



COLLEGE OF SOCIAL SCIENCES AND INTERNATIONAL STUDIES

**THE APPLICATION OF COMPETITION LAW TOOLS  
TO BIG DATA RELATED MARKET POWER IN THE EU**

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## **ABSTRACT**

This research examines the relationship between Big Data and competition law. Initial findings reveal that accumulating personal information through data collection and acquisition methods benefits consumers considerably. Free of charge, fast and personalised services and products are offered to consumers online. Collected data is now an indispensable part of online businesses to the point that a new economy, a data-driven sector, has emerged. Many markets such as the social network, search engine, online advertising and e-commerce are regarded as data-driven markets where the utilisation of Big Data is a requisite for the success of operations. However, on the other side of the medallion, the accumulation and utilisation of data bring competition law concerns since they contribute to market power in the online world. Therefore, a few technology giants have gained unprecedented market power due to the Big Data accumulation, indirect network effects and the creation of online ecosystems. The sector players such as Google, Amazon and Facebook have established a strong market presence and dominance in their respective markets. As technology giants have billions of consumers worldwide, data-driven markets are truly global. In these data-driven markets, technology giants abuse their dominant positions. However, the current competition law tools seem ineffective in addressing market power and assessing abusive behaviour related to Big Data. To address this challenge, a novel approach to the data-driven sector is developed through the application of competition law rules. The novel approach proposed by this research justifies that the current and potential conflicts can be mitigated by extending the competition law assessment beyond the current competition law tools. Thus, the need for a modernised and unified approach to the Big Data related competition issues is identified. Ultimately, this research contributes to EU Competition Law by promoting new legal tests in addressing the market power of technology giants and assessing abusive behaviour in data-driven markets. Additionally, the need for cooperation between competition and data protection authorities is also nuanced.

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To my lovely boy, Mete...

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# 1 INTRODUCTION

## 1.1 A New Data-Driven Economy

The fourth industrial revolution is underway, and the global economy is now in the process of transformation. Transformation in business life and the commercial landscape is inevitable through rapid technological development. Technological development and digitalisation are currently shaping a new economy. In this new economy, data holds critical importance for undertakings in every sector. Rapid technological developments have led to new technologies such as data collection and mining, data processing (analytics) and storage.<sup>1</sup> However, this new environment fuelled by data technologies contains many competition issues which need immediate attention by competition authorities and regulators. Rapid digitalisation leads to novel anti-competitive strategies such as rising entry barriers, creating network effects to limit market access and high concentration in the online ecosystem.<sup>2</sup>

As Ioannis Lianos expresses: “the development of digital capitalism ... has led to an important information overload”.<sup>3</sup> Also, in one of her speeches, the European Commission Commissioner Margrethe Vestager expressed: “We need all the help we can get to stop climate change getting out of hand. So, if Big Data can help us to get more electricity from our wind farms, and help us to use less fossil fuels, that is a pretty important contribution.”<sup>4</sup> The contribution of technological development undeniably affects the types of transactions, decision-making processes, including strategic decisions and business structures. Due to digital technology, people’s ability to reach information, services, and products has become simple and fast.<sup>5</sup> Since the ability to reach relevant information is simple and fast today, the value of data has risen inevitably.

However, the importance of digital technology is not about quickly and easily reaching products or services from the consumer’s perspective. In the context of

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<sup>1</sup> Daniel L. Rubinfeld and Michal S. Gal, ‘Access Barriers to Big Data’ (2017) 59 Arizona Law Review 339, 341.

<sup>2</sup> Ariel Ezrachi and Maurice Stucke, ‘Emerging Antitrust Threats and Enforcement Actions in The Online World’ (2017) 13 Competition Law International 2 125-136, 136.

<sup>3</sup> Ioannis Lianos, ‘Competition Law for the Digital Era: A Complex Systems’ Perspective’ (2019) CLES Research Paper Series 6/2019, 7.

<sup>4</sup> Margrethe Vestager, ‘Check against Delivery’, Big Data and Competition EDPS-BEUC Conference on Big Data, Brussels, 29 September 2016.

<sup>5</sup> Viktor Mayor-Schonberger and Kenneth Cukier, *Big Data: A Revolution That Will Transform How We Live, Work and Think* (1<sup>st</sup> edn, John Murray Publishers, 2013), 19.

competition law, data means something more.<sup>6</sup> According to Schönberger and Cukier, there are far fewer limitations on how much data can be managed by businesses.<sup>7</sup> In time, a highly technical environment has been developed, and it is now possible to assess nearly all available data at once.<sup>8</sup> Contrary to now, the tools to collect and analyse data were quite limited in the past; thus, it was only possible to work with minimal data.<sup>9</sup> However, rapid technological development has enabled new data collection, mining, analytics, synthesising and storage techniques.<sup>10</sup>

As a result of data collection and analytics, waves of innovation and efficiencies have occurred in digitalised markets worldwide, which has benefited consumers.<sup>11</sup> Increased transparency, low to zero prices and a greater selection of choices in e-commerce and data-driven economy might seem to bring the ideals of perfect competition at first glance.<sup>12</sup> However, an initial analysis reveals that the new environment has many problems from a competition law perspective. New market structures (in this case, digitalisation and the efficient use of user data) bring many anti-competitive strategies, including barriers for market access and high concentration in online markets.<sup>13</sup> Contrary to the non-interventionist approach to dynamic markets and new technologies, which argues that a passive approach is needed to foster economic growth and innovation, intervention seems necessary if the effects of the abuse of market power, exclusionary practices and market foreclosing are present in the new economy.<sup>14</sup> In this

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<sup>6</sup> Ibid, 19.

<sup>7</sup> Ibid, 20.

<sup>8</sup> Ibid, 20.

<sup>9</sup> To give an example, Amazon has the ability to make nearly 2,500,000 price changes in a day. On the other hand, Walmart, which has been one of the biggest bricks-and-mortar stores in the world, has the ability to make only 50,000 price changes by hand in the course of an entire month. These numbers clearly indicate the power of Big Data utilisation based on algorithms, and also the effect of technology on commerce in showing the difference between e-commerce and traditional retailing. Truthfully, Amazon's market pricing power to adopt new prices in real-time stems from the power of its database. Autonomous pricing techniques, output decisions and instant offers to consumers are quite common today. Not only the digital marketplace and online markets, but traditional markets such as the travel, lodging and food service industries also have this capability to assess data, make price adjustments or take autonomous actions. It should not be forgotten that data has always been an important part of economic relations. Salil Mehra, 'Antitrust and the Robo-Seller: Competition in time of algorithms' (2015) 100 *Minnesota Law Review* 1323, 1334-1335.

<sup>10</sup> Daniel L. Rubinfeld and Michal S. Gal, 'Access Barriers to Big Data' (2017) 59 *Arizona Law Review* 339, 341.

<sup>11</sup> Ariel Ezrachi and Maurice Stucke, 'Emerging Antitrust Threats and Enforcement Actions in The Online World' (2017) 13 *Competition Law International* 2 125-136, 125.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid, 136.

<sup>14</sup> Ibid, 136.

situation, the main focus should be on super online platforms (technology giants) that gain market power and undercut the competition in data-driven markets.

The main point which needs to be identified is the role of Big Data in the new economy. In the data-driven economy, technology giants have recently gained unprecedented market power. Truthfully, the market power of dominant undertakings in data-driven markets stems from the effective use of Big Data. Big Data technology is increasingly used by undertakings to gain market power and ample competitive advantage in data-driven markets. After explaining the technology itself, the second point that needs to be underlined is the relevance between Big Data and competition law. In other words, the main gap in competition law is the relationship between data and market power. This relationship did not seem to be an issue of competition by the competition authorities and the courts for a long time. To the extent that authorities did not relate competition in markets to the market power generated by the utilisation of Big Data. The truth of the matter is that new economy markets are a reality today, and the role of Big Data is quite crucial for market power. Moreover, there are many concerns that bigger online platforms' efficiencies and immense success will soon turn them into monopolists implementing anti-competitive behaviour.<sup>15</sup> Inevitably, monopoly positions and the accumulation of vast amounts of personal data brings various problems to markets. As a result, an inclusive debate around anti-competitive conduct, data-driven markets and competition law must be conducted.

Considering the increasing relevance between Big Data and competition law, a thorough study around Big Data-driven markets should be conducted to understand the current structure and dynamics. Therefore, the primary motivation for this thesis is the idea that Big Data must be regarded as a source of market power which eventually affects commercial life and competition in the EU internal market. Thus, competition law needs appropriate tools and a rationale to deal with this newly emerged issue. In this regard, this research focuses on data-driven markets and Big Data to identify new market structures and substantial challenges while assessing market power and identifying the anti-competitive

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<sup>15</sup> Sebastian Felix Janka and Severin Benedict Uhsler, 'Antitrust 4.0 – The rise of Artificial Intelligence and emerging challenges to antitrust law' (2018) 39 European Competition Law Review 3, 113.

behaviour of dominant undertakings. These challenges must be identified, and remedies should fit the objectives of competition law in the EU. To be more precise, the main discussion in this analysis is on the structures of data-driven markets and the anti-competitive conduct generated through the utilisation of Big Data. In this manner, the EU competition law provisions on the assessment of the market power and its effects on today's abuse cases in data-driven markets is criticised.

In 2014, the European Data Protection Supervisor addressed how the control of data may lead to market dominance; thus, competition officials asked to discuss the issue through data protection and any possible effects on competition in data-driven markets.<sup>16</sup> In order to accomplish the objective, the Board suggested cooperation between authorities of consumer protection and competition both in investigation and enforcement phases.<sup>17</sup> Therefore, identification of market power and abuse of dominant position and their interface with consumer protection and privacy laws can be evaluated by reviewing the competition rules for the Big Data and data-driven markets.<sup>18</sup> Thus, it is crucial to consider any implications derived from data protection and consumer protection related to Big Data-related abuses under competition law since it is highly relevant and important. In Chapter 5, this issue is considered thoroughly.<sup>19</sup>

However, why are monopolies and dominant positions more dangerous in the Big Data era? Several implications can be derived from the current market structures. The first consideration is the super-dominant positions of technology giants, thanks to excessive indirect network effects.<sup>20</sup> Indirect network effects are one of the main characteristics of data-driven markets, which strengthens the dominant positions of technology giants unprecedentedly. In these markets, the accumulation of behavioural data and locking consumers in a specific ecosystem is the primary fuel of the market power, thanks to data processing and analytics methods. These techniques extract the actual *value* of data which is already

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<sup>16</sup> Preliminary Opinion of the European Data Protection Supervisor, 'Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy' (March 2014), Available at: [https://edps.europa.eu/sites/edp/files/publication/14-03-26\\_competition\\_law\\_big\\_data\\_en.pdf](https://edps.europa.eu/sites/edp/files/publication/14-03-26_competition_law_big_data_en.pdf), 38 accessed 1 September 2021.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> See Chapter 5.6.3 for more detail.

<sup>20</sup> See Chapter 4 for more detail.

comprised of characteristics such as *volume*, *velocity* and *variety*. As a result of the distinctive characteristics of Big Data, especially *velocity*, dominant positions held by technology giants and related abuses are more dangerous than traditional dominant position abuses today.<sup>21</sup>

In ecosystems where technology giants control all available data, a huge problem occurs as available data is a potential tool to distort competition.<sup>22</sup> Therefore, the second consideration is the *velocity* of data itself, in other words, the simultaneous monitoring and prediction power of undertakings. It is called 'nowcasting', which brings a substantial competitive advantage to undertakings in data-driven markets.<sup>23</sup> Undertakings use massive and rich databases to adjust their market strategies instantly due to near-perfect consumer behaviour analysis.<sup>24</sup> On top of that, the freshness of data -*velocity*- creates a situation where these massive data sets could only be relevant -*valuable*- for only a short period. Therefore, a competitor who has access to Google's or Amazon's 'a couple of days-old data' as a mitigative remedy after a competition investigation might not have positive effects on the competition in that market.<sup>25</sup>

Third consideration why data-driven dominance is more dangerous than traditional dominance is the fast-changing nature of data-driven markets. The fast pace of technological development has brought many tools to make people's lives easier along with numerous efficiencies. Digital markets are constantly evolving, and they all become data-driven, thus becoming a part of the online ecosystem. In the wake of the millennia, the growth of algorithms and effects on commercial life was not noticeable or predictable at all. Thus, the unprecedented growth of search engines such as Google or e-commerce web pages such as Amazon was not anticipated. In this dynamic ecosystem, *winner-takes-all system*, many undertakings have dethroned old dominant undertakings and acquired immense market power. Neither Google nor Facebook were the first movers in their respective markets. However, this does not mean that digital markets are competitive or that the entry barriers in these markets are low. Due to the Big

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<sup>21</sup> See Chapter 2.2.1 for more information.

<sup>22</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 286; Also See Chapters 5.4.1, 5.4.2, and 5.4.3 below.

<sup>23</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 285-286.

<sup>24</sup> The Competition and Markets Authority, *The commercial use of consumer data Report on the CMA's call for information* (2015), para 2.72.

<sup>25</sup> See Chapter 5.5.3.

Data related effects, data acquisitions of start-ups and exclusionary conduct create persistent dominant positions or monopolies in time.

It is believed that an undertaking could dethrone Google in the search engine market as Google did it to AltaVista. In academia, the emergence of Google and the dominance of AltaVista in the late 1990s are given as examples often. Google started using algorithms to create organic search results in 2001 and accumulated an enormous amount of data in the following years.<sup>26</sup> However, at that time, AltaVista, Yahoo, and other competitors of Google were using a cataloguing method conducted by staff members.<sup>27</sup> The difference resulted in a huge quality difference between Google and its competitors. Inevitably, Google's growth continued exponentially, and today it seems quite impossible for an entrant to dethrone Google in normal market conditions without having access to massive datasets, data analytics, algorithms, sufficient scale, and network effects.

Turning to the fast-changing character of data-driven markets, the search engine market in the 1990s and 2020s are not the same. Today, the search engine market is a part of a more extensive digital ecosystem intertwined with online advertising, shopping, vertical search, and many others. All segments of the ecosystem take advantage of the indirect network effects and data utilisation methods. Briefly, the fast-changing nature of data-driven markets is not about having market shares or entry to markets; instead, it is about the evolution of the new economy and digital markets. Although fast changes in market shares or dominance do not seem to be an issue for competition law, the evolution of ecosystems and persistent dominance lead the way to anti-competitive conduct.

Big Data effects, including competitive advantage, data protection concerns, indirect network effects and the fast-changing dynamic nature of new economy markets, reveal the question about data-related abuses. What should be the approach of competition law and policy in data-driven markets? Some commentators argue that competition intervention would have chilling effects on innovation, and possible remedies could be detrimental for consumer welfare in

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<sup>26</sup> Jens Prüfer and Christoph Schottmüller, 'Competing with Big Data' (2017) Tilburg Law School Research Paper No. 06/2017, TILEC Discussion Paper No. 2017-006, CentER Discussion Paper 2017-007, 27.

<sup>27</sup> Ibid.

the end.<sup>28</sup> Therefore, a passive approach must be taken for markets to self-correct themselves in time. On the other hand, some argue that markets do not necessarily self-correct, abuses are real, and intervention is necessary.<sup>29</sup> Thus, lasting anti-competitive conduct would harm consumers and the innovation process.<sup>30</sup> Additionally, some commentators advocate that those current tools are sufficient when an intervention is necessary.<sup>31</sup> Lastly, there is an argument that competition intervention and possible remedies are not sufficient since the new economy evolves exorbitantly fast.<sup>32</sup>

Due to the reasons above, the appropriate approach of competition law to data-driven markets should be an interventionist one to some extent. Thus, the identification of data-driven abusive conduct is in itself a main regulatory challenge for competition law and policy in the EU. Unlike other jurisdictions, the stance of the European Commission has always been more interventionist against unilateral conduct. Cornerstone cases against Microsoft and Intel in the 80s and 90s verify the aggressive approach of the Commission towards innovative high-technology markets in the wake of the digital age. However, identifying abuses is crucial if one is dedicated to taking an interventionist approach. Although technology giants such as Google and Microsoft have already faced various abuse of dominant cases before the EU authorities more

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<sup>28</sup> Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301; Daniel F. Spulber, 'Unlocking Technology: Antitrust and Innovation' (2008) 4 *Journal of Competition Law and Economics* 4, 915; Daniel Crane, 'Search Neutrality and Referral Dominance' (2012) 8 *Journal of Competition Law and Economics* 3, 459–68; Robert H. Bork and J. Gregory Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?' (2012) 8 *Journal of Competition Law and Economics* 4, 663–700; Geoffrey A. Manne and William Rinehart, 'The Market Realities that Undermined the FTC's Antitrust Case Against Google' (2013) *Harvard Journal of Law and Technology Occasional Paper Series* 12; Spencer Weber Waller and Matthew Sag, 'Promoting Innovation' (2015) 100 *Iowa Law Review*, 2223–2247, 2226.

<sup>29</sup> Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 *Yale Journal on Regulation* 2; Joaquín Almunia, Vice President of the European Commission responsible for Competition Policy, 'Competition in the online world, LSE Public Lecture, London' (11 November 2013) Available at: [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_13\\_905](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_13_905) accessed 1 September 2021.

<sup>30</sup> Carl Shapiro, 'Exclusivity in Network Industries' (1999) 7 *George Mason Law Review* 673.

<sup>31</sup> Evelin Hlina, 'Dominant Undertakings in the Digital Era: A Call for Evolution of the Competition Policy towards Article 102 TFEU?' (2016) 9 *ICC Global Antitrust Review*.

<sup>32</sup> William H. Page, 'Mandatory Contracting Remedies in the American and European Microsoft cases' (2008) 75 *Antitrust Law Journal* 787; William H. Page and Seldon J. Childers, 'Measuring Compliance with Compulsory Licensing Remedies in the American Microsoft Case' (2009) 76 *Antitrust Law Journal* 239.



recently,<sup>33</sup> identification of abuse and intervention to data-driven markets remain as significant challenges for competition law.

## 1.2 Scope of the Research

The current situation brings the verdict on whether the new structures of data-driven markets serve for healthy and efficient competition or foster anti-competitive conduct and monopolisation. The question is, do super online platforms that have control over specific relevant markets weaken competition? If so, does this market power cause anti-competitive conduct and facilitate concentration? The correlation between the data utilisation and assessment of market power, including relevant market definition, points out that the nature of abusive behaviour in the online world is unique, and technology giants accompany specific data techniques to utilise relevant information to abuse their market powers. Therefore, these novel techniques have also a significant impact on adjudicators and regulators assessment regarding the nature of the abusive behaviour. Therefore, how should the objectives of competition law be pursued in these data-driven markets through case law or regulatory actions? What are the substantial challenges in ensuring healthy competition in data-driven markets? Ultimately, can the objectives of competition be met? This flow of ideas ignites the spark of the debate in this thesis and helps identify the gaps in this area of law.

