main criterion for whether or not a market was competitive concerned its contestability.<sup>112</sup> The relevant question was not “how many firms are in this industry” but “what are the barriers to entry that are preventing firms from coming up with substitutes?”<sup>113</sup> As outlined above, the control of an ecosystem can create insurmountable barriers to enter markets and to grow, even for the most innovative firms. Gatekeepers can use such control to spot and hinder even disruptive innovation<sup>114</sup>, by depriving rivals of crucial resources or the means to diffuse any innovation within the closed ecosystem. Such

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<sup>110</sup> According to theory of oligopolistic parallel behaviour, on markets with an oligopolistic structure, companies observe and anticipate the competitive decisions of their rivals very closely and attempt to prevent that any such decisions bear fruit, in particular by quickly adjusting their own offerings to that of a rival. Such parallel behaviour reduces any incentive for an oligopolist to alter its prices or products in the first place. There is, so to speak, an implicit understanding amongst the companies. See Reza Dibadj, ‘Conscious Parallelism Revisited’ (2010) 47 San Diego L. Rev. 589.

<sup>111</sup> See Robert Andrews, ‘Google Won’t Buy Ailing Newspapers, Could ‘Merge Without Merging’ (CBS News, 8 February 2010) <<https://cbsn.ws/3QFBqmr>> accessed 13 June 2022 citing ex Google CEO Eric Schmidt: ‘The good news is we could purchase them (newspapers). I think the solution is tighter integration. In other words, we can do this without making an acquisition. The term I’ve been using is ‘merge without merging’. The web allows you to do that, where you can get the web systems of both organizations fairly well integrated, and you don’t have to do it on exclusive basis.’

<sup>112</sup> Art Carden, ‘The Essential Joseph Schumpeter: An Easy and Accessible Introduction to an Important and Complex Thinker’ (AIER, 14 July 2020) <<https://bit.ly/3xOHuQX>> accessed 22 June 2022; For a detailed comparison of Schumpeter’s approach and the Baumol’sche contestability theory (developed much later) see Ann Helwege and Ann Hendricks, ‘Contestability and creative destruction: Two approaches to monopoly’ (1985) 2 Review of Industrial Organization 218.

<sup>113</sup> Art Carden (n 112).

<sup>114</sup> de Streel and Larouche (n 7) para 47.

“barriers to innovation” can insulate companies in today’s high-tech economy for competition for decades.<sup>115</sup>

## 7 Consequences for competition policy

The protective moats and walls that digital gatekeepers have built around their “cash cow” services significantly reduce the incentives and abilities to innovate within such ecosystem and to disrupt the incumbent. Due to common interests and mutual interdependencies of the operators of the largest digital ecosystems, it also cannot be presumed that the lack of innovation within ecosystems (intra-ecosystem competition) is sufficiently outbalanced by innovation across ecosystems (inter-ecosystem competition).

In such a setting, competition policy may no longer assume that dynamic competition sufficiently disciplines even dominant companies and that there is a higher risk from over-enforcement than from under-enforcement.

Rather, where walled-off ecosystems are suppressing dynamic competition for core platform services, competition authorities need to pro-actively intervene to make such markets contestable again. A “weak contestability reduced the incentives to innovate and improve products and services for the gatekeeper, its business users, its challengers and customers and thus negatively affects the innovation potential of the wider online platform economy.”<sup>116</sup> Hence, the protective moats need to be bridged and the protective walls broken down so that superior innovation can freely develop and, even more importantly, be rapidly adopted and diffused within any ecosystem. It may not be enough or even be counterproductive to artificially add more complexity to the system.<sup>117</sup> To take the risk of high investments in innovation, companies require planning security in the sense that if their investments lead to a superior product, such products must be able to reach the market. This primarily requires that the central competitive weapon that gatekeepers possess – their power to use their core platform services to hinder access to and growth within markets – is fully neutralised. We need competition and open platforms at each level of the digital value chain. Products and services need to find their way to end users on the basis of their quality, not on the basis of the incumbent’s goodwill. This presupposes that every business has access to every core platform service on a fair, reasonable and non-discriminatory basis. Specific obligations to keep intermediation fair and markets contestable (for innovation) such as in the European

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<sup>115</sup> Gilbert and Melamed (n 18) para. 679.

<sup>116</sup> Recital (32) Digital Markets Act (n 15).

<sup>117</sup> As proposed by Nicolas Petit and Thibault Schrepel, ‘Complexity-Minded Antitrust’ (2022) Working Paper, available on SSRN <<https://bit.ly/3QETJZi>> accessed 22 June 2022.

Digital Markets Act<sup>118</sup> as well as the American Choice and Innovation Online Act<sup>119</sup> are therefore the right approach. “Market participants, including business users of core platform services and alternative providers” should indeed “have the ability to adequately capture the benefits resulting from their innovative or other efforts”.<sup>120</sup> Given that innovation often emerges from business users whose services rely on a platform of the very company whose service they threaten to displace, promoting fair access to platforms and keeping platforms contestable goes hand in hand.<sup>121</sup> Such obligations need to be complemented with speedy and efficient enforcement tools and specialised enforcement units. Where, due to network effects, an early lead and locking up of a market can be essential, swift intervention and remedies that fully prevent an anti-competitive practice to prevent such growth are crucial.<sup>122</sup> Otherwise, fines, even damages, for anti-competitive suppression of innovation may be treated as a worthy cost of the business to maintain a monopoly. The longer enforcement takes, the more opportunities are available to dominant incumbents for deploying their muscles to suppress any innovation.

Ultimately, we require a more ecosystem-specific, dynamic regulation that focuses on the overall strategy of gatekeepers to shield off competition and innovation. Reviewing anti-competitive conduct or acquisitions in isolation, or only with a view to the platform service directly affected (rather than the ecosystem as a whole), bears the risk of missing the crucial point.<sup>123</sup> A conduct relating to a seemingly remote service may have significant repercussions also for a gatekeeper’s core platform service. The ecosystems of Google, Apple, Amazon in particular are so complex that enforcement authorities need to become experts in these spheres. Akin to the specific regulation of telecom markets, authorities need to consider a gatekeeper’s overall strategy and be able to impose tailored obligations where and as long as they are indeed required. Specific regulatory bodies and specific regulatory provisions for general search engines, app stores and ad tech services appear most pressing in this respect. In any case, if we wish to see less destruction of the creatives and more creative destructions, legislators and enforcement authorities should finally remind digital gatekeepers of their original promise: to create engines of opportunities rather than engines to stifle innovation and free markets.

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<sup>118</sup> See Digital Markets Act (n 15).

<sup>119</sup> Introduced in House on 11 June 2021 (H.R.:3816 - 117<sup>th</sup> Congress (2021-2022)) <<https://bit.ly/39HcSJe>> accessed 22 June 2022.

<sup>120</sup> Recital (33) Digital Markets Act (n 15).

<sup>121</sup> Recital (34) Digital Markets Act (n 14); Khan (n 57) 3.

<sup>122</sup> Khan (n 57) 3.

<sup>123</sup> Kanter (n 40): ‘Reviewing moat-building conduct in a vacuum or in distinct parts risks misunderstanding the basic commercial realities at play. The anticompetitive effect of one aspect of the strategy is magnified by the other parts.’