What if disruption really happens – are competition law and digital regulation fit for a new era of AI-driven competition?

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Abstract: This paper explores the effect of AI-driven business models on competition in digital markets. It argues that while disruptive innovations are emerging, they may not lead to Schumpeterian creative destruction and improved market contestability. Newcomers' innovations often create new (market) demand ('new market disruption'), which they can control independently of incumbents. Therefore, following a disruption, it is possible that both the incumbent with its legacy service and the innovative newcomer will remain in the relevant market (segments). Consequently, after disruption, both incumbents and innovative challengers may coexist, potentially limiting contestability from two angles. This paper analyses, from a competition policy standpoint, whether and how competition law and digital regulation should address the behaviour of successful newcomers. It is argued that, in addition to competition law, the rules of the Digital Markets Act for newcomers set out in Article 17(4) DMA should be applied in order to protect the competitive process and prevent newcomers from engaging in practices that could lead to market tipping. However, it is also shown that neither the DMA nor competition law are currently fully equipped to deal with disruptive newcomers.

JEL: D43, D47, K21, K23, L13, L41, L50

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I. Introduction

The digital economy is facing its most significant period of upheaval for over twenty years. The impact of the use of user-centric AI systems may be more powerful than anything since the formation of digital markets.[1] The current moment seems to be favourable for challengers with AI-driven business models.[2] In the medium and long term, AI-services could develop the kind of momentum that enables these undertakings to emerge from the so-called 'kill zone'[3] that surrounds digital incumbents making their positions almost incontestable.[4] The enormous investments that major tech companies are making in AI technology, including in research & development, strategic partnerships and acquisitions of AI start-ups, suggest that they also anticipate changes to digital markets.[5] The astoundingly high level of investment may be explained by the fact the individual parts of digital incumbents' business models appear to be more vulnerable than ever before in recent decades. Real market disruptions in the digital platform economy are possible, and are even anticipated by those in the industry.

For example, disruption may even be hitting one of the most successful digital business models of all time: Google Search. Google's search engine is facing increasing competitive pressure from newcomers providing so-called answer engines, such as perplexity.ai or OpenAI's Chat/SearchGPT.[6] Answer engines use generative AI (GenAI – a Large Language Model (LLM)) to provide users with all the necessary information about a search query on the platform itself, rather than through references to third-party websites. Answer engines are therefore particularly strong when it comes to knowledge questions.[7] The impact on conventional search engines is steadily growing, and as answer engines continue to improve the quality of their responses, the traditional way in which pure search engines function may soon be considered outdated.[8]It is possible that a not inconsiderable proportion of search queries on Google Search – which are used for direct knowledge acquisition and not for finding websites – will be

[1] See for example Brynjolfsson, E., Li, D. 2024. The Economics of Generative AI*, NBER The Reporter No. 1*, 16-19. See also Oxford Economics, How GenAI will change the world economy, Research Briefing (30 April 2024) <https://www.oxfordeconomics.com/resource/how-genai-will-change-the-world-economy/>.

[2] Simons, W., Turrini, A., Vivian, L. 2024. Artificial Intelligence: Economic Impact, Opportunities, Challenges, Implications for Policy, European Commission Discussion Paper 210, 14-18.

[3] Kamepalli, S., Rajan, R., Zingales, L. 2021. Kill Zone, NBER working paper No. W27146 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3603776>.

[4] Motta, M., Shelegia, S. 2024. The "Kill Zone": When Platform Copies to Eliminate a Potential Threat, *Journal of Economics & Management Strategy*, 1.

[5] Big Tech invests more than $300 Billion in AI technologies in 2025. Compare Morris, S., Uddin, R., Big Tech lines up over $300bn in AI spending for 2025, Financial Times (7 Feb 2025), <https://www.ft.com/content/634b7ec5-10c3-44d3-ae49-2a5b9ad566fa>.

[6] Compare Carugati, C., *Antitrust issues raised by answer engines*, 2023.

[7] Ibid, 1.

[8] Compare United States District Court for the District of Columbia, Memorandum Opinion, Case 1:20-cv-03010-APM, *United States of America et al. v. Google LLC*, Case No. 20-cv-3010, *State of Colorado et al. v. Google LLC.*, Case No. 20-cv-3715, p. 100. See Hagiu, A., Wright, J. 2025. Artificial intelligence and competition policy, *International Journal of Industrial Organization* <https://doi.org/10.1016/j.ijindorg.2025.103134>, 11.

redirected to such answer engines in the near future. The first signs of this development can already be seen in the search market. The amount of search queries on Google search stemming from Apple's browser Safari fell for the first time ever in April 2025.[9] This can probably be explained by users switching to AI-powered search.[10] Providers of answer engines could therefore cut off a large part of the business model of online search engines and take a bite out of the revenue from their advertising budgets.

Current developments in the capital markets illustrate just how big a threat this could pose to Google Search. After an Apple executive announced at a hearing in the US antitrust case concerning Google's search monopoly that Apple intends to incorporate AI search options, such as ChatGPT and perplexity.ai, into its Safari browser alongside traditional search engines, Alphabet's market share plummeted by 7.3%, reducing its market value by around $150 billion.[11] For the same reasons, some even question whether the business model of an online search engine could become completely obsolete through the emergence of AI-driven answer engines.[12] These anecdotes suggest that concerns about disruptions to the search market caused by new AI-driven business models may be reasonable. Even today, Google appears to recognise the pressure from these new business models.

This example illustrates that disruptive upheavals can occur in the digital economy,and the rise of AI-driven business modelsmay make such outcomes at least more likely. This raises the question of what this would mean for competition policy. The initial reaction might be that innovative challengers will increase market contestability, which would be a positive development. However, the paper does not take a wholly positive view of these market developments. The key message of this paper is that the emergence of disruptive newcomers may not necessarily increase market contestability (i.e. the openness of markets). Market contestability may remain low even after disruption. This hypothesis is based on the behavioural incentives of both incumbents and (disruptive) challengers.

[9] United States District Court for the District of Columbia, Memorandum Opinion, Case 1:20-cv-03010-APM, *United States of America et al. v. Google LLC*, Case No. 20-cv-3010, *State of Colorado et al. v. Google LLC.*, Case No. 20-cv-3715, p. 100. See also Soni, A., Godoy, J., Apple's plan to offer AI search options on Safari a blow to Google dominance, Reuters (8 May 2025) <https://www.reuters.com/business/apple-looks-add-ai-search-companys-browser-bloomberg-reports-2025-05-07/>.

[10] Ibid.

[11] Ibid. See also Remaly, B., Apple exec: AI may upend search engines, Global Competition Review (8 May 2025), (https://globalcompetitionreview.com/gcr-usa/article/apple-exec-ai-may-upend-search-engines).

[12] The Economist, Does Perplexity's answer engine threaten Google?, 2024 <https://www.economist.com/business/2024/05/02/does-perplexitys-answer-engine-threaten-google>.

As protection strategies against disruptive forces from an incumbent have already been dealt with in detail elsewhere,[13] this paper focuses more on the behaviour of potentially disruptive challengers or newcomers, and on how the actions of incumbents and challengers interact.[14] The paper does not claim to provide definitive answers to all the questions raised in this newly developing field, especially with regard to AI-driven competition. Instead, it is intended as a stimulus for further research and as a starting point for a competition policy debate.

It is argued that due to the peculiarities of the disruption process in digital markets, the emergence of a successful challenger may not lead to an overall increase of market contestability. This is because a newcomer's innovation to some extent creates new (market) demand (see Section II for the theoretical underpinning of this claim). Whether this demand stems from the creation of a 'new' (distinct) market or from additional market demand in the 'classic' market, in which the incumbent's legacy service also sits, can only be answered on an individual basis. The perspective may also change over time, as market dynamics involved in the disruption process evolve. Regardless of this classification, the newcomer could control user flow related to the new (market) demand independently of the incumbent, acting as an important gateway.[15] It is thus possible that after a disruption, both the incumbent with its legacy service that might be (partly) adapted to the innovation and the innovative newcomer itself remain on the relevant market(s).[16] In such a situation, contestability could be constrained from two angles – by the incumbent and by the successful challenger. Therefore, from a competition policy standpoint, it seems necessary to assess whether a successful newcomer will have the practical ability and incentive to undermine contestability by exploiting its emerging position of power. Despite the market disruption, this position could, in theory, exist independently of the incumbent's position to a certain extent (this aspect will be elaborated further under Section II and III).[17]

[13] See for example Ezrachi, A., Stucke, M.E. 2022. *How Big-Tech Barons Smash Innovation—and How to Strike Back*, 1st edn; Hemphill, C.S., Wu, T. 2020. Nascent Competitors, *University of Pennsylvania Law Review*, 168:1879; Federico, G., Scott Morton, F., Shapiro, C. Antitrust and Innovation: Welcoming and Protecting Disruption, printed in: Josh Lerner and Scott Stern (eds), *20 Innovation Policy and the Economy*, 2020, p. 125; Lemley, M.A., Wansley, M.T. 2025. Coopting Disruption, *Boston University Law Review*, 105:101; Katz, M.L. 2019. Multisided Platforms, Big Data, and a Little Antitrust Policy, *Review of Industrial Organization*, 54:695. See for a management perspective Gans, J. 2016. *The Disruption Dilemma*, pp. 97 subs. as well as Adner, R., Snow, D. 2010. Old technology responses to new technology threats: demand heterogeneity and technology retreats, *Industrial and Corporate Change*, 19:1655.

[14] van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409 subs. also deals with the effects of challengers on competition but more from the perspective of ecosystem competition.

[15] Especially, the incumbent could engage in so called platform envelopment strategies (see Sec. II. and III.).

[16] The term 'market' is not used in the strict sense of competition law. Section IV.B. provides a more detailed explanation of market definition in this respect.

[17] The behaviour could be used to further displace both the incumbent and third parties.

When approaching this topic, it is necessary to clarify how disruptions are likely to occur within the digital economy. Section II. provides an introduction to this topic. In particular the argument is put forward that newcomers could create and then benefit from new (market) demand through so-called 'new market disruptions' by offering disruptive innovative services. Additionally, Section II. will elaborate on the fact that disruption cannot always be associated with Schumpeterian creative destruction. The following Section III. sheds light on the criteria that may be relevant from a competition policy perspective when considering these disruption scenarios. It is emphasised that the aim of a regulator should neither be to replace the current incumbent nor to prevent the formation of new positions of power at all costs. However, rules protecting the competitive process against distortions stemming from both the incumbent and the challenger might still be necessary. In line with this paper's theoretical focus on challengers, Section IV. analyses how the competition policy findings could be implemented in practice. The argument is put forward that the Digital Markets Act (DMA[18]) and Article 102 TFEU may not be sufficient to address these issues. On a material level, the DMA may not contain sufficient rules for disruptive challengers with AI-driven business models under Article 17(4) DMA. In terms of applying competition law, the question of whether the challengers' practices could fall under the scope of Article 102 TFEU hinges on whether market dominance can also be established for challengers. This question is closely related to the definition of the relevant product market, which could lead to unexpected results in disruption scenarios. Section V. concludes with an outline.

II. How AI-disruption works and how digital markets may look like afterwards

The term 'disruption' is commonly used in the competition law literature on digital markets.[19] However, the term is frequently not used in accordance with its theoretical meaning. The term is meant as a shortcut of the theory of disruptive innovation. Originally, that theory goes back to a management concept by *Clayton Christensen*.[20] The essence is that disruptive innovation can occur in a market when an existing business model is no longer sustainable due to management decisions and a technical

[18] Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act), OJ [2022] L265/1.

[19] Compare Condorelli, D., Padilla, J. 2020. Harnessing Platform Envelopment in the Digital World, *Journal of Competition Law and Economics*, 16:143, 173; Federico, G., Scott Morton, F., Shapiro, C. Antitrust and Innovation: Welcoming and Protecting Disruption 2020. In Lerner, J., Stern, S. (eds), 20th ed., *Innovation Policy and the Economy*, pp. 125-126; Hemphill, C.S., Wu, T., 2020. Nascent Competitors, *University of Pennsylvania Law Review*, 168:1879, 1887; Petit, N. 2020. *Big Tech in the Digital Economy: The Monopoly Scenario*, p. 88; van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 421; Weber, R.H. Disruptive Technologies and Competition Law, 2019. In Mathis, K., Tor, A. (eds), *New Developments in Competition Law and Economics*, pp. 223 subs. Critically Christensen, C.M., Raynor, M.E., McDonald, R. 2015. What is Disruptive Innovation?, *Harvard Business Review*, December:44 subs; The term is also used in the EU-Commission's Impact Assessment on the DMA, compare Commission 15.12.2020, Staff Working Document, Impact Assessment Report for the Digital Markets Act, SWD(2020) 363 final, para 279.