Therefore, the main research question is: “Is current competition regulation effectively dealing with these issues in the EU? Is there a case for reform in the approach of EU competition law?” The main problem in the law is applying competition tools to Big Data related market power. However, to achieve a systematic analysis, several questions must be addressed before determining how to intervene to Big Data related market power in terms of competition law. The starting point of the research is Big Data technology. Therefore, this

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<sup>33</sup> Case COMP/C-3/37.792 Microsoft, Commission Decision of 24 March 2004 relating to a proceeding under Article 82 of the EC Treaty against Microsoft Corporation; Case COMP/C-3/39.530 Microsoft, Commission Decision of 16 December 2009 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement; Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289; 2008; Case AT.39740 Google Search (Shopping) [2017] 4444 Final, Commission Decision of 27/6/2017; Case No COMP/AT.40099, Google Android Commission Decision of 18 July 2018, [2018] 4761 Final; Case No COMP/AT.40411 Google AdSense C[2019] 2173, Commission Decision of 20 March 2019 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement.

research's first main objective is to systematically address the Big Data issue in terms of competition law since the application of competition law, and the current Big Data findings have seen an increasing relevance so far. In this manner, the assessment focuses on Big Data as a competition law issue. By this means, the first research question is: "How does Big Data contribute to the market structures of the new economy?" In order to assess what Big Data means for competition purposes, a framework is drawn, and the characteristics of Big Data are explained. Then the competitive significance of Big Data for market power is discussed in this research.

Following that, the second research question is: "How could dominant undertakings use Big Data to undermine the process of competition?" In this part of the study, the behaviour of dominant undertakings is scrutinised, together with the market structures of data-driven markets. Data acquisitions are also under scrutiny since they are a part of the Big Data value chain and are used to gain competitive advantage and market power. Therefore, this part aims to address the challenges on the assessment of market power and anti-competitive conduct, which are a result of increasing Big Data usage by technology giants in the digital age.

It is followed by the third research question, which is the main argument of this thesis: "Is current competition regulation effectively dealing with these issues in the EU? Is there a case for reform in the approach of EU competition law?" Therefore, the main objective of this research is to evaluate the effectiveness of the EU competition law and its assessment tools, which is currently applied to competition issues in digital markets. The study addresses issues in the context of EU competition law. By this means, the main focus of the study is on European Union legislation and case law in the first place. In addition to that, national laws (including case law) in the EU are also considered. In this context, this research includes a critical assessment of how European competition authorities should react to the Big Data issue and newly emerging data-driven markets. In other words, the application of EU competition law rules is criticised throughout the study.

After analysing the strengths and weaknesses of competition law and policy, a roadmap is drawn for EU competition policy. By this means, the need for reform through a lawmaking process is also identified. Thereby, the final

research question is: “How should market power be defined for competition law purposes?” It is crucial to set an approach for data-driven markets and competition law objectives. Thus, another objective and contribution of this study is to make recommendations for remedies to mitigate potential future conflicts concerning the effectiveness of the current regulation regarding EU competition law. At this point, the necessity of a single, coherent application of competition law in the EU is also mentioned throughout the analysis. In total, this research examines the effects of the Big Data ecosystem in data-driven markets from a competition law perspective in Europe.

### **1.3 Value Added by the Research**

This research contributes to the EU competition law literature in several ways. First, this study aims to cover the Big Data issue from a broader perspective in the absence of a relevant precedent. Debates and studies on the Big Data issue are still going on. However, it can be seen that many of the reports and studies either lack solutions - what they have brought to the debate is only the identification of particular problems - or the discussions on remedies have remained narrow in a limited number of studies. However, this does not invalidate the significance of these current studies. One of the reasons why remedies are not present yet is the lack of case law, the lack of a relevant precedent, and the insufficiency of the current regulatory framework. For instance, the most impactful landmark case, the Google Search (Shopping) case,<sup>34</sup> lasted almost a decade. This sole incident shows the insufficiency of competition tools as immediate remedies to end abuses and the lack of precedent law in digital markets. From a competition law perspective, the harm done by Google seems to be irreversible after all these years.

Another significant contribution is to reveal the correlation between the Big Data related market power regarding the assessment of market power and data-related abusive behaviour. As data becomes a vital source for commercial transactions globally, it also contributes to the creation of vast network effects. As Furman report demonstrates, digital markets are highly concentrated. For instance, Google and Bing have over 95% of the market shares in online search

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<sup>34</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final, Commission Decision of 27/6/2017 relating to proceedings under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the Agreement on the European Economic Area.

combined in the UK. Apple and Google have over 95% of the market shares in mobile operating systems. Facebook and Snapchat have over 90% of market shares in social networks, and Google itself has over 60% of market shares in the digital advertising sector.<sup>35</sup> Penrose Report stresses that these technology giants use data to build market power and dominant positions by creating network monopolies.<sup>36</sup> In other words, data becomes a tool in data-driven markets to create dominance. The main reasons behind the strong positions of technology giants are data accumulation and indirect network effects.<sup>37</sup>

Although literature identifies data as a source for market power, data as an anti-competitive tool is not widely discussed in academia. However, the same data is used for anti-competitive purposes. However, Big Data-related market power as interpreted by current market power assessment tools does not reveal how data strategies can be part of abusive behaviour in data-driven markets. In this sense, this research aims to reveal how data utilisation by undertakings impacts market power assessment, thus how market power assessment fails to identify the role of big data in terms of dominance. On top of that, the research links the problems in market power assessment to data-related abuses since data is a source of market power and a tool to distort competition in data-driven markets.

Also, another contribution to the knowledge on this subject is an analysis based on how to establish a regulatory action towards Big Data and data-driven markets. Competition authorities and academics have formed a consensus on the necessity of an urgent course of action on the Big Data issue. Especially in the EU internal market, one effective roadmap must be determined to deal with

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<sup>35</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel> accessed 1 September 2021; Competition & Markets Authority, 'Online platforms and digital advertising', Market study, final report [1 July 2020] Available at: [https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final\\_report\\_Digital\\_ALT\\_TEXT.pdf](https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final_report_Digital_ALT_TEXT.pdf) accessed 1 September 2021; Competition & Markets Authority, 'A new pro-competition regime for digital markets: Advice of the Digital Markets Taskforce' [December 2020] Available at: [https://assets.publishing.service.gov.uk/media/5fce7567e90e07562f98286c/Digital\\_Taskforce\\_-\\_Advice.pdf](https://assets.publishing.service.gov.uk/media/5fce7567e90e07562f98286c/Digital_Taskforce_-_Advice.pdf) accessed 1 September 2021.

<sup>36</sup> John Penrose MP, 'Power to the People: Stronger Consumer Choice and Competition so Markets Work for People, not the Other Way Around' An Independent Report Presented to Her Majesty's Government [2021] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/961665/penrose-report-final.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/961665/penrose-report-final.pdf), accessed 1 September 2021, 27-28.

<sup>37</sup> See Chapter 3.4.1 for more detail.

data-driven anti-competitive conduct and Big Data monopolies. For the present, case law does not seem sufficiently established to set a precedent in the EU, and the necessity of a regulatory action seems judicious such as the most recent proposed regulation, the Digital Markets Act. On this point, this research features a systemic analysis of how to approach data-driven markets and anti-competitive conduct therein. By this means, this research fills a gap in academic knowledge and provides a broader and proper analysis of the issue. Additionally, this research aims to add further implications to the current state of the issue, for which competition authorities and academics have already set the basis in the EU.

In total, this study is a systematic analysis of Big Data and data-driven markets in relation to competition law and policy. The analysis which is followed in this research is based on doctrinal analysis. In this framework, the effect of today's technologies on the data-driven market structure – in this case, highly concentrated digital markets and the abusive conduct of dominant undertakings – is identified clearly from a European competition law perspective.

#### **1.4 Methodology of the Research**

The methodology followed in this thesis is that of a problem-based doctrinal legal research method. In this methodology, the first step is to disclose the current status of the legal landscape, the legal doctrine, and relevant cases.<sup>38</sup> Thus, rules, principles, relevant guidelines, policy papers are the primal sources for the analysis. Through identifying relevant facts and issues in the specific area of law, the problems which have emerged lately are enunciated in the first place. Identification of relevant facts cannot be made without engaging with existing literature from commentary for the analysis. Overall, legislation and case law in the relevant area, including policy papers and reports from both EU legislative bodies and national competition authorities, are examined thoroughly in order to analyse the law and its applicability. This method eventually reveals the three core features of doctrinal methodology; existing rules (including commentary as literature), the coherent law system and decisions that fit into this system.<sup>39</sup>

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<sup>38</sup> Terry Hutchinson, 'Doctrinal Research' in Dawn Watkins and Mandy Burton (eds), *Research Methods in Law* (1<sup>st</sup> edn, Routledge 2013, Oxford), 7.

<sup>39</sup> Rob van Kestel and Hans W. Micklitz, 'Revitalizing Doctrinal Research in Europe: What about Methodology' (2011) European University Institute Working Papers Law 05, 26.

This analysis is based on a problem-solving strategy. After identifying the existing literature and weaknesses of the legal structure, the adequacy and effectiveness of current legal principles are scrutinised in the second step of this method. The absence of a coherent application of law to the area could be identified by this means. As a reform-oriented study, a need for change is also demonstrated. As the most important pillar of doctrinal research, critical thinking is the main tool to address the abovementioned needs. Another important pillar of this method is its systematic nature. Terry Hutchinson stresses that this method aims to assess applicable principles to the area of law in light of relevant rules and case law in a systematic order.<sup>40</sup> He adds that doctrinal researchers must fit new fact situations and integrate relevant findings into the existing literature in the same way to provide rationale and logical coherence.<sup>41</sup> Therefore, doctrinal research is defined as: “the research which provides a systematic exposition of the rules ... relationship between the rules... and future developments.”<sup>42</sup>

As Rob van Kestel and Hans Micklitz indicate, the doctrinal research method is quite important for studying EU Law.<sup>43</sup> Thus, the growing plurality of legal sources in Europe must be underlined in order to demonstrate this importance.<sup>44</sup> Member States of the EU have their own regulatory and enforcement bodies for the purposes of competition law. Thus, case law on the national level has relevance for the European legal doctrine. However, EU competition law has an autonomous body empowered by the Member States through exclusive competence. Thus, the European Commission and the Court of Justice of the European Union are the primary actors for the establishment of the European legal doctrine. Although the primary rules of competition law are set within the TFEU (Treaty on the Functioning of the European Union), interpretation and enforcement of competition rules may differ on the national level. Thus, it might be challenging to identify the correct sources of the law while interpreting existing rules or precedent in the form of case law. Overall, any study

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<sup>40</sup> Terry Hutchinson, ‘Doctrinal Research’ in Dawn Watkins and Mandy Burton (eds), *Research Methods in Law* (1<sup>st</sup> edn, Routledge 2013, Oxford), 13.

<sup>41</sup> Ibid.

<sup>42</sup> Terry Hutchinson, ‘Doctrinal Research’ in Dawn Watkins and Mandy Burton (eds), *Research Methods in Law* (1<sup>st</sup> edn, Routledge 2013, Oxford), 10; citing Dennis Pearce, Enid Campbell and Don Harding, *Australian Law Schools: A Discipline Assessment for the Commonwealth Tertiary Education Commission* (1<sup>st</sup> edn, Australian Government Publishing Canberra, 1987)

<sup>43</sup> Rob van Kestel and Hans W. Micklitz, ‘Revitalizing Doctrinal Research in Europe: What about Methodology’ (2011) European University Institute Working Papers Law 05, 27.

<sup>44</sup> Ibid, 27.

on European legal doctrine must be engaged by taking account of this growing plurality of legal sources if the aim is to create a coherent implication for European competition law.

In addition to European legal doctrine, a wider perspective of law should be taken into consideration; thus, different jurisdictions are discussed in the thesis. That being said, the analysis does not include a comparative perspective. Instead, the focus is on the differences in applying competition law in different jurisdictions. On this point, the conduct in the US and the EU is discussed. Then, solutions to the unique problems of European competition law are revealed together with the antitrust policy from the other side of the Atlantic. As an international set of rules, EU competition law is affected by various national competition authorities in Europe; and affected by US competition law where competition law was formed. Thus, competition law in Europe is relevant to its US counterpart since it has deeper roots on the other side of the Atlantic. The anti-monopoly policy of Judge Brandeis, Harvard School, and Chicago School have all shaped competition policy in turn and have inevitably affected European competition policy at one point. Thus, it is necessary to examine the background of competition law and policy and the rationale behind it in order to provide solutions to these newly emerged data-driven markets. As a result, all these analyses provide a better understanding of today's competition concerns in the age of Big Data. They provide a rationale to deal with further data-related issues through lawmaking in Europe.

It is important to note that competition law is not an isolated area of law in applying black letter rules. The abovementioned competition law theories are actually parts of broader economic theories that have had significance throughout history. Consequently, the current approach has a strong economic influence on assessing the competition in markets and restraints on trade, which could be traced back to the Chicago and Harvard School of competition policies. Competition authorities and law enforcement increasingly rely on economics in markets in order to assess potential harm and welfare. In this manner, the application of competition rules requires specific economic analysis. Thus, the relevance of welfare economics and competition law and policy is also scrutinised in the analysis. In order to do this, a structural analysis of markets and the effects of Big Data there are examined before identifying the challenges in data-driven

markets. In this sense, network effects and unique characteristics of digital markets need to be discussed. A current market analysis is done along with the short and long-term effects of data-driven mergers and the effect of data on structural dominance.

As the literature identifies, there are several different ideas on approaching this problem. One option would be to approach the issue in terms of regulating data-driven markets to create a Big Data law for competition purposes. The creation of a Big Data law and the inclusion of exclusive rules in it, or a sector-specific regulation for Big Data-driven markets, is an option. Although this method might result in erroneous conclusions, it needs to be discussed with other policy options. Referring to Judge Easterbrook,<sup>45</sup> Kevin Coates argues that there is no ‘competition law of technology markets’; instead, there are main competition rules which are applied to sectors.<sup>46</sup> Along the same lines, it can be deduced that the Big Data issue and data-driven markets can be addressed through the main EU competition law principles. In this case, identifying the weak and strong sides of the current competition policy regarding Big Data becomes necessary.

As another option and a policy shift in competition in general – and not a “new competition law for big data” – Lina Khan and the New Brandeisians propose creating an anti-monopoly structure that will eventually prevail as today’s antitrust policy.<sup>47</sup> As academics argue, anti-competitive conduct in the new era will hit not only consumers’ pockets but also their privacy, well-being and finally, their democracy.<sup>48</sup> The result deducted from the argument is that the understanding of competition law might need to change in the digital age. This idea would allow policymakers to shape a different competition law and policy aligned with the newly emerged needs. Total re-consideration of the competition law is another option. However, these arguments do not have any substantial links to Big Data and market power analysis in the digital age.<sup>49</sup>

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<sup>45</sup> Frank H. Easterbrook, ‘Cyberspace and the Law of the Horse’ (1996) University of Chicago Legal Forum: Vol. 1996, Article 7, 207-216.

<sup>46</sup> Kevin Coates, *Competition Law and Regulation of Technology Markets* (1<sup>st</sup> edn, Oxford University Press, 2011), 1.

<sup>47</sup> Lina Khan, ‘The New Brandeis Movement: America’s Antimonopoly Debate’ (2018) 9 Journal of European Competition Law and Practice 3, 131-132.

<sup>48</sup> Ariel Ezrachi and Maurice E. Stucke, ‘The Fight over Antitrust’s Soul’ (2018) 9 Journal of European Competition Law and Practice 1; Lina Khan, ‘The New Brandeis Movement: America’s Antimonopoly Debate’ (2018) 9 Journal of European Competition Law and Practice 3.

<sup>49</sup> Maurice Stucke, ‘Reconsidering Competition’ (2011) 81 Mississippi Law Journal 2, 108-188.



Also, identifying the appropriate approach of competition law to data-driven markets can be engaged through an analysis involving one of the most commercially important yet legally complicated issues in European law: the application of competition law rules in the presence of national and EU level intellectual property laws. The application of competition law rules in the free market economy can contradict individuals intellectual property rights (IPRs) since these rights give the ability to regulate the use of protected goods exclusively to the owners of IPRs, such as in the case of Standard Essential Patents (SEP). Through the past decades, the applicability of competition law to SEP owners' abusive practices and the development of remedies available outside the competition law domain has been discussed, and extended literature is available for research and comparison. Although the utilisation of Big Data is comparable to exercising SEP rights, the study leaves out any substantial discussion on IPRs, transport services, energy, telecommunication or any other deregulated market. In other words, this research limits discussions outside Big Data and focuses on creating an understanding of the Big Data technology itself through structural analysis.

Therefore, the method to conduct the analysis in this research is to identify the weaknesses inherent in competition law regarding Big Data and data-driven technology. Weak points can only be revealed by a structural analysis of data-driven markets and the power of the Big Data value chain. Therefore, unique characteristics of data-driven markets can be revealed, such as indirect network externalities, tipping markets, creation of online ecosystems or strong lock-in effects. By this means, competition law problems can be then become identifiable. Market analysis conducted with a retrospective analysis on data-driven mergers and acquisitions, including recent abuse of dominant position cases, reveal how current regulation and case law deal with immediate problems that stem from the utilisation of Big Data. In the last step, intervention to data-driven markets by way of regulation is discussed. The approach proposes alternative roadmaps for the regulatory intervention and sets the benchmarks for intervention. Possible *ex-ante* regulations and *ex-post* interventions are discussed as the primary approach.

However, in this context, workable alternative approaches must be examined together to fill the literature gap for the purposes of competition law. In

order to achieve this, identification of the weak and strong sides of the current competition policy towards Big Data and analysis on failures in the case law must be made in the first place considering the current literature. The discussion then evolves into a more comprehensive analysis of competition law which includes a political discussion on possible approaches by law-makers. It is unarguable that the new economics of Big Data and technology opens up a new pace in markets; thus, competition law must be re-determined in order to fit its purposes. Only then the objectives of competition law can be met in data-driven markets. As mentioned above, new markets are being established, and change is inevitable. Thus, the task of the law is to maintain stability in data-driven markets and provide a healthy competitive market without impeding free market objectives, which is the main concern of competition law and policy.

