DICE

DISCUSSION PAPER

NO 369

Total Consumer Time – A New Approach to Identifying Digital Gatekeepers

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August 2021

hhu
Heinrich Heine
Universität Düsseldorf

IMPRINT

DICE DISCUSSION PAPER

Published by:
Heinrich-Heine-University Düsseldorf,
Düsseldorf Institute for Competition Economics (DICE),
Universitätsstraße 1, 40225 Düsseldorf, Germany
www.dice.hhu.de

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ISSN 2190-9938 (online) / ISBN 978-3-86304-368-1

Total Consumer Time – A New Approach to Identifying Digital Gatekeepers

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Legal Note

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1. Introduction

The route to customers is becoming increasingly digital, for any business. There is hardly any business that is not focussing on reaching customers online. The Covid-19 pandemic has further accelerated this trend.[1]

In many markets, digital platforms have become essential tools for the sale of goods and services.

On the one hand, there are transaction platforms for specific goods and services. They are specialist providers in their fields. Consumers access the relevant specialist to directly search for the product or service they intend to purchase, and they expect to directly conclude transactions on the platform ("transaction platforms").[2] These platforms typically generate the majority of their revenues from sales to consumers or commissions from these sales.

On the other hand, there are attention platforms that provide information, entertainment and/or other services (e-mail accounts, translations, search functionality, social media contacts, software use, etc.) to users ("attention platforms").[3] These platforms are often free of charge for consumers and they generate most of their revenues from advertising. In order to maximize revenues these platforms often aim at maximizing the time that consumers spend within their ecosystems so as to channel consumers' attention to advertising clients or – in case of vertical integration – also to their own offerings. Through the selection of content such as ranking search results and also through advertising these attention platforms can have significant impact on which products receive consumer attention in the first place which enables them to affect and even steer competition. If platforms have such a significant effect on consumer attention that they can steer consumers towards some products and away from others, they may factually become a gatekeeper for these markets.

In contrast to more traditional markets, in the digital economy attention platform companies can act as gatekeepers for other product markets. Their main business rationale is to attract and channel attention. They influence who gets access to markets and visibility to potential customers. They can make or break new products and services that aim to get known. Even for established players and brands, they can maintain and promote visibility or contribute to decline. These gatekeepers control the access to the rooms ("ecosystems") in which consumers wait to be served. At some stage of their development, these gatekeepers will aim to monetise the attention and data that they gather. But they also may use those assets and invest further to strengthen their gatekeeper position for later monetisation.

Transaction platforms, in turn, have business models that focus on offering particular products or services to consumers in a more transactional way. These companies, e.g. online shops, are largely the (advertising) customers of the gatekeepers and are in most cases dependent on them for their own route

[1] See UNCTAD, "How COVID-19 triggered the digital and e-commerce turning point" (15 March 2021), available at https://unctad.org/news/how-covid-19-triggered-digital-and-e-commerce-turning-point.

[2] Examples include Amazon, eBay, Zalando, Booking.com, Expedia, Airbnb and many other.

[3] Examples include Google (incl. YouTube), Facebook (incl. WhatsApp and Instagram), TikTok and others.

to consumers. There is a structural imbalance between the gatekeepers and these transactional players, particularly due to the differences in their access to consumers. As a consequence, the gatekeepers can misuse the dependency of their (advertising) customers (and in particular the data that these provide to them) to enter into their customers' markets and become their future competitors.

The structural advantage of the attention platforms, i.e. the gatekeepers, vis-à-vis their customers, i.e. the transaction platforms, becomes apparent when compared to the typical marketplace. Consumers stroll, see all producers, products, prices and conditions and decide what best suits their demand. Now imagine a shopping mall. At the entrance there is the landlord who owns the marketplace. He says he will guide you to the shop that best suits your needs. You could just stroll around, but the place is too complex. It would take an awful lot of time and you would likely get lost before finding what you want. The landlord's guidance will be determined by many factors that are not transparent for you: your preferences, as discussed or assumed by the landlord; a commission that some of the shops will pay to the landlord for steering customers their way, in addition to the rent; an investment that the landlord may have in some of the shops; financial difficulties of a good tenant that the landlord would like to keep in the market; or the landlord's incentive to keep you in that market and make you come back so that it can gain further commissions or returns into the investment in shops. This will enhance the rent that the landlord can extract from the shops. You may need to pay an expensive season ticket to enter the market for the first time. Further visits are then for free. Any other market would charge you the season ticket again and prohibit the use of goods that you bought in another marketplace. The landlord in this marketplace is the "gatekeeper" and the marketplace is the "ecosystem". Where ecosystems are structured in a way that they control a large share of their users' attention, where there are significant switching costs for consumers such that they cannot easily switch to another ecosystem, the barriers to shop in another marketplace will be significant and the gatekeeper's power impossible to contest.

Network effects between the different sides of a platform naturally funnel attention to these digital platforms the stronger they become.[4] This can create a spiral that strengthens further the platforms' ability to influence attention, they become gatekeepers. Data accelerates and intensifies these effects.[5] Data and AI tools enable gatekeepers to direct user attention more effectively and in a way that users

[4] J Mohr, 'Kartellrechtlicher Konditionenmissbrauch durch datenschutzwidrige Allgemeine Geschäftsbedingungen', EuZW (2019), at 268-270; M Peitz Economic policy for digital attention intermediaries, ZEW Discussion Papers, No. 20-035 (2020), D Evans (2019). Attention platforms, the value of content, and public policy. Review of Industrial Organization 45, pp. 775-792; D Geradin, 'What should EU competition policy do to address the concerns raised by the Digital Platforms' market power?' (2018), available at https://ec.europa.eu/competition/information/digitisation_2018/contributions/damien_geradin.pdf.

[5] CMA (2020), Online platforms and digital advertising: Market study final report, available at https://www.gov.uk/cma-cases/online-platforms-and-digital-advertising-market-study; US House of Representatives, Subcommittee on Antitrust, Commercial and Administrative Law, Investigation of Competition in Digital Markets, Majority Staff Report (2020) ('Ceciline-Report'), available at: https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf; Autorité de la concurrence, Opinion 18-A-03 (6 March 2018) on data processing in the online advertising sector, available at https://www.autoritedelaconcurrence.fr/en/taxonomy/term/262; Bundeskartellamt,
Online advertising (2018), available at
https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Schriftenreihe_Digitales_III.pdf?__blob=publicationFile&v=5; E Calvano & M Polo, 'Market Power, Competition and Innovation in digital markets: a survey' (2020), CEPR Discussion Papers 14314, at 980; F Scott Morton and D Dinielli (2020), "Roadmap for a Digital Advertising Monopolization Case Against Google" Omidyar Network, available at https://www.omidyar.com/sites/default/files/Roadmap%20for%20a%20Case%20Agai nst%20Google.pdf, at 58; L Khan, 'Sources of Tech Platform Power' (2018) Georgetown Law Technology Review 325, at 330-1; T. Wu (2019). Blind spot: The attention economy and the law. Antitrust Law Journal 82 (3).

find attractive.[6] A difference with the abovementioned physical marketplace is that users will often not even realise that they are consciously nudged into certain directions.[7] Algorithms that are used to influence attention are more effective the more data points about the user are available. The ability to keep the users' attention within a gatekeeper's ecosystem is self-reinforcing through several mechanisms.

Current competition law concepts are still ill-equipped to recognise and constrain the power that such attention platforms have over market access. They need adaptation to capture gatekeeper power. The approach to market power and dominance in traditional markets has been developed and fine-tuned through legislation, precedents and guidelines over decades. It has converged globally. However, there are no equivalently established tools for measuring the control over attention. Such power can emerge long before market shares or sales reach critical levels.[8] Because the power is not linked to a specific product or service, it will typically affect many different markets, irrespective of market shares. Initial attention for an offer is an entry requirement and where this attention is foreclosed, there is no way consumers can exercise the choice that drives a competitive process.