[20] Compare esp. Christensen, C.M. 1997. *The Innovator's Dilemma*.

discontinuity triggered by innovation. The incumbent's business model may then be displaced by a different (innovative) approach, leading to the incumbent's demise.[21] Therefore, disruption is often associated with the competitive concept of creative destruction, which goes back to the ideas of Joseph Schumpeter.[22] According to Schumpeter, creative destruction is the process by which innovation continually transforms markets from within. New products, processes and business models generate new sources of value and temporary market power, while rendering incumbent technologies and firms obsolete. For Schumpeter, economic progress occurs in cycles of entry and exit as resources shift from the old paradigm to the new. Despite their theoretical similarities, disruption does not necessarily lead to creative destruction in every case. Other market outcomes are also possible. The following Sections will elaborate on the effects of market disruption in more detail.

A. The concept of 'new market disruption'

Since the concept of disruptive innovation was introduced in the 1990s, its fundamentals have been further developed and updated in the strategic management literature over time.[23] The central conceptual element for competition in digital markets is the so-called 'new market disruption'.[24] In the digital economy, there is generally a lesser threat of being replaced by a direct competitor in the same market with a comparable business model because the incumbent is very well shielded from such competition due to network effects and existing data and resource related economies of scale and scope.[25]

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[21] Christensen, C.M., Raynor, M.E., McDonald, R. 2015. What is Disruptive Innovation?, *Harvard Business Review*, December:44 -53; Petit, N. 2020. *Big Tech in the Digital Economy: The Monopoly Scenario*, pp. 121-126; See for a good overview Gilbert, R.J. 2020. *Innovation Matters*, pp. 71-75.

[22] Schumpeter, J., 1943. *Capitalism, Socialism & Democracy*, 1st edn, pp. 81-86; Compare Lemley, M.A., McCreary, A. 2020. Exit Strategy, *Boston Law Review*, 101:1, 5; Federico, G., Scott Morton, F., Shapiro, C. Antitrust and Innovation: Welcoming and Protecting Disruption, printed in Lerner, J., Stern, S. (eds), *20 Innovation Policy and the Economy*, 2020, pp. 125-126 refer to those connection; Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1175 indicate that both concepts are to a certain extent comparable.

[23] Especially Gans, J., 2016. *The Disruption Dilemma* as well as Christensen in Christensen, C.M., Raynor, M.E., McDonald, R. 2015. What is Disruptive Innovation?, *Harvard Business Review*, December:44-53; See also Chase, R. 2016. We Need to Expand the Definition of Disruptive Innovation, *Harvard Business Review*l, (https://hbr.org/2016/01/we-need-to-expand-the-definition-of-disruptive-innovation); Compare for an overview over the literature Schmidt, A.L., van der Sijde, P. 2022. Disruption by design? Classification framework for the archetypes of disruptive business models, *R&D Management*, 52:893, 894-895; Critical on the development of disruption theory in the past decades Hopp, C. et al. 2018. Perspective: The Topic Landscape of Disruption Research A Call for Consolidation, Reconciliation, and Generalization, *Journal of Product Innovation and Management*, 35:458 subs.

[24] Christensen, C.M., Raynor, M.E. 2003. *The Innovator's Solution*, pp. 45-46; See as well Bower, J.L., Christensen, C.M. 1995. Disruptive Technologies: Catching the Wave, *Harvard Business Review*, (https://hbr.org/1995/01/disruptive-technologies-catching-the-wave); The concept is to a large extent in line with the idea of indirect competition which is brought forward by another strain of the competition law & economics literature, compare Hemphill, C.S., Wu, T. 2020. Nascent Competitors, *University of Pennsylvania Law Review*, 168:1879, 1883-1889; van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 421.

[25] Cremer, J., de Montjoye, Y-A., Schweitzer, H. 2019. *Competition policy for the digital era*, p. 105; Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition,

In addition, an established incumbent can regularly adapt well to horizontal competition by continuously improving its own services (so called sustaining innovation).[26]

Displacement in the form of new market disruption is therefore more likely in the digital economy. In this situation, competitive pressure is being exerted by a company that was originally in a market (segment) other than that of the incumbent.[27] Initially, the challenger pursues a **technically different** and innovative business model, which appeals to different user needs than the service of the incumbent.[28] Thus, the challenger either captures demand that is not well served by the incumbent, or creates new demand through its innovative offering.[29] Given that the challenger caters to a different range of user needs, it possesses the potential to expand its business operations in this market (segment) to a considerable size. For the time being, the challenger's technology is – for a longer period of time – not even a good substitute for the incumbent's offering.[30]

A technological tipping point may only be reached after the challenger's service has undergone continuous improvement.[31] At this tipping point, the new technology may have developed (additional) functionalities through the progressive innovation that enables it to perform tasks of the incumbent's technology just as efficiently or even qualitatively better or more cost-effectively.[32] The technological

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Industrial and Corporate Change, 30:1168, 1190; Zingales, J., Lancieri, F.M. 2019. Stigler Committee on Digital Platforms Final Report, pp. 6-7.

[26] Christensen, C.M., Raynor, M.E. 2003. *The Innovator's Solution*, pp. 39-40.

[27] The terminology used does not necessary align with the results of a market definition. See Section IV.B. for more details. See also for a more general approach on this topic Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1189-1190.

[28] Bower, J.L., Christensen, C.M. 1995. Disruptive Technologies: Catching the Wave, *Harvard Business Review*, <https://hbr.org/1995/01/disruptive-technologies-catching-the-wave>; See also Federico, G., Scott Morton, F., Shapiro, C. Antitrust and Innovation: Welcoming and Protecting Disruption, printed in: Lerner, J., Stern, S. (eds), *20 Innovation Policy and the Economy*,2020, p. 126; Compare as well Gans, J. 2016. *The Disruption Dilemma*, pp. 22-24; Anthony, S.D. 2024. The Perfectly Imperfect Start of Disruptive Innovations, *MIT Sloan Management Review* <https://sloanreview.mit.edu/article/the-perfectly-imperfect-start-of-disruptive-innovations/>; Bresnahan, T.F., Greenstein, S. 1999. Technological Competition and the Structure of the Computer Industry, *The Journal of Industrial Economics*, 47:1, 21.

[29] Federico, G., Scott Morton, F., Shapiro, C. Antitrust and Innovation: Welcoming and Protecting Disruption, printed in: Lerner, J., Stern, S. (eds), *20 Innovation Policy and the Economy*, 2020, p. 126; Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1189 further stress that the new offering could lead to an inward shift of the demand curve for existing products.

[30] Christensen, C.M., Raynor, M.E. 2003. *The Innovator's Solution*, p. 34 argue that disruptive innovations redefine the trajectory as the new technologies may not be as good as the currently available products but they offer other benefits.

[31] Gans, J. 2016. *The Disruption Dilemma*, p. 18; Weck, T. 2024. AI and Competition Policy: Balancing Innovation and Market Regulation, *Journal of AI Law and Regulation*, 4:440, 446; See also Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1190.

[32] Gans, J. 2016. *The Disruption Dilemma*, p. 19.

progress of such an innovation is then so pronounced that a previously dominant technology becomes partly or completely obsolete.

Henderson and *Clark* approach this scenario from a different perspective than *Christensen* but arrive at a similar result. They emphasise that new technologies can be 'architectural innovations'.[33] This means that the disruptive force comes from a technology that the incumbent could not easily respond to due to technological restraints in its own product trajectory or to missing internal capabilities, such as lack of know-how or skilled personnel.[34] This is further exacerbated by the management's potential lack of strategic foresight, which may prevent them from anticipating significant market changes.[35] The newcomer has thus 'dynamic capabilities' that differ from those of the incumbent.[36] For example, having the necessary skills and technical background to provide search engine services does not necessarily mean that a company also has the internal prerequisites to build a successful AI answer engine. In essence, in the view of the proponents of this capabilities theory, the incumbent's technological path dependence leads to the risk of disruption if the already mentioned technological tipping point is reached.[37]

As a result of this dynamic development, regardless of the concrete prong of the underlying disruption/innovation theory, it is then possible for the challenger to enter into direct competition with the incumbent and compete for market share.[38] At this point, the previously distinct markets (or market segments) merge.

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[33] Henderson, R., Clark, K. 1990. Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms, *Administrative Science Quarterly*, 35:9 subs.

[34] Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1178; See also Gilbert, R.J. 2020. *Innovation Matters*, pp. 73-74; Compare as well Gans, J. 2016. *The Disruption Dilemma*, pp. 22-24; Anthony, S.D. 2024. The Perfectly Imperfect Start of Disruptive Innovations, *MIT Sloan Management Review* <https://sloanreview.mit.edu/article/the-perfectly-imperfect-start-of-disruptive-innovations/>; Bresnahan, T.F., Greenstein, S. 1999. Technological Competition and the Structure of the Computer Industry, *The Journal of Industrial Economics*, 47:1, 21.

[35] This goes back to the fundamentals of Christensen's theory. Compare again Christensen, C.M. 1997. *The Innovator's Dilemma*. See also Li, A., Sullivan, B.N. 2022. Blind to the future: Exploring the contingent effect of managerial hubris on strategic foresight, *Strategic Organization*, 20:565.

[36] See the groundwork of Tushman, M.L., Anderson, P. 1986. Technological Discontinuities and Organizational Environments, *Administrative Science Quarterly*, 31:439 subs; See also Teece, D.J. Dynamic Capabilities and (Digital) Platform Lifecycles, 2017. In Furman, J. et al. (eds), 37th ed., *Advances in Strategic Management*, 2017, p. 213. and Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1178.

[37] Gilbert, R.J. 2020. *Innovation Matters*, p. 74; Sydow, J., Schreyögg, G., Koch, J. 2020. On the Theory of Organizational Path Dependence: Clarifications, Replies to Objections and Extensions, *Academy of Management Review*, 45:717, 718-720.

[38] Christensen, C.M., Raynor, M.E. 2003. *The Innovator's Solution*, pp. 39-40; Bower, J.L., Christensen, C.M. 1995. Disruptive Technologies: Catching the Wave, *Harvard Business Review*, (https://hbr.org/1995/01/disruptive-technologies-catching-the-wave); See also van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 414.

An incumbent may find it hard to react to such a new market disruption threat because the challenger had the ability to grow its own network effects and/or data-related economies of scope and scale.[39] Furthermore, the strong technical discontinuity forces the incumbent to radically change its own business model if it wants to compete with the innovative challenger, which means that the incumbent's previous competitive advantages cannot be transferred to future rounds of competition, at least not to its full extent.[40]

B. New market disruption and AI-driven services

This scenario might be particularly relevant regarding AI-based services in the digital economy.[41] They open up new ways of serving users in the digital economy that could not have been pursued in previous decades. As AI-driven business models differ from traditional digital business models, they also offer the opportunity to generate new market demand and enter new segments of digital competition.

If we take the example of an answer engine, the first types like the Chatbot-like ChatGPT 3.5 proved to be very effective in knowledge creation, and they could also be used very effectively for writing software code.[42] Therefore, they initially generated demand from people who relied on these services for tasks that they would not – or at least not to a large extent – have delegated to a search engine. The first answer engines were also poor substitutes for classic search engines because, in their early days, these answer engines could not serve any internet-based references in their generated texts. Their main purpose was to provide knowledge rather than act as intermediaries.[43] In contrast, nowadays, most of the answer engines are crawling and indexing the web, which enables them to provide further references to websites in their texts. The integration of these references enables a closer substitution between search and answer engines since they can now be used for more reliable source-backed knowledge questions and navigational queries.

The rapid progress of answer engines could lead to a development where more and more search queries can be answered much better by an answer engine than by a search engine.[44] The increased use

[39] Peitz, M. 2020. Economic Policy for Digital Attention Intermediaries, ZEW-Discussion Paper No. 20-035, 30.
[40] Gilbert, R.J. 2020. *Innovation Matters*, p. 74.
[41] Agrawal, A., Gans, J., Goldfarb, A. 2020. *Power and Prediction: The Disruptive Economics of Artificial Intelligence*; Akinsola et al., Artificial Intelligence Emergence in Disruptive Technology, printed in: Salau, A.O., Jain, S., Sood, M. (eds), *Computational Intelligence and Data Science*, 2022, pp. 74 subs.; Iansiti, M., Lakhani, K.R. 2020. *Competing in the Age of AI*, pp. 3-8; Compare for a general overview over the literature Pavaloaia, V-D., Necula, S-C. 2023. Artificial Intelligence as a Disruptive Technology—A Systematic Literature Review, *Electronics*, 12:1102 subs.
[42] Compare for example Open AI's ChatGPT Coding Assistant, (https://chatgpt.com/g/g-vK4oPfjfp-coding-assistant).
[43] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 5, 9.
[44] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 2, 4, 6.

of AI-based answer engines could then trigger a positive feedback loop through AI-self-learning effects.[45] This could also massively increase the quality of the output.[46] If this process continues, an answer engine could make a search engine (at least partially) obsolete.[47] The only suitable defence for a search engine provider would be to switch to offering an answer engine itself.[48] As the underlying technology of an answer engine is typically based on an LLM[49] which is combined with a web crawling service, the search engine operator cannot simply rely on previous expertise in this changing competitive environment.[50] This lessens its competitive advantages. Should there be a real shift in demand for answer engines, the advantages, e.g. the network effects, of operating the search engine (alone) would no longer be insurmountable.