### **1.5 Structure of the Research**

This research consists of seven chapters, which all are formed around the three main research questions. In the second chapter, Big Data and its relevance for competition law are examined. In order to achieve this, Big Data is explained for the purposes of competition law and policy. After that, the main step is to identify specific challenges in Europe regarding the anti-competitive effects of Big Data and the market power generated. After identifying substantial issues in data-driven markets, the weaknesses and strengths of current competition law and policy are scrutinised through Chapters 3 to 5. Studies on recent case law and the market structures in Big Data related cases are the main topic of the discussion in this regard. Contextualising different matters on their own merits is essential in identifying the anti-competitive effects of Big Data usage and eventually helps the classification and evaluation of the area.

Chapter 3 focuses on the structures of data-driven markets and the digital monopoly problem occurring there. An explanation of the characteristics of data-driven markets and the dynamics in new markets is followed by a discussion on the concept of “data-opoly”. Thus, differences between traditional monopolies and data-opolies and the potential dangers of the increasing concentration of online platforms for consumers in the EU are discussed. The main topic of the discussion in this chapter is the difficulty in identifying the current structure by regulation and the potential harm of data-opolies. Then, the debate moves onto another behavioural aspect in data-driven markets: data acquisitions. Under the

name of Research and Development (R&D) investments, online platforms take over innovation-centric firms to gain competitive advantage by accumulating data. In other words, mergers and acquisitions become instruments used to collect and utilise this data. Through data-driven mergers, companies use their data dominance in markets that are actually not data-driven. In order to succeed after a conglomerate merger, data holds the most critical role for these undertakings. Therefore, to point out the importance of Big Data in conglomerate data-driven mergers, the debate touches upon merger control in the EU.

Chapter 4 is gathered around the second research question. In the fourth chapter, the problems occurring during the assessment of data-related market power are explained. In this regard, the discussion focuses on defining relevant markets and assessment of market power issues in Big Data related cases in the EU. In this regard, what criteria should be applied in assessing Big Data is scrutinised. Another competition law challenge related to Big Data and data-driven markets is the non-price dimension of competition law. A discussion on merger control and market power assessments reveals the strengths and weaknesses of the current competition policy in the EU. Then, Chapter 5 starts to explore anti-competitive conduct in the age of Big Data. This chapter is also gathered around the second research question. By this means, exclusionary and predatory practices in data-driven markets are debated. As a tool to distort market competition, Big Data poses several threats. Undertakings use their dominant positions through various forms of anti-competitive conduct to gain ample competitive advantage. Leveraging market power, tied and bundled sales, cross-usage of data sets through exclusionary contracts, vertical integration, preventing rivals from achieving scale are common in data-driven markets. On top of these, access to data and data privacy have become major problems and debates in the EU. Accordingly, novel abuses are a reality in data-driven markets today.

Chapter 6 then moves the discussion onto intervention in data-driven markets by way of the lawmaking process. This chapter is gathered around the third research question. Dominant undertakings that utilise data created online ecosystems and became *de facto* regulators of their own ecosystems. In addition to the other challenges related to Big Data, market power assessment and Big Data related abuses, the effectiveness of EU competition policy in these ecosystems is the main discussion point here. In order to mitigate Big Data

challenges through the EU's lawmaking process, ways to approach the issue are explained. A non-interventionist approach for competition law, along with various potential interventions into markets, is discussed in this chapter. In order to extend the debate, a discussion on the possible reforms for EU competition law to apply a new legal test to data-driven markets is featured there. In this section, criticism of the agenda of the EU's competition authorities is also made. Thus, the necessity for a modernised approach to competition and the objectives of competition law are discussed. Only then, new tools for ensuring efficient competition in the digital age can be brought to light.

In Chapter 7, the thesis ends with a summary and concluding remarks.

## **2 BIG DATA CHALLENGES FOR COMPETITION LAW**

### **2.1 Introduction**

The purpose of this chapter is to create a framework of Big Data for competition law analysis and to identify the relevant context of Big Data that needs to be dealt with in competition law and policy. Only then the correlation between Big Data and market power can become identifiable clearly. The importance of Big Data and its commercial use in the era of the digital economy appears to be attracting competition authorities and undertakings alike. More than a few challenges await competition authorities to deal with within the EU. The Big Data user undertakings, which are huge businesses online, enjoy their market powers by controlling vast amounts of collected and processed data. In line with this idea, undertakings that strengthen their market positions by controlling Big Data tend to abuse their market powers. In other words, Big Data can act as a source of market power and a powerful tool for the abuse of a dominant position today. In this manner, consumer data collected or acquired by undertakings poses various anti-competitive threats.

This chapter consists of three main subsections. In the first section, a framework for Big Data is drawn. Big Data refers to a technical aspect of the digital world. However, the term Big Data, which computer scientists first used, is now quite famous and widely used across various disciplines.<sup>50</sup> The result of this is that Big Data might mean something slightly different in different contexts. Therefore, the main aim is to configure the meaning of Big Data for competition law purposes and underline why it is relevant for competition law analysis.

Following that, it will be possible to see how Big Data creates a value chain and impacts market competition. Supposedly, Big Data is the main element for both pro-competitive and anti-competitive actions in the new economy. Many problems occur in data-driven markets since the revolutionary character of Big Data technology inevitably touches the edges of static competition law analysis and creates situations in which case law is not present yet. For this reason, some

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<sup>50</sup> OECD, Ania Thiemann and Pedro Gonzaga, "Big Data: Bringing Competition Policy to the Digital Era" (2016) DAF/COMP 14 Available at: [https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf\\_1](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf_1), accessed 29 May 2021, accessed 1 September 2021, 5.

commentators have argued (almost dating back to 2016)<sup>51</sup> that the Big Data issue does not pose competitive threats due to the lack of case law and competition agency consent.<sup>52</sup> However, case law is likely to be established in the near future through various cases and investigations, including the abusive conduct of the most efficient businesses that make use of Big Data.

The Big Data value chain analysis initially reveals the competitive significance of Big Data and reveals how consumer data shapes online markets. Accumulation of vast consumer data and effective data analytics to derive relevant pieces of information provide undertakings with substantial market power. Consumer data can be acquired by collecting directly from online services or data-driven mergers. Either way, the accumulation of data provides an enormous advantage to incumbent undertakings which successfully utilise data, and in turn, this data is used by undertakings for anti-competitive purposes. In the following section, these issues are examined.

In the following section, policy responses in Europe are discussed. In this way, the literature on the problems that competition authorities have been investigating so far is enunciated to understand at what point the current research is and in which direction it tends to move. At this point, attention from the competition authorities is at the forefront. Studies from the EU dimension and national competition authorities are valuable when determining a roadmap for the EU. The significant role of the competition authorities, as both regulators and enforcers, cannot be disregarded in terms of policy responses and lawmaking options for the Big Data issue in the Internal Market.

After that, the challenges deriving from the structure of the new economy markets and other regulatory challenges are listed and overviewed for further analysis. The discussion starts with the structural challenges created by data power, data-driven markets, and online ecosystems. The discussion is followed by the monopolisation problem and data acquisitions by incumbent technology giants. Then, the discussion moves forward to issues occurring in the assessment

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<sup>51</sup> In this specific case, the authors mention whether consumer data constitutes a barrier to entry by referring to Michael Baye et al., 'Economics at the FTC: The Google-DoubleClick Merger, Resale Price Maintenance, Mortgage Disclosures, and Credit Scoring in Auto Insurance' (2008) 33 *Review of Industrial Organization* 3; a study about *Google/DoubleClick* Merger of 2007.

<sup>52</sup> D. Daniel Sokol and Roisin Comerford, 'Antitrust and Regulating Big Data' (2016) 23 *George Mason Law Review* 5 1129, 1151.

of data-related market power in data-driven markets. Ultimately, the regulatory challenges of anti-competitive conduct are mentioned. By this means, all these issues are identified, and all gaps in the competition law assessment and enforcement for data-driven markets can be identified clearly.

## **2.2 Definition of Big Data for Competition Law**

Consumer data and, more specifically, Big Data and data analytics affect markets in every respect in the new economy. In order to address competition law challenges in data-driven markets, a definition of Big Data should be made. However, this thesis does not have an objective to 'define' Big Data, which refers to a technological aspect in the digital world. Instead, this section aims to define the 'boundaries' of Big Data technology in the context of competition law and policy. By this means, it will be possible to see Big Data as an infrastructural resource, capital, input, a value creation mechanism and a source of market power.<sup>53</sup>

Therefore, the assessment of market power must also be addressed in light of the new dynamics of the new economy. If Big Data is found to be a value creation mechanism and a source of market power through the analysis, understanding of market power might also need a change, at least for data-driven markets. To be more specific, narrow product market definitions based on the traditional concept of market definition in data-driven markets are not appropriate for assessing market power.<sup>54</sup> As Big Data becomes a value creation mechanism and a source of market power, the Commission Notice on the definition of the relevant market<sup>55</sup> becomes obsolete since it does not reflect the characteristics of the new economy, businesses strategies such as online ecosystems and the importance of Big Data.<sup>56</sup> Therefore, the following subsections explain how Big Data has started to serve as a tool to gain market power and abusive behaviour.

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<sup>53</sup> OECD, Data-Driven Innovation, Big Data for Growth and Well-Being, OECD Publishing Paris (2015) Available at: [https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation\\_9789264229358-en](https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation_9789264229358-en) accessed 29 May 2021, accessed 1 September 2021, 22-28.

<sup>54</sup> Vanessa Turner and Agustin Reyna, 'Market Definition in EU Competition Law Enforcement: Need For An Update', BEUC's Response to the Public Consultation [2020] Available at: [https://www.beuc.eu/publications/beuc-x-2020-092\\_beuc\\_response\\_public\\_consultation\\_on\\_market\\_definition.pdf](https://www.beuc.eu/publications/beuc-x-2020-092_beuc_response_public_consultation_on_market_definition.pdf), accessed 1 September 2021, 3.

<sup>55</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5.

<sup>56</sup> Ibid.

## 2.2.1 Characteristics of Big Data

What is the difference between ordinary data and Big Data? Big Data has unique characteristics which distinguish it from ordinary data or wastes of information. A few decades ago, all online information was regarded as a waste of information in the public's eyes since it was too big to be sorted and extracted. Not only the amount of data but the utility of data is also important. Relevant information must be collected, extracted, aggregated, and then processed to become relevant data. Only after that, the information found in an endless data sea can be valuable. Andrea De Mauro proposes a definition for Big Data as an information asset established by three distinct features (Volume, Velocity and Variety), which also needs technology and analytical methods to make true use of its nature (Value).<sup>57</sup> By this means, Big Data can be simplified as the 4Vs, and these 4Vs actually make Big Data both quantitatively and qualitatively different from ordinary data.<sup>58</sup>

*Volume.* The first distinctive attribute of Big Data is the amount of data collected. Information can be regarded as the fuel of Big Data.<sup>59</sup> The more information is collected, the more utilisation of Big Data can be possible. According to the OECD, data collection has been increasing through the digitalisation of media, consumer services, and all social and economic activities in the digital world.<sup>60</sup> Today, the amount of data collected from the internet in a second is the same as the amount collected online in a year, just 20 years ago.<sup>61</sup> To exemplify this, Walmart gathers data at about 2.5 petabytes (millions of gigabytes) every hour from its consumers.<sup>62</sup> McAfee estimates that the amount of data Walmart collects online in an hour is approximately 50 million bookcases worth of text.<sup>63</sup>

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<sup>57</sup> Andrea De Mauro, Marco Greco, Michele Grimaldi, 'A formal definition of Big Data based on its essential features' (2016) 65 Library Review 3 122-135, 131.

<sup>58</sup> Marc Bourreau, Alexandre de Steel, Inge Graef, 'Big Data and Competition Policy: Market power, personalised pricing and advertising' (2017) Centre on Regulation in Europe Project Report, 11.

<sup>59</sup> De Mauro et al. (n 59) 124.

<sup>60</sup> OECD, Data-Driven Innovation, Big Data for Growth and Well-Being, OECD Publishing Paris (2015) Available at: [https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation\\_9789264229358-en](https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation_9789264229358-en), accessed 1 September 2021, 23.

<sup>61</sup> Andrew McAfee and Erik Brynjolfsson, 'Big Data: The Management Revolution' (2012) 90 Harvard Business Review 10, Available at: [https://hbr.org/2012/10/big-data-the-management-revolution\\_1](https://hbr.org/2012/10/big-data-the-management-revolution_1), accessed 1 September 2021, 62.

<sup>62</sup> Ibid.

<sup>63</sup> Ibid.



*Velocity.* Another distinctive attribute of Big Data is the actual speed of data creation. In data-driven markets, the velocity of data is even more critical than the volume of data. Data creation at fast speeds, such as extracting real-time information, has enabled more accurate analytics and improved services. Various autonomous systems, such as traffic and map nowcasting, automated stock trading and many others, could be given as examples here.<sup>64</sup> Rubinfeld and Gal also express that Velocity could also be regarded as the “freshness” of data.<sup>65</sup> In this regard, they indicate the importance of the dynamic characteristic of data-driven markets, which makes old data obsolete fast, and the speed of processing Big Data in the new economy.<sup>66</sup> For instance, medical nowcasting could be used as a demonstration to indicate the importance of the *velocity* of data outside the market economy. According to a report from Science Daily, it has been found that data extracted from the Google Search engine could derive accurate real-time information on epidemics.<sup>67</sup> Thus, official reports on flu infection rates are presented, with a week delay, based on Google trend information.<sup>68</sup>

*Variety.* Not only the amount of data and the speed of data creation but variation in collected data should also be underlined. Through media devices and the Internet of Things (IoT), undertakings can collect different data types, even from a single source. The amount of different socio-economic consumer information available to undertakings is exponentially rising through the digitalisation of data.<sup>69</sup> Today, people rely on mobile devices for various commercial and non-commercial activities. From a single device, such as a mobile phone, undertakings can collect data about shopping, location, and nearly every type of information about consumers.<sup>70</sup> Thus, a variety of data is used to understand consumers' behaviour and preferences better. As Stucke and Grunes indicate, Walmart merges various information collected from consumers to create

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<sup>64</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 19; OECD Data-Driven Innovation paper (n 42) 4.

<sup>65</sup> Daniel L. Rubinfeld and Michal S. Gal, 'Access Barriers to Big Data' (2017) 59 *Arizona Law Review* 339, 346.

<sup>66</sup> *Ibid.*

<sup>67</sup> University of Warwick, 'Adaptive 'nowcasting' key to accurate flu data trends using Google search terms' *Science Daily* (30 October 2014), Available at: [www.sciencedaily.com/releases/2014/10/141030114853.htm](http://www.sciencedaily.com/releases/2014/10/141030114853.htm) accessed 29 May 2021, accessed 1 September 2021.

<sup>68</sup> *Ibid.*

<sup>69</sup> McAfee and Brynjolfsson (n 61) 63.

<sup>70</sup> *Ibid.*

a portfolio of consumers and consumers' behaviour in order to compete against Amazon, which also uses the same technique, called "data fusion".<sup>71</sup>

*Value.* Veracity is maybe the most critical attribute of Big Data. This characteristic refers to the accuracy and usefulness of processed data. As mentioned earlier in detail, relevant pieces of information can be derived for specific uses through Big Data analytics, which is overall regarded as valued data. In this sense, Prescott draws an analogy between Big Data and archaeology; that is, Big Data can be regarded as a technique for data archaeology.<sup>72</sup> Additionally, Stucke and Grunes argue that the initial 3Vs of data create the value of data.<sup>73</sup> In the same vein, Peter Norvig from Google expresses that they do not have better algorithms; they simply have better data (in terms of Volume, Variety and Velocity).<sup>74</sup>

In total, with these unique characteristics attributed, Big Data is now an important value creation mechanism. Big Data is now considered an intangible asset for value creation in markets, together with intellectual property rights such as copyrights, patents, and even goodwill.<sup>75</sup> Moreover, Big Data is now seen as an indispensable part of the economic process, such as people, resources or other types of capital.<sup>76</sup> It is coming to the point where economic growth and innovation cannot occur without the aid of Big Data in the future.<sup>77</sup> In the same vein, it is argued that Big Data is now becoming "the oil" of the 21st century due to its attributed importance.<sup>78</sup> Strictly speaking, this statement is arguable. Creating a correlation between a resource for the economy and a total value

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<sup>71</sup> Stucke and Grunes (n 64) 22.

<sup>72</sup> Andrew Prescott, 'Bibliographic Records as Humanities Big Data' (2013) IEEE International Conference on Big Data, Available at: [10.1109/BigData.2013.6691670](https://doi.org/10.1109/BigData.2013.6691670), accessed 29 May 2021, 57.

<sup>73</sup> Stucke and Grunes (n 64) 23.

<sup>74</sup> McAfee and Brynjolfsson (n 61) 63.

<sup>75</sup> Mira Burri, 'Understanding the Implications of Big Data and Big Data Analytics for Competition Law: An Attempt for a Primer' in Klaus Mathias and Avshalom Tor (eds) *New Developments in Competition Behavioural Law and Economics* (1<sup>st</sup> edn, Springer, 2018), 244.

<sup>76</sup> *Ibid*, 244.

<sup>77</sup> James Manyika, Michael Chui, Brad Brown, Jacques Bughin, Richard Dobbs, Charles Roxburgh, Angela Hung Byers, 'Big data: The next frontier for innovation, competition, and productivity' (2011) McKinsey Global Institute; Available at: <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/big-data-the-next-frontier-for-innovation> accessed 29 May 2021, 6.

<sup>78</sup> 'The world's most valuable resource is no longer oil, but data – The data economy demands a new approach to antitrust rules' *The Economist* (6 May 2017) Available at: <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data> accessed 29 May 2021.

creation mechanism is not feasible. However, it is pretty accurate that data is now one of the most valuable resources in today's market economics.