Network effects may well further strengthen the control over attention over time. Where attention of significant consumer groups is controlled by one single actor, markets may already have tipped.[9] Products, services, ideas, news, contributions to political debate, art and other content may no longer reach the relevant audience. Rather, the platform that attracts the attention decides (or at least influences) whether a transaction will take place (e.g. when a prominent placement within the platform's search results is required for a third-party supplier to access customers), or the price that third parties can charge to their customers.[10]

This crucial role in deciding who participates in the competitive process, and at which conditions, is increasingly understood by governments and independent experts.[11] The need for smart regulation that keeps markets open and contestable while incentivising gatekeepers to continue innovating and using their assets to produce value for businesses and consumers is widely recognised. Identifying and measuring the control over customer attention is key for the much-needed regulation and enforcement activity in this area.

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[6] N Dunne, 'Platforms as Regulators' (2020) Journal of Antitrust Enforcement; JM Newman (2020), Regulating Attention Markets, Electronic copy available at: https://ssrn.com/abstract=3423487.

[7] P Marsden & R Podszun, 'Restoring Balance to Digital Competition – Sensible Rules, Effective Enforcement' (2020), Konrad-Adenauer-Stiftung, p.40; L Khan, 'The Separation of platforms and commerce' (2019) 119(4) Columbia Law Review 973, at 1003.

[8] K Collyer, H Mullan and N Timan, "Measuring market power in multi-sided markets" in OECD, 'Rethinking Antitrust Tools for Multi-Sided Platforms' (2018), available at https://www.oecd.org/daf/competition/Rethinking-antitrust-tools-for-multi-sided-platforms-2018.pdf; M Peitz Economic policy for digital attention intermediaries, ZEW Discussion Papers, No. 20-035 (2020), T Wu (2019), Blind spot: The attention economy and the law. Antitrust Law Journal 82 (3).

[9] J Crémer, Y-A de Montjoye and H Schweitzer, 'Shaping competition policy in the era of digitisation' (2019) (the 'Special Advisers' Report'), para. 54.

[10] N Dunne, 'Platforms as Regulators', op. cit., p. 5.

[11] See the European Commission's recent "Digital Services Act package – ex ante regulatory instrument of very large online platforms acting as gatekeepers" (15 December 2020) and the recent proposal for a regulation, available at https://eur-lex.europa.eu/legal-content/en/TXT/?qid=1608116887159&uri=COM%3A2020%3A842%3AFIN.

This paper focuses on how such power can be identified and measured. We propose assessing the total time that consumers spend in an attention platform's ecosystem as a meaningful complementary measure to assess gatekeeper power.

2. Market power and gatekeeper power

2.1 Shortcomings of traditional market definition

The assessment of market power in traditional markets heavily relies on market shares as a starting point and cornerstone of the analysis.[12] The tool has been studied and refined over decades. It is based on sound and mature economic theory. Market shares play a crucial role in regulations and case law. They determine safe havens, underpin presumptions of market power and guide the assessment of whether restrictions are exempted. This approach is by no means limited to the EU.[13] There can be no surprise that the approaches of regulators have converged globally. An adequate assessment of market shares relies on an economically correct definition of the relevant market, i.e. the business for which competitors actually compete. If markets cannot be defined properly, this may provide grounds for dismissal of an antitrust complaint. For example, US courts have in the past dismissed claims where the plaintiff failed to include all suppliers in the alleged relevant market or failed to establish that the defendants participated in the alleged relevant market;[14] or when the proposed product markets did not include all reasonable economic substitutes, based on judicial experience and common sense.[15] In *Ohio et al. v American Express Co*., the US Supreme Court affirmed the Appeal Court's ruling that the credit card market is one market, and not two, encompassing both cardholders and merchants as its respective two sides. By evaluating the credit card market as a whole, Amex's anti-steering provisions were not found anticompetitive.[16] The OECD has highlighted numerous times the significance of market definition in assessing the existence, creation or strengthening of market power, which is defined as the ability of a company to keep the price above the long-run competitive level, as well as of the relevant market shares as a manifestation of market power.[17] Sound market definition is a matter of very established economic theory. Legislation refers to this economic concept, and guidelines do not aim to implement policy objectives but to explain how regulators implement the relevant economic concepts in practice.

Despite their important role, it is recognised that market shares alone are not always a reliable indicator of market power. Few companies in a concentrated market can still engage in a "head-to-head race" and compete fiercely. On the other hand, a company that is still inconspicuous when it comes to its market share may have access to critical "levers" that are crucial for market entry. Even a monopoly may well be

[12] See Commission Notice on the definition of relevant market for the purposes of Community competition law, OJ C 372, 9.12.1997, p. 5, para 2: "*…the market definition makes it possible inter alia to calculate market shares that would convey meaningful information regarding market power for the purposes of assessing dominance or for the purposes of applying Article [101]*". See also European Commission's Press release, "Competition: Commission consults stakeholders on the Market Definition Notice" (26 June 2020), where it is mentioned that "[*a*]*s market realities evolve over time, the Commission's market definitions also evolve over time*", which explains the need to revise the Commission's guidelines on market definition.

[13] See US DOJ's and FTC's Horizontal Merger Guidelines (19.8.2010), available at https://www.justice.gov/atr/horizontal-merger-guidelines-08192010.

[14] *AFMS LLC v. United Parcel Serv., Inc.*, 696 Fed. Appx. 293 (9th Cir. 2017).

[15] *Hicks v. PGA Tour*, 897 F.3d 1109, 1121-24 (9th Cir. 2018).

[16] *Ohio et al. v American Express Co. et al*., 138 S.Ct. 2274 (2018). In *United States v. Phillipsburg Nat'l Bank & Trust Co.*, 399 U.S. 350, 360-61 (1970), the US Supreme Court held that the district court erred when it defined narrower product markets with a broader range of participants because "*the cluster of products and services termed commercial banking has economic significance well beyond the various products and services involved*".

[17] OECD, Policy Roundtables, 'Market Definition' (2012), available at https://www.oecd.org/daf/competition/Marketdefinition2012.pdf

contestable where barriers to entry are low and potential competitors would immediately enter in the event of a price increase or lower quality that would make entry profitable.

The assessment of market shares assumes that customers are aware of alternatives. It assumes that these alternatives are practically accessible. The assessment is not at the same level as control over attention.

If consumer attention is locked into a specific ecosystem, competition for this individual consumer may be limited to those who offer their services or products within this system. Worse, at the critical margin, the consumer's choice may not be determined by the consumer's preferences but by what the ecosystem decides to put in front of him/her. The consumer may then choose the closest between those offers proposed, but not between all theoretically available substitutes. In this sense, power over attention is not identical to market power on specific existing markets. It rather is the power to shape markets in a way that facilitates and cements market power.

It should therefore not be surprising that the traditional tools to assess market power and in particular market shares alone have limitations when applied to attention markets. This is not only a consequence of network effects and tipping. It results from the fact that the power to control attention alters the rules of the competitive process (often in favour of certain participants) before the race that determines the winner can even start. It even determines who can make it to the participants' list, and with which handicap.

The result will often be market power (and high market shares in specific markets) at a later stage of the process. But the damage to competition takes place at an earlier stage. For attention platforms in particular, dominance in a certain market will often not even be the main problem. It will rather be a symptom, and an indication for power over attention earlier in the process. Competition is severely distorted long before significant market shares are achieved. There may even be situations where the power over attention is used to pick several winners as the same four or five offers are displayed to consumers. But whether one or several winners are picked, the market shares are not the result of an open competitive process; they are determined by how one player decides to channel attention.

Successful digital platforms that act as gatekeepers are particularly likely to build power over attention. This is a result of indirect network effects, which are characteristic of two-sided business models.[18] They are characterised by the fact that the incentive for suppliers to enter the market depends on how many potential buyers are already in the market. In turn, the richer the supply of goods on the market, the greater (at least marginally) the incentive for buyers to enter the market. The gatekeepers that links suppliers and buyers benefits from the effect that more users attract more suppliers and the other way around.