Another example of a new market disruption is the introduction of TikTok. When TikTok was introduced, it relied more heavily on video-based content than other social media platforms. In addition, the curation of content on TikTok relied on (AI-driven) algorithms that were trained differently and with other parameters than Meta's underlying social graph algorithm.[51] This led to the fact that the new business model was particularly appealing to younger users. Additionally, relying on different curation algorithms led to higher user engagement rates.[52] This means that users effectively devote more of their time (i.e. attention) to the platform's services. Therefore, TikTok had the chance to gain a foothold in the market serving the needs of a new generation of users that probably had different preferences with regard to digital services ('digital natives') and also were not bound by relevant network effects because their respective social sphere had not been previously served by another social network.[53]

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[45] Compare Iansiti, M., Lakhani, K.R. 2020. *Competing in the Age of AI*, p. 11 for an short study on the improvements of the AI-based voice assistant Amazon Alexa.

[46] Schepp, N-P., Wambach, A. 2016. On Big Data and Its Relevance for Market Power Assessment*, Journal of European Competition Law & Practice*, 7:120, 121; Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 17 compares this feedback loop development with data-driven network effects.

[47] The Economist, Does Perplexity's answer engine threaten Google?, 2024 (https://www.economist.com/business/2024/05/02/does-perplexitys-answer-engine-threaten-google); This development was unforeseen in the literature for a long time, compare Hovenkamp, H. 2021. Antitrust and Platform Monopoly, *The Yale Law Journal*, 130:1901, 1998-1999.

[48] Google is already pursuing this approach. Compare Google blog post, Generative AI in Search: Let Google do the searching for you, 2024, (https://blog.google/products/search/generative-ai-google-search-may-2024/); The integration of an answer engine into a search engine may raise antitrust and regulatory issues, depending on how it is organised. Tying or unauthorised self-preferencing could be considered. Compare in this regard Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 2; Skeptical Weck, T. 2024. AI and Competition Policy: Balancing Innovation and Market Regulation, *Journal of AI Law and Regulation*, 4:440, 446.

[49] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 4-5.

[50] Hovenkamp, H. 2021. Antitrust and Platform Monopoly, *The Yale Law Journal*, 130:1901, 1990 illustrates the underlying dynamics of change with further illustrative examples.

[51] Compare GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 155-157 as well as Case DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 57.

[52] Case DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 54 (fn. 54), 141, 159.

[53] For young people at least, the network effects were not overwhelmingly high.

TikTok thus served (and formed) the newly developing market demand of a younger generation of users quite well. From this point in the market, TikTok had the chance to develop its own network effects and to grow into the realm of other social networks.

These examples show how disruption processes could be initiated in the digital economy. Technical discontinuities, such as AI-driven innovation, as well as the ageing of the digital population itself, pave the way for disruption.

C. We might not see incumbents disappearing from the market

The observations regarding the potential developments in the competition between incumbents and challengers provide general insights:

Firstly, the business models of the incumbent and the challenger will develop alongside each other in different markets or market segments[54] – at least for a certain period of time. This is currently the case with search and answer engines, for example, and was also the case with TikTok and other social media platforms. Therefore, it will not be immediately apparent that a disruption process is taking place. This is because the necessary leap in quality that triggers a switch to new technology, and ultimately a re-tipping of markets, will only occur after a certain period of time, which may be unpredictable.[55]

Secondly, a disruption or a technical discontinuity, such as the AI-driven market transformation, does not necessarily result in incumbents disappearing from the market (i.e. a full re-tipping of a market).[56] A complete shift of the market to the challenger in the sense of a fully re-tipping of a market is conceivable, but this is not the only option.[57] A market split between incumbent and challenger as well as a complete failure of the challenger due to a successful defence strategy of the incumbent are also possible.[58] A complete replacement of the current platform incumbent is particularly difficult due to

[54] The use of this term does not necessarily imply that this would be the result of a market definition under European competition law, compare for more details on market definition aspects Sec. IV.B.
[55] Christensen, C.M., Raynor, M.E., McDonald, R. 2015. What is Disruptive Innovation?, *Harvard Business Review*, December:44 subs; For answer engines Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 17; Illustrative Oxera, 2021. *Tipping: should regulators intervene before or after? A policy dilemma*, <https://www.oxera.com/insights/agenda/articles/tipping-should-regulators-intervene-before-or-after-a-policy-dilemma/#_ftn22>.
[56] Compare Hovenkamp, H. 2021. Antitrust and Platform Monopoly, *The Yale Law Journal*, 130:1901, 1995; See also from an economic point of view Gilbert, R.J. 2020. *Innovation Matters*, pp. 74-75 as well as Bergek, A. et al. Technological discontinuities and the challenge for incumbent firms: Destruction, disruption or creative accumulation?, *Research Policy*, 42:1210 subs.
[57] Compare Katz, M.L., Shapiro, C. 1994. Systems Competition and Network Effects, *Journal of Economic Perspectives*, 8:93, 106; See also Bergek, A. et al. Technological discontinuities and the challenge for incumbent firms: Destruction, disruption or creative accumulation?, *Research Policy*, 42:1210.
[58] Compare Adner, R., Snow, D. 2010. Old technology responses to new technology threats: demand heterogeneity and technology retreats, *Industrial and Corporate Change*, 19:1655.

the observable consumer stickiness in the digital economy, which is triggered in particular by network effects, the well-known status quo bias and especially ecosystem effects.[59] While these advantages may be less valuable in AI-driven competition, as noted above, they are likely to be non-negligible because AI innovations are also pushing into platform markets and thus, to some extent, into established platform market dynamics. The failure of disruption is possible or even likely if the incumbent succeeds in developing a copycat product or another alternative technology in response to the threat posed by the challenger at an early stage.

The financial strength of Big Tech also speaks in favour of a successful defence. As mentioned above, the companies can invest considerable resources (both capital and personnel) in research and development and thus ultimately in defending their market position.[60] They also benefit from existing data-related economies of scope and scale.[61] Their prominent current market position puts them in a position to successfully defend themselves even against technical discontinuities, making it less likely that they will be completely replaced by newcomers. Thus, Big Tech has the unique ability to self-disrupt their business model to a certain extent.[62] For example, Google has already been able to resist the shift from desktop-based search to search on mobile devices. One of the reasons behind the very resource-intensive development of the Android operating system was to protect its search monopoly; especially the development of Android enabled Google to occupy the most important default positions for search on mobile devices.[63]

Furthermore, Big Tech's financial strength may allow them to acquire the most promising start-ups before they have the opportunity to develop into serious competitors.[64] For this reason, acquiring start-

[59] Edelman, B.G., Geradin, D. 2016. Android and Competition Law: Exploring and Assessing Google's Practices in Mobile, *European Competition Journal*, 12:159, 172; Stucke, M.E, Ezrachi, A. 2015. When Competition Fails to Optimise Quality: A Look at Search Engines, *Yale Journal of Law & Technology*, 18:70, 83, 105; Compare for a real world example EU-Commission, Case AT.40099 - Google Android, para 781-782, 789; Compare for the effects of ecosystems van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 426.

[60] Condorelli, D., Padilla, J. 2020. Harnessing Platform Envelopment in the Digital World, *Journal of Competition Law and Economics*, 16:143, 160; Eisenmann. T., Parker, G., Van Alstyne, M. 2011. Platform Envelopment, *Strategic Management Journal*, 32:1270, 1283.

[61] Cremer, J., de Montjoye, Y-A., Schweitzer, H. 2019. *Competition policy for the digital era*, p. 2.

[62] This represents a significant difference to the original assumption of the theory of disruptive innovation. According to this theory, companies were assumed to anticipate disruption too late and no longer be able to react adequately. Compare Bower, J.L., Christensen, C.M. 1995. Disruptive Technologies: Catching the Wave, *Harvard Business Review*, (https://hbr.org/1995/01/disruptive-technologies-catching-the-wave); It is probably fair to say that big tech firms are the phenotype of an ambidextrous organization, compare on this theoretical management concept O'Reilly, C.A., Tushman, M.L. 2004. The Ambidextrous Organization, *Harvard Business Review*, <https://hbr.org/2004/04/the-ambidextrous-organization>.

[63] EU-Commission, Case AT.40099 - Google Android, para 739, 1140, 1341, 1343, 1345, 1354. Compare GC 14.9.2022, T-604/18, ECLI:EU:T:2022:541 – Google Android, para 18.

[64] Kamepalli, S., Rajan, R., Zingales, L. 2021. Kill Zone, NBER working paper No. W27146 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3603776>.

ups is considered an effective way for Big Tech companies to reduce competitive pressure and protect their business model.[65] Additionally, the rise of strategic partnerships between Big Tech companies and AI start-ups raises similar concerns (for example Microsoft investing in OpenAI or Amazon partnering with Anthropic).[66] Through these partnerships, undertakings invest large sums in innovative start-ups, but in return they may demand exclusivity or other advantages regarding the subsequent use of the technology.[67] Overall, both acquisitions and strategic partnerships have the potential to reduce competitive pressure on incumbents, even strengthening their position.[68]

The significant investments, acquisitions and strategic partnerships made by digital incumbents in AI-based technologies make it impressively clear that they now also want to adapt their business models to the emerging changes. Knowing that AI-based services are 'the next big thing', they are continuously driving forward their own innovative efforts in this regard.[69] The pursued strategies allow incumbents to seamlessly integrate their own AI services, as well as those of third parties, into their existing digital ecosystem. This ultimately makes it easier for incumbents to penetrate and dominate AI markets, which we are already seeing on a larger scale.[70]

Innovative newcomers in these markets are therefore up against very powerful opponents. The dynamics of change in the digital economy triggered by AI-driven technologies are not comparable with the situation two decades ago, when the current incumbents rolled up the digital markets. Back then, the network effects and financial strength of companies such as Yahoo! were much less developed than they are today. The incumbents at the time had virtually nothing to counter the better-suited business models of the challengers Google and Co. This is different today for the reasons mentioned above. However, AI-driven competition is so ground-breaking that challengers can also receive significant funding from third parties in the form of venture capital, which enables them to build a strong business

[65] There is a vast body of literature on the so-called "Killer Acquisitions". Compare Lemley, M.A., McCreary, A. 2020. Exit Strategy, *Boston Law Review*, 101:1, 64-65; McLean, A.P. 2021. A Financial Capitalism Perspective on Start-Up Acquisitions: Introducing the Economic Goodwill Test, *Journal of Competition Law & Economics*, 17:141, 144-145; Pike, C. 2020. *Start-ups, Killer Acquisitions and Merger Control – Background Note OECD-Paper*, DAF/COMP(2020)5. The term "Killer Acquisition"was originally coined for pharma markets by Cunnigham, C., Ederer, F., Ma, S. 2021. Killer Acquisitions, Journal of Political Economy 129:649.

[66] FTC. 2025. *Partnerships Between Cloud Service Providers and AI Developers,* FTC Staff Report on AI Partnerships & Investments 6(b) Study < https://www.ftc.gov/system/files/ftc_gov/pdf/p246201_aipartnerships6breport_redacted_0.pdf>. See also Groza, T. 2025. *AI Partnerships Beyond Control Lessons from the OpenAI-Microsoft Saga* <https://law.stanford.edu/2025/03/21/ai-partnerships-beyond-control-lessons-from-the-openai-microsoft-saga/>.

[67] Compare for an overview Gupta, N., Urmetzer, F., Ansari S. 2025. Big-Tech Strategic Partnerships in Artificial Intelligence, *International Journal of Business and Management* 20:57 <http://dx.doi.org/10.5539/ijbm.v20n3p57>.

[68] Compare for a differentiated rather critical view on Killer Acquisitions Ederer, F., Seibel, R., Simcoe, T. (2025) *Digital (Killer) Acquisitions* < https://florianederer.github.io/digital.pdf>.

[69] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 16.