### **2.2.2 Creation of the Big Data Value Chain**

Undertakings now have effective use of people's data in many markets. User data can provide personalised services for consumers both online and offline.<sup>79</sup> Not only pricing mechanisms through online marketplaces, but, for instance, social data collected from social networks can be personalised in order to offer better-fitted products, advertisements, and content for consumers.<sup>80</sup> Another example is the location services and geographical data of consumers. Online providers can use real-time location data to customise products or services available to consumers' physical geographical locations.<sup>81</sup> The use of personal data for targeted advertisements, customised shopping and other purposes can be seen in many instances, such as Google's ad services, location services, map services, Facebook advertisements, applications for mobile devices, Yahoo, and many others. According to Lerner,<sup>82</sup> studies have shown that customers acknowledge the situation and are willing to give their information in order to benefit from targeted and personalised marketing, services, products and offers.<sup>83</sup>

In order to create a value chain in ecosystems, undertakings use several ways to collect personal information through services. In data-driven markets, data can be collected by undertakings directly from users in the form of their shopping history, abandoned baskets, views, clicks and many more.<sup>84</sup> In other words, information collected online can be collected directly from an undertakings' products or services, such as data collection from transactions on an e-commerce platform. This type of collected data is called first-party data. First-party data is data collected about consumers of a service or product who interact with the business directly. In this case, sale data, search results data,

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<sup>79</sup> Andres V. Lerner, 'The role of Big Data in online platform competition' (2014) Available at SSRN: <https://ssrn.com/abstract=2482780> or <http://dx.doi.org/10.2139/ssrn.2482780> accessed 29 May 2021, 12.

<sup>80</sup> Ibid.

<sup>81</sup> Ibid.

<sup>82</sup> Ibid.

<sup>83</sup> Ibid, citing the study of Nasri, "Grace Nasri, 'Why Consumers Are Increasingly Willing to Trade Data for Personalization' Digital Trends, 10 December 2012".

<sup>84</sup> Marc Bourreau, Alexandre de Steel, Inge Graef, 'Big Data and Competition Policy: Market power, personalised pricing and advertising' (2017) Centre on Regulation in Europe Project Report, 11.

behavioural data, or social network data are all considered first-party data, which is the primary source of data collection.<sup>85</sup>

First-party data enables businesses to uncover consumer needs better and contributes to data utilisation through personalised services. None of the technology companies will have access to the same datasets in first-party data, which means all companies are likely to collect different personal and behavioural information and create unique datasets.<sup>86</sup> In this sense, the uniqueness of datasets belonging to different businesses may create a barrier to entry for new entrants in data-driven markets.<sup>87</sup> The need for relevant data to compete is addressed in the following chapters.<sup>88</sup> First-party data collection can be conducted either voluntarily or even without the knowledge of consumers. For the latter, the tracked information of consumers, in other words, website cookies, are used.<sup>89</sup> This type of data collection is a common way to gather data online, in which browser tracking history and cross-device tracking are present.<sup>90</sup>

In addition to first-party data, businesses can acquire data without direct interaction with consumers, called “third-party data”.<sup>91</sup> Third-party data comes from outside sources such as other businesses inside an online ecosystem. Like first-party data, third-party data is also data on user behaviour, shopping behaviour, or demographic data collected and consolidated from online services or products.<sup>92</sup> User consent is not present in this type of data, and third-party data can be shared across different businesses.<sup>93</sup> The ability to share could also pose risks regarding the data privacy of consumers apart from competition concerns.

One example to collect third-party data is through mergers and acquisitions in the online world.<sup>94</sup> Acquisitions of third-party data create efficiencies of scale and contribute to the accumulation of Big Data, which creates enormous barriers

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<sup>85</sup> Srikant Kotapalli, ‘First-party data for enriched, responsible marketing’, *Use Insider* (29 September 2020) Available at: <https://useinsider.com/first-party-data-strategy/>, accessed 1 September 2021.

<sup>86</sup> Jay Modrall, ‘Antitrust Risks and Big Data’ (2017) Norton Rose Fulbright Competition World 14, 14.

<sup>87</sup> *Ibid.*

<sup>88</sup> See Chapter 4.3.6 and 4.5.3 for more detail.

<sup>89</sup> Bourreau et. al (n 84) 11.

<sup>90</sup> Bourreau et. al (n 84) 12.

<sup>91</sup> Modrall (n 86) 15.

<sup>92</sup> *Ibid.*

<sup>93</sup> *Ibid.*

<sup>94</sup> Reuben Binns and Elettra Bietti, ‘Dissolving Privacy, One Merger at A Time: Competition, Data, and Third Party Tracking’ (2020) 36 Computer Law and Security Review, 1.

to entry for new entrants in data-driven markets.<sup>95</sup> As businesses can access a richer data pool, combining different sources such as “first-party data” and “third-party data” can create significant synergies. After a merger, a combination of first and third-party data through data analytics can determine a business’s market power, position, and ability to access adjacent market segments in an online ecosystem.<sup>96</sup> For instance, an online advertising business that is also prevalent on the social network market can increase its targeting and personalised advertisement value by acquiring a social media network and embed its online advertising services and consumer data from the acquired social media.<sup>97</sup> The European Commission has noted the importance of combined datasets which could have an impact on competition in its *Google/DoubleClick* investigation:

“...the merged entity would be able to combine DoubleClick's and Google's data collections. Such a combination, using information about users' IP addresses, cookie IDs and connection times to correctly match records from both databases, could result in individual users' search histories being linked to the same users' past surfing behaviour on the internet... The merged entity may know that the same user has searched for terms A, B and C and visited web pages X, Y and Z in the past week. Such information could potentially be used to better target ads to users.”<sup>98</sup>

However, last year Google announced that they would cease using third-party cookies and cross-site tracking (through third-party data) for their services, including ad network, by the end of 2022.<sup>99</sup> This move may indicate the end of third-party data tracking for data-driven markets and the online world as a whole. The CMA’s latest ongoing investigation against Google, investigation into Google’s privacy sandbox browser changes, entails the need to assess third-party cookies role in online and digital advertising.<sup>100</sup> Google’s announced

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<sup>95</sup> Ibid, 14.

<sup>96</sup> Ibid, 22.

<sup>97</sup> Ibid, 22.

<sup>98</sup> Case No COMP/M.4731, *Google/DoubleClick C* [2008] 927 Final, para.360

<sup>99</sup> Justin Schuh, ‘Building a more private web: A path towards making third party cookies obsolete’ *Chromium Blog* (14 January 2020) Available at: <https://blog.chromium.org/2020/01/building-more-private-web-path-towards.html> accessed 1 September 2021; Michael Shearer, ‘3rd-party is dead: How to improve your first-party data strategy’ *Claravine* (29 January 2020) Available at: <https://www.claravine.com/2020/01/29/first-party-data-strategy/> accessed 1 September 2021.

<sup>100</sup> Competition and Markets Authority, Press Release, ‘CMA to Investigate Google’s Privacy Sandbox Browser Changes’ (8 January 2021), Available at:

changes that will disable third-party cookies on the Chrome browser and search engine may be an indicator of a competition law problem, even a privacy law problem in the online world. The investigation reveals a legality issue question Google's conduct.

However, in this case, where third party cookie traction is ceased either by companies or regulators, collection and utilisation of first-party data will become much more crucial for data-driven businesses. In this sense, first-party datasets need to be as comprehensive and rich as possible for better utilisation.<sup>101</sup> However, this could also be an indicator of monopolisation of data-driven markets since only a few technology giants have been able to collect vast amounts of datasets and have the ability to process vast amounts of data.<sup>102</sup>

Also, while arguable, another method used to gather third-party data is through data intermediaries. Undertakings may also exchange, buy or sell their data through "data brokers".<sup>103</sup> According to the CERRE report on Big Data, authorities did not fully understand the secondary market for data yet.<sup>104</sup> In addition to that, in its 2014 Report on data brokers, the FTC acknowledged the grey structure of data brokers in its findings.<sup>105</sup> According to the study, the data intermediary industry is quite complex. There are multiple layers of the market in which data brokers access data collected from various sources by third-party brokers.<sup>106</sup> Another finding is that data brokers can collect and store data regarding every consumer in the US from both online and offline market data.<sup>107</sup> Moreover, this vast amount of data can be analysed and combined by brokers in order to create sensitive assumptions and inferences about consumers.<sup>108</sup> Still,

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<https://www.gov.uk/government/news/cma-to-investigate-google-s-privacy-sandbox-browser-changes> accessed 1 September 2021.

<sup>101</sup> Michael Shearer, '3rd-party is dead: How to improve your first-party data strategy' *Claravine* (29 January 2020) Available at: <https://www.claravine.com/2020/01/29/first-party-data-strategy/> accessed 1 September 2021.

<sup>102</sup> Marc Bourreau, Alexandre de Steel, Inge Graef, 'Big Data and Competition Policy: Market power, personalised pricing and advertising' (2017) Centre on Regulation in Europe Project Report, 12.

<sup>103</sup> *Ibid.*

<sup>104</sup> *Ibid.*, 13.

<sup>105</sup> Data Brokers: A Call for Transparency and Accountability, A Report of the Federal Trade Commission (May 2014), Available at: <https://www.ftc.gov/reports/data-brokers-call-transparency-accountability-report-federal-trade-commission-may-2014> accessed 29 May 2021.

<sup>106</sup> *Ibid.*, 46.

<sup>107</sup> *Ibid.*, 46.

<sup>108</sup> *Ibid.*, 46.

data brokers and data markets do not seem relevant for the functioning of data-driven markets.

Data storage and data analytics also have crucial roles in the Big Data value chain. First, the ability to collect large datasets is now possible for even the smallest businesses in markets. However, storage of these datasets might be troublesome since it requires huge data centres consisting of numerous computers and hard drives connected by local networks and the world wide web.<sup>109</sup> Construction of a data storage facility is quite costly, and only a low number of businesses have the ability to store Big Data in-facility. However, due to cloud computing technology today, every business now has the opportunity to store its data by renting storage space from clouds (storage providers).<sup>110</sup>

Data utilisation is the most critical link in the Big Data value chain. After collecting data, massive datasets must be analysed and sorted into relevant data and correlation patterns.<sup>111</sup> The vast amount of personal and behavioural data obtained through online and offline activity cannot be sorted and analysed by humans. In other words, hardware and software (both applications and algorithms) are needed in order to bring the relevant pieces of information to light.<sup>112</sup> The ability to process endless datasets effectively and quickly through artificial intelligence (computer algorithms) has seen rapid development recently. Machine learning and artificial intelligence have led to the utilisation of enormous amounts of real-time information and caused an exponential growth in data analytics.<sup>113</sup>

In total, huge data collections obtained through medical records, governmental records, webpages, e-commerce, social networking, and other sources are all called Big Data. As Kenneth Cukier expressed in 2010, “*The effect is being felt everywhere, from business to science, from government to arts, the*

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<sup>109</sup> Marc Bourreau, Alexandre de Steel, Inge Graef, ‘Big Data and Competition Policy: Market power, personalised pricing and advertising’ (2017) Centre on Regulation in Europe Project Report, 13.

<sup>110</sup> Ibid; for more information on cloud computing and competition law; Sara Gabriella Hoffman, *Regulation of Cloud Services under US and EU Antitrust, Competition and Privacy Laws* (Peter Lang, 2016, Bern, Switzerland).

<sup>111</sup> Ibid, 14.

<sup>112</sup> Ibid, 14.

<sup>113</sup> For more information on machine-learning and competition law; Ariel Ezrachi and Maurice Stucke, *Virtual Competition: The promise and perils of the algorithm-driven economy* (1<sup>st</sup> edn, Harvard University Press, 2016).

*phenomenon: big data.*"<sup>114</sup> As a revolution in the information technology industry, Big Data has several roles in markets. Today, people's personal and behavioural data, interests, shopping habits, political opinions, and all other personal information can be obtained by businesses and used when necessary to improve these services. Innovative marketing strategies such as personalised advertisements and personalised products such as smart homes, live traffic maps, driver-less cars, after-sale services, and improved processes are all examples of the Big Data use in the new economy.<sup>115</sup> All in all, Big Data creates a value chain together with algorithms, and undertakings can derive a crucial competitive advantage from this value chain.

### **2.2.3 The Competitive Significance of Big Data**

As seen above, personal data can create significant advantages and might have benefits to the economy and society as a whole. However, businesses could also facilitate their data advantage into an anti-competitive animus under suitable circumstances.<sup>116</sup> For example, collected personal data may contribute to market power and can be a legitimate source of market power. However, this power could also be abused as a result of anti-competitive conduct.<sup>117</sup> The main concern of competition regulators is gathered around this idea. Unlike a decade ago, when many data-driven mergers were cleared, and it was believed that Big Data was irrelevant for competition regulation back then since Big Data was only related to pro-competitiveness in the new economy, regulators now do not dismiss Big Data issue for competition law purposes.<sup>118</sup> Furthermore, regulators are now highly concerned over anti-competitive conduct in data-driven markets,<sup>119</sup> which may cause irreversible economic, social, and democratic damages to society.

The current issues in competition law need to be identified clearly by evaluating how Big Data affects the new economy. In order to identify these

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<sup>114</sup> Kenneth Cukier, 'Data, data everywhere' *The Economist* (London, 25 February 2010) Available at: <https://www.economist.com/special-report/2010/02/25/data-data-everywhere> accessed 29 May 2021.

<sup>115</sup> Marc Bourreau, Alexandre de Steel, Inge Graef, 'Big Data and Competition Policy: Market power, personalised pricing and advertising' (2017) Centre on Regulation in Europe Project Report, 14.

<sup>116</sup> Bruno Lasserre and Andreas Mundt, 'Competition Law and Big Data: The Enforcers' View' (2017) 4 *Italian Antitrust Review*, 90.

<sup>117</sup> *Ibid.*

<sup>118</sup> Akiva A. Miller, 'The Dawn of the Big Data Monopolists' (2016), Available at: <https://ssrn.com/abstract=2911567> accessed 1 September 2021, 1.

<sup>119</sup> *Ibid.*



problems, using a step-by-step method could be helpful. In one of their early studies, Maurice Stucke and Allen Grunes indicate that the existing literature sets out competition problems stemming from Big Data and summarises them around five main themes.<sup>120</sup> At the first stage, as mentioned above, undertakings adapt their operation models based on technology, where businesses mainly try to take advantage of controlling a massive amount of data. Thus, personal data becomes a key input in these data-driven business models.<sup>121</sup> As a result, both traditional and digitalised businesses tend to rely on their data accumulation more than ever. At the same time, it is important to note that collecting data might not be as valuable as predicted by undertakings. In certain circumstances, old data might lose its usefulness for daily businesses.<sup>122</sup> However, recent technologies in the accumulation of data could quickly negate the adverse outcomes of data-driven business and management.<sup>123</sup>

After the race for data collection and accumulation, some undertakings gain an unprecedented data advantage over others through earlier adaptation to new technologies at the second stage.<sup>124</sup> These undertakings are specifically data-driven businesses. According to an MIT-led study,<sup>125</sup> data-driven businesses perform better on both operational and financial management decisions.<sup>126</sup> Businesses that characterise themselves as data-driven businesses and are at the top third of their industries are seen to be more productive (5%) and more profitable (6%) than their competitors.<sup>127</sup> Along with being more productive, the usage of Big Data could also bring significant financial savings for businesses. As the European Commission notes in 2015, in the next five years, the top 100 manufacturers in Europe could save up to €425 billion with the aid of

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<sup>120</sup> Maurice E. Stucke and Allen P. Grunes, 'Debunking the Myths over Big Data and Antitrust' (2015) Competition Policy International Antitrust Chronicle, University of Tennessee Legal Studies Research Paper No.276 Available at SSRN: <https://ssrn.com/abstract=2612562> accessed 29 May 2021, 2-3.

<sup>121</sup> Ibid.

<sup>122</sup> Miller (n 118) 5.

<sup>123</sup> Ibid.

<sup>124</sup> Stucke and Grunes (n 120) 2-3.

<sup>125</sup> 330 North American companies were interviewed about management practices and technology by a team at the MIT Centre for Digital Business and McKinsey Business Technology Office.

<sup>126</sup> Andrew McAfee and Erik Brynjolfsson, 'Big Data: The Management Revolution' (2012) 90 Harvard Business Review 10, 63-64.

<sup>127</sup> Ibid, 64.

Big Data, and this could contribute to the economic growth of the EU at a percentage of 1.9, which means a GDP increase of €206 billion.<sup>128</sup>

Not only the amount of collected data, financial savings, and efficiencies, but also the gap between competitors is also increasing. In markets where Big Data is a necessity, the market structure seems to become highly concentrated. This result is achieved by the “snowball effect”.<sup>129</sup> The snowball effect occurs through the self-reinforcing nature of data.<sup>130</sup> Incumbents having a more comprehensive range of services and versed in Big Data usage can collect vast amounts of relevant data from consumers. This data collection and analytics can help produce personalised services, products, and advertisements. As a matter of course, these services bring additional data to incumbents. Ultimately, this value chain leads to efficient feedback loops and network effects. In this case, small competitors can only obtain lesser data due to attracting fewer consumers.<sup>131</sup> Consequently, smaller competitors lack product, service, and feedback. To sum up, the gap between data collection ends in a gap between savings, products, quality, services and many other areas, which forces smaller competitors out of the market and eventually contributes to the monopolisation of data-driven markets.<sup>132</sup>

As Stucke and Grunes express, the “fight” for data does not end there, and it inevitably jumps into a third stage: data acquisitions.<sup>133</sup> Undertakings choose the data acquisition route as a strategic step to enter into new markets or to improve their services in their core markets. It becomes more profitable than collecting data directly from consumers in some instances.<sup>134</sup> By this means, undertakings can create greater efficiencies in their businesses and gain greater

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<sup>128</sup> The European Commission, *Why We Need a Digital Single Market*, Factsheets on Digital Single Market, 6 May 2015, Available at: [https://ec.europa.eu/commission/publications/why-we-need-digital-single-market\\_en](https://ec.europa.eu/commission/publications/why-we-need-digital-single-market_en) accessed 29 May 2021.

<sup>129</sup> Lasserre and Mundt (n 116) 91.

<sup>130</sup> *Ibid.*

<sup>131</sup> *Ibid.*

<sup>132</sup> *Ibid.*

<sup>133</sup> Maurice E. Stucke and Allen P. Grunes, ‘No Mistake about It: The Important Role of Antitrust in the Era of Big Data’ (2015) *The Antitrust Source* April, University of Tennessee Legal Studies Research Paper No.269 Available at SSRN: <https://ssrn.com/abstract=2600051> accessed 29 May 2021, 3.

<sup>134</sup> For instance, even Google collects data through online cookies, internet searches, affiliated websites, and its applications; the company also searches for strategic acquisitions such as the ones with DoubleClick, Waze, Applied Semantics and DeepMind Technologies, which all involved data-driven goals.

data advantage through these acquisitions.<sup>135</sup> A study of the OECD shows that data-driven mergers rose from 55 to 134 in only four years between 2008 and 2012.<sup>136</sup> This sole example demonstrates how Big Data strategies affect data acquisitions.