Market shares are not necessarily a meaningful indicator of market power for such business models. At the same time, the calculation of market shares poses a challenge. Where users do not "pay" with money but with their attention, two sides have to be defined. The significance of the market shares in each

[18] OECD, 'Competition in digital advertising markets' (2020), available at http://www.oecd.org/daf/competition/competition-in-digital-advertising-markets-2020.pdf, Section 4.1.5.

respective side as an indicator of market power is doubtful.[19] Although it might be possible to calculate the market shares of a gatekeeper's platform for each side, these shares can vary greatly depending on the perspective and the platform side. The indirect network effects must also be taken into account to draw meaningful conclusions. That users participate free of charge can complicate quantification.[20] Often, only the number of users is counted and their commercial weight and potential is not taken into account.

In addition, the real economic power of "digital ecosystems" often lies in their cross-market significance. Germany has recently amended its competition act to capture conduct by companies with paramount cross-market significance for competition and reflect their role on how competition can take place in individual markets. This amendment reflects the fact that traditional tools based on market power or economic dependency fall short of addressing the power over attention that attention platforms have. In particular, the legislator has recognised the significance of the total time that consumers spend in a certain online environment (referred to as "user time" by the legislator) as an indicator for market power.[21]

2.2 Attention Markets

In an attention market, there are many digital platforms that initially compete for attention. They may later use this attention to compete on markets on which they offer specific goods or services, but for platform companies, often the initial focus is to attract users and collect data before using these assets at a later stage to promote services and generate revenue.

While on transaction platforms the business has to attract both buyers and sellers simultaneously to get going, attention platforms can move sequentially and first attract users and then monetise their attention later through attracting advertising clients. Put differently, attention can later be transformed into demand. The ability to attract users does not mainly depend on the quality, price or diversity of the services that they offer but rather on the number of other users. Social media platforms are attractive if users can find a large number of their connections there. Market places are attractive for consumers if many suppliers offer their services there. And these effects equally work the other way around, as suppliers will prefer marketplaces that attract a large number of users.

Once a critical mass of users is using a platform, switching becomes difficult because it would lead to a loss of opportunity, access to other users and business. There is a certain "inertia" so that it cannot be assumed that users will just leave a platform in favour of alternative options. But once a platform controls sufficient user attention, i.e. becomes a gatekeeper, there is an incentive to monetise this attention and to strike the balance between attractiveness to users and monetisation in a way that maximises return

[19] See Bundeskartellamt, Arbeitspapier – Marktmacht von Plattformen und Netzwerken, Think Tank Internet (2016), available at https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Think-Tank-Bericht.pdf?__blob=publicationFile&v=2, p. 75 ff.

[20] Monopolkommission, Wettbewerbspolitik: Herausforderung digitale Märkte, Sondergutachten 68 (2015), available at https://www.monopolkommission.de/images/PDF/SG/SG68/S68_volltext.pdf, p. 40; Franck, J.-U. and M. Peitz (2019). Market definition and market power in the platform economy. CERRE report. May 2019. Available at www.cerre.eu.

[21] Recommendation for a resolution and report of the Committee on Economic Affairs and Energy of 13 January 2021 in the German parliament in relation to the draft competition law reform, BT-Ds. 19/25868, p. 113.

for the operator of such gatekeeper platform. Promotion of their own services on online advertising platforms is a common way to monetise attention.

Attention markets are characterised by the fact that their value for commercial use is generated primarily by the attention and the time users spend on it.[22] On the user side of the market, the aim is not to actively generate the best possible, individually filtered content, but rather to increase the reach of attention in a target group. Put simply, the first step is to attract as many users as possible. Traditional (non-digital) attention platforms include newspapers and magazines that also aim to monetise their reach to an audience, for example through advertising. The purpose of these traditional platforms is usually for entertainment and information. However, there are significant differences between these analogue and modern digital platforms. With digital platforms, it is possible not only to advertise commercial offers, but also, for example, to carry out the entire purchase transaction. Furthermore, digital attention markets offer comprehensive opportunities to generate increasingly targeted offers on the basis of user-related data. Attention markets offer different bundles of content and services and compete for consumers' time. According to one definition, endorsed by the OECD, attention markets involve "competition in which platforms ***acquire time*** from consumers, with bundles of content and ads, and sell ads to marketers to deliver messages ***during that time***" (emphasis added).[23] On the user side of these two-sided (or multi-sided) markets there is usually a zero price.[24] The central calculation for the commercial success of a platform, especially an attention market, hence lies in the massive attraction of user time.[25]

In contrast with other two-sided markets, such as credit cards, this can be understood as a sequential process. *First*, a critical mass of users needs to be attracted on one side of the market before a commercial offer can be made on the other side. In the case of other two-sided markets, such as credit cards, it is a mutually reinforcing effect, whereas in the case of attention markets the incentive to participate as a user often does not primarily depend on the offer of the other side of the market (indirect network effects), but first of all on the direct network effect of the other users already in the market. This happens, for example, due to some entertainment content that other users provide for their own, sometimes even non-commercial, motivation or through other users of a digital friendship network. The power of the platform results from the sheer mass of individuals who are usually constrained by relatively high switching costs to alternative offers. This position of power, which plays a central role especially for attention markets, is reinforced by the leveraging power that is often present on digital platforms.

In the case of digital marketplaces that are not gatekeepers or attention markets, however, there is usually no leveraging power across markets. Sector-specific online marketplaces, for example, will typically not attract a significant share of the overall user attention. Users who know them or are nudged there by the large digital gatekeeper platforms, will use them to cover a specific need. Such narrower (transactional) platforms (e.g. online shops that are advertising customers of the attention platforms) will

[22] D Evans, 'The Economics of Attention Markets' (2020), available at http://dx.doi.org/10.2139/ssrn.3044858, p. 6f.

[23] D Evans, 'The Economics of Attention Markets' (2020), available at http://dx.doi.org/10.2139/ssrn.3044858.

[24] OECD, Competition in digital advertising markets (2020), available at http://www.oecd.org/daf/competition/competition-in-digital-advertising-markets-2020.pdf, Section 4.1.1.

[25] See US House of Representatives, Subcommittee on Antitrust, Commercial and Administrative Law, Investigation of Competition in Digital Markets, Majority Staff Report (2020) ('Ceciline-Report'), available at: https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf, p. 89 f.

typically not develop the scale of user time that is required to control which offers a large number of consumers see. They offer an institutional framework within which different suppliers provide their products or services, which can be purchased by consumers. Gatekeepers, on the other hand, have a bundling of different goods and services that often build on each other. In the case of attention markets, it is even possible to direct users' attention towards consumption by means of the power to steer attention more effectively. The decisive difference to other digital platforms is not the use of the abundance of heterogeneous, user-related data, but above all the attention given by the users anyway due to other, not necessarily commercially perceived, content.

For example, in the emerging offerings of Instagram or TikTok, in addition to user functions such as uploading images and videos, there are products which are advertised institutionally, but also a convenient referral and full purchase transaction process. The difference with more traditional types of marketing via advertising on radio and television, or even through web browsers is that the steering into attention markets has to overcome a less powerful barrier of active choice on the part of the user. With more traditional channels of advertising, a more active decision is made, for example, to visit an online distributor or even to go into a physical shop.

2.3 Competition Concerns

The flipside of the ability to direct attention is the ability to foreclose rivals, not only from markets in which the gatekeeper is established, but also from markets that the gatekeeper may intend to enter at a later stage,[26] and even from markets where the gatekeeper does not plan to be active but intends to monetise attention in different ways, such as through online advertising or marketing. This creates an artificial access fee for companies that would like to offer their goods or services. The gatekeepers can misuse the data that is provided by their (advertising) customers to enter into their customers' markets and become their future competitors.