[70] See Hagiu, A., Wright, J. 2025. Artificial intelligence and competition policy, *International Journal of Industrial Organization* <https://doi.org/10.1016/j.ijindorg.2025.103134>.

model despite competition from incumbents.[71] As a result, both sides seem to have sufficient funds to compete fiercely, which would be beneficial for market development.[72]

Due to the considerable investments[73] on both sides, it is possible that a newcomer will only succeed in challenging the incumbent for certain parts of the dominated market in the future. An oligopoly could then emerge.[74] Such a market division is particularly likely if the markets concerned allow a higher degree of product differentiation and/or user segmentation.[75] This is illustrated by the development of TikTok in relation to Instagram and Facebook. TikTok, Instagram and Facebook are all social networks.[76] However, their respective offerings differ greatly in terms of presentation. While Facebook and Instagram still rely more heavily on images, TikTok utilises a different video feed that goes hand in hand with increased user engagement.[77] The different content design allows users to divide themselves between the platforms. There has been no definitive shift in favour of the challenger. Instead, the platforms share the market and do not exert particularly harsh competitive pressure on each other.[78] This development is possible if the individual platforms can attract so many users that they can build up existing market positions alongside each other, each with sufficiently strong network effects. Therefore, market segmentation is only possible if markets are large enough and if user preferences are diverse enough. A division of markets is more likely if users can sort themselves according to age or interest groups. This trend can also be observed in social networks. For example, older users are more likely to be found on

[71] Lemley, M.A., McCreary, A. 2020. Exit Strategy, *Boston Law Review*, 101:1, 6; Montanaro, B., Croce, A., Ughetto, E. 2024. Venture capital investments in artificial intelligence, *Journal of Evolutionary Economics* 34:1, 2; World Economic Forum, *How venture capital is investing in AI in the top five global economies - and shaping the AI ecosystem*, 2024 <https://www.weforum.org/stories/2024/05/these-5-countries-are-leading-the-global-ai-race-heres-how-theyre-doing-it/>. This trend has already been developing for several years, compare OECD, *Venture Capital Investments in Artificial Intelligence*, OECD Digital Economy Papers No. 319, 2021.

[72] However, note that the immense financial resources required also make it clear that there will not be a large number of newcomers, let alone successful ones. It is more likely that we will only see a few new businesses, such as Perplexity.ai, entering for example the search market.

[73] Incumbents also employ further potential anticompetitive strategies, such as acquiring start-ups or forming strategic partnerships with AI companies, see above.

[74] Such competitive relationships could exhibit structural similarities to the concept of so-called 'Moligopoly Competition', which goes back to Petit. Compare Petit, N. *Big Tech & the Digital Economy, The Moligopoly Scenario*, 1st edn., 2020, pp. 153 et seq.

[75] Katz, M.L., Shapiro, C. 1994. Systems Competition and Network Effects, *Journal of Economic Perspectives*, 8:93, 106.

[76] Note that the Commission considers TikTok and Facebook being in the same market for social networking services including hybrid social media platforms. Although, the Commission claims that TikTok would impose less effective and less immediate competitive constraints on Facebook. Compare EU-Commission, Case AT.40684 – Facebook Marketplace, para 282-335.

[77] EU-Commission, Case DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 141.

[78] See also EU-Commission Case AT.40684 – Facebook Marketplace, para 335 ("less effective and immediate competitive constraints").

Facebook, while younger groups of users increasingly use Instagram and TikTok, but less Facebook.[79] Thus, the challenger's offering results in age-related and partly social segmentation.

Notwithstanding, the market segmentation described above could only be of a provisional nature. In individual cases, there may be specific tipping points in a market which, when reached, can trigger new tipping developments.[80] This is possible in the case of social networks, for example, if the network effects of the established platform decline more and more as a result of older users dropping out. In the competition between search engines and answer engines, a scenario is conceivable in which a tipping point is reached when there is a trade-off for businesses as to whether they optimise their website for the traditional search algorithm (so-called search engine optimisation) or for the answer engine based on an LLM (so-called answer engine optimisation).[81] If there are real profound trade-offs in this respect, there could be a sharp drop in the quality of search results on a search engine if business users start to optimise their websites for answer engines instead of search engines, which would accelerate a final migration of end users to the answer engine.

III. Competition policy perspective

Although market disruptions with regard to AI-driven competition are likely, creative destruction is just one possible market outcome and may even be a rather unlikely prospect at present. The example of the effects of answer engines on online search engines in particular reveals that there are numerous conceivable future scenarios that merely involve a partial replacement of the incumbent. AI-driven disruptions therefore do not necessarily mean that we will see the demise of one of the Big Tech companies.

Based on this, the question now arises of how to react to these findings from a competition policy perspective. In other words, should competition law and digital regulation only consider the actions of incumbents, or should they also take into account the actions of disruptive newcomers?

To answer this question, it must first be acknowledged that none of the aforementioned competition results can be considered fundamentally preferable. The question of which competitive outcome would

[79] GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 169 and Statista, *Most used social media platforms among Gen Z and internet users worldwide as of September*, 2023 <https://www.statista.com/statistics/1446950/gen-z-internet-users-social-media-use/>.
[80] Cusumano, M.A., Gawer, A., Yoffie, D.B., *The Business of Platforms*, 1st edn., 2019, pp. 41-47. Compare as well Belleflamme, P., Peitz, M., *The Economics of Platforms*, 1st edn., 2021, pp. 13-15; 116; Katz, M.L., Shapiro, C. 1994. Systems Competition and Network Effects, *Journal of Economic Perspectives*, 8:93, 105-106.
[81] Krantz, J., *AEO is the New SEO*, 2024 <https://datos-insights.com/blog/jack-krantz/aeo-is-the-new-seo/>.

be desirable implies the question of the underlying standard for assessment. However, the central problem lies precisely in determining this standard. This is because there is no (simple) common benchmark for weighing up different competitive states in the highly dynamic disruption context described in Section II.[82] For instance, the question of whether short-term or long-term advantages for consumers should be considered when orienting towards the consumer welfare standard arises.[83] It would also have to be considered whether advantages for consumers remaining in a digital ecosystem should be weighted higher than the advantages of innovation that renders parts of the ecosystem associated with consumer benefits obsolete.[84] It could also be taken into account whether, in addition to the advantages for consumers, potential benefits for business users should also be given greater focus, as digital platforms could have a certain responsibility in this respect.[85] Furthermore, a political dimension of power, which goes hand in hand with the sheer size of the current digital incumbents, could also play a role in the assessment.[86] Depending on the weighting, diametrically different statements could be made about the desired outcome of the competition. This leaves room for opportunism, creates legal uncertainty for the companies concerned and it is not really foreseeable whether an intervention will have positive effects.[87] For this reason, far-reaching interventions could lead to unpredictable and even undesirable consequences.[88]

Irrespective of how the effects of disruption on individual groups of market participants are to be judged from a competition-policy perspective, it is clear that trade-offs must be accepted. However,

[82] Jacobides, M.G., Lianos, I. 2021. Regulating platforms and ecosystems: an introduction, *Industrial and Corporate Change* 30:1131, 1136-1137.
[83] Spulber, D.F., 2023. Antitrust and Innovation Competition, *Journal of Antitrust Enforcement* 11:5, 8. Jacobides, M.G., Lianos, I. 2021. Regulating platforms and ecosystems: an introduction, *Industrial and Corporate Change* 30:1131, 1135 elaborate further on this distinction.
[84] Compare for a thorough analysis of the benefits of digital ecosystems Hornung, P. 2024. The Ecosystem Concept, the DMA, and Section 19a GWB, *Journal of Antitrust Enforcement* 12:396, 401-402.
[85] Compare Zimmer, D., 2022. The Digital Markets Act: An ex ante evaluation, *Concurrences N° 3*, para 33.
[86] Compare in regard to the New Brandeis Movement Khan, L. 2016. Amazon's Antitrust Paradox, *The Yale Law Journal* 126:710; Khan, L. 2018. The New Brandeis Movement: America's Antimonopoly Debate, Journal of European Competition Law & Practice 9:131 and Wu, T. The Curse of Bigness: Antitrust in the New Gilded Age, 1st edn., 2018. Compare in this context as well the critical analysis of Lindeboom, J. 2023. Two Challenges for Neo-Brandeisian Antitrust, *The Antitrust Bulletin* 68:392 and Auer, D., Radic, L., 2024. The Legacy of Neo-Brandeisianism: History or Footnote? Future of Neo-Brandeis Movement, *Network Law Review* <https://www.networklawreview.org/auer-radic-brandeisianism/>.
[87] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 16-17; Oxera, *Tipping: should regulators intervene before or after? A policy dilemma*, 2021 <https://www.oxera.com/insights/agenda/articles/tipping-should-regulators-intervene-before-or-after-a-policy-dilemma/#_ftn22>; Weck, T. 2024. AI and Competition Policy: Balancing Innovation and Market Regulation, *Journal of AI Law and Regulation*, 4:440, 446 highlights that determining whether practices are harmful or beneficial to could only be assessed in retrospect.
[88] Due to these difficulties, it might make sense to focus on the lowest common denominator for the assessment of a very dynamic competitive situation: The protection of the competitive process. Compare for such an approach Schweitzer, H. 2021. The Art to Make Gatekeeper Positions Contestable and the Challenge to Know What Is Fair: A Discussion of the Digital Markets Act Proposal, *Zeitschrift für Europäisches Privatrecht* 29:503, 517-518. So probably also for answer engines Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 17.

this would mean that the occurrence of a Schumpeterian creative destruction is not to be assessed as good or bad per se, nor is it better or worse than the demand-driven division of markets or the complete failure of a disruption. Moreover, it would mean that individual effects are not decisive. Rather, whether and how successful individual market participants are in competition should generally be assessed as neutral. For example, a conditioning effect on the incumbent could already occur due to an emerging potential competitive relationship with a newcomer as long as the markets are free of barriers to entry, i.e. contestable.

This insight leads to the conclusion that the decisive yardstick for a competition law assessment in AI markets should be the common denominator of competition theories: the question whether the competitive process can operate undisturbedly.[89] With regard to economic power positions or monopolies, it is not their emergence that may be problematic, but rather how such a position is obtained, disadvantaging competitors in the process, and how such a position is exercised.[90] This means for the application of competition law, esp. Article 101 and 102 TFEU, and also for the application of the DMA, that digital incumbents should not be placed in a worse or better position per se in competition with successful newcomers.[91]

However, the analysis in Section II. has shown that due to the peculiarities of disruption in the digital sphere, not only the incumbent might be able to engage in effective anticompetitive behaviour. We may also expect a similar market behaviour from challengers after they have gained a necessary foothold in a (sub-)market. Newcomers too may develop not insignificant network effects, economies of

[89] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 17.

[90] Gerbrandy, A. 2019, Rethinking Competition Law within the European Economic Constitution, Journal of Common Market Studies 57:127, 134. A comparable objective also governs the national provision of Section 20 of the German Act against Restraints of Competition (GWB) in German law.

[91] This basic idea, which Heike Schweitzer also impressively called for in the legislative process of the Digital Markets Act must apply in principle to (disruptive) competition between an incumbent and a challenger in the digital economy. Competition that can take place on a level playing field also makes it possible for the users to decide on the success or failure of the services through their usage behaviour, which also seems to be the most democratic approach to disruptions in the digital economy. Compare Schweitzer, H. 2021. The Art to Make Gatekeeper Positions Contestable and the Challenge to Know What Is Fair: A Discussion of the Digital Markets Act Proposal, *Zeitschrift für Europäisches Privatrecht* 29:503, 517-518. However, some authors suggest that it might be preferential to support newcomers instead. Compare Andriychuk, O., 2021. Shaping the New Modality of the Digital Markets: The Impact of the DSA/DMA Proposals on Inter-Platform Competition, *World Competition* 44:261, 267, who highlights the difficulties regarding standard setting but probably argues in favour of supporting new entrants: "achieving real inter-platform competition in the digital markets, with their natural susceptibility to monopolization, is almost impossible without the systemic prioritization of new entrants; and such systemic prioritization is almost impossible without invoking measures very close to the borderline of acceptability in terms of protecting the principles of free market and equidistant regulatory neutrality." Compare as well Van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 427 who proposes to consider proactive procompetitive interventions that make the market entry of newcomers easier.

scale and scope and shape an ecosystem around their AI-based platform services.[92] Of course, these advantages are significantly lower than those of the incumbent for some time.[93] But because of the nature of disruption, the incumbent may be unable to fully exploit its relative size advantages over the newcomer. A challenger could therefore pursue effective platform envelopment strategies in spite of its smaller size compared to the incumbent.[94] Therefore, challengers may from a certain point of time engage in behaviour that could artificially lead to a (re-)tipping of markets or market segments.[95]

Such a development could cause concern with regard to the goal to protect the competitive process. This is because a market tipping based on platform envelopment strategies leads to a situation in which the success of the disruptive innovation is not only decided by the end users (i.e. consumers). This may distort the competitive process because competition can only unfold freely if consumers are not being steered to a certain service, regardless of being steered by the incumbent or by the challenger. The only relevant criterion in this respect is that both market actors, incumbent and challenger, have the appropriate capabilities to engage in anticompetitive platform envelopment.[96] There are therefore good arguments for the view that in disruption scenarios, both the incumbent and the challenger, at least after it has achieved a superior market position, bear a special responsibility not to impair competition or contestability of digital markets.