As a result, anti-competitive risks also occur. In this context, two different competition law issues arise.<sup>137</sup> First is the intention to breach competition rules by using data power obtained through mergers.<sup>138</sup> In this case, potential harm needs to be evaluated circumspectly – feedback loops and snowball effects on markets gain prominence in this scenario. In the second scenario, which is a more traditional method, some undertakings try to eliminate smaller competitors and new entrants or force them out of markets through strategic data acquisitions.<sup>139</sup> In this scenario, the evaluation of eliminating competitors is more straightforward. There have been instances where crucial anti-competitive results have occurred since these data-driven mergers were cleared in the EU. Although some commentators argue that the Commission's assessments of these mergers were accurate, since the Commission mainly focused on the horizontal overlap and vertical foreclosure effects in markets,<sup>140</sup> it can be presumed that current merger assessments have not been healthy in the EU due to the variety of conglomerate risks created by the accumulation of data in the long term.

Lastly, as literature identifies, undertakings that obtain data power and data-driven competitive advantages tend to maintain their positions and powers and abuse them.<sup>141</sup> As mentioned above, the competition authorities' attitudes towards Big Data have been shifting lately. In 2016, Commissioner Margrethe Vestager stated,

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<sup>135</sup> Stucke and Grunes (n 133) 3.

<sup>136</sup> European Data Protection Supervisor, 'Report of EDPS workshop on privacy, consumers, competition and big data' (2014) Available at: [https://edps.europa.eu/data-protection/our-work/publications/reports/report-edps-workshop-privacy-consumers-competition-and\\_en](https://edps.europa.eu/data-protection/our-work/publications/reports/report-edps-workshop-privacy-consumers-competition-and_en) accessed 29 May 2021; OECD, Data-Driven Innovation, Big Data for Growth and Well-Being, OECD Publishing Paris (2015) Available at: [https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation\\_9789264229358-en](https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation_9789264229358-en) accessed 29 May 2021.

<sup>137</sup> Damian Geradin and Monika Kuschewsky, 'Competition law and personal data: Preliminary thoughts on a complex issue' (2013) 2 *Concurrences*, 6.

<sup>138</sup> *Ibid.*

<sup>139</sup> *Ibid.*

<sup>140</sup> Massimiliano Kadar and Mateusz Bogdan, 'Big Data' and EU Merger Control – A Case Review (2017) 8 *Journal of European Competition Law and Practice* 8, 479.

<sup>141</sup> Stucke and Grunes (n 133) 3.

“If a company’s use of data is so bad for competition that it outweighs the benefits, we may have to step in to restore a level playing field.”<sup>142</sup>

However, in this scenario, the EU competition law faces challenges from both regulatory and structural aspects of competition. In other words, the assessment of market power might be compelling due to the characteristics of the new economy. Also, the abuse of a dominant position that stems from Big Data might show up in different forms. As a non-exhaustive list, preventing rivals from accessing critical data,<sup>143</sup> preventing competitors from achieving efficient scale,<sup>144</sup> various vertical integration forms<sup>145</sup> or leveraging data power<sup>146</sup> can be listed as different types of abusive behaviour in data-driven markets. Due to these challenges, competition regulators have lately scrutinised the assessment of market power, market definitions, theories of anticompetitive effects and possible types of consumer harm.<sup>147</sup> Due to this policy footsteps, both Google and Facebook have faced several investigations, and also huge fines have already been issued by the European Commission and National Competition Authorities.<sup>148</sup>

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<sup>142</sup> Margrethe Vestager, 'Competition in a big data world' DLD 16, Munich, 17 January 2016.

<sup>143</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 288.

<sup>144</sup> *Ibid*, 289.

<sup>145</sup> *Ibid*, 293.

<sup>146</sup> *Ibid*, 290.

<sup>147</sup> Akiva A. Miller, 'The Dawn of the Big Data Monopolists' (2016), Available at: <https://ssrn.com/abstract=2911567> accessed 29 May 2021, 7.

<sup>148</sup> Three European Commission investigations on Google; AdSense, Comparison Shopping and Android Cases, Case AT.39740 Google Search (Shopping) [2017] 4444 Final, Commission Decision of 27/6/2017 relating to proceedings under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the Agreement on the European Economic Area; Case AT.40099 Google Android [2018] Commission Decision of 18 July 2018; Case No COMP/AT.40411 Google AdSense C [2019] 2173, Commission Decision of 20 March 2019 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement; Italian Competition Authority, Press Release, 'Facebook fined 10 million Euros by the ICA for unfair commercial practices for using its subscribers' data for commercial purposes' (7 December 2018), Available at: <http://en.agcm.it/en/media/press-releases/2018/12/Facebook-fined-10-million-Euros-by-the-ICA-for-unfair-commercial-practices-for-using-its-subscribers%E2%80%99-data-for-commercial-purposes> accessed 29 May 2021; Bundeskartellamt, Publications, 'Preliminary opinion on the investigation of Facebook - Background on the Facebook Proceeding' (19 December 2017), Available at:

[https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Diskussions\\_Hintergrundpapiere/2017/Hintergrundpapier\\_Facebook.pdf?\\_\\_blob=publicationFile&v=6](https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Diskussions_Hintergrundpapiere/2017/Hintergrundpapier_Facebook.pdf?__blob=publicationFile&v=6) accessed 29 May 2021.

However, there is still much debate about competition law's role in the Big Data world.<sup>149</sup> Many academics argue that problems stemming from Big Data in data-driven markets belong to consumer protection law and privacy law in the legal world.<sup>150</sup> According to this idea, any competition policy towards regulating or controlling Big Data in innovative, dynamic markets would be erroneous. Sokol and Comerford explicitly state the practical and legal dangers of antitrust intervention in the Big Data issue. According to them, using antitrust tools would reduce competition and stifle innovation in general.<sup>151</sup> These ideas seem to be quite obsolete as of today. It must be underlined that the power of Big Data technology affects competition in markets, and data utilisation is now a valuable tool for undertakings. Unlike the widespread idea in the public domain, the Big Data issue does not pertain only to consumer protection rules or privacy protection laws specifically. It consists of a competitive characteristic as a valuable asset, input, and a value creation mechanism itself, as mentioned above. Therefore, competition law and policy need to be at the centre of the discussion of the Big Data issue. The reason behind this is that competition law should protect not only consumers' pockets but also the competitive process, markets and even competitors in markets.

Regarding Big Data as a competition law issue, some academics argue that Big Data benefits markets as a pro-competitive tool and cannot pose any

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<sup>149</sup> Greg Sivinski, Alex Okuliar and Lars Kjolbye, 'Is big data a big deal? A competition law approach to big data' (2017) 13 *European Competition Journal* 2-3; Ania Thiemann and Pedro Gonzaga, "Big Data: Bringing Competition Policy to the Digital Era" OECD 2016, DAF/COMP (2016)14; Simonetta Vezzoso, 'Competition Policy in a World of Big Data' (2016) *Research Handbook on Digital Transformations*, edited by F. Xavier Olleros and Majlinda Zhegu. Edward Elgar' Available at SSRN: <https://ssrn.com/abstract=2717497> accessed 29 May 2021; Jens Prüfer and Christoph Schottmüller, 'Competing with Big Data' (2017) *Tilburg Law School Research Paper No. 06/2017*, *TILEC Discussion Paper No. 2017-006*, *Center Discussion Paper 2017-007*, Available at SSRN: <https://ssrn.com/abstract=2918726> accessed 29 May 2021, Robert P. Mankhe, 'Big data as a Barrier to Entry' (2015) 2 *Competition Policy International Antitrust Chronicle*; Nathan Newman, 'The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google' (2014) 40 *William Mitchell Law Review* 849, 54. Ayşem Diker Vanberg and Mehmet Bilal Unver, 'The right to data portability in the GDPR and EU Competition law: odd couple or dynamic duo?' (2017) 8 *European Journal of Law and Technology* 1; Marianna Meriani, 'Digital Platforms and the spectrum of data protection competition law analyses' (2017) 38 *European Competition Law Review* 2; Maurice E. Stucke and Allen P. Grunes, 'No Mistake About It: The Important Role of Antitrust in the Era of Big Data' (2015) *The Antitrust Source* April, *University of Tennessee Legal Studies Research Paper No.269* Available at SSRN: <https://ssrn.com/abstract=2600051> accessed 29 May 2021.

<sup>150</sup> Maureen K. Ohlhausen and Alexander P. Okuliar, 'Competition, consumer protection and the right (approach) to privacy' (2015) 80 *Antitrust Law Journal* 1 121, 156; David A. Balto and Matthew Lane, 'Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data' (2016), Available at SSRN: <https://ssrn.com/abstract=2753249> accessed 29 May 2021, 9.

<sup>151</sup> D. Daniel Sokol and Roisin Comerford, 'Antitrust and Regulating Big Data' (2016) 23 *George Mason Law Review* 5 1129, 1160.

anti-competitive threats to markets in the context of competition law and policy.<sup>152</sup> According to this idea, Big Data can hardly be a part of anti-competitive conduct, and it is just a better tool used to improve products and services for consumers.<sup>153</sup> Moreover, according to this idea, policymakers and the public tend to mischaracterise Big Data due to their misunderstanding of the technology.<sup>154</sup> Therefore, commentators argue that undertakings have several pro-competitive rationales to collect and use Big Data in online and offline markets, which can be listed as improved quality for products and services, enhanced innovation and lower-priced (usually zero priced) products. To be precise, it is unarguable that this idea remains obsolete today. Policymakers, competition authorities and academics have recently recognised the anti-competitive effects of Big Data, as mentioned before.

On the other hand, according to Sokol and Comerford, the argument over the monetisation of free products is the most persuasive benefit of Big Data.<sup>155</sup> They state that low to zero priced products is desired by competition policy.<sup>156</sup> To be precise, lower prices will benefit consumers more.<sup>157</sup> Lerner also advocates the monetisation of free services to the extent that they are rational behaviours (economically speaking), are a means of profit-maximisation and are beneficial for competition in total.<sup>158</sup> Also, Big Data allows undertakings to improve their services by utilising personal data to deliver services.<sup>159</sup> This phenomenon is known as “click-and-query” data, enhancing the consumer experience in every section of the online world.<sup>160</sup> For instance, many online shopping websites today use personalised services such as “recommended products” or “frequently bought together products” for consumers.<sup>161</sup> Another example for using “click-and-query” data would be search engines, social media and online businesses.

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<sup>152</sup> Sokol and Comerford (n 151); Andres V. Lerner, ‘The role of Big Data in online platform competition’ (2014) Available at SSRN: <https://ssrn.com/abstract=2482780> or <http://dx.doi.org/10.2139/ssrn.2482780> accessed 29 May 2021; Darren S. Tucker and Hill B. Wellford, ‘Big Mistakes Regarding Big Data’ [2014] 14 Antitrust Source 1, 1.

<sup>153</sup> Tucker and Wellford (n 152) 11.

<sup>154</sup> Ibid.

<sup>155</sup> Sokol and Comerford (n 151) 1133.

<sup>156</sup> Ibid.

<sup>157</sup> Ibid.

<sup>158</sup> Andres V. Lerner, ‘The role of Big Data in online platform competition’ (2014) Available at SSRN: <https://ssrn.com/abstract=2482780> or <http://dx.doi.org/10.2139/ssrn.2482780> accessed 29 May 2021, 13.

<sup>159</sup> Ibid, 11.

<sup>160</sup> Ibid, 11.

<sup>161</sup> Ibid, 11.

Online businesses use the search histories of individuals for recommendations such as online newspaper journals, summer vacations, or even new pairs of shoes.<sup>162</sup> In general, the flow of personal data online allows businesses to operate efficiently and deliver enhanced services and better products to consumers. Big Data, in turn, provides competitive advantages for businesses that successfully utilise it.

Although there are several opinions on the pro-competitive significance of Big Data in the new economy, and commentators have expressed the significance of using Big Data for gaining ample competitive advantages in markets,<sup>163</sup> that kind of competitive advantage might well bring great distortion to markets from a competition law perspective. Therefore, implications of free products or services, improved quality, and enhanced innovation, which all benefit competition, seem incorrect today. To exemplify, the implication of free products seems to be incorrect. These products are not actually free, but consumer welfare economics fails to identify relevant markets and non-price competition in multi-sided markets since the assessment of an economic-based approach is actually price-centric. The price is the consumers themselves and their information in these markets. Therefore, in the next chapter, it becomes necessary to delve into multi-sided market economics and the economic approach in competition law. Also, the reasons behind these three so-called efficiencies will be discussed in the following sections in detail in order to demonstrate that they are actually distortive for competition law.

### **2.3 Competition Law for Data-Driven Markets**

*International Dimension.* A new market economy has been shaped with Big Data and the internet, and possible issues are reflected immediately by the competition authorities in Europe. In other words, policymakers and competition authorities have set their minds to the digital economy and the problems out there. Due to the structure of digital markets and the unique nature of newly emerged problems, authorities in the EU have started several investigations. The

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<sup>162</sup> Sokol and Comerford (n 151) 1135.

<sup>163</sup> Brad Brown, Michael Chui and James Manyika, 'Are You ready for the Era of Big Data' (2011) McKinsey Quarterly, Available at: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/are-you-ready-for-the-era-of-big-data> accessed 29 May 2021; Andrew McAfee and Erik Brynjolfsson, 'Big Data: The Management Revolution' (2012) 90 Harvard Business Review 10 Available at: <https://hbr.org/2012/10/big-data-the-management-revolution> accessed 29 May 2021.

main motivation behind this response was the discussions on recent data-driven mergers of technology giants. The main concern here was to provide adequate guidance on assessing Big Data and its influence on markets while not stifling innovation. Under a more extensive umbrella, both privacy and competition issues have been under scrutiny in this regard.

To be more specific, the effect of Big Data on the competitive structure has been one of the hot topics on the agenda in Europe and has been widely discussed. In 2014, the European Data Protection Supervisor (EDPS) gave a preliminary opinion.<sup>164</sup> According to the EDPS, data protection and consumer welfare concerns have appeared since the effects of using Big Data hit the digital markets. Moreover, the lack of interaction between three areas of EU law (consumer protection, privacy, and competition) has reduced the effectiveness of competition enforcement and has distorted further remedies to minimise potential harm.<sup>165</sup> Thus, competition, consumer protection and data protection authorities have been warned to cooperate in order to solve the problems arising from Big Data. More importantly, it has been advised to review the competition legislation for new digital markets and its interfaces with other areas of law in order to mitigate further problems.<sup>166</sup>

Also, in 2015, one of the policy departments of the Directorate-General for Internal Policies of the European Parliament published a study regarding challenges to competition policy in the digital economy.<sup>167</sup> The study lists the threats that have appeared in the digital economy regarding competition law and policy. The first part explores the features of the digitalised economy and the importance of new business models for digital markets. Then, it ascertains ten particular problems related to digital economies. Some of them are directly related to Big Data. These problems are about digital monopolies and their effects on competition, innovation, lock-in problems in digital markets and ultimately, the

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<sup>164</sup> Preliminary Opinion of the European Data Protection Supervisor, 'Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy' (March 2014) Available at: [https://edps.europa.eu/sites/edp/files/publication/14-03-26\\_competition\\_law\\_big\\_data\\_en.pdf](https://edps.europa.eu/sites/edp/files/publication/14-03-26_competition_law_big_data_en.pdf) accessed 29 May 2021.

<sup>165</sup> Ibid, para 85.

<sup>166</sup> Ibid, para 86.

<sup>167</sup> Nikolai Van Gorp and Olga Batura, 'Challenges for Competition Policy in a Digitalised Economy', A study for the ECON Committee, Directorate General for Internal Policies, European Parliament, July 2015, IP/A/ECON/2014-12 PE 542.235.



monopolisation of these markets. According to the study, privacy and data protection can be seen as competition problems. However, other policy fields such as privacy and copyright are not analysed in detail. The study focuses on competition policy and instruments such as merger control, state aid, and antitrust laws. The study's implications show that competition policy has a key role in the Big Data issue. Thus the study presents a non-exhaustive list of possible remedies in response to those challenges.

Big Data and the monopolisation of markets are not the only issues in the digital economy. More precisely, they are just a part of more comprehensive policy consideration. The Digital Single Market strategy (DSM) is the primary topic for the EU authorities. As a DSM policy, online platforms are the concern here. The European Commission's policy towards online platforms ensures an innovative, stable and lawful ecosystem throughout Europe. As a consequence, the Commission has published several papers. The Communication on Online Platforms was published back in May 2015, and it discusses key topics such as transparency and fairness on online platforms, keeping markets open, and non-discriminatory conduct.<sup>168</sup> Also, in October 2016, the Commission published a consultation on EU merger control and data-rich companies. Additionally, the Directorate General (DG Competition) has launched a sector inquiry as part of the strategy.<sup>169</sup> A sector inquiry into the e-commerce sector was carried out, and it was not restricted to Big Data and monopoly issues.<sup>170</sup> However, it is acknowledged that the collection and use of Big Data is now an inevitable part of e-commerce, and the accumulation of data might well lead to competition problems.<sup>171</sup>

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<sup>168</sup> European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Online Platforms and the Digital Single Market Opportunities and Challenges for Europe, COM/2016/0288 final Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1466514160026&uri=CELEX:52016DC0288> accessed 29 May 2021.

<sup>169</sup> For Details on sector inquiry: [http://ec.europa.eu/competition/antitrust/sector\\_inquiries\\_e\\_commerce.html](http://ec.europa.eu/competition/antitrust/sector_inquiries_e_commerce.html) accessed 29 May 2021.

<sup>170</sup> European Commission, Report from the Commission to the Council and the European Parliament, Final report on the E-commerce Sector Inquiry, Brussels, 10.5.2017 COM (2017) 229 final Available at:

[http://ec.europa.eu/competition/antitrust/sector\\_inquiry\\_final\\_report\\_en.pdf](http://ec.europa.eu/competition/antitrust/sector_inquiry_final_report_en.pdf) accessed 29 May 2021, para 54.

<sup>171</sup> Ibid.

More recently, the Commission issued a recommendation<sup>172</sup> and proposed several EU regulations<sup>173</sup> between 2018 and 2021. The idea here is to establish a single framework throughout Europe to protect companies that depend on online platforms for their commercial activities and ensure an innovative environment. Also, the Commission is carrying out an ongoing project in relation to algorithms and algorithmic transparency in digital markets and society.<sup>174</sup> This study has a couple of objectives. First, the aim is to raise public awareness of the technology and open debate on it to understand the role of algorithms better. The second aim is to identify problems stemming from algorithms and propose solutions for both policy issues and technical problems.<sup>175</sup> In conclusion, this study will analyse the role of algorithms in the digital economy and will scrutinise how algorithms personalise information and shape society in general.<sup>176</sup> To sum up, all of these studies clearly show that the debate on digital markets will last for a considerable amount of time, and competition concerns stemming from the Big Data issue are just a part of a wider policy discussion at this stage.