The European Commission is rightly concerned about gatekeepers' ability to control not just one market but entire ecosystems of unrelated markets (e.g. an operating system and a streaming service): "[l]*arge online platforms are able to control increasingly important platform ecosystems in the digital economy. Typically, they feature an ability to connect many businesses with many consumers through their services that, in turn, allows them to leverage their advantages, such as their access to large amounts of data, from one area of their activity to improve or develop new services in adjacent markets. These large online platforms also increasingly bundle a broad range of platforms and other digital services into a seamless,*

[26] L Khan, 'The Separation of platforms and commerce' (2018), at 1069.

data-driven offer."[27] Concerns about gatekeeper power have also been expressed in relation to self-preferencing, a form of anticompetitive leveraging (e.g. see Commission's *Google Shopping* decision[28]).[29]

[27] European Commission, "The Digital Services Act package" available at https://ec.europa.eu/digital-single-market/en/digital-services-act-package.

[28] European Commission, decision of 27 June 2017, in case AT.39740 – *Google Shopping*.

[29] M Cappai & G Colangelo, 'Navigating the Platform Age: the 'More Regulatory Approach' to Antitrust Law in the EU and the U.S.' (2020) Stanford-Vienna Transatlantic Technology Law Forum Working Papers No. 55, p.15; D Geradin, 'What should EU competition policy do to address the concerns raised by the Digital Platforms' market power?' (2018); European Commission Press Release, 'Commission sends Statement of Objections to Amazon for the use of non-public independent seller data and opens second investigation into its e-commerce business practices' (10.11.2020) (Amazon).

3. Total Consumer Time

A central feature that distinguishes attention markets from other (mainly transactional) digital platforms must be emphasised – the duration of (active) use. As set out above, the German legislator has recognised the significance of the total time that consumers spend in a certain online environment (referred to as "user time"). In its *Facebook-decision*, the German Federal Cartel Office noted that the success of Facebook's business model is particularly based on the high and daily intensity of use, creating large amounts of user data and a long period of time during which the user's attention can be drawn to advertising. This is the basis for the special leveraging power of attention markets. With the duration of use, the steering power of attention markets tends to increase due to the increasing duration of the attention given.

A relevant concept in the characterisation and measurement of this duration of use is the Total Consumer Time ("TCT"). TCT stands for the **total time consumers spend actively in the ecosystem of a digital service provider**. This measure has not yet been defined more concretely in the literature. However, the findings on the general use of internet services as well as empirical studies on internet use[30] can be used to define TCT as a practically meaningful tool. In the following sections, the individual elements of the TCT definition are considered in detail.

3.1 The individual elements of TCT

3.1.1 Consumer

Consumers are natural persons who actively use a provider's service. Consumers use different types of devices (e.g. computers, smartphones, tablets, smart speakers, cars, etc.) when using digital services and they have several devices in parallel (e.g. private and business computers). In this context consumers are, thus, also referred to as users. The degree to which the user can be identified by the service provider during the interaction varies. A user may be fully and uniquely identifiable in his interaction with a platform, for example, if he is logged into the service with a personal user account. Users can also be identified indirectly, e.g. through the use of tracking mechanisms on the user's terminal device or by accessing "fingerprints" of the system's environment of the user (device, operating system, browser, IP address, etc.). A number of unique identifiers are available for this purpose which make it easier to determine the identity of the user.[31] It is, however, also possible to use a service in a completely unidentifiable way, although the user has to make a great effort for this, both on his/her terminal device and connection, for example by using encryption and anonymisation technologies (e.g. Tor browsers).

[30] See for example the Crossmedia Link Panel of the Gesellschaft für Konsumforschung (GfK – "Society for Consumer Research").

[31] Oracle Submission to the Australian Competition and Consumer Commission's (ACCC) Digital platform inquiry, attachment A, pp. 3ff., available at https://www.accc.gov.au/system/files/Oracle%20Corporation%20%28March%202019%29.PDF.

Whether or not the requestor is an identified user is not directly relevant to the measurement of TCT, because the usage times of different users should be summed up for the purposes of determining TCT (see below).

Shadow Profiles

The identifiability of a user is important for the service provider in so far as it may allow the latter to derive greater added value from the data obtained in relation to attention control. From the point of view of the service provider, there is naturally a great interest in merging the data arising from various user actions to be able to better identify the user's preferences and use those to design offers or for advertising purposes. In addition to personal user profiles, some providers also use the aggregation of data in the form of so-called shadow profiles. In the user profiles created by the provider, data generated by the user prior to personal identification or irrespective of other identification processes is collected or obtained by the provider from interaction with third parties.

The scope of a shadow profile increases the uniqueness of a user's identifiability and thus the targeting of attention. At the latest with the first actual identification, such as the entry of personal data in an order process, a login to a service or link to unique data (such as a telephone number), the shadow profile can be assigned to a uniquely identified user. Due to these mechanisms, it is possible for providers with a large user base to allocate the use of their services to specific users over time with increasing accuracy. Even if personal identification is not (yet) possible, those companies are capable of comprehensive attention control of a small target group. In this respect, an increase in the time a consumer spends in the ecosystem of a service provider, i.e. an increase in the TCT of this provider, leads to a corresponding increase in the possibility of controlling the attention of the individual user.

3.1.2 Spend Actively

Digital services can be used in different ways. The use can be active, through constant interaction, or largely passive. Active use means that the user enters or selects content. Such actions result in user-specific personal data that allows to better understand the preferences of the user and to direct his or her attention in an even more targeted manner. Examples of active use understood in this way are:

- *Visiting an online shop*: searching and browsing products and offers, selecting and reading reviews, comparing products.
- *Social media use*: searching for people and content, sharing content, forwarding and rating content, commenting, consuming media content.
- *Using a search engine*: entering the search term, scrolling through the list of results, selecting search results.
- *Playing an online game*.

Passive use, on the other hand, generates very few data points because the user makes fewer decisions which cannot be turned into personalised content. Examples of passive use are:

- Watching a film from a media library or listening to a podcast episode.
- Displaying an open browser window of a service without any interaction between the user and the service.

TCT is a tool to measure a service provider's ability to control users' attention. Therefore, only active use is relevant in the context of TCT. In this sense, active use is understood to be the time of use during which:

- data points are generated about the user and made available to the service provider, and/or
- the service provider is able to proactively provide the user with selected content, such as the interruption of a film playback by a commercial advertisement (e.g. on YouTube) or the display of an advertising banner on the edge of content selected by the user.

The share of active usage time varies from service to service. It is usually easy to measure the usage time of different digital services based on the data collected from the service providers. The level of active use of the respective service should be determined on a service-specific basis by looking at the amount of interaction originating from the user or the service provider.

3.1.3 Digital Service

The extent and type of data that an active use will generate depends on the service. A digital platform that offers diverse services will therefore generally extract broader and more valuable data than a specialist offering.

Some services provide significantly more and particularly valuable data, such as browsing an online shop, using a messenger service or a web-based e-mail client. Other services provide rather few but valuable data, such as payment services. Some services provide a lot of data but only of limited value, e.g. online games. Here, there is a high correlation with the degree of active use (see above).

- To determine the TCT, a corresponding differentiation of the services must be taken into account. The decisive question in each case is to what extent the active use of the respective service increases the provider's possibilities for attention control. The potential for collecting data about the users can also be used on a service-specific basis and, thus, as a factor to weight the TCT (comparable to the degree of active use).
- In any case, it is important to attribute the TCT to the service or services that derive an attention control benefit from the use of the service. In particular, multiple attributions of time to multiple service providers will be possible if multiple service providers each benefit directly from the active time of use.