Consequently, competition enforcers should not overlook the new power because their focus is still solely on incumbent Big Tech. Hence, this is not an 'either/or' situation; both incumbents and newcomers may pose challenges for competition law and digital regulation. Competition law and digital regulation may therefore have to protect the competitive process in two dimensions with regard to disruptive developments. On the one hand, rules for incumbents help to keep markets open. On the other hand, as soon as the innovative newcomers have achieved a position of power that is to be taken seriously, rules may have to apply to them, to prevent them from rolling up markets by actions that are not compatible with the concept of competition on the merits, i.e. artificially creating barriers to entry.

[92] Compare for an in-depth analysis of the relevance of ecosystems in the DMA Van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 444. This development can already be observed in the case of Perplexity.ai. Perplexity has recently added an AI-based shopping service to its answer engine service.

[93] In the event of a successful disruption scenario, though, the size ratio will change over time.

[94] It may even be able to penetrate the incumbent's business activities, thereby increasing the likelihood of its overall success; Compare on the issue of platform envelopment Eisenmann. T., Parker, G., Van Alstyne, M. 2011. Platform Envelopment, *Strategic Management Journal*, 32:1270 subs. as well as Condorelli, D., Padilla, J. 2020. Harnessing Platform Envelopment in the Digital World, *Journal of Competition Law and Economics*, 16:143 subs.

[95] So, we are talking about situations in which a newcomer has already set itself apart from other innovative undertakings pursuing a similar (disruptive) business model.

[96] Van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 426 highlights in this regard the steering effect in digital ecosystems, which also plays a major role.

IV. Competition rules for the challenger: How to deal with AI-disruption?

The following Sections focus on how to deal with the behaviour of innovative challengers. As mentioned in the introduction, the behaviour of incumbents will not be in the focus. Instead, an analysis will be conducted to determine the extent to which the DMA and European competition law already contain effective rules to address the behaviour of disruptive challengers. The analysis also uncovers the various layers of the DMA and Article 102 TFEU, to which challengers could be subjected.

A. Digital Markets Act

The DMA contains provisions to regulate the market behaviour of digital platforms that operate so-called core platform services and have been designated as gatekeepers.[97] The following Sections will analyse whether the DMA may be brought to bearing also for newcomers that are only just growing into the role of a gatekeeping platform. Finally, the analysis will examine the general practical difficulties that can arise when dealing with disruptive newcomers under the current DMA regime in more detail.

1. Newcomers as norm addressees under the DMA

To be able to address the behaviour of newcomers, the DMA must be applicable to such undertakings. Article 17(4) DMA introduces the rule that some of the behavioural obligations of the DMA can be applied to newcomers who do not yet enjoy an entrenched und durable position, but which will foreseeably enjoy such a position in the near future. Pursuant to Articles 17(4) and 3 DMA, in these cases, the respective newcomer must fulfil all requirements in Articles 17(4), 3(1) in conjunction with Article (2)(1) DMA. However, it is sufficient for the undertaking that it will foreseeably be enjoying an entrenched and durable position within the meaning of Article 3(1)(c) DMA.

1.1. Innovative newcomer's business model as a core platform service

It may be already unclear whether the business model of an innovative newcomer falls within the scope of the list of core platform services in Article 2(2) DMA. Instead of a general definition, the DMA contains an exhaustive list of different service categories in Article 2(2) DMA that are considered as core platform services. The list of core platform services in Article 2(2) DMA roughly represents the state of the art of the digital economy in 2020. This may lead to particular inflexibilities when applying the options from the list to AI-driven innovations, since these business models may not have been anticipated at the time. Therefore, it stands to reason that it may not always be possible to categorise new services right away.

[97] Recital (7): "appropriate regulatory safeguards."

This is for example true for AI-driven answer engines that have not yet been marketed in 2020. Therefore, it may be doubted whether they fall in one of the categories of a core platform services listed in Article 2(2) DMA. If so, this would only be by accident, given that the service can be subsumed under one of these categories, even though the legislator did not foresee this service. But it gets obvious that such an innovative disruptive service may also fall outside of the known categories of core platform services.

How these inflexibilities with regard to the application of Article 2(2) DMA may play out in practice, can be illustrated by the case of an answer engine. The following Sections will therefore analyse whether, in principle, an answer engine could be categorised either as an online search engine under Article 2(2)(b) DMA, or as a virtual assistant within the meaning of Article 2(2)(h) DMA.

1.1.1. Answer engine as a search engine?

For the definition of an online search engine in Article 2(6) DMA, the DMA refers to the definition in Article 2(5) P2B-Regulation[98] : "'online search engine' means a digital service that allows users to input queries in order to **perform searches of, in principle, all websites,** or all websites in a particular language, on the basis of a query on any subject in the form of a keyword, voice request, phrase or other input, and **returns results in any format in which information related to the requested content can be found**."[99] This definition is problematic in two respects in relation to answer engines.

Under certain circumstances, answer engines may not fulfil the requirement that searches of, in principle, all websites are carried out. The information generated by an answer engine is based on a LLM that has been trained with a specific data set. This does not necessarily require access to the entire internet. As mentioned before, some (freely) available models, such as ChatGPT 5, do not even have a connection to the open internet.[100] These answer engines fall outside the scope of the definition. However, several answer engines provide the generated content (at least in part) with references to various websites, which requires a connection to the open internet.[101] To do this, the answer engine's LLM is connected to the search capabilities of a service that indexes and crawls the web. This is the case, for example, with Chat GPT Search from Open AI that relies on the search capabilities of Microsoft Bing.[102] Alternatively, providers of answer engines can rely on their own web crawlers, such as in the case of

[98] Regulation (EU) 2019/1150 of the European Parliament and of the Council of 20 June 2019 on promoting fairness and transparency for business users of online intermediation services.
[99] Emphasis added by the author.
[100] Compare OpenAI, Introducing ChatGPT, https://openai.com/index/chatgpt/.
[101] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 4.
[102] Compare OpenAI, Introducing ChatGPT search (https://openai.com/index/introducing-chatgpt-search/).

perplexity.ai.[103] Some answer engines are therefore now capable – depending on the specific technical design – of performing searches of all websites.[104] Although the technical approach differs to some extent from that of a pure online search engine, it can be stated that in principle current answer engines (can) fulfil the corresponding part of the definition that requires searching on all websites.

However, the definition also requires that **results** are returned in which information related to the requested content can be **found**. Basically, the central task of a search engine is to point the user to the place on the internet (a website) where the relevant information is available so that the user can access the information there.[105] Access to information is therefore only organised for the user by the search engine but not summarised. Even the integration of information boxes or the so-called Google Snippets[106] do not fundamentally change this assessment because with these offers only third-party information is already partially made visible via the interface of the search engine. No independent generation of information takes place on conventional search engines.

The answer engine takes a different approach in this respect. An answer engine is using an AI-driven LLM to individually generate and prepare a summary of the most relevant information for the user in relation to the concrete search query.[107] The fact that the information is individually tailored to the end user creates its own value. In many cases, if the answer engine works well, it is no longer necessary for the end user to access referenced websites. In this context, references in the generated texts are not used for intermediation per se but are intended to give end users the opportunity to verify the generated answers in individual cases.[108] When providing references, the focus is therefore not primarily on the intermediation service, but more on increasing the credibility of the information provided by the answer engine.[109]

It is therefore questionable whether an answer engine returns **results** in which information related to the requested content can be found in the sense of the definition in Article 2(5) P2B-Regulation by providing a specifically tailored curation of information. Search results are defined in Article 2(23) P2B-

[103] Compare Perplexity.ai, Guides - PerplexityBot, https://docs.perplexity.ai/guides/perplexitybot.
[104] In contrast, the current version of ChatGPT is not able to do this.
[105] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 4 ("search engines only provide answers from information gathered from a website").
[106] Compare Google, Learn how Google's featured snippets work, https://support.google.com/websearch/answer/9351707?hl=en.
[107] Ribera Martinez, A., *Generative AI in Check: Gatekeeper Power and Policy under the DMA*, 2024, p. 23 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5025742>.
[108] Carugati, C. *Antitrust issues raised by answer engines*, 2023, p. 5.
[109] The reference serves as a signal for the trustworthiness of the information. Compare Spence, M., 1973. Job Market Signaling, *The Quarterly Journal of Economics* 87:355 for general considerations regarding signaling theory that was initially developed for job markets. For the state of research in recent times compare Conelly, B.L. et al., 2025. Signaling Theory: State of the Theory and Its Future, *Journal of Management* 51:24.

Regulation as any information in any format, including textual, graphic, vocal or other outputs, returned in response to, and related to, a search query, irrespective of whether the information returned is a paid or an unpaid result, a direct answer or any product, service or information offered in connection with the organic results, or displayed along with or partly or entirely embedded in them. In principle, the definition does not depend on the method of presentation, so that AI-generated texts are also included. At the very least, however, the references included fall under this definition if they are sufficiently embedded in the presentation.[110] This is based on the consideration that the mere form of presentation should not influence the categorisation as a search engine. It should therefore make no difference in principle whether the results are presented solely by a list of blue links or whether they are integrated into an AI-generated accompanying text.[111] Recital (13) of the P2B Regulation concretises this idea to the effect that in the light of the quick pace of innovation, the definition of an online search engine in this Regulation should be **technology-neutral**.[112] Of course, in line with established case law, a recital of a regulation is not, in itself, binding when it comes to interpreting legal terms of the regulation.[113] However, it can be assumed that the underlying idea corresponds to the Commission's already recognisable practice under the regime of the DMA.[114] In the context of the first designation decisions, the Commission repeatedly stated that the specific technical implementation of a service is not decisive for its role as a core platform service.[115]

Besides that, it could also be doubted that answer engines provide results that can be **found** by users. Basically, the definition assumes that users have to navigate to the information on the websites themselves. With answer engines, the information is not only linked, but readily available on the user interface of the answer engine. The main purpose of an answer engine is that end users should not have to navigate to the information they are looking for on linked websites but should ideally receive all relevant information on the user interface of the answer engine through tailor-made precise information. It is therefore not necessary for users to actively search for and find information through answer engines. Thus, the presentation of the AI-generated text could not only be a mere plus compared to the service of a search engine, but an aliud.

[110] Compare EU-Commission, Case DMA.10004 - Alphabet - Online search, para 94, 96.
[111] It should be noted that the wording of Recital (51) assumes the classic representation of links.
[112] Bongartz, P., Kirk, A., Article 2 Definitions, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 67.
[113] See ECJ, 24.11.2005, C-136/04, ECLI:EU:C:2005:716 – *Deutsches Milch-Kontor*, para 32; ECJ, 19.6.2014, C-345/13 ECLI:EU:C:2014:2013 – *Karen Miller Fashions Ltd*, para 31.
[114] See also Ribera Martinez, A., 2024. The Requisite Legal Standard of the Digital Markets Act's Designation Process, Journal of Competition Law & Economics 20:265.
[115] Compare EU-Commission, Case DMA.10004 - Alphabet - Online search, para 113-115 and e contrario para 161-163; Case DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 56, 57.

Despite these concerns, it is advisable to understanding the concept of search engine in broader terms because answer engines are likewise indexing and crawling the web if references are subsequently provided. According to the principle of technology neutrality, the assessment must be the same regardless of whether other relevant information is provided in addition to the references. It is therefore likely that the different technical design of an answer engine will not be assessed by the Commission as an aliud, but as a mere plus compared to a search engine. The only decisive factor for categorising an answer engine as a search engine within the meaning of Article 2(5) of the P2B Regulation should be that the internet is indexed and references are provided in the search results.[116] This would mean that answer engines, fulfil the definition of a search engine pursuant to Article 2(6) DMA as long as they are providing references.[117] Answer engines that do not index the internet and do not provide references, like ChatGPT, however, do not fall under the definition of a search engine in the DMA.

1.1.2. Answer engines as virtual assistants?

Answer engines could also serve as virtual assistants according to Article 2(2)(h) DMA. The term virtual assistant is defined in Article 2(12) DMA as software that can process demands, tasks or questions, including those based on audio, visual, written input, gestures or motions, and that, based on those demands, tasks or questions, provides access to other services or controls connected physical devices. In this way, these services act as autonomous agents. Exercising control over other services or digital products is their main purpose. This category of core platform services is basically aimed at services such as Apple Siri or Amazon Alexa.[118] Answer engines are in a broader sense software and they also process demands, tasks or questions. However, answer engines provide end users with information instead of providing access to other relevant services. In addition, answer engines are not designed to control other services or products. This clearly distinguishes the services from the aforementioned assistants. The term "other services" in the definition of Article 2(12) DMA rather means other (digital) offers of the potential gatekeeper, which relates especially to the Internet-of-things (IoT).[119] Answer engines do not provide access to other services by referencing to third-party websites as these links provide only information about available websites. Accordingly, answer engines in their current form do not function as virtual assistants within the meaning of the DMA.