*Competition Authorities.* Not only the European Commission but also the National Competition Authorities (NCAs) have questioned how the Big Data problem could be dealt with in terms of competition policy and merger control. In the United Kingdom, the Competition and Markets Authority published a study called 'The commercial use of consumer data' in 2015.<sup>177</sup> This study expresses the growing importance of consumer data to the market economy. One of the project's main objectives is to understand how consumer data is relevant to the economy and can be collected and used commercially.<sup>178</sup> As part of the study,

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<sup>172</sup> European Commission, Commission Recommendation of 1.3.2018 on measures to effectively tackle illegal content online Brussels, 1.3.2018 C (2018) 1177 final Available at: <https://ec.europa.eu/digital-single-market/en/news/commission-recommendation-measures-effectively-tackle-illegal-content-online>\_accessed 29 May 2021.

<sup>173</sup> The Digital Markets Act, The Digital Services Act and the Proposal for a Regulation of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation services, Brussels, 26.4.2018 COM(2018) 238 final Available at: <https://ec.europa.eu/digital-single-market/en/news/regulation-promoting-fairness-and-transparency-business-users-online-intermediation-services>\_accessed 29 May 2021.

<sup>174</sup> For Details: <https://ec.europa.eu/digital-single-market/en/algorithmic-awareness-building> accessed 29 May 2021.

<sup>175</sup> Ibid.

<sup>176</sup> Ibid.

<sup>177</sup> The Competition and Markets Authority, 'The commercial use of consumer data, Report on the CMA's call for information' (2015) Available at: <https://www.gov.uk/cma-cases/commercial-use-of-consumer-data>\_accessed 29 May 2021.

<sup>178</sup> Ibid, 5.

markets where data is used, are investigated in order to identify how data can be used by undertakings, and the benefits of data are indicated for both consumers and undertakings. Then, competition and data are discussed to identify the characteristics of data. In conclusion, the role of regulation is discussed, and the existing framework scrutinised, including privacy, consumer protection and competition aspects. In total, the project brings a better understanding of consumer data and contributes to the discussion.<sup>179</sup>

Soon afterwards, in May 2016, a joint report was published discussing the role of competition law in the Big Data issue by the French and German Competition Authorities (the *Bundeskartellamt* and *Autorité de la Concurrence*).<sup>180</sup> The focus of the study is on possible Big Data-related anti-competitive actions in markets. The study consists of three parts. In the first part, data and its role in economic activities are discussed. Following that, competition issues that may arise through the use of Big Data are listed and described. Lastly, an analysis of market power, including defining a relevant market, is made in terms of multi-sided markets and network effects. In the study, it can be seen that several anti-competitive practices are explained. These can be categorised as mergers and acquisitions, exclusionary conduct, and price discrimination. It is important to note that this study brought the first detailed classification of anti-competitive practices due to the extensive usage of Big Data technology. Thus, it led other studies to delve into the issue deeper and analyse it more comprehensively.

One example is the sector inquiry which the French Competition Authority started back in 2010 as an inquiry into search advertising.<sup>181</sup> After publishing the joint report mentioned above, the investigation's focus shifted to the online advertising<sup>182</sup> sector. According to the final report in March 2018, due to the development of the internet and social networks, the circulation of vast quantities

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<sup>179</sup> Ibid, 14.

<sup>180</sup> Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data (2016)  
Available at:

[https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108\\_accessed](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108_accessed)  
29 May 2021.

<sup>181</sup> Autorité de la Concurrence, Press Release, 'Sector inquiry on online advertising' (14 December 2010) Available at:

[http://www.autoritedelaconcurrence.fr/user/standard.php?id\\_rub=368&id\\_article=1514\\_accessed](http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=368&id_article=1514_accessed)  
29 May 2021.

<sup>182</sup> Display online advertising markets.

of data at almost instantaneous speed is now possible.<sup>183</sup> Thus, the online advertising sector is developing primarily from the commercial exploitation of data.<sup>184</sup> As the European Competition Network (ECN) brief identifies, an analytical framework was drawn for practices detrimental to competition in the study.<sup>185</sup> In the press release of the report, it is concluded that that market is highly concentrated,<sup>186</sup> and there are several problems regarding competition law which are as follows: strategies involving bundling and tying, low prices and exclusivities;<sup>187</sup> leveraging effects;<sup>188</sup> practices involving discriminatory treatment;<sup>189</sup> impediments to interoperability;<sup>190</sup> and restrictions on the possibilities of collecting and accessing specific data.

In March 2016, the *Bundeskartellamt* started an investigation against Facebook in the context of Article 102 of the TFEU, based on concerns that Facebook was abusing its dominant position and infringing data protection rules.<sup>191</sup> As the president of the *Bundeskartellamt*, Andreas Mundt, expressed, “Dominant companies are subject to special obligations...for advertising-financed internet services such as Facebook, user data are hugely important.”<sup>192</sup> Particular emphasis has been given to the importance of user data by Mundt, indicating that novel situations might arise through the use of Big Data in online advertising related markets. Thus, the authorities in Europe should give immediate attention to Big Data. Suppose Facebook has been infringing data protection rules and abusing its dominant position for all these years, and it could not be detected. In

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<sup>183</sup> Opinion of Autorité de la Concurrence on the exploitation of data in the internet advertising sector, No: 18-A-03 English Version (6 March 2018) Available at: [http://www.autoritedelaconcurrence.fr/doc/avis18a03\\_en\\_.pdf](http://www.autoritedelaconcurrence.fr/doc/avis18a03_en_.pdf) accessed 29 May 2021, 2.

<sup>184</sup> *Ibid.*

<sup>185</sup> European Competition Network, ‘Sector Inquiry into Online Advertising: The Autorité issues the Results of its Sector Inquiry and identifies two Dominant Positions in relevant sub-Markets, including Google’s, and recommends a targeted Legislative Amendment’ (2011) ECN Brief 01/2011, Available at: [http://ec.europa.eu/competition/ecn/brief/01\\_2011/fr\\_siadvertising.pdf](http://ec.europa.eu/competition/ecn/brief/01_2011/fr_siadvertising.pdf) accessed 29 May 2021.

<sup>186</sup> Autorité de la Concurrence, Press Release, ‘Sector-specific investigation into online advertising’ (6 March 2018) Available at: [http://www.autoritedelaconcurrence.fr/user/standard.php?id\\_rub=684&id\\_article=3133&lang=en](http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=684&id_article=3133&lang=en) accessed 29 May 2021.

<sup>187</sup> Opinion of Autorité de la Concurrence (n 183) sections 248 to 249.

<sup>188</sup> *Ibid.*, section 250.

<sup>189</sup> *Ibid.*, section 251.

<sup>190</sup> *Ibid.*, section 252.

<sup>191</sup> *Bundeskartellamt*, News, ‘*Bundeskartellamt* initiates proceeding against Facebook on suspicion of having abused its market power by infringing data protection rules’ (2 March 2016) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02\\_03\\_2016\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_2016_Facebook.html) accessed 29 May 2021.

<sup>192</sup> *Ibid.*

that case, it could be assumed that competition policy was ineffective in data-driven markets all over Europe. However, the Bundeskartellamt found Facebook guilty of abusing its dominant position in their preliminary assessment (December 2017), which might set a precedent for Germany and Europe.<sup>193</sup> Additionally, in February 2018, the Bundeskartellamt started a sector inquiry, following the inquiry of Autorité de la Concurrence into the market conditions of the online advertising sector.<sup>194</sup> In this study, the aim is to identify the importance of Big Data technology and how it functions, including the collection and use of data in the context of the online advertising sector.<sup>195</sup>

Another comprehensive study is the Organisation for Economic Cooperation and Development's (OECD) study on Big Data and competition policy in the digital era.<sup>196</sup> The study, dated November 2016, describes Big Data and its relevancy to competition law and policy. Moreover, the study's approach takes the topic into several parts: collusive practices, abuse of dominance, and mergers. The study points out the problems which occur in markets from a competition law perspective. Thus, it manages to identify some of the potential implications for competition enforcement and policy. Additionally, the OECD has published two other papers regarding competition policy in this new era. One of them is an earlier paper, which focuses on the Big Data ecosystem and its growing nature. This paper identifies the key challenges data-driven economies face and underpins further studies into the digital age and competition policy.<sup>197</sup> The other one, which dates from 2017, is about algorithms and their relevance to competition policy.<sup>198</sup> This study delves deeper into the debate and handles the

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<sup>193</sup> Bundeskartellamt, Press Release, 'Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive' (19 December 2017) Available at:

[https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19\\_12\\_20\\_17\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_20_17_Facebook.html)\_accessed 29 May 2021.

<sup>194</sup> Bundeskartellamt, Press Release, 'Bundeskartellamt launches sector inquiry into market conditions in online advertising sector' (1 February 2018) Available at:

[https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/01\\_02\\_20\\_18\\_SU\\_Online\\_Werbung.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/01_02_20_18_SU_Online_Werbung.html)\_accessed 29 May 2021.

<sup>195</sup> Ibid.

<sup>196</sup> OECD, Ania Thiemann and Pedro Gonzaga, 'Big Data: Bringing Competition Policy to the Digital Era' (2016) DAF/COMP (2016)14 Available at:

[https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf)\_accessed 29 May 2021.

<sup>197</sup> OECD, Data-Driven Innovation, 'Big Data for Growth and Well-Being', OECD Publishing Paris (2015) Available at: [https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation\\_9789264229358-en](https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation_9789264229358-en)\_accessed 29 May 2021.

<sup>198</sup> OECD, Algorithms and collusion, 'competition policy in the digital era' (2017) Available at <http://www.oecd.org/daf/competition/Algorithms-and-collusion-competition-policy-in-the-digital-age.pdf>\_accessed 29 May 2021.

collusion issue through Big Data usage in markets. Even just a couple of years ago, many commentators did not believe that Big Data and artificial intelligence would bring anti-competitive practices to the markets, thinking that they could only have pro-competitive effects through creating highly transparent markets.<sup>199</sup>

Most recently, three important studies have been published in Europe. First one is the so called 'Crémer Report' written by Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer for European Commission in 2019. In this review, the authors explored how competition policy should evolve and promote innovation in data-driven markets.<sup>200</sup> In order to conduct an analysis, the authors focused on three important aspects of the digital economy. According to the study, the role of Big Data is huge on competition in the online world. Moreover, due to the accumulation of data, incumbent undertakings have a significant competitive advantage since extreme 'returns to scale' occur in the online world. On top of that, Big Data effects and convenient use of technology (thus the creation of online ecosystems) has led to significant network externalities in digital markets. In light of the identified aspects, the report provides insights into how competition policy plays a special role in shaping digital markets and its legal environment through case law, such as the cases of Microsoft and Google before the Commission.<sup>201</sup>

The other two reports were both published in the same year, the so-called 'Furman Report',<sup>202</sup> which the Digital Competition Expert Panel conducts for the UK Government and, 'Schweitzer Report',<sup>203</sup> which is written by Schweitzer et al.

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<sup>199</sup> Van Gorp and Batura (n 167) 58; Andres V. Lerner, 'The role of Big Data in online platform competition' (2014) Available at SSRN: <https://ssrn.com/abstract=2482780> or <http://dx.doi.org/10.2139/ssrn.2482780> accessed 29 May 2021, 10-19; Darren S. Tucker and Hill B. Wellford, 'Big Mistakes Regarding Big Data' (2014) the Antitrust Source 10; D. Daniel Sokol and Roisin Comerford, 'Antitrust and Regulating Big Data' (2016) 23 George Mason Law Review 5 1129, 1133.

<sup>200</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition Policy for the Digital Era: Final Report (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), (hereinafter Crémer Report).

<sup>201</sup> Crémer Report (n 200) 125; Case COMP/C-3/37.792 Microsoft, Commission Decision of 24 March 2004 relating to a proceeding under Article 82 of the EC Treaty against Microsoft Corporation C(2004) 900 Final; Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final; Case No COMP/AT.40099, Google Android [2018] Commission Decision of 18 July 2018, C(2018) 4761 Final.

<sup>202</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel> accessed 1 September 2021.

<sup>203</sup> Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, 'Modernising the Law on Abuse of Market Power: Report for the Federal Ministry for Economic Affairs and

for the German Federal Ministry for Economic Affairs and Energy, are also focused on the enormous impact of Big Data in online markets. Data has transformed and is still transforming the economy in the online world, where data-driven markets are a reality now. Thus, the creation of online ecosystems (through digital platforms), network externalities and tipping effects are found to be the main challenges in data-driven markets. Both reports focus on building a new competition policy for a data-driven economy by identifying market problems through case law similar to 'Crémer Report'. All of these three reports are welcomed and contributed to the discussions in this thesis.

However, policy responses are not limited to the ones mentioned above. There are several more reports published in the near past in Europe. The Dutch Authority for Consumers & Markets published a paper about online platforms and competition law in September 2016.<sup>204</sup> In this paper, online platforms and businesses in the digital marketplace are investigated. Personalised advertisements, the collection and use of personal data, content producers and the overall growing market were examined. One of the conclusions derived from this study is that the growth of online platforms and their strong positions are creating risks, and the authorities need more knowledge of these markets.<sup>205</sup> To be more precise, it is evaluated that market power and the structural dominance of online platforms might cause harm to consumers by way of degradation of quality and lack of innovation.<sup>206</sup> In the same year, the Catalan Competition Authority published a study titled 'The data-driven economy: Challenges for competition'.<sup>207</sup> In this study, the data-driven economy is explained through the value of Big Data and network effects. Then, the risks to competition are scrutinised in two categories: structural and behavioural risks. Mergers, exclusivity agreements, limiting access to data and price discrimination are discussed as behavioural risks. Thus, a need for change is debated, and the

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Energy (Germany)' (2018) Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3250742](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3250742) accessed 1 September 2021.

<sup>204</sup> Dutch Authority for Consumers & Markets, 'Grote Platforms Grote Problemen, Een Beschouwing Van Online Platforms Vanuit Mededingingsperspectief' (2016) Available at: [https://www.acm.nl/sites/default/files/old\\_publication/publicaties/16333\\_toezicht-online-platforms.pdf](https://www.acm.nl/sites/default/files/old_publication/publicaties/16333_toezicht-online-platforms.pdf) accessed 29 May 2021.

<sup>205</sup> Ibid, 11.

<sup>206</sup> Ibid.

<sup>207</sup> Autoritat Catalana de la Competència, The Data-Driven Economy: Challenges for Competition (2016) Available at: [http://acco.gencat.cat/web/.content/80\\_acc0/documents/arxiu/actuacions/Eco-Dades-i-Competencia-ACCO-angles.pdf](http://acco.gencat.cat/web/.content/80_acc0/documents/arxiu/actuacions/Eco-Dades-i-Competencia-ACCO-angles.pdf) accessed 29 May 2021.

necessitation of regulatory changes is discussed. A novel approach to mergers is also proposed by changing market definition methods and approaching mergers in an all-inclusive vision.

As can be seen, NCAs are eager to approach the Big Data issue, and discussions are gaining weight in the area of law. As a result, the 9<sup>th</sup> Amendment to the German Competition Act (ARC)<sup>208</sup> went into force in November 2017. In the amendment, an effort to adapt to the new digital economy can be seen. As mentioned earlier, an additional notification threshold has been added for value-based transactions. The importance of Big Data and the new characteristics of digital markets have inevitably caused a change in regulation. Notably, this sole event shows that it is necessary for the competition authorities and policymakers in Europe to discuss the issue further and design a new policy geared towards the digital economy. In order to design a new policy, the necessity of intervention by way of regulation in markets needs to be discussed.<sup>209</sup> It is essential to underline that Big Data holds the main discussion in competition law and policy nowadays. As parts of it, algorithms, artificial intelligence, the Internet of Things, and many other issues also need urgent attention from a competition law perspective.

Thus, this thesis features a search for an answer to the question, “Could the challenges identified so far in this research be mitigated through a lawmaking process in Europe?” In light of the issues identified in market structures, Article 102 of the TFEU and merger control mechanisms, which approach should be taken regarding competition law, is the most challenging problem this thesis aims to deal. Therefore, the main discussion is on the effectiveness of the current competition policy in Europe. In this regard, the discussion is extended to a new agenda for EU competition law and the criticism of the current agenda of competition authorities.

## **2.4 Major Issues in Data-Driven Markets**

The purpose of this section is to identify the major challenges which are to be addressed in this thesis. In order to make the analysis coherent, the main challenges in data-driven markets are categorised into various parts and are identified using the step-by-step method mentioned above. Thus, each challenge

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<sup>208</sup> Germany, Act against Restraints of Competition (Competition Act – GWB).

<sup>209</sup> See Chapter 6.4.1 for more detail.



is identified through subsections, and the specific problems are underlined for further analysis. These are monopolisation, data acquisitions, assessment of market power and unilateral conduct.

#### **2.4.1 Monopolisation in Markets**

The first challenge is a structural one. Digital markets have been experiencing oligopolistic tendencies through the power of Big Data lately. In other words, high concentration and even monopolisation in specific markets do not seem unrealistic for the near future. Strong market power is a norm today, and there are only a dwindling number of competitors in data-driven markets. More precisely, current market structures in digital markets clearly show signs of super dominance and monopolisation.<sup>210</sup> Especially in markets where Google, Amazon, Facebook and Apple are dominant, this situation can be seen clearly. Dominance contributes these companies to collect even more data in data-driven markets.

The analysis in Chapter 3 reveals that these undertakings have definitely had an irreversible competitive advantage over their competitors due to Big Data and analytics, and their near-monopoly positions cannot be compared with traditional monopolies.<sup>211</sup> According to some, data-driven markets have low to zero entry barriers.<sup>212</sup> Thus, starting a business in one of these markets would require much less investment than many other traditional markets. They also argue that Big Data acquisitions and the use of Big Data are not types of anti-competitive practice covered by competition law.<sup>213</sup> On the contrary, there is no empirical support for the idea that there are low to zero entry barriers in innovative digital markets.<sup>214</sup> Thus, through a fact-by-fact analysis, entry barriers are found very high in these markets,<sup>215</sup> which is explained deeper in Chapter 3.

Demand-side economies of scale, in other words, network effects, are the most critical point which needs to be identified in Chapter 3.<sup>216</sup> There are

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<sup>210</sup> Gustavo Grullon and Yelena Larkin and Roni Michaely, 'Are US Industries Becoming More Concentrated?' (2017) Available at SSRN: <https://ssrn.com/abstract=2612047> accessed 29 May 2021; Lina M. Khan, Amazon's Antitrust Paradox (2016) 126 Yale Law Journal 3.