3.1.4 Ecosystem

The different services of the attention platforms are linked to each other. They form a contained environment that maximises total time and diversity of services used, thereby generating multiple and diverse data points as well as exposure that allows channelling attention. Amazon, Apple, Facebook, Google, Microsoft and others constitute "**ecosystems**".[32] There is an interconnection of digital services and increasingly also of the devices that are under the control of a single company.[33] The digital identity of the users of the services of an ecosystem is usually established and secured across services, sometimes by means of a separate identification service (Apple ID, Google login, Facebook login, etc.). In addition, it is often possible for the controlling companies to provide third-party services selected by the user as an integrated part of their own service. This ensures that even calling up a third-party service continues to be an active process associated with the collection of user-specific data.[34] Because of this integration, a company's ability to influence the consumer's attention grows with each period of time spent in some form in the services of an ecosystem. Therefore, the TCT should always be linked to the corresponding "ecosystem" of a company as a whole. This also reflects the ecosystem-related concentration of use of the most important platforms.[35]

3.1.5 Time

TCT describes the total time users spend actively within the ecosystem of a service provider. The usage activity is usually divided into different sessions that have a certain length of time.[36] Statistics on media use are typically collected on the basis of the average daily duration of use in minutes.[37] This unit of measurement should therefore be used as the base unit. This also reflects that in some cases the monetisation of users' attention is directly linked to the time of use in minutes.[38]

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[32] Comprehensively on the ecosystems of 'Big Tech', see "Investigation of competition in digital markets", Majority Staff Report, 2020, the U.S. House of Representative Subcommittee on Antitrust, Commercial and Administrative Law, pp. 133, 174, 247, 329.

[33] J Crémer, Y-A de Montjoye and H Schweitzer, 'Shaping competition policy in the era of digitisation' (2019) (the 'Special Advisers' Report'), p. 33f.; see also 'Unlocking digital competition', Report of the Digital Competition Expert Panel (13 March 2019) ('Furman report'), p.40.

[34] E.g. the presentation of third-party news articles via Google AMP or FB Instant Articles within the gatekeeper's own ecosystem.

[35] 50% of the total internet use time of German users over the age of 14 in the fourth quarter of 2019 was spent on 10 services of only 7 companies, with Google in the first place with its Google services, including YouTube, and Facebook in the second place, including WhatsApp and Instagram, Andree/Thomsen, Atlas der Digitalen Welt, Frankfurt/Main 2020, p. 28.

[36] M Andree & T Thomsen, *Atlas der digitalen Welt*, Campus (2020), p. 56.

[37] E.g. daily internet usage by children, LFK Baden-Württemberg/LMK Rheinland-Pfalz, JiM-Studie 2019, pp. 24ff.; daily TV consumption, RTL AdConnect yearly study 'TV Key Facts', available at https://www.vau.net/tv-nutzung/content/fernsehnutzung-europa-2019-hohem-niveau.

[38] In the "Investigation of competition in digital markets" Majority Staff Report, 2020, the U.S. House of Representative Subcommittee on Antitrust, Commercial and Administrative Law cites an interview, conducted by Subcommittee staff, with a former Facebook employee, who explained that as a product manager "*your only job is to get an extra minute. It's immoral. They don't ask where it's coming from. They can monetize a minute of activity at a certain rate. So the only metric is getting another minute*", p. 136.

3.1.6 Total Time

The time spent by individual users using a particular service can be added up separately for all relevant services of the service provider or ecosystem. The result is the **sum of the times** that all consumers have spent actively in the different services of a service provider in a given period of time. This data is useful for making a comparison between services of different providers and their actual ability to control attention. In addition, by looking at a time series of TCTs, the development of active usage time over a certain period can be examined and thus an increase or decrease in attention control by the service in question can be determined.

The addition of the individual sums of the different services of a service provider for a certain period of time can be summarised to a TCT for the ecosystem of the respective company. At this point, the service-specific weighting factor (described above) may have to be applied to take into account the different potentials of different services for attention control. The total values can also be aggregated to larger time periods to eliminate the fluctuations in daily usage patterns. Informational value can be achieved, for example, at the level of a quarterly presentation which also allows for the presentation of trends.[39]

The significance of TCT values derives from comparing service use or different companies or ecosystems. If supplementary data from market research on the overall use of digital services is available, some significance can also result from the relationship between the TCT of a service or a company and the overall use of digital services.

3.2 TCT as a method to measuring gatekeeper power

The balance between building and monetising attention and marketing a specific good or a service varies significantly between different business models. In an attention-focused business model, attracting and funnelling user attention is the main focus.[40] Goods or services that are sold on this basis are secondary; they can cover a wide spectrum[41] and are designed to attract an already available audience. Turnover is mainly generated by channelling attention to such offers and/or by monetising attention through online advertising. In a transaction-focused business model, the focus is on a specific good or service that the company markets and sells.

[39] See e.g. M Andree & T Thomsen, *Atlas der digitalen Welt*, Campus (2020), p. 48.

[40] U Schwalbe, 'Market definition in the digital economy', argues that users do not pay a monetary price but they do ***pay with their attention*** for advertising or with their personal data [*emphasis added*]. See also OECD, Competition in digital advertising markets (2020) available at http://www.oecd.org/daf/competition/competition-in-digital-advertising-markets-2020.pdf, Section 4.1.1., and the Commission's Decision of 18 July 2018, AT.40099 - *Google Android*, para. 153, according to which "*Google's business model is based first and foremost on increasing the audience for its online services so that it can sell its search advertising*" and also the ACCC Digital platforms inquiry, p. 65, where it is noted that users ***spend far more time*** on Google Search than on even the largest specialised search services [*emphasis added*].

[41] P Marsden & R Podszun, 'Restoring Balance to Digital Competition' (2020), *op.cit*.

An attention-focused model requires offers that capture user attention and TCT.[42] Examples are social networks, search engines, video streaming applications, maps and other products where users are not required to pay a monetary fee. The attention can be monetised in different ways.[43] The more time users spend in such an environment the more the company is in a position to control this attention. This impedes competition for services, as it replaces competition on the merits between different offerings by protected "walled gardens" to be exploited by those who develop them.[44]

Attention platforms that act as gatekeepers attach great importance to TCT. Traditional indicators like profits, margins or turnover are often less prominent for them in the short run than TCT.[45] This is because TCT and growth of TCT is what drives a gatekeeper's long-term value.[46] Short-term compromises on margins and turnover are frequent to increase TCT. This strongly indicates that TCT is important as a "currency" that can be monetised later.[47] That such a consideration of time of use is a relevant definition of the measurement role is also acknowledged by platform companies such as Facebook.[48] As such, TCT indicates a risk of market foreclosure and is an important factor in identifying the market power of gatekeepers.[49]

In fact, the concern that gatekeepers use their steering power and leverage their market power into other markets has been widespread for quite some time. A prominent example is the Google shopping case where Google has allegedly used its steering power to drive product comparison platforms off the market. Similar concerns have been raised in numerous other antitrust investigations against the major digital platforms. While the exact mechanisms how the platforms' steering power plays out differ from case to case, the common theme is that gatekeepers use their steering power to expand their market power. In many of these cases, much attention has been paid to search and ranking algorithms and various forms of displaying offers. In contrast, TCT has received less attention as an indicator of steering power. In order to illustrate that TCT may be an additional indicator for gatekeepers' steering power, we have analysed –

[42] Special Advisers' Report, para. 47; FCO, decision of 8 September 2015, case B6-126/14 – *Google*, para. 40: "[…] *the possibility for website operators to keep visitors on their own pages for as long as possible by offering them a multitude of links to further individual pages of their own offer in the context of a single page*".

[43] Stigler Committee on Digital Platforms Final Report (2019), p.62, which explains that "ad-supported platforms' high markups provide a powerful reason to try and keep users online for another minute in order to show more ads. These profits push platforms to design their firms around "engagement"- an obsession with keeping users on their system for as much time, and with as much attention, as possible" [emphasis added].

[44] P Marsden & R Podszun, 'Restoring Balance to Digital Competition' (2020), op. cit.