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[116] Ribera Martinez, A., *Generative AI in Check: Gatekeeper Power and Policy under the DMA*, 2024, p. 23 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5025742>. Bongartz, P., Kirk, A., Article 2 Definitions 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 67 point out that referencing in databases, like Wikipedia, is not sufficient.

[117] Ribera Martinez, A., *Generative AI in Check: Gatekeeper Power and Policy under the DMA*, 2024, p. 24 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5025742>.

[118] Bongartz, P., Kirk, A., Article 2 Definitions 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 67.

[119] Recital (46) as well as (49). Compare Ribera Martinez, A., *Generative AI in Check: Gatekeeper Power and Policy under the DMA*, 2024, p. 24-25 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5025742>.

1.1.3. The need for a more flexible approach to designate core platform services

Irrespective of whether answer engines can ultimately be subsumed under Article 2(2) DMA, the difficulties identified in dealing with answer engines reveal a central problem of the DMA. Due to the static catalogue of core platform services and the AI-driven evolution of covered services, regulatory gaps could arise in the future. This is reinforced because AI enables new business models, making a new market disruption, as described, seem plausible. It cannot be assumed for every case of AI-driven disruption that a category of core platform services can be interpreted extensively enough to capture relevant disruptive services.[120] The consequence would be that the DMA might not be applicable in these service categories. Therefore, the limited adaptability of the DMA may be worth considering in future evaluations of the DMA.

1.2. Newcomers as important gateway for business users

The categorisation of a disruptive innovation as a core platform service within the meaning of Article 2(2) DMA does not mean that the respective challenger can and should in every case be designated as a gatekeeper. The challenger would also have to fulfil the other requirements set out in Article 3(1) DMA. The function of the disruptive service as an important gateway for business users to reach end users within the meaning of Article 3(1)(b) DMA is particularly relevant here.[121]

In this respect, it could be questioned whether a market entrant's new (disruptive) service can even in theory constitute such an important gateway for business users under Article 3(1)(b) DMA. Doubts may arise with regard to both the nature of the service and the quantitative thresholds used in the DMA to identify important gateway services. In terms of the nature of GenAI services, it should be noted that GenAI itself focuses less on intermediation services than on presenting relevant information via a user interface (e.g. a chatbot). Therefore, forwarding end users to the offerings of business users may not be the core objective of GenAI services. Instead, GenAI services usually aim to provide as much relevant information as possible themselves. This clearly distinguishes stronger AI-driven business models from most other services that serve as core platform services under the DMA.

However, even if it is not their primary objective, GenAI services may also provide intermediary services. Answer engines, for example, provide an intermediation service for end users and business users

[120] Note that corresponding developments can also be observed in the area of web browsers. Compare Weck, T. 2024. AI and Competition Policy: Balancing Innovation and Market Regulation, *Journal of AI Law and Regulation*, 4:440, 442; For further technical insights compare Ansari, WebDreamer: Enhancing Web Navigation Through LLM-Powered Model-Based Planning (https://www.marktechpost.com/2024/11/24/webdreamer-enhancing-web-navigation-through-llm-powered-model-based-planning/).

[121] Compare Hornung, P. 2024. The Ecosystem Concept, the DMA, and Section 19a GWB, *Journal of Antitrust Enforcement* 12:396, 413-414 for general remarks on the function of Article 3(1)(b) DMA.

by indexing and subsequently referencing websites, even though this it is not their main purpose.[122] Therefore, the specific risk of a bottleneck situation may also arise if the intermediation service is subordinate. In this respect, the extent and technical design of the provided intermediation are irrelevant.[123] Overall, there are good arguments in favour of the criterion in Article 3(1)(b) DMA being satisfied in theory by disruptive AI-services as well.

Considering the quantitative threshold in Article 3(2)(b) DMA, it is rebuttably presumed that an undertaking serves as an important gateway within the meaning of Article 3(1)(b) DMA if it provides a core platform service that in the last financial year has at least 45 million monthly active end users established or located in the Union and at least 10 000 yearly active business users established in the Union. The high user thresholds generally ensure that start-ups are not covered by the scope of application and are not restricted too early in their competitive freedom of action.[124]

The quantitative thresholds would also apply to a successful challenger. In relation to real challengers, it seems very likely that they will not meet the threshold in the short term. In the medium term, however, challengers may reach the relevant user thresholds, as TikTok has already proven in relation to social media services.[125] The question would then be whether the challenger can rebut the presumption under Article 3(5) DMA.[126] The challenger may argue that, unlike the incumbent's legacy service, the challenger's service does not have a significant impact on business users and end-users alongside the incumbent's core platform service.

Moreover, if an operator of an answer engine does not yet fulfil the quantitative threshold in Article 3(2)(b) DMA, the Commission might nevertheless perceive that there is a need for an early designation of the challenger as a gatekeeper – even if an incumbent was designated for its legacy service before. Under these circumstances, the Commission can designate such an undertaking by applying the procedure under Article 3(8) DMA. For this purpose, the Commission must carry out a qualitative

[122] Ribera Martinez, A., *Generative AI in Check: Gatekeeper Power and Policy under the DMA*, 2024, p. 23 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5025742>.
[123] It must also be considered that answer engines can establish an advertising-financed business model, similar to the business model of current search engines. As the importance of the answer engine grows, it will be important for advertisers to be able to reach end users via this channel. In this case, the answer engine could also constitute an online advertising service within the meaning of Article 2(2)(j) DMA. Advertisers would then clearly have to be regarded as business users within the meaning of Article 3(1)(b) DMA.
[124] Compare Recital (24).
[125] GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 32, 33.
[126] This was also the relevant question in GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission.

analysis and assess the circumstances of the individual case on the basis of the criteria listed in Article 3(8) DMA.[127]

It is therefore likely that, regardless of the applicable designation mechanism, it may ultimately be a matter of assessing the circumstances of the individual case on a rather qualitative basis to determine whether a challenger's core platform service constitutes an important gateway. Both in the context of the procedure for rebutting the presumption under Article 3(5) DMA and in the procedure under Article 3(8) DMA, it eventually depends on the underlying facts of the case.[128]

The cases with challengers involved are rather special because, as mentioned above, it is likely that there is already a designated gatekeeper in the relevant core platform service category. For an upcoming answer engine, Google Search, for example, would have to be considered.[129] Thus, the Commission has to examine in that context whether the core platform service of the challenger can be considered as a **further** important gateway in addition to the incumbent's service. In this respect, it should be noted that at least in principle there can be several gatekeepers in the same category of core platform services. Recital (32) clearly emphasises that contestability of the services in the digital sector can also be limited if there is more than one gatekeeper for a core platform service.[130] Nevertheless, the relative sizes of the incumbent and the challenger play a role in the assessment of the challenger's service being an important gateway. It is generally recognised that only the (relatively) largest operators within a category of core platform services can be considered as gatekeepers.[131] In the case of Samsung's web browser, the Commission saw reason to assume that it lacked the function of an important gateway, as Samsung only covered less than 5 % of user traffic for web browsers in the relevant period, while the market leader and designated gatekeeper service Google Chrome captured almost 60 % of user traffic.[132] The Commission also referred to similar arguments to reject Microsoft Bing's status as an important gateway, as Bing only accounted for less than 5% of all monthly search queries on all major search engines.[133] The situation was again different for Apple's Safari web browser, which accounted

[127] Käseberg, T.,Gappa, S., DMA Article 3 Designation of gatekeepers, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 25.
[128] Compare GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 39-56. The GC held in this decision that the presumption in Article 3 (2) DMA may also be rebutted by the use of qualitative arguments.
[129] EU-Commission Case DMA.10004 - Alphabet - Online search, para 105.
[130] Compare Case DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 131.
[131] Note that Recital (23) refers to size in absolute terms and size in relative terms ("importance of the undertaking's core platform service considering the overall scale of activities in the respective core platform service").
[132] EU-Commission, Case DMA.10038 - Samsung - web browsers, para 33.
[133] EU- Commission 12.2.2024 Implementing Decision DMA.100015 - Microsoft - online search engines, para 23, 27.

for just under 20 % of user traffic[134] and was therefore only just under a third of the size of Google Chrome.[135] In this case, Safari's relative size was still enough to classify Safari as an important gateway.[136]

In the case of a successful challenger, it is therefore not possible to derive any fixed relative size ratios from the first designation decisions. Still, it is obvious that the challenger must already have achieved a "significant" competitive impact (Article 3(1)(a) DMA). It is therefore required that the challenger already **clearly stands out** from others of its kind and that it has also reached a size that is not completely negligible in comparison to the incumbent's size.

It can be particularly important in the analysis if the challenger is especially successful in a certain market segment. Notably, in the case of the designation of ByteDance's core platform service TikTok, the General Court considered it unproblematic that TikTok was only around half the size of its competitors Facebook and Instagram.[137] The decisive factor for this assessment was, among other things, that TikTok occupied a prominent position among the group of younger users in particular.[138] The challenger could then serve as an important gateway for at least some user groups.[139]

A parallel can also be drawn to online search markets. In these markets, answer engines have, as compared to traditional search engines, a strong structural advantage with knowledge-based search queries. Answer engine services are broadening the search market because they create new user demand for answering these types of knowledge questions, which cannot be served by pure search engines (see Section II.).[140] User segmentation is therefore likely, which suggests that if an answer engine were to start to prevail in competition with others of its kind, it would probably soon be seen to function as an important gateway alongside Google Search, despite Google Search's still superior size. As noted above, it is only over time that their services may merge further as technological progress enables the entrant

[134] This does not result from the decision on Apple's services, but from the Samsung decision, compare EU-Commission, Case DMA.10038 - Samsung - web browsers, para 33.
[135] EU-Commission, Case DMA.100027 - Apple - web browsers, para 130.
[136] The decisive factor was probably that Apple users are somewhat locked in into Apple's device ecosystem despite Google Chrome being an alternative.
[137] GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 240.
[138] GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 169.
[139] This idea is already laid out in Katz, M.L., Shapiro, C. 1994. Systems Competition and Network Effects, *Journal of Economic Perspectives*, 8:93, 106; The same logic applies for Apple Safari in relation to Google Chrome.
[140] The same logic applies to other potential disruption scenarios in the past, such as the Google Android case. In the Android case, the market for online search was broadened by the emergence of search from mobile devices, which put Google's dominant position in the search market at risk and probably led Google to leverage its position into the mobile search market. The U.S. case against Microsoft in the early 2000s also falls into this category. Netscape, a provider of essentially a web browser, created new user demand for web browsing services and posed a threat to Microsoft's monopoly in PC operating systems, compare United States Court of Appeals for the District of Columbia Circuit 28.7.2001, United States of America v. Microsoft Corporation (253 F.3d 34).

to serve more and more of the incumbent's customers, or vice versa if the incumbent succeeds in adapting its legacy service to the disruptive technology. Ultimately, it could lead to the market segmentation not being permanent and the market segments merging (again). This means that the analysis would have to be reviewed after a certain period of time.[141]

1.3. Entrenched and durable position of newcomer?

A further key prerequisite for the designation of a challenger as a gatekeeper is that it enjoys an entrenched and durable position in its operations (Article 3(1)(c) DMA). However, this does not require that the relevant undertaking has grown into its current position over a longer period of time. Rather, once the undertaking reaches the threshold values in Article 3(2)(c) DMA, the existence of an entrenched and durable position is rebuttably presumed. In its decision on the designation of TikTok with regard to Article 3(1)(c) DMA, the General Court stated that a newcomer can very quickly change its status from a challenger to a gatekeeper in a dynamic market environment.[142] When assessing the entrenched and durable position, it is moreover irrelevant that the undertaking has previously acted as an innovative competitor in relation to a gatekeeper which itself had already established its position for some time.[143] The Commission summarises this aptly in its decision that "nothing in Regulation (EU) 2022/1925 suggests that an undertaking cannot be simultaneously a 'challenger' to certain gatekeepers and a gatekeeper in its own right."[144] The only decisive factor for the assessment is whether the specific circumstances of the individual case suggest that an entrenched and durable position exists.[145]

However, as mentioned above, there is even another option tailored specifically for newcomers to fulfil the requirement of Article 3(1)(c) DMA: It is sufficient if it is **foreseeable** that the newcomer will enjoy such an entrenched and durable position in the near future. The Commission can use this additional mechanism to subject a successful newcomer to the regime of the Digital Markets Act at an early stage.[146] The decisive factor here is a forecast decision, which must be carried out as part of the qualitative assessment under Article 3(8) DMA, as it is very unlikely that the presumption in

[141] Indeed, Article 4(2) DMA requires the Commission to review its designation decisions every three years.
[142] GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 316, 317.
[143] GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 317.
[144] ase DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 159; In the subsequent decision, the GC left open whether the Commission's view is shared, compare GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 316.
[145] This assessment circles around the question whether the contestability of the market is weakened by the relevant service, compare in this regard GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 297.
[146] Käseberg, T.,Gappa, S., DMA Article 3 Designation of gatekeepers, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 5.