<sup>211</sup> See Chapter 3.

<sup>212</sup> Tucker and Wellford (n 152) 1.

<sup>213</sup> Ibid.

<sup>214</sup> Maurice E. Stucke and Allen P. Grunes, 'Data-opolies' (2017) Concurrences No 2, University of Tennessee Legal Studies Research Paper No 316 Available at SSRN: <https://ssrn.com/abstract=2927018> accessed 29 May 2021, 3.

<sup>215</sup> Ibid.

<sup>216</sup> See more in Chapter 3.4.1.

significant differences between traditional and data-driven monopolies in terms of network effects. For instance, strong indirect network externalities can be explained here as the main difference. Strong indirect network effects trigger lock-in (consumer) effects. In this type of network effect, utilisation of a free online service or product increases the utility of the complimentary service. In the context of data-driven markets, it is the online advertising services. To be more precise, indirect network effects occur when there are different consumer groups such as advertisers and users in a search engine or another online ecosystem. In this scenario, the utility of a service by one group contributes to the growth of the other consumer group in a market.<sup>217</sup>

Technology giants in the online world, such as Facebook or Google, enjoy the externalised power of network effects created by billions of consumers. For example, creating a mobile chat application might not require high costs or technology and might be relatively easy to launch. However, when a new free mobile chat application hits the markets, it would be quite hard to compete with the existing one(s) since network effects in data-driven markets are much stronger than in traditional markets. The main reason behind this is the indirect network externalities in these markets, which create barriers to new entrants. Due to extensive network externalities, the new chat application would barely compete with the incumbent(s). Not only do new entrants struggle to compete in markets, but incumbents are willing to spend vast amounts of money to strengthen their positions based on their established network effects. Microsoft, for example, would not have spent more than \$4.5 billion in developing algorithms and enhancing its Big Data storage capacity to operate its free search engine -Bing-<sup>218</sup> if entry barriers were as low as Tucker and Wellford have argued.

Another example would be the case of Google. Google has formed an ecosystem through its applications such as Google Search, Google+, YouTube, Gmail, Google Drive, and many others to create strong direct and indirect network effects. Primarily, all of these applications are tools for Google to obtain relevant data from consumers.<sup>219</sup> For instance, even though Google was not the first-

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<sup>217</sup> Andrei Hagiu and David B. Yoffie, 'Network Effects' in Mie Augier and David Teece (eds), *The Palgrave Encyclopedia of Strategic Management* (Palgrave Macmillian, 2018, London), 1104-1107.

<sup>218</sup> Stucke and Grunes (n 214) 5.

<sup>219</sup> Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 *Yale Journal on Regulation* 2, 407.

mover and did not have the first-mover advantage in terms of collecting user data, Google's expansion into various adjacent markets such as operating systems (Android), video streaming (YouTube), social networking and many others and creating an online ecosystem contributed to the accumulation of vast amounts of datasets. This behaviour has strengthened the position of Google.<sup>220</sup> Google's control over mass data on individuals and consequent market power due to data explains Google's expansion to various markets.<sup>221</sup> For instance, YouTube, which Google acquired, attracts more than 4 billion daily views, and except for Google Search, YouTube's search capacity is much higher than any search engine such as Bing.<sup>222</sup> It means that Google does own not only the most popular search engine in the online world but also the second one: YouTube.

Google's vice president for engineering, Vic Gundotra, emphasised that the actual intention of Google+ is to integrate consumers' data across the Google ecosystem and ultimately serve better ads to its consumers.<sup>223</sup> Also, Matt Rosoff stated:

"The Google+ service is bait. All Google wants you to do is create a profile and link to some friends with it. After that, Google really does not care if you never visit again. As long as you sign in for any other Google service (like Gmail), and then recommend an ad or a Web site once in a while, so Google can put that information in front of your other Google friends, all is well with the world."<sup>224</sup>

Google's business model has a unique characteristic created by consumer data. Data collected from sources such as social networking, search queries, calendar data, location, dietary information, photos, videos, e-mails everything else that could be included in this list can be used to create personalised services or targeted advertisements for consumers.<sup>225</sup> Through the creation of

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<sup>220</sup> Ibid, 410.

<sup>221</sup> Ibid, 420.

<sup>222</sup> Ibid, 427.

<sup>223</sup> Ibid, 431, citing Nick Bilton, *Countering the Google Plus Image Problem*, N.Y. TIMES: BITS BLOG (Mar. 6, 2012, 3:47 PM), Available at: <http://bits.blogs.nytimes.com/2012/03/06/google-defending-google-plus-shares-usage-numbers>.

<sup>224</sup> Ibid, 431, citing Mau Rosoff, *So THAT'S What Google+ Is Really About: Advertising, Bus. INSIDER* (Mar. 6, 2012, 5:19 PM), Available at: [http://articles.businessinsider.com/2012-03-06/tech/31126307\\_1vic-gundotra-google-service-google-service](http://articles.businessinsider.com/2012-03-06/tech/31126307_1vic-gundotra-google-service-google-service).

<sup>225</sup> Ibid, 431, citing, Sunni Yuen, 'Exporting Trust with Data: Audited Self-Regulation as a Solution to Cross-Border Data Transfer Protection Concerns in the Offshore Outsourcing Industry' (2007) 9 Columbia Science and Technology Law Review 41, 44.

personalised advertisements, Google entrenches its position and knowledge to create a monopoly position and entry barriers in the online advertising sector.<sup>226</sup> It can be deduced that competitors struggle to find a place in the online advertising market and adjacent markets in which Google's network of applications efficiently operate.

Unarguably, the ecosystem created by Google poses crucial concerns for competition law and policy, which must be identified and dealt with urgently. Intrinsically, competition authorities have started several investigations.<sup>227</sup> In Europe, Google has already been fined billions of dollars for its anti-competitive conduct so far. However, on the other side of the Atlantic, many academics, the Department of Justice (DOJ), the Federal Trade Commission (FTC), and many lawyers have favoured Google until late 2020.<sup>228</sup> Daniel Crane,<sup>229</sup> David A. Balto,<sup>230</sup> Robert H. Bork and J. Gregory Sidak,<sup>231</sup> Geoffrey A. Manne, and Joshua D. Wright<sup>232</sup> have all expressed that Google's position cannot be regarded as a monopoly, or there would be no legal cases under competition law and policy to follow in the US.<sup>233</sup> In the same vein, in the EU, through a positive and normative assessment, Pinar Akman has argued that there are no cases under Article 102 of the TFEU for the Google Search case back in the day.<sup>234</sup>

The specific problem here is the understanding of competition law and policy in the first place. The abovementioned commentators all pursue *laissez-faire* competition and thus fail to identify structural and then behavioural shortcomings in the context of Big Data power. To exemplify, David Balto, a

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<sup>226</sup> Ibid, 407.

<sup>227</sup> Like Google Search and Android Cases; Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final; Case No COMP/AT.40099, Google Android [2018] 4761 Final.

<sup>228</sup> Ibid, 408.

<sup>229</sup> Daniel Crane, 'Search Neutrality as an Antitrust Principle' (2012) 19 George Mason Law Review 1199, 1203.

<sup>230</sup> David A. Balto and Matthew Lane, 'Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data' (2016), Available at SSRN: <https://ssrn.com/abstract=2753249> accessed 29 May 2021, 6.

<sup>231</sup> Robert H. Bork and J. Gregory Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?' (2012) 8 Journal of Competition Law and Economics 4, 663–700, 700.

<sup>232</sup> Geoffrey A. Manne and Joshua D. Wright, 'Google and the Limits of Antitrust: The Case against the Antitrust Case against Google' (2011) 34 Harvard Journal of Law and Public Policy, 74.

<sup>233</sup> Newman (n 219) 408.

<sup>234</sup> Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 Journal of Law, Technology and Policy 301, 370.

former DOJ and FTC lawyer, argues that modern competition laws are equipped to deal with every issue, including consumers' data, since they aim to maximise consumer welfare.<sup>235</sup> Thus, competition law either handles problems related to consumers and their data, or there is no actual consumer harm caused in the market.<sup>236</sup> Unlike these ideas, there is a great need for a reconsideration of competition law and policy in the age of Big Data.

Consequently, what undertakings such as Microsoft (via Bing) and Google try to achieve today is to create a strong market position through being efficient users and collectors of Big Data. As an inevitable conclusion, data-driven markets are witnessing rapid monopolisation.<sup>237</sup> This kind of monopoly can be called a 'data-opoly',<sup>238</sup> bringing a handful of harms to markets.<sup>239</sup> Pricing practices can be explained briefly to demonstrate one of these harms. In the short term, it is unarguable that visible pro-competitive effects such as price decreases might occur in markets. For instance, before the acquisition of WhatsApp by Facebook, WhatsApp was not free of charge on the mobile application markets in some countries, charging an annual sum of approximately 1\$. After the *Facebook/WhatsApp* acquisition, WhatsApp was made free in every mobile application market.<sup>240</sup> In this scenario, the dominant undertaking did not exercise higher prices, unlike what traditional dominant/monopolies would do. However, lowering prices as a predatory practice is defined by the US court as "unlawfully anticompetitive only if there is a "dangerous probability" that the firm...later recoup...by raising prices to monopoly levels...."<sup>241</sup> The Court also indicates that "lower prices improve consumer welfare".<sup>242</sup> For this very reason, people even question the monopolistic powers of technology giants<sup>243</sup> due to the classical assessment of competition law in markets where these platforms do not charge monetary prices.

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<sup>235</sup> Balto and Lane (n 230) 12.

<sup>236</sup> Ibid.

<sup>237</sup> Maurice E. Stucke, 'Should We Be Concerned About Data-opolies?' (2018) 2 *Georgetown Law Technology Review* 275, 275.

<sup>238</sup> Ibid.

<sup>239</sup> Ibid.

<sup>240</sup> Mark Scott, 'WhatsApp, The Internet Messenger, To Become Free' *Digital Economy*, *The New York Times* (18 January 2016), Available at: [https://bits.blogs.nytimes.com/2016/01/18/whatsapp-the-internet-messenger-to-become-free/?\\_r=0](https://bits.blogs.nytimes.com/2016/01/18/whatsapp-the-internet-messenger-to-become-free/?_r=0) accessed 29 May 2021.

<sup>241</sup> *Case United States v. Apple* 791 F. 3d 290, 332 (2d circuit 2015).

<sup>242</sup> Ibid.

<sup>243</sup> Stucke (n 237) 281.

However, this does not mean that new monopolies are not harmful to consumers.<sup>244</sup> Eventually, crucial anti-competitive effects start to occur. These can be listed as less innovation, degraded quality, privacy concerns, welfare transfer from consumers to data-opolies, and suchlike.<sup>245</sup> Moreover, commentators argue that harms occurring in digital markets due to the strong market power created by Big Data should not be compared with the activity in traditional monopolies since the negative effects of digital monopolies will likely outrun traditional monopolies.<sup>246</sup> Thus, current market structures, innovative markets, and dynamic competition need to be re-examined to address these concerns and create an understanding.<sup>247</sup> Also, the digital monopoly problem and the difficulty in competition law in identifying market structures are scrutinised in the following chapter.

There are exceedingly difficult questions for the regulators that need to be dealt with urgently. The main question scrutinised in Chapter 3 is how these new market structures affect competition law assessment regarding market power and abusive conduct. Therefore, it is quite challenging to identify problems inherent to the structures of data-driven markets. However, the Big Data related dominance and the creation of monopolies based on Big Data must be addressed before focusing on other issues. In order to do that, a systematic analysis is carried out, followed by an assessment of recent rulings and interim reports in Europe.

However, data related challenges are not inherent to the structures of new economy markets where Big Data has prominence. In addition to that, there are several crucial regulatory problems derived from Big Data collection and usage which need to be identified in terms of competition law and policy. For instance, the acquisition of vast amounts of datasets by technology giants is a huge problem. The literature usually refers to these kinds of acquisitions as R&D mergers, which are meant to have pro-competitive effects such as efficiency gains for both consumers and businesses. However, these acquisitions might pose anti-competitive threats for the online world.<sup>248</sup> Technology giants are

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<sup>244</sup> Ibid, 279.

<sup>245</sup> Ibid, 279.

<sup>246</sup> Ibid, 322.

<sup>247</sup> See more in Chapter 3 of this thesis.

<sup>248</sup> Marixenia Davilla, 'Is Big Data a Different Kind of Animal? The Treatment of Big Data under the EU Competition Rules' (2017) 8 *Journal of European Competition Law and Practice* 6, 373.

purchasing small online platforms and start-ups with little or no turnover due to their greater value over their collected data. As a result, data-rich undertakings accumulate these new datasets for commercial purposes, which contribute to the creation of online ecosystems through platforms and network effects. Therefore, the question is, how does Big Data re-structure global value chains? Global value chains are crucial to identify since data-driven acquisitions are more likely to have strong conglomerate effects in the online world. Thus, price-centric traditional assessments of competition – horizontal and vertical – seem to be ill-equipped due to the recent growth in conglomerate effects in data-driven mergers. In the same vein, dominant undertakings also use their data dominance in markets that are actually are not data-driven. Together, both situations create enormous negative long-term effects in data-driven markets and in the online world.

#### **2.4.2 Assessment of Market Power**

Another major challenge is the traditional assessment of market power. As mentioned above, data-driven market structures are entirely different from traditional ones, and inevitably problems arise in assessing the market power of undertakings. As identified in the study on the European Parliament's Directorate-General for Internal Policies regarding the digital economy, competition authorities face various challenges while applying Article 102 of the TFEU to data-driven abusive conduct.<sup>249</sup> According to the European Parliament study, tools and analytical steps are inappropriate for market power assessment.<sup>250</sup> As Article 102 of the TFEU states, the abusive practices of dominant undertakings in the internal market are prohibited.<sup>251</sup> Identifying anti-competitive unilateral conduct has two main pillars: finding dominance in a relevant market and finding abusive practices that cause consumer harm. Thus, the method of market power assessment starts with framing a relevant product market followed by a market share and market power assessment of the alleged undertaking. Lastly, appropriate anti-competitive behaviour is addressed.<sup>252</sup>

Problems occur at the very first phase of abuse cases, which is defining the relevant market. Competition in data-driven markets is driven by rapid

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<sup>249</sup> Nikolai Van Gorp and Olga Batura, 'Challenges for Competition Policy in a Digitalised Economy', A study for the ECON Committee, Directorate General for Internal Policies, European Parliament, July 2015, IP/A/ECON/2014-12 PE 542.235, 70.

<sup>250</sup> Ibid.

<sup>251</sup> Article 102 of the TFEU.

<sup>252</sup> Van Gorp and Batura (n 249) 50.

innovation; thus, market boundaries in data-driven markets are continuously redefined.<sup>253</sup> As a result, a traditional step-by-step market power analysis does not work correctly for data-driven markets shaped by innovation.<sup>254</sup> The reason behind this is that the strong feedback effects actually follow the opposite route of the traditional analysis. In the traditional method, a market structure assessment (relevant market, number of sellers-buyers, entry barriers, products) is followed by an anti-competitive conduct analysis (tactics, strategy, pricing), which moves analysis into performance gains in the final step (profits, quality, differentiation).<sup>255</sup>

New economy markets reverse this chain. Contrary to the former, performance gains affect anti-competitive conduct and market structure at the same time.<sup>256</sup> It can be said that gains such as profits, product quality, or product differentiation affect the market structure (such as barriers to entry) and anti-competitive behaviours (such as strategies or pricing) to exemplify this paradigm shift.<sup>257</sup> This paradigm shift has carved out a niche for itself in European competition law in the past. In 2001, Alex Jacquemin indicated that the innovative character of new industrial economies has inevitably affected the technical assessment of market power in the EU. Analysis has evolved towards a microeconomic theory approach, including imperfect competition models and the game theory perspective.<sup>258</sup> By this means, Jacquemin has also indicated that new methodological aspects of the assessment of market power have now replaced more static approaches by referring to Schumpeter's theory on innovative markets and competition.<sup>259</sup> Although incorporating new methodological models can affect market power assessment and case law, the step-by-step approach has not changed fundamentally in competition law assessment in Europe.<sup>260</sup> Consequently, and due to Big Data's influence nowadays, strong network effects and feedback loops in data-driven markets are

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<sup>253</sup> Ibid.

<sup>254</sup> Ibid.

<sup>255</sup> Ibid.

<sup>256</sup> Ibid.

<sup>257</sup> Ibid.

<sup>258</sup> Alexis Jacquemin, 'Theories of Industrial Organisation and Competition Policy: What are the Links?' (2000) European Commission Forward Studies Unit, Working Paper, 11.

<sup>259</sup> Ibid.

<sup>260</sup> Van Gorp and Batura (n 249) 50.



highly likely create a misleading assessment of market power in cases of the abuse of a dominant position.

In the same vein, according to the OECD report on Big Data and Competition Policy:<sup>261</sup> “Many of the current instruments of competition analysis, such as market definition, may be insufficient to fully account for the features of digital markets... ..tools such as the SSNIP test, as well as the most consensual measures of market concentration, fall short of capturing the specific features of these markets.”<sup>262</sup> In a traditional market, an undertaking charges prices to consumers and advertisers, such as a car manufacturer or media organ.<sup>263</sup> Thus, tests such as the Small but Significant and Non-transitory Increase in Price (SSNIP) test or hypothetical monopoly test fit assessment since they both rely on pricing in markets.<sup>264</sup> However, in data-driven markets, undertakings have both monetary and non-monetary transactions in the exchange of data markets. Eventually, near zero-to-zero prices in data-driven markets make it challenging to implement tests based on pricing mechanisms.

Additionally, undertakings usually operate in various markets and have multiple roles.<sup>265</sup> For instance, undertakings such as Google or Apple are simultaneously developers, manufacturers, content providers, advertisement sellers, and buyers, clearly indicating multi-role. The multi-role of undertakings is another reason why the definition of a relevant market is a troublesome issue in these cases. In other words, the dynamic and innovative character, along with the multi-sided structure in data-driven markets, make it a challenging task to define a relevant market for nearly every data-driven abuse in an abuse of a dominant position case.

For another example, market share assessment also seems to be an issue with the current competition tools. As the guidance from the European Commission on enforcement priorities in applying Article 102 states, the assessment of market share is a useful tool in assessing market power.<sup>266</sup>

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<sup>261</sup>Ania Thiemann and Pedro Gonzaga, “Big Data: Bringing Competition Policy to the Digital Era” OECD 2016, DAF/COMP (2016), 15.

<sup>262</sup> Ibid.

<sup>263</sup> Ibid.