[45] E.g., Facebook in its latest 10K report states for 2019 states that its "advertising revenue can also be adversely affected by a number of […] factors, including time spent on [its] products", p. 13.

[46] U Schwalbe, 'Market definition in the digital economy: An overview of EU and national case law' (2019), e-Competitions, Art. N° 91832, arguing that "the decisive factor for companies is rather which medium users **pay attention to**, because the **more time users spend** with a certain medium and the **longer they are exposed** to the corresponding advertisements, the greater the chance that the advertising will generate a transaction" [emphasis added].

[47] CMA Online platforms and digital advertising, Market study final report (1 July 2020), p.212: Google and Facebook's collective share of digital advertising revenues is significantly greater than the share of **time spent by users** on these platforms. This might suggest that critical mass of TCT is required to attract advertising revenue and the largest players in TCT terms can realise an even larger share of digital advertising as a result.

[48] In response to an inquiry by the United Kingdom's CMA, Facebook calculated its market share as "time captured by Facebook as a percentage of total user time spent on the internet, including social media, dating, news and search platforms", see CMA report (fn. 18), p. 121.

[49] Furman report, para. 26, stating that "there are also a number of metrics that could be used to indicate the level of concentration, such as user numbers, traffic generation, and **time spent using each service**" [emphasis added].

as one very recent case among others – the recent introduction of Reels on Instagram. The case study has mainly been chosen as it is a rather recent example for an increase in TCT, which is described in the following section.

3.3 Case study: Facebook/Instagram and Zalando

To illustrate how attention platforms can practically steer attention towards a new service at the cost of attention for other offerings, we use the example of Reels that were introduced by Instagram in 2020. Reels are a tool for Instagram users to create short videos (up to 15 seconds) that are shared on Instagram with other users (with followers as well as the wider Instagram community). The main purpose of Reels is to increase TCT[50] and, therefore, to gain additional steering power. It should be noted that Reels have not been directly monetised in the short run.

3.3.1 The introduction of Reels on Instagram

The Facebook ecosystem alone accounted for almost 17% of the time spent by users on the internet in Germany in 2019.[51] This has implications for the assessment of market power. By targeting the attention of consumers, a platform with such a reach can exercise power across many different markets.

Facebook's Instagram offering can exemplify the impact that an attention platform can have even in relation to players that are well established on their respective markets. Instagram is an advertising-financed online platform for sharing photos and videos. It has been part of Facebook since 2012. The introduction of Reels on Instagram is an innovation that was derived not least from the success of TikTok. Reels were first introduced on Instagram in a test phase on 23 June 2020 in Brazil, France and Germany.[52] On 5 August 2020, Instagram launched Reels in more than 50 countries.[53] This application is particularly strong in attracting attention. In contrast to viewing images or simple videos, short videos can now be created, which are provided with various effects, posted on Instagram, and viewed. The difference to other video formats on Instagram is that Reels are created from several videos. Sound and other animation effects play an important role, so that the focus is on the creativity of the videos. Short videos with a very large variation of different content and easy switching within Reels are constituting a high intensity of attention. From the theory in the previous section, it can be deduced that the introduction of Reels should therefore be particularly suitable for the analysis, as it can be assumed that a higher intensity of attention leads to a higher steering power on average.

Reels are a new tool to attract the attention of users, but they are not directly monetised, i.e. typically no commercial offers are presented via this tool. In particular, no direct purchases or offers of own products

[50] See at https://www.forbes.com/sites/abrambrown/2020/11/12/instagram-revamps-its-app-doubling-down-on-its-competition-with-tiktok/?sh=2e3bfa661aa6.

[51] Based on the Top20 Properties for Germany. Data prepared by Comscore.

[52] See at https://about.instagram.com/de-de/blog/announcements/introducing-instagram-reels.

[53] See at https://about.instagram.com/de-de/blog/announcements/introducing-instagram-reels-announcement.

have been available in the observation period of our analysis from 1 January 2019 until 31 December 2020. This means that by the end of 2020 there was no active steering towards commercial offers on Instagram. Still, the introduction of Reels had an impact on consumer attention.

In the following, we empirically analyse the influence that the introduction of Reels on Instagram had in 2020 on the attention of Instagram users for competing content on the Instagram platform, such as advertisements from Zalando. Zalando – which was founded in 2008 – is a German multi-national E-commerce company which offers fashion and lifestyle products to customers in 16 European countries.

As the following analysis shows, the introduction of Reels has indeed attracted considerable attention from users. It can be assumed that this at the same time increased the ability of Instagram to influence this attention.

3.3.2 Data

For Zalando, extensive data was available on the impact on user traffic. The number of leads ("clicks") from Facebook, Instagram, Google Search, YouTube and Bing Search to the Zalando shop were measured. In addition to these channels, the origin of the clicks can also be differentiated from 16 countries (see Table 1). Data on Zalando's advertising expenditure, differentiated by individual channels and countries, were also made available.

The dataset includes observations on a daily basis from 1 January 2019 to 31 December 2020, giving a total of 50,104 observations.

Table 1: Description of the data set

Variable	Description
Clicks	Daily number of retransmissions per channel and country
Investments	Daily advertising spent per channel and country
Channels	Facebook, Instagram, Google Search, YouTube and Bing Search
Countries	Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Estonia, Finland, France, Ireland, Italy, Netherlands, Norway, Poland, Sweden, United Kingdom
Date	Daily from 1 January 2019 to 31 December 2020

3.3.3 Findings

While we can only speculate how the Reels innovation may later be directly or indirectly monetised by Instagram in the medium term, we focus on the question how the introduction of Reels affected attention

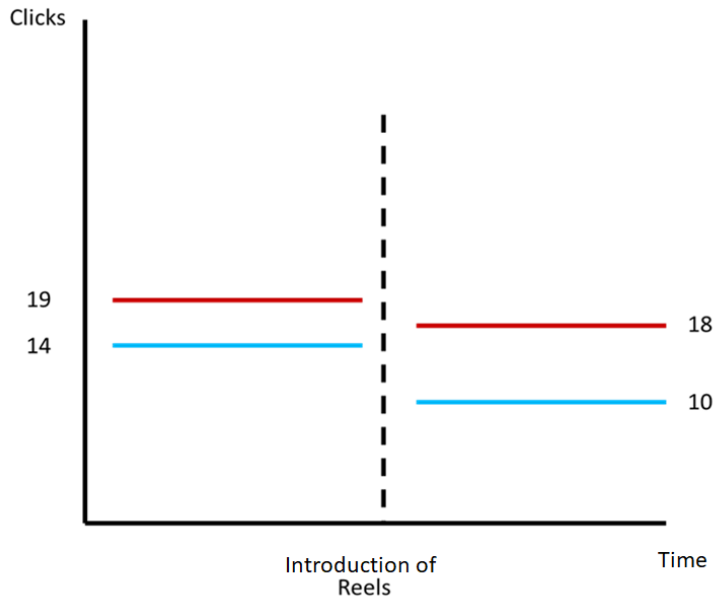
for advertisements on Instagram that compete with Reels for the attention of users on the Instagram platform.

For this analysis Zalando provided data on the number of clicks leading users of Facebook, Instagram, Google Search, YouTube and Bing Search to Zalando's platform. It is important, however, to examine other influencing factors that may influence the number of clicks. These include, in particular, the advertising spent per observation unit. In the following, the daily observations per channel and country are referred to as observation units. In addition to data on Instagram, Zalando also provided data for four other channels. The introduction of Reels only concerns Instagram.[54]

We used the so-called difference-in-differences method to identify the effect. Thereby, it is possible to estimate the effect of the introduction of Reels on Instagram's referrals separately from other temporal changes. For this purpose, the other four channels (Facebook, Google Search, YouTube and Bing Search) form a comparison group. By looking at the difference-in-differences, two differences have been estimated using a regression model. The first difference indicates the level difference between referrals from Instagram compared to the other channels. The second difference indicates the temporal variation that arises between the periods before and after the introduction of Reels. Figure 2 shows the procedure schematically. The red line represents the clicks in the comparison group, while the blue line represents the forwards from Instagram. Assuming that the difference between the clicks of the two groups is five before the introduction of Reels and eight after the introduction of Reels, the difference between the differences is now three. The introduction of Reels has thus led to a reduction of three in the leads from Instagram to the Zalando shop.