Article 3(2)(c) DMA is fulfilled in these situations.[147] As part of this assessment, the Commission must examine whether a newcomer that has not yet completed a final change of status, as described by the General Court in ByteDance, already stands out in competition in such a way that market tipping is likely and potentially leads to a decreased market contestability.[148]

The potential risk of weakened contestability is dependent on the specific market conditions where the new service is provided. As was mentioned in Section II.C. of this paper, an incumbent, for example a search engine or a social network operator, is likely to react to the advances of the challenger. In order to defend its market position, it may use its resources in terms of capital and personnel, as well as acquiring or partnering with AI start-ups, to catch up with innovation. Indeed, this is what we may currently be witnessing on the markets most affected by AI in general and LLMs in particular. As noted above, several market developments are possible under these circumstances (see Section II.C.). However, most importantly, risks to market contestability may arise not only when the new market segment tips completely in favour of the newcomer or the incumbent. There is also a risk to market contestability if markets become more segmented after the disruption. A (provisional) new equilibrium could then emerge in which the incumbent maintains its control over the market segments less affected by the new service, whereas the newcomer makes the market segments more affected by the innovation tip in its favour. In these situations of user segmentation, we would in fact observe that the newcomer most likely establishes itself as a new incumbent in the then (newish) market (segment), ready to fend off competitive advances either by the former sole incumbent or by third parties who try to enter the market at a later stage. Especially in the case of an answer engine, such a development cannot be ruled out (see again Section II. and III.).

1.4. Summary

For the reasons set out in the Sections above, an argument can be made that the business model of newcomers providing disruptive services within the scope of the Digital Markets Act should already at an early stage be designated as gatekeepers, even though they have not yet achieved an entrenched and durable position. The right time would be if they start to stand out from the rest of the (disruptive) competition. They would then have the **dual role** mentioned by the Commission: on the one hand, they would continue to be challengers of the incumbent gatekeeper, like answer engine providers challenging Alphabet's Google Search, and at the same time be gatekeepers themselves.[149] The idea behind this

[147] The relevant time frame is probably about three years, compare Käseberg, T.,Gappa, S., DMA Article 3 Designation of gatekeepers, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 5.
[148] Compare Recital (26).
[149] Compare again ase DMA.10040, ByteDance - Online social networking services, Commission Decision of September 5 2023, para 159; But note that van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 415 claims that the GC has not ruled out the challenger defense. The GC had simply set the burden of proof very high.

dual role approach is that innovation by newcomers is generally to be seen positively, but if it entails a risk that it results in markets not being constable in the medium and long run (i.e. if there is a risk that a new emerging market's[150] contestability is weakened or that established markets partially or fully re-tip in favour of the newcomer in the course of the disruption process), it may justify an early designation as a gatekeeper to create a level playing field.[151] Since there can be more than one core platform service in a given category of core platform services,[152] the dual designation of incumbent and challenger would mean that competition for AI-driven services could take place at arm's length.

2. Effective tipping rules for newcomers?

2.1. Underlying objective of Article 17(4) DMA

The fact that there is an option to designate a newcomer as a gatekeeper does not mean that the DMA currently contains proportionate and effective rules for restricting tipping induced by newcomers. In the case of the designation of a newcomer that has not yet reached an entrenched and durable position, the Commission cannot impose the full catalogue of obligations from Article 5 to 7 DMA on these undertakings. It follows from Article 17(4) DMA that only some rules[153] may be applied to such newcomers. The underlying objective of this limitation cannot be clearly determined on the basis of the recitals of the DMA:[154]

Recital (74) states that the Commission should only impose those obligations that are necessary and appropriate to **prevent** that the gatekeeper concerned achieves an entrenched and durable position in its operation.[155] Recital (26) states somewhat more differentiated that in situations in which a newcomer quickly establishes itself and begins to stand out from the rest of the competition, there is a general risk of market tipping and that undertakings can try to **induce** this **tipping** and emerge as gatekeeper by **using** some of the **unfair conditions** and **practices regulated** under this Regulation. In such a situation, it appears appropriate to intervene before the market tips irreversibly. Accordingly, the mechanism for newcomers is not aimed at preventing market tipping as such, but only **to prevent behaviour** that could unfairly cause market tipping. Furthermore, Recital (27) states that such early intervention should be limited to imposing only those obligations that are necessary and appropriate to ensure that the services in question remain contestable and enable the qualified risk of unfair

[150] Or market segments'.
[151] van den Boom. 2024. Incumbent or Challenger? – Assessing Ecosystem Competition in the DMA, *Journal of Competition Law & Economics*, 20:409, 429 takes a different view on this question, arguing that an undertaking should be considered solely a challenger if it directly or indirectly competes with the incumbent.
[152] Compare again Recital (32).
[153] Article 5(3) to (6) and Article 6(4), (7), (9), (10) and (13).
[154] Furthermore, one further goal of the limited scope of application is to ensure proportionality of the regulation.
[155] This highlights the proportionality aspect too.

conditions and practices to be avoided. For that reason, behaviour that leads to leveraging or impedes consumer's from switching to other services is perceived as particularly problematic in Recital (27).[156]

Thus, it can be concluded that it not the aim of the DMA to generally prevent markets from tipping in favour of newcomers, but only to ensure that this does not occur through conduct that renders markets artificially incontestable.[157] In other words, the mechanism for newcomers in Article 17(4) DMA is in line with the suggested approach in Section III., to ensure that the competitive process is not distorted structurally by a challenger that is engaging in platform envelopment strategies. This interpretation also ensures that the newcomers' innovative activity is not hampered by potential overregulation. In this regard, the DMA takes the approach that an innovation is basically desirable, even if it leads to markets being less contestable as long as the innovation's success is not caused by means that artificially decrease the contestability of the affected markets.

2.2. Effective application of Article 17(4) DMA

A closer look at the applicable provisions raises doubts as to whether the newcomer mechanism can actually be used effectively. Pursuant to Article 17(4) DMA, the Commission may declare Article 5(3) to (6) DMA and Article 6(4), (7), (9), (10) and (13) DMA applicable to newcomers. While some of the provisions referred to in Article 17(4) DMA are indeed aimed at ensuring open markets,[158] other provisions tend to stray into the area that concerns solely the relationship between business users and gatekeepers.[159] The risk exists that the additional bureaucratic burden placed on newcomers at an early stage may prevent them from focussing on the further development of their disruptive innovation leading to overregulation. This suggests removing the provisions with a pure reference to fairness from the list or, for reasons of proportionality, the Commission at least should not apply these provisions.

On the other hand, some potentially essential provisions of the DMA are missing in Article 17(4), which could be used to prevent market tipping based on means decreasing contestability artificially. For example, the prohibition on the linking of personal data under Article 5(2) DMA serves not only the purpose to protect the rights of end users. It also aims to prevent that undertakings can achieve data-related economies of scale and scope from the end user's data that are not available to competitors in

[156] These aspects are also an essential part of the platform envelopment strategies considered in Section II. and III.
[157] Dissenting Huerkamp, F., Nuys, M., Article 17 Market investigation for designating gatekeepers, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 26.
[158] Article 5 (3), (4) and (5) DMA as well as Article 6 (9), (13) DMA.
[159] See also for a general classification of the provisions of the DMA into the categories of fairness and contestability Colangelo, G., Ribera Martínez, A., 2025. The Metrics of the DMA's Success, *European Journal of Risk Regulation* 1, 7-8.

the same form.[160] Furthermore, the prohibition on the use of data by business users under Article 6(2) DMA, which, in addition to fairness aspects, serves to ensure the contestability of the affected markets, also goes in this direction.[161] In this respect, challengers could use the data of a growing number of business users to gain an advantage in competition with an incumbent or other competitors.[162] These aspects are particularly relevant in the context of AI-driven competition, as available data is the key input for training an LLM and thus for improving the AI system. Combination of data and the overall use of data are therefore important assets that may not be available to competitors to the same extent, thereby reducing the contestability of the markets in question. This consideration is particularly relevant because AI-driven services partly address different users or are initially used for different purposes (see Section II.). As a result, the available data set may differ noticeably from that of an incumbent or another competitor with a different technological setup. The role of access to and collection of personal and non-personal data with regard to contestability was already taken into account in the impact assessment of the DMA.[163] For that reason, the absence of Article 5(2) DMA and Article 6(2) DMA from the list in Article 17(4) DMA is not entirely convincing.[164]

In addition to that, the prohibition of self-preferencing in Article 6(5) DMA should already be available to be applied to newcomers. If the newcomer operates several core platform services, it has the incentive to transfer its emerging position of power in one core platform service to other services by self-preferencing.[165] This could ultimately promote the development of a new very platform-centric

[160] Compare Recital (36). Critically on the practical effects of the consent mechanism Graeff, I., *Why End-User Consent Cannot Keep Markets Contestable*, Verfassungsblog 2021 <https://verfassungsblog.de/power-dsa-dma-08/>; Podszun, R., 2022. Should Gatekeepers Be Allowed to Combine Data? Ideas for Article 5(a) of the Draft Digital Markets Act, *GRUR International* 71:197, 199; Podszun, R., Article 5 para. 2 Data Use and Combination, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 11.

[161] Wolf-Posch, A., Article 6 para. 2 Use of data, 2024. In Digital Markets Act, 1st edn., Podszun (edit.), para 5.

[162] Petit, N., Teece, D.J. 2021. Innovating Big Tech firms and competition policy: favoring dynamic over static competition, *Industrial and Corporate* Change, 30:1168, 1178-1179; Yasar, A.G. et al, AI and the EU Digital Markets Act: Addressing the Risks of Bigness in Generative AI, 2023, p. 3. The use of data is also particularly relevant for harnessing effective platform envelopment strategies, compare Condorelli, D., Padilla, J. 2020. Harnessing Platform Envelopment in the Digital World, *Journal of Competition Law and Economics*, 16:143, 167.

[163] EU-Commission 15.12.2020, Staff Working Document, Impact Assessment Report for the Digital Markets Act, SWD(2020) 363 final, para 150.

[164] This raises the question of whether regulatory approaches in the UK (Digital Markets, Competition and Consumers Act 2024) and Germany (Section 19a of the German Act on Restraints of Competition) may be more appropriate, as they allow for greater flexibility in the application of remedies. Another option would be to apply Section 20 of the German Act on Restraints of Competition, which deals with the concept of relative and superior market power. That said, the remedial openness of the provisions also risks proceedings taking longer, as enforcers need to determine optimal remedies. In addition, these open provisions increase the risk of ineffective remedial decisions being taken by enforcers. However, an in-depth analysis of these legal acts is beyond the scope of this paper.

[165] Gawer, A., 2022. Digital platforms and ecosystems: remarks on the dominant organizational forms of the digital age, *Innovation, Organization & Management* 24:110, 115; Compare on the underlying term platform envelopment Eisenmann. T., Parker, G., Van Alstyne, M. 2011. Platform Envelopment, *Strategic Management Journal*, 32:1270, et seq.

ecosystem.[166] In the absence of self-preferencing, it is also possible that an ecosystem would develop around the newcomer's platform service. However, the complementary value added would probably be more widely distributed among different market actors on the platform.[167] This phenomenon could become particularly relevant in the context of answer engines. Experience from the Google Shopping case shows that it is very easy to control user flows, particularly in the area of search and answer engines.[168]

B. Competition law

In addition to regulation through the Digital Markets Act, competition law could also be used to address the behaviour of newcomers and to prevent market (re-)tipping that is not caused by competition on the merits. In particular, Article 102 TFEU may be relevant in this situation as considerable case law has been developed in this respect in recent years.[169] What is still somewhat open, however, is to what extent Article 102 TFEU is applicable at all in disruption scenarios induced by newcomers.