[54] Facebook and Instagram are part of the same group company. This may have led to spill-over effects. Therefore, a robustness analysis was added to the empirical analyses in this section which excludes Facebook from the comparison group.

Figure 1: Scheme of the difference-in-differences method



If we only consider the reduction in leads from Instagram by four in isolation, this before-after comparison would neglect the general decrease in leads that also happened in the comparison group and may not result from the introduction of Reels but is based on other factors.[55]

The model outlined above is estimated by using so-called OLS[56]-regressions. Since the number of clicks is a variable that only takes on values greater than zero, it is included in the model logarithmically. This means that the distribution of the estimated predicted values also only shows positive values. Furthermore, this simplifies the interpretation of the estimation results, as the estimated coefficient can be interpreted as a semi-elasticity and thus as a percentage value.

3.3.4 Impact on Zalando

The results of the regressions are summarised in Figure 4. The regression contains the interaction term "Reels*Instagram", which indicates the difference-in-differences effect. It can be interpreted as a semi-elasticity. Roughly, it indicates by how many percentage points the leads from Instagram to the Zalando shop have changed due to the introduction of Reels.[57] The coefficient "Reels" takes the value "1" for all observations after the introduction of Reels and is "0" otherwise or before the introduction of Reels. The coefficient for the investments, which were also included in the logarithm, measures by how many

[55] The validity of the model is based on the assumption that, firstly, the leads from Instagram and the leads from the comparison group are subject to the same influencing factors and react similarly to these. Secondly, the introduction of Reels must only have had an effect on leads from Instagram but not on leads from the comparison group.

[56] OLS stands for ordinary least squares.

[57] For the exact calculation the coefficient must be converted as follows: 100*(e1-1).

percentage points the clicks increased with a one percent increase in Zalando's investments on the respective platform. In addition, control variables were included for the respective channel and the countries from which the leads originate. Monthly fixed effects for the 24 months of the observation period were also included.[58] Finally, it was also controlled for each day of the week, as consumer behaviour on weekdays presumably differs from that on weekends.

In total, four regressions were run for a different selection of country groups and channels. First, all countries and all channels were considered. In a further step, only the top three countries were selected. These are the three countries with the most clicks (Germany, France and Italy). In a further step, both regressions were carried out again without observations on the search engines of Google and Bing, as these differ from the social platforms in that they attract consumers' attention only very briefly, but very intensively.

Figure 3 shows the percentage change in leads from Instagram to the Zalando shop that resulted from the introduction of Reels. The estimated effect ranges from -11% to -19%.

Table 2: Percentage effect of the introduction of Reels

Marginal Effects	All countries		Top 3 countries	
	All channels	Without search	All channels	Without search
Introduction Reels	-14.41%	-19.00%	-11.08%	-12.89%

The effects can also be read from the regression results in Figure 4. It should be noted that the regression coefficient for the interaction "Reels*Instagram" must be converted to obtain the exact percentage effect from Figure 4.[59]

Table 3: Regression results

Marginal Effects	All countries		Top 3 countries	
	All channels	Without search	All channels	Without search
Reels*Instagram	-0.156 ***	-0.211 ***	-0.117 ***	-0.138 ***
Reels	0.061 ***	0.048 **	0.307 ***	0.322 ***
Investments	0.801 ***	0.901 ***	0.902 ***	1.007 ***

[58] For each month (with the exception of the reference month January), a dummy variable was included which has the value "1" if the observation in this time period is correct.

[59] For the exact calculation the coefficient must be converted as follows: 100*(e1-1).

Channel FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Monthly FE	Yes	Yes	Yes	Yes
Weekday FE	Yes	Yes	Yes	Yes
Constant	0.679 ***	0.204 ***	0.723 ***	-0.210 **
R^2	0.957	0.944	0.974	0.957
Number of observations	35,700	18,240	8,499	4,638

The regression results also show that the models have a very high degree of explanation. The R^2 is more than 0.94 in each case, which means that more than 94% of the variation in the variable clicks can be explained by the model. Furthermore, it can be seen that the number of observations is at least 4,638 and at most 35,700.

The empirically presented decrease in leads due to the introduction of Reels is in line with the formulated expectations. The introduction of Reels has apparently led to consumers' attention on Instagram being more focused on Instagram-owned content. Hence, advertisers' scope for interaction with consumers decreases. What these findings show in particular is that Instagram has the ability to significantly influence users' attention and thus also to direct it. While the introduction of Reels has only been a comparatively small event in the Facebook ecosystem and no apparent efforts have been made by Instagram to actually steer users towards certain offerings or away from others through Reels, the effects illustrate the sheer power of attention platforms to do exactly this if they wish. As Reels have increased TCT on Instagram, users have given less attention to alternative content such as Zalando advertising. Hence, concerns about TCT are not only a theoretical or hypothetical concern, but TCT already has practical business implications today.

The results therefore illustrate and underline the potential of attention markets (or platforms) to steer consumers towards some offerings and away from others. The cross-market market power that attention platforms possess results in considerable steering power in their favour.

4. Regulatory implications

A high TCT value in relation to the total time spent using digital services may indicate that a company has a special position in a digital market allowing it to control the attention of consumers, regardless of the services provided. Such control can be exercised in the form of selection and prioritization of offers, the way these offers are presented, or even automatic forwarding. In this respect, a high value of total time is already a distinct reason to examine this control power more closely and, for example, to raise the question of whether the company merits specific regulation (e.g. whether it is a "gatekeeper" in the sense of Art. 3(6) of the draft DMA). The legislative materials in relation to the revision of the German competition act in relation to gatekeepers explicitly refer to TCT as a relevant measure.[60]

Indeed, a high TCT share compared to direct competitors can be an indicator of a company's ability to control consumers' attention, collect their data and manage their use of digital services. A company with a high TCT share is in a better position than a competitor with a lower TCT share.

The ability of a company to make a suitable offer to the consumer therefore has a higher quality and accuracy. The TCT value of a company in comparison to other companies can be used as an indicator, namely as a tool for determining gatekeeper power (also in the sense of the draft DMA), which can be considered alone but also in conjunction with other indicators (such as those mentioned in Art. 6(4) (a) to (e)).

The establishment of a TCT measurement represents a permanent observation of the gatekeepers' ability to control consumers in digital markets. Better than other tools, such a value also allows early detection of competition risks by the relevant authorities. If the TCT value of a service or a company increases continuously, especially in comparison to rivals, this is an important indication of a possible imminent anti-competitive dominance over the market in question.

At the same time, the TCT value can be used to measure the effect of interventions in gatekeeper markets. For example, if a previously high TCT value decreases in relation to total time or in relation to competitors, this indicates the effectiveness of regulatory requirements.

The described concept of a service-specific TCT measurement as well as a – possibly weighted – formation of an overall TCT for each ecosystem also allows the analysis of the composition of the TCT for each individual company and ecosystem. From this, it can be determined which service or services contribute particularly to the absolute TCT value or which service is particularly accountable for the increase or decrease of the TCT value. This can be useful in the preparation of measures such as the setting of conditions for the spin-off of a service or even in merger control reviews.

[60] Recommendation for a resolution and report of the Committee on Economic Affairs and Energy of 13 January 2021 in the German parliament in relation to the draft competition law reform, BT-Ds. 19/25868, p. 113.