That a newcomer enjoys a dominant position in a relevant market could be questioned even if the newcomer already serves as an important gateway within the meaning of Article 3(1)(b) DMA. The fact that a core platform service constitutes an important gateway does not indicate that the undertaking in question also has a dominant market position pursuant to Article 102 TFEU.[170] This already follows systematically from the fact that the DMA pursues an overall objective that is complementary to, but different from the goals of competition law.[171] In addition, the gateway function in the DMA is aimed

[166] Hornung, P. 2024. The Ecosystem Concept, the DMA, and Section 19a GWB, *Journal of Antitrust Enforcement* 12:396, 408. Perplexity.ai is a good example for this observation as Perplexity has recently added an AI-based shopping service to its answer engine, compare https://www.perplexity.ai/shopping.
[167] Hornung, P. 2024. The Ecosystem Concept, the DMA, and Section 19a GWB, *Journal of Antitrust Enforcement* 12:396, 411.
[168] CJEU, 10.92024, C-48/22 P, ECLI:EU:C:2024:726 – Google Shopping, para 244. Furthermore, with the rise of Agentic AI the problem of self-preferencing may be exacerbated because then autonomous AI agents could systematically preference the other services of its own undertaking without any human intervention. compare Purdy, M., 2024. What Is Agentic AI, and How Will It Change Work?, *Harvard Business Review* <https://hbr.org/2024/12/what-is-agentic-ai-and-how-will-it-change-work>; Marr, B., *Agentic AI: The Next Big Breakthrough That's Transforming Business And Technology*, Forbes 6.9.2024 <https://www.forbes.com/sites/bernardmarr/2024/09/06/agentic-ai-the-next-big-breakthrough-thats-transforming-business-and-technology/>.
[169] CJEU 10.9.2024, C-48/22 P, ECLI:EU:C:2024:726 – Google Shopping; GC 14.9.2022, T-604/18, ECLI:EU:T:2022:541 – Google Android; GC 18.9.2024, T-334/19, ECLI:EU:T:2024:634 – Google AdSense. Compare as well the Microsoft saga GC 17.9.2007, T-201/04, ECLI:EU:T:2007:289 – Microsoft Internet Explorer. EU-Commission, Case AT.40437 – Apple – App Store Practices (music streaming).
[170] Compare Recital (5). As well as GC, 17.7.2024, T-1077/23, ECLI:EU:T:2024:478 – ByteDance/Commission, para 19, 298.
[171] Compare Recital (11). Compare on the substantive meaning of complementarity Robertson, V.S.E., 2024. The complementary nature of the Digital Markets Act and the EU antitrust rules, *Journal of Antitrust Enforcement* 12:325, 326-328.

at addressing market situations where there are significant user dependencies,[172] while a dominant position under Article 102 TFEU is defined as "position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers."[173] While these concepts may lead to corresponding results in many cases, this is not necessarily true in all cases. Thus, a disruptive newcomer may be considered as an important gateway (and also a gatekeeper) under the DMA, while from a competition law perspective, it may still not be considered dominant.

Hence, the answer to the question of applying Article 102 TFEU on newcomers essentially depends on the assessment of dominance and in particular on the preliminary question of **market definition**.[174] The incumbent will regularly enjoy higher user numbers, much higher financial capabilities and also much stronger data-related economies of scale and scope than the newcomer in the situation under consideration. This means that, if the incumbent and the newcomer were in the same market, it would be unlikely that the newcomer was found to be dominant unless there was an exceptional case of collective dominance (see below).

The question of market definition can, of course, only be answered on a case-by-case basis. However, two examples show that this approach is more likely to lead to market definitions that preclude the finding of the challenger's dominance.

For example, in the Facebook Marketplace decision, the Commission ultimately concluded that Facebook and TikTok operate in the same market for social networking services, which includes hybrid social media platforms.[175] However, the Commission also expressed serious doubts as to whether hybrid social media platforms, such as TikTok and Instagram, are actually part of the market for social networking services.[176] As this question was not decisive in determining Facebook's dominance, the Commission

[172] Schweitzer, H. 2021. The Art to Make Gatekeeper Positions Contestable and the Challenge to Know What Is Fair: A Discussion of the Digital Markets Act Proposal, *Zeitschrift für Europäisches Privatrecht* 29:503, 519; Hornung, P. 2024. The Ecosystem Concept, the DMA, and Section 19a GWB, *Journal of Antitrust Enforcement* 12:396, 412.
[173] CJEU 14.2.1978, Case 27/76, ECLI:EU:C:1978:22 – United Brands, para 65; CJEU 13.2.1979, Case 85/76, ECLI:EU:C:1979:36 – Hoffman La Roche, para 38.
[174] Interestingly, the DMA does not even require a market definition. See Recital (23). Although the scope of individual core platform services is also determined on the basis of the specific purpose for which a service is used by end users, which is somewhat similar to the concept of demand-side substitutability, the Commission has so far emphasised very clearly in the first designation decisions that the analysis under the DMA is not to be equated with a market definition. See explicitly EU-Commission, Case DMA.10040, ByteDance - Online social networking services, para 14 and EU-Commission Case DMA.10038 - Samsung - web browsers, para 11.
[175] EU-Commission, Case AT.40684 – Facebook Marketplace, para 282-335.
[176] EU-Commission, Case AT.40684 – Facebook Marketplace, para 111.

opted for a broader market definition that encompasses hybrid social media platforms. This leaves the final decision on distinguishing between social networking services (such as Facebook) and hybrid social media platforms (such as TikTok and Instagram) open. Therefore, this decision only provides limited assistance in establishing a potential case against TikTok, for example. In such a case, it would be necessary to assess whether classic social networks constitute a distinct product market. Furthermore, the relationship between TikTok and Instagram would have to be considered. Taking this into account, it is quite unlikely that TikTok would currently be found dominant, even if markets were defined more narrowly.

In the case of search engines and answer engines, the question is even more uncertain. The Commission's Google Shopping decision, which was undisputed on this issue,[177] proves to be of only limited help in determining whether an answer engine can be categorised as being part of the market for general search services.[178] In this 2017 decision, the Commission did not yet foresee the technological advancements of AI-based answer engines that would index and crawl the entire web. What the Commission did in para 164 of its decision, however, was that the Commission distinguished general search services from so-called content sites, such as Wikipedia or websites of newspapers. It stated:[179] "(...) a general search service primarily seeks to guide users to other sites. (...) On the other hand, while content sites may contain references to other sites, their primary purpose is to offer directly the information, products or services users are looking for." On the basis of the paragraph alone, it could be concluded that an answer engine could be categorised as such a content site and that the already described referencing would be harmless for this categorisation. But paragraph 165 of the decision indicates that the Commission did not have in mind that such a content site could even have the capabilities to index and crawl the entire web as "(...) content sites that offer sophisticated content search functionality on their websites are not substitutable for general search services. Such content search functionality remains limited to their own content or content from partners and does not allow users to search for all content over the internet, let alone all information on the web." The Commission, thus, assumed that content sites are operated with only a limited knowledge base. This assumption, however, no longer applies to the answer engines' business model. Accordingly, no reliable indication can be drawn from the Commission's case practice to answer the question raised. Instead, the extent of demand-side and supply-side substitutability between a search engine and an answer engine would have to be analysed on a case-by-case basis.[180]

[177] GC 10.11.2021, T-612/17, ECLI:EU:T:2021:763 – Google Shopping, para 119 and CJEU 10.9.2024, C-48/22 P, ECLI:EU:C:2024:726 – Google Shopping, para 38.
[178] EU-Commission, Case AT.39740 - Google Search (Shopping), para 154.
[179] EU-Commission, Case AT.39740 - Google Search (Shopping), para 164 (emphasis added by author).
[180] EU-Commission Notice on the definition of the relevant market for the purposes of Union competition Law (C/2024/1645), 2024, para 14, 23.

Beyond these anecdotal considerations, when defining markets in disruptive scenarios, it should also be recognised that substitutability ratios can change abruptly over time. Indeed, in the new market disruption process (see Section II.), the disruptive service has capabilities that may also be valued by the users of the incumbent service after a certain time.[181] Thus, the further a disruption process progresses, the more the markets will merge. Additionally, also the supply-side substitutability might increase significantly over time because increasing data-driven network effects and increasing data access might substantially lower the costs of production of AI-driven services for the newcomer. It can therefore be assumed that the previously separate market segments will merge in the intermediate stage of disruption. This would have a rather striking consequence for a challenger: the greater its success is, the unlikelier it becomes for the newcomer, to enjoy a dominant position in the relevant market.

Furthermore, it is unlikely in the described disruption scenario that the newcomer and the incumbent establish collective dominance. The CJEU held that collective dominance requires that the undertakings act like a collective entity on the market.[182] It seems at least questionable whether the entities would have the necessary close connection to each other. Although both undertakings may have an interest in defending their positions against third parties, as shown, there is always the possibility that one will rein in the other's market segment. Hence, this approach seems rather unsuitable, at least for the early and intermediate stages of disruption.

However, in cases where markets do not merge and instead the market segmentation described above becomes entrenched over time, separate markets could theoretically be defined. In this case, a disruptive newcomer may also be found to be dominant in its market (segment). In these cases, Article 102 TFEU could be applied to successful newcomers in theory.[183] The Commission would then have to apply theories of harm, which aim to prevent markets from tipping any further by behaviour that is not based on competition on the merits.[184]

[181] Bower, J.L., Christensen, C.M. 1995. Disruptive Technologies: Catching the Wave, *Harvard Business Review*, (https://hbr.org/1995/01/disruptive-technologies-catching-the-wave).
[182] CJEU, 16.3.2000, C-395/96 P, ECLI:EU:C:2000:132 – Compagnie maritime belge, para 36: "It follows that the expression 'one or more undertakings' in Article 86 of the Treaty implies that a dominant position may be held by two or more economic entities legally independent of each other, provided that from an economic point of view they present themselves or act together on a particular market as a collective entity."
[183] But it should be noted that the thresholds for assuming a dominant position are likely to be even higher than those for determining a gatekeeper position for newcomers under Article 3, 17(4) DMA.
[184] The specific details of the theory of harm depend on the individual case and are beyond the scope of this article. But in particular, the Google Android case and the US Microsoft case might prove helpful.

All in all, it does not seem sufficient to solve the emerging newcomer problem for market contestability solely by applying Article 102 TFEU because an intervention could only be possible in certain scenarios of the disruption process. In particular, if markets begin to merge, an application of Article 102 TFEU could be associated with difficulties. Furthermore, the well-known slow enforcement speed argues against the sole application of the competition rules in the context of dynamic market disruption. Therefore, there is good reason to believe that the competition rules and the DMA should complement each other on this issue as well.

V. Summary and outlook

The digital economy is potentially facing the biggest transformation in over 20 years. AI-driven services have the potential to disrupt at least some parts of the current digital business models. It is not only the answer engines or social media services that could trigger disruptive developments. Autonomous AI Agents[185] could increasingly be used in many areas, for example, also changing how we use web browsers[186] or how we shop online.[187] This inevitably leads to the question of how to deal with such innovative newcomers under the current competition law and digital regulation regime. So far, current rules do not appear to be fully equipped to deal with the potential problems that may arise. While competition law, in particular Article 102 TFEU, is unlikely to play a major role, the DMA can in principle be applied to some of the AI-driven services, like answer engines. However, this is unlikely to be the case for all AI-driven business models. There is a high risk that other AI business models will fall outside the scope of existing categories of core platform services in Article 2(2) DMA. The categories of core platform services may be too backward-looking and too static to be able to effectively counter the foreseeable market changes in the digital economy.

Moreover, the rules for newcomers in Article 17(4) DMA should be applied to disruptive challengers if it is foreseeable that they will stand out from the other competitors and pose a threat to contestability. In this context, extending the available obligations to the data-related rules in Article 5(2) DMA and Article 6(2) DMA seems worthwhile as data-related practices are very important in AI-driven competition. Especially, quality and quantity of the available dataset play a central role in AI systems' training.

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[185] Purdy, M. 2024. What Is Agentic AI, and How Will It Change Work?, *Harvard Business Review* <https://hbr.org/2024/12/what-is-agentic-ai-and-how-will-it-change-work>.

[186] For the WebDreamer project compare Ansari, S., *WebDreamer: Enhancing Web Navigation Through LLM-Powered Model-Based Planning*, Markettechpost, 2024 <https://www.marktechpost.com/2024/11/24/web-dreamer-enhancing-web-navigation-through-llm-powered-model-based-planning/>. For more information on the Project Mariner of Google, compare https://deepmind.google/technologies/project-mariner/.

[187] Like Perplexity Shopping (https://www.perplexity.ai/shopping). See Hagiu, A., Wright, J. 2025. Artificial intelligence and competition policy, *International Journal of Industrial Organization* <https://doi.org/10.1016/j.ijindorg.2025.103134>, 12. Compare as well Göhsl, J.F. (2025) Future Proofing the DMA for Agentic AI: Lessons from the AI Act, World Competition Issue 3.

Furthermore, the prohibition of self-preferencing for newcomers could lead to a fairer distribution of rents between the platform and other actors on the platform in developing ecosystems. In addition, in particular cases where the market segmentation triggered by the 'new market disruption' becomes entrenched, Article 102 TFEU can also be applied in a complementary manner in order to prevent a market from being tipped by behaviour that is not based on competition on the merits.

Yet it must be acknowledged that this article can only serve as an impetus for competition policy to broaden its perspective. It seems appropriate to turn our attention to the next generation of potential gatekeepers, while maintaining focus on potential anticompetitive behaviour from current incumbents, such as the urgent topics of strategic acquisitions of and partnerships with AI start-ups. To address concerns about market tipping in AI markets, both incumbents and newcomers need to be held accountable. However, it goes without saying that newcomers should not be overly restricted in order to avoid stifling desirable innovation through over-regulation. Thus, further research is required to find the most effective way to prevent digital markets from (re)tipping caused by behaviour that is not compatible with competition on the merits, while also promoting innovation through AI to the greatest extent possible.