4.1 The impact of TCT on competition

This section analyses how a high TCT share and the resulting gatekeeper power restricts competition. It discusses (i) entry barriers, (ii) customer foreclosure, (iii) input foreclosure, and (iv) restrictions in price and quality competition. It also addresses (v) how gatekeepers have the ability and incentive to strengthen their position and to leverage their power into new areas. This is a key difference compared to the abuse of dominant positions in traditional industries. The power of gatekeepers will often naturally increase through network effects, even in the absence of an abuse.

4.1.1 TCT as an entry barrier

A high TCT share and the resulting gatekeeper power creates an entry barrier for all companies that offer services through the internet. Attention platforms are increasingly positioning themselves as the entry point to the internet for users.[61] Users will typically not go to most websites directly but through apps and sites that are their entry points to the internet. These are often pre-installed when hardware is purchased or so prevalent that many users install them. For less prevalent offerings, this means that the route to the customer increasingly has to be purchased from the attention platforms that control these routes. The toll typically comes in the form of online advertising fees, but can also take the form of data and other support for the attention platforms[62].

4.1.2 Customer foreclosure

These barriers do not only concern entry and expansion. As several past and pending investigations show, they can even foreclose providers from established customer relationships. Providers where consumers spend significant time can nudge these consumers away from suppliers that they used in the past, even where these suppliers were perfectly competitive with regard to price and quality and even where these consumers are nudged towards less competitive offerings. The European Commission's *Google Shopping* case illustrates this well, but there are numerous less prominent examples.[63] Nudging customers away from offers that do not create benefits for the gatekeeper is the unavoidable flip side of any strategy that aims to monetise this power.

[61] CMA, Online platforms and digital advertising, *op. cit*., p. 149, which concludes that "*for many consumers the major platforms have become 'must haves'*".

[62] L Khan, 'The Separation of platforms and commerce' (2018), at 1080, arguing that the self-reinforcing advantages of data can amplify network effects, lead markets to tip, and close off entry.

[63] See D Geradin, 'What should EU competition policy do to address the concerns raised by the Digital Platforms' market power?' (2018), discussing the Commission's and the Bundeskartellamt's investigation into Amazon's dual role as a competitor, but also host, to third-party merchants.

4.1.3 Input foreclosure

A high share of active consumer attention and time invariably leads to detailed data points about individual consumer preferences, purchasing patterns, interests, political views, health and many other areas that are relevant for directing content efficiently to consumers. This knowledge, together with the TCT that generates it, are critical input factors for any company that intends to compete online, be it with specialised goods or services or with its own nascent ecosystem. However, this input is not available.[64] It is therefore impossible for any provider of services to know consumers as well as the owner of the ecosystem in which the consumer spends most of the time. As a result, even companies that offer better products at better conditions lack a critical factor that they would need to reach consumers efficiently.[65]

4.1.4 Price and quality competition

Entry barriers, network effects, customer and input foreclosure naturally restrict competition from rivals. Rivals that offer more specialised goods or services cannot reach customers effectively, even if their offer is of higher quality or has a lower price than the competing rival offer. Even where there are other companies with a similar strategy and offering, this often does not lead to competition. Rather, there is a co-existence of ecosystems, with each provider focusing on users in its ecosystem. As a result, players with gatekeeper power can nudge consumers towards less competitive offerings and have an incentive to do so. Competition on price, quality and other factors is not on the merits and consumers will pay more than necessary and/or are less well-served than possible.[66] Therefore, gatekeepers focus on increasing their power over attention of which TCT is an important indicator.

4.1.5 Natural increase through network effects

In digital markets, "tipping" can be the result of network effects. The European Commission and many other regulators are recognising this.[67] Regulatory frameworks need to be upgraded to adequately address this concern.[68] For gatekeepers, tipping does not only create power in specific markets. Their

[64] M Cappai & G Colangelo, 'Navigating the Platform Age: the 'More Regulatory Approach' to Antitrust Law in the EU and the U.S.' (2020), p. 13.

[65] P Marsden & R Podszun, 'Restoring Balance to Digital Competition – Sensible Rules, Effective Enforcement' (2020).

[66] CMA Online platforms and digital advertising, p. 212, which underlines that lack of competition in digital advertising, combined with other features of the market including lack of transparency and the role of data, creates an ability for Google and Facebook to exercise market power and leads to worse outcomes for advertisers and publishers.

[67] Stigler Committee on Digital Platforms Final Report (2019), which recognised that digital markets are prone to tipping for two primary reasons: first, because fixed costs play such an important role in digital markets, these markets feature especially large returns to scale; second, many digital markets are driven by network effects that strengthen large incumbents and weaken new entrants; see also FCO, decision of 6 February 2019, case B6-22/16 – *Facebook*, para. 403.

[68] See statement by the European Union's internal market Commissioner, Thierry Breton, during a press conference that large Internet companies could be broken up as a "last resort" if they fail to abide by obligations under upcoming EU rules that aim to curb the power of "gatekeeping" platforms. The European Commission could order even the "structural separation" of companies if it sees "that after many injunctions the platform doesn't follow what needs to be done" (25.11.2020), reported on MLex by M Newman, available at https://www.mlex.com/GlobalAntitrust/DetailView.aspx?cid=1244186&siteid=190&rdir=1.

power goes beyond relevant product markets as it concerns access to consumer attention more generally.[69]

Broad ecosystems are building complementary offerings. Consumers spend more and more time within the relevant ecosystem.[70] This facilitates building new complementary offerings and further increasing the share of time spent in this ecosystem. In this context, network effects will naturally further consolidate the number of providers that attract significant TCT. At the same time, time spent within different parts of the same ecosystem will create ever more detailed consumer profiles and enable providers to further increase their grip on consumer attention by ever more targeted offerings.

[69] I Brown 'Interoperability as a tool for competition' (2020), available at https://doi.org/10.31228/osf.io/fbvxd.

[70] L Khan, 'The Separation of platforms and commerce' (2018), at 1097, explaining that *"[T]his is because digital platforms are making an ecosystem play: By bundling different services and portals, a platform can heighten switching costs and collect more user data by tracking individuals across services, both of which amount to a lucrative strategy. The enormous value assigned to user data sets suggests that platforms will have an even greater incentive to keep users within their walled gardens, meaning that they will be more likely to choose direct access and exclusion overshared access and complement or revenue"* [emphasis added].

5. Policy recommendations

TCT can be used as an additional criterion for determining which digital service providers should be specifically regulated (e.g. gatekeepers in the sense of the EU's draft DMA, or dominant companies within the meaning of antitrust law) without establishing a long-term TCT measurement. In this case, a determination of the TCT for companies or selected services would take place if and when required. The competent authorities should be able to oblige the company by an order to measure the TCT over a specified period of time. If representative data on the overall use of digital services is collected for the same period, an assessment can be made about the relative ability of the company to attract users' attention after the period has ended. The measurement needs to be accompanied by an appropriate mechanism of ensuring regularity and data integrity, such as an auditors' certificate, regulatory control powers or a monitoring trustee.

A regulatory anchoring of the TCT model can in principle also take place by imposing a statutory or regulatory obligation on relevant companies to measure their TCT, e.g. to be able to make retrograde determinations. Such a TCT measurement could be designed as a transparency obligation, which is the basis for deciding on whether further market regulation is needed. This takes place in other markets[71] and serves both the authorities and the public as a tool for monitoring market activity.

For example, the DMA could impose an obligation on companies that meet the requirements of Art. 3 (1) of the draft DMA, but do not exceed all the thresholds set out in Art. 3(2), so that the Commission has to take a discretionary decision in accordance with Art. 3(6). In this case, the Commission would be in a position to always include current TCT values and the development of TCT in its decisions. The TCT values could be published regularly within the context of the transparency reporting obligations.

[71] E.g. in the energy markets, where extended market data has to be provided to the regulator – not only for the purpose of guaranteeing the stability of energy supply but also for the purpose of political strategy and planning.

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ISSN 2190-992X (online)
ISBN 978-3-86304-368-1