<sup>264</sup> Ibid.

<sup>265</sup> Ibid.

<sup>266</sup> Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9, para 13.

According to the Guidance, there will likely be dominance if an undertaking's market share is over 40% in a relevant product market.<sup>267</sup> However, this type of market share assessment does not seem relevant in data-driven markets. The reason behind it is the irrelevancy of market share in digital dominance since data-driven markets have a dynamic character and tend to change very quickly.<sup>268</sup> To exemplify, Myspace had a market share of 76.35% of all visits in the US, and Facebook only had 12.57% in December 2007.<sup>269</sup> In only one and a half years,<sup>270</sup> Myspace lost its market share to Facebook in the social networking market<sup>271</sup> and then disappeared from the market in the subsequent years. The buy-out power of incumbents in data-driven markets or new entrants that leverage their power stemming from collected datasets from third markets definitely affect market share analysis overall.<sup>272</sup>

In conclusion, the dynamic character of data-driven markets and the “winner-takes-all” structure leads data-driven market players to operate in multiple markets intertwined with each other, such as online search, online advertising or social networking. Thus, assessing an undertaking's market power in an abuse case becomes quite challenging whether it has a dominant position.<sup>273</sup> The real difficulty lies in the power comparison that needs to be determined together with its competitors, both individually and cumulatively. According to Daniel Mandrescu, addressing the diversity across interrelated markets is currently vague, and clarification is needed to determine market power and dominance to legitimise the intervention and remedies.<sup>274</sup> Even if a given market share were relevant for an undertaking in the online world, without the innovative character of the market, the importance of market shares would stay

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<sup>267</sup> Ibid, para 14.

<sup>268</sup> Daniel Mandrescu, Applying EU competition law to online platforms: the road ahead - Part 2 (2017) 38 European Competition Law Review 9, 410-422, 413.

<sup>269</sup> Marketing Charts, Myspace Got 76% of US Social Network Traffic in '07, Facebook's Grew 51% (18 January 2008) Available at: <https://www.marketingcharts.com/demographics-and-audiences/youth-and-gen-x-3075>, accessed 29 May 2021.

<sup>270</sup> June 2009.

<sup>271</sup> Chloe Albanesius, 'More Americans go to Facebook than Myspace' *The PC Mag* (16 June 2009) Available at: <https://www.pcmag.com/article2/0,2817,2348822,00.asp> accessed 29 May 2021.

<sup>272</sup> Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016] Available at: [https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108), accessed 29 May 2021, 30.

<sup>273</sup> Mandrescu (n 268) 413.

<sup>274</sup> Ibid.

insignificant.<sup>275</sup> As in the Myspace-Facebook example, an established market share might change drastically in a short period and distort the market power analysis in the abuse case.<sup>276</sup> Not only the speed of change but the thresholds for dominance in a given market might become quite challenging to detect.<sup>277</sup>

In light of this information, it is apparent that competition law and policy need to re-consider the current tools and existing policy frameworks together with a structural analysis.<sup>278</sup> In order to achieve that and to develop an argument, several issues need to be addressed in Chapter 4. First, the definition of relevant markets for data-driven acquisitions and market power must be analysed in order to determine the criteria by which to assess Big Data and market power. Second, the importance of innovation, ecosystems, and multi-sidedness of data-driven markets are discussed in the context of this study. The analysis is engaged to find market power assessment failures in data-driven markets. Overall, the crucial misevaluations on assessing market power in Big Data related cases in data-driven markets are enunciated, and solutions are sought in Chapter 4.

### **2.4.3 Anti-Competitive Conduct**

Another major competition law challenge in the online world is the anti-competitive conduct of dominant undertakings. Technology giants such as Google, Apple, Amazon, Microsoft and Facebook have recently faced various abuse of dominant position cases before the European competition authorities. Microsoft has received fines totalling nearly €2 billion for several abuse of dominant position cases brought by the European Commission.<sup>279</sup> Google also has three important abuse of dominant position cases before the Commission. In the first case, the *Google Shopping* case, the Commission fined Google a total of €2.4 billion for abusing its dominant position in the comparative online shopping and online advertisement market, which was a record fine at the time.<sup>280</sup> In the

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<sup>275</sup> Ibid.

<sup>276</sup> Ibid

<sup>277</sup> Ibid, 414.

<sup>278</sup> See more in Chapter 4 of this thesis.

<sup>279</sup> Case COMP/C-3/37.792 Microsoft, Commission Decision of 24 March 2004 relating to a proceeding under Article 82 of the EC Treaty against Microsoft Corporation; Case COMP/C-3/39.530 Microsoft, Commission Decision of 16 December 2009 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement; Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289; 2008.

<sup>280</sup> Case AT.39740 Google Search (Shopping) [2017] 4444 Final, Commission Decision of 27/6/2017 relating to proceedings under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the Agreement on the European Economic Area.

second case involving Android, the Commission fined Google €4.3 billion over its Android operating system for abusing its dominant position.<sup>281</sup> The third case involving Google, also in the advertising sector, the *Google AdSense* case, the Commission fined Google €1.49 billion.<sup>282</sup> Although there are various cases in data-driven markets, possibly the most debated behavioural challenge for competition authorities in the age of Big Data is the identification of anti-competitive conduct.

In data-driven markets, exclusionary and predatory conduct seem to be quite common. On top of that, due to the insufficiency of the current competition tools to assess market power as mentioned above, the identification of anti-competitive conduct and assessing the potential harms of alleged abuses are also quite misleading.<sup>283</sup> To note, the dynamic context of data-driven markets leads undertakings to anti-competitive conduct, and these markets make collusion quite unlikely, according to the ECON report.<sup>284</sup> Data-driven markets are now at the centre of most commercial activities, and undertakings use their powers stemming from their mass collection of data in digitalised markets. Thus, control over mass personal data leads to exclusionary and discriminatory conduct, and challenges faced in abuse of dominant position cases need to be discussed cautiously.

Tying is an example of exclusionary conduct and an important concern in data-driven markets. Through tying, dominant undertakings leverage their market powers in other markets.<sup>285</sup> Leveraging is done by tying or bundling new or little-used products to their main competitive products or services in order to gain competitive advantage over rivals in adjacent markets.<sup>286</sup> Not only does this result in gaining market share or market power, but smaller competitors are also driven out from the markets since they cannot compete with the undertaking, which uses

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<sup>281</sup> Case No COMP/AT.40099, Google Android [2018] Commission Decision of 18 July 2018, C(2018) 4761 Final.

<sup>282</sup> Case No COMP/AT.40411 Google AdSense [2019] Commission Decision of 20 March 2019 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement, C(2019) 2173. See also: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_19\\_1770](https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1770).

<sup>283</sup> Van Gorp and Batura (n 249) 58.

<sup>284</sup> Ibid.

<sup>285</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 290.

<sup>286</sup> Konstantinos Stylianou, Exclusion in Digital Markets (2018) 24 Michigan Telecommunications and Technology Law Review 2, 190.

its data power and externalises network effects. One example is Microsoft and its old web browser, Microsoft Explorer. Back in the 90s and early 2000s, Microsoft offered Explorer web browser along with its main product, Windows, which enjoyed a near-monopoly position in the operating systems market.<sup>287</sup> To be more precise, Explorer was the default web browser of Windows OS, and 90 per cent of consumers ended up using Explorer as their computer's web browser. Through the conduct, Microsoft gained huge market power in the web browser market by leveraging its almost monopolistic power in the operating systems market into the browser market in order to eliminate rivals in the web browser application market and drive them out of the Windows ecosystem.

In addition to tying, leveraging data-advantage can be an abusive behaviour that leads to the exclusion of rivals. For example, the Belgian Competition Authority fined the National Lottery €1.2 million in September 2015 after the Belgian National Lottery launched a new betting product called "Scoore!".<sup>288</sup> According to the Investigation and Prosecution Service, the National Lottery used its data advantage in favour of its new sports betting service, the "Scoore!".<sup>289</sup> This is an abuse of dominant position case in which the National Lottery used its legal monopoly position to leverage its market power. To be more precise, the National Lottery used its datasets, Big Data, collected from the National Lottery Service, where they enjoy a monopoly position to leverage their power into the sports betting market. The data was not collected following the competition on merit by the National Lottery; thus, it was not possible for competitors to obtain data such as the contact details or preferences of consumers in a reasonable period.<sup>290</sup> This example shows that through exclusionary practices, the data power of undertakings can be used as leverage in other markets, and Big Data, data collection and data advantage all contain huge risks for markets from a competition law perspective.<sup>291</sup>

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<sup>287</sup> Ibid.

<sup>288</sup> Stucke and Grunes (n 285) 291; Belgian Competition Authority Press Release, The Belgian Competition Authority imposes a fine of 1.190.000 EUR on the National Lottery for having abused its dominant position when launching its sports betting product Scoore! N°15/2015 (23 September 2015) Available at: [https://www.belgiancompetition.be/en/about-us/actualities/press-release-nr-15-2015\\_accessed 29 May 2021](https://www.belgiancompetition.be/en/about-us/actualities/press-release-nr-15-2015_accessed 29 May 2021).

<sup>289</sup> Ibid.

<sup>290</sup> Ibid.

<sup>291</sup> For more detail, See Chapter 5.4.1.

Another exclusionary practice in data-driven markets is the refusal to supply or refuse access to data. As mentioned earlier, personal data has a prominent role in the operation of businesses in data-driven markets; thus, there have been discussions on how denial of access to data might affect competition in these markets and whether it is an abuse of a dominant position.<sup>292</sup> There are arguments around the characteristics of Big Data in digital markets. On one side, commentators argue that processed data does not have qualifications to be regarded as an essential facility.<sup>293</sup> They advocate the non-rivalrous and non-exclusive nature of data as evidence of it not being an essential facility.<sup>294</sup> On the other side, commentators argue that data might be an essential facility in specific markets. Thus, established case law should be referred to in these instances where data should be regarded as an essential facility.<sup>295</sup> According to the essential facilities doctrine, if there are no other ways for competitors to operate in a market without having access to data a dominant undertaking has, then cooperation should be expected from the data controller. In order to apply this doctrine, there must be a product or service which is indispensable for an activity in the market,<sup>296</sup> and refusal to supply this product or service must have an effect on competition. It must also affect further developments or services since competitors cannot have access to that input. Lastly, there should not be any justifications for the refusal to supply situation.<sup>297</sup> The CJEU has established these conditions in the rulings of the Bronner,<sup>298</sup> Microsoft<sup>299</sup> and IMS Health<sup>300</sup> cases.<sup>301</sup>

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<sup>292</sup> Mandrescu (n 268) 418.

<sup>293</sup> Andres V. Lerner, 'The role of Big Data in online platform competition' (2014) Available at SSRN: <https://ssrn.com/abstract=2482780>, accessed 29 May 2021, 20.

<sup>294</sup> Ibid, 20-21.

<sup>295</sup> Inge Graef, Sih Yuliana Wahyuningtyas and Peggy Vackle, 'Assessing Data Access Issues in Online Platforms' (2015) 39 Telecommunications Policy 5, 375-387.

<sup>296</sup> Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (Wolters Kluwer, 2016) 214.

<sup>297</sup> Ibid.

<sup>298</sup> Case C - 7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG and others* [1998] ECLI:EU:C:1998:569.

<sup>299</sup> Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289.

<sup>300</sup> Case C – 418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG.* [2004] ECLI:EU:C: 2004:257.

<sup>301</sup> Bundeskartellamt and Autorité de la Concurrence, *Competition Law and Data* [2016] Available at:

[https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108), accessed 29 May 2021, 18.

Anti-competitive conduct in data-driven markets using Big Data as a tool is not limited to the abovementioned instances. There are several more abuse types that can occur in data-driven markets. The abovementioned lock-in effects created by network effects, increasing switching costs for consumers, vertical integration in the form of abuse, exclusionary agreements for access to data and even price discrimination have distorting effects in data-driven markets. These actions raise high barriers to entry for new entrants and even force incumbents to leave markets. However, there might also be completely novel types of abuses.<sup>302</sup> The most important example is the investigation of Facebook by the *Bundeskartellamt* (the German Federal Cartel Office, FCO). According to the *Bundeskartellamt*, Facebook abuses its dominant position in the social networking market by collecting and generating data through third-party services such as Instagram, WhatsApp, websites, embedded games and application programming interfaces (APIs).<sup>303</sup> In other words, Facebook breaches competition rules by violating its data protection rules to the disadvantage of consumers.<sup>304</sup> According to Maximilian Volmar and Katharina Helmdach, this investigation tightens the relationship between competition law and data protection law, and this *novel* type of abuse might lead to a rethinking of abuse of dominant position cases and the application of Article 102 of the TFEU in data-driven markets.<sup>305</sup>

As seen above, European authorities have endeavoured to assess the dominance of technology giants and Big Data's relevance to market power. For the approach of European authorities, the head of the US DOJ's Antitrust Division, Makan Delrahim, mentions that even the aim of competition laws and policy are quite similar in the EU and US (referring to the consumer welfare approach and the commitments of EU Commissioners Mario Monti, Neelie Kroes, Joaquin Almunia and Margrethe Vestager regarding the prominence of consumer welfare standards in EU law), and also there are sizeable differences between

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<sup>302</sup> See Chapter 5.6 for more detail.

<sup>303</sup> Bundeskartellamt, Press Release, 'Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive' (19 December 2017) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19\\_12\\_20\\_17\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_20_17_Facebook.html)\_accessed 29 May 2021.

<sup>304</sup> Ibid.

<sup>305</sup> Maximilian N. Volmar and Katharina O. Helmdach, 'Protecting consumers and their data through competition law? Rethinking abuse of dominance in light of the Federal Cartel Office's Facebook investigation' (2018) 14 *European Competition Journal* 2, 200-201.

their laws.<sup>306</sup> Therefore, he adds that competition laws enforce special duties upon market players with dominant positions in Europe, unlike US law.<sup>307</sup> Although he admits that there are concerns about data-driven markets, he expresses that the US authorities would not impose special duties upon dominant market players when there is no proven harm in the context of competition law.<sup>308</sup> He justifies this idea through the flexibility of an evidence-based approach to consumer welfare economics by applying data-driven abuse of dominant position cases.<sup>309</sup> Also, another justification is the non-interventionist stance of competition law not to stifle innovation in these dynamic and competitive markets. The concern here is over consumer benefit. However, the approach of the US authorities could well change from 2021 onwards.<sup>310</sup>

Furthermore, some commentators in Europe also hold the abovementioned non-interventionist ideas. According to Evelin Hlina, Article 102 of the TFEU is theoretically sufficient to deal with abuse in digitalised markets.<sup>311</sup> Thus, the Commission has attempted to adopt a more evidence-based approach through reviews<sup>312</sup> and guidance papers.<sup>313</sup> According to Hlina, if the CJEU and competition authorities in Europe continue to follow a formalistic approach, it might create problems in data-driven markets and eventually be detrimental for consumers and innovation.<sup>314</sup> In contrast to Hlina's arguments, the current competition policy might not be as effective as anticipated.<sup>315</sup>

In conclusion, all these issues are scrutinised in Chapters 5 and 6, along with the competition cases of prominent market players such as Google, Facebook, Amazon and Apple, and outcomes of the current market structures of

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<sup>306</sup> Makan Delrahim, 'Good Times, Trust Will Take Us Far: Competition Enforcement and the Relationship between Washington and Brussels, SPEECH in Brussels, 21 February 2018 Available at: <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-college-europe-brussels>\_accessed 29 May 2021.

<sup>307</sup> Ibid.

<sup>308</sup> Ibid.

<sup>309</sup> Ibid.

<sup>310</sup> See Chapter 6.3 for more detail.

<sup>311</sup> Evelin Hlina, 'Dominant Undertakings in the Digital Era: A Call for Evolution of the Competition Policy towards Article 102 TFEU?' (2016) 9 ICC Global Antitrust Review, 154.

<sup>312</sup> European Commission, 'DG Competition discussion paper of December 2005 on the application of Article 82 of the Treaty to exclusionary abuses' Available at: <http://ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf>\_accessed 29 May 2021.

<sup>313</sup> European Commission, Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9.

<sup>314</sup> Hlina (n 311) 154.

<sup>315</sup> See Chapter 6.3.4 for a detailed analysis.



data-driven markets specified in Chapter 3.<sup>316</sup> Therefore, exclusionary and predatory practices, tied sales and cross-usage of data are examined in turn. In this part, a particular emphasis is also given to theories and discussions on implementing the essential facilities doctrine while examining discriminatory access to data as anti-competitive conduct in data-driven markets. After that, Chapter 6 delves into the main question: “Is current competition regulation effectively dealing with these issues in the EU? Is there a case for reform in the approach of EU competition law?”.

## **2.5 Concluding Remarks**

The analysis in this chapter has revealed the relevance between Big Data and digitalised markets by creating a framework for Big Data and analytics in the context of competition law. Therefore, Big Data is found to be a value creation mechanism in digitalised markets. Collected data and computer algorithms have increasing roles in business management, decisions, and behaviour. Therefore, digitalised markets evolved into “data-driven markets”, where data is the key to these markets' functioning, as this research proposes. Due to the significant impact of Big Data on commercial life and markets, Big Data is not only a market-defining value creation mechanism but also a significant tool for gaining market power. Undertakings utilising Big Data technology create significant efficiencies in data-driven markets. Thus, they also gain ample competitive advantage over rivals. Therefore, the analysis has moved on to the Big Data-related anti-competitive effects in data-driven markets since the main objective of this chapter is to identify the challenges in terms of competition law and policy.

As a result, three main challenges are found for consideration. It has been identified that Big Data is not only a tool to create efficiencies, produce better products, or enhance quality. Undertakings utilise Big Data for anti-competitive practices to distort competition. In data-driven markets where competitive advantage deriving from Big Data is visible, manipulation, discrimination, or any abuse driven by the data power of undertakings (as in the example of giant online platforms) are likely to occur. However, the identification of abusive conduct is also misleading due to the current assessment of market power in competition law. Miscalculation in this area creates various problems eventually. Moreover,

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<sup>316</sup> See more in Chapter 5 and 6 of this thesis.

relentless data collection and data-driven acquisitions might lead to strong monopolies in data-driven markets and could have distortive conglomerate effects on markets. In total, these concerns are grounds for an urgent intervention of competition law in data-driven markets.

The identification of challenges has enabled the discussion to reveal the strengths and weaknesses of the current structure. In the following chapters, this discussion is held in order to demonstrate the need to propose soft or hard law to deal with the Big Data issue. As a result, it can be clarified that various challenges are awaiting the competition authorities and lawmakers to respond immediately in terms of competition law and policy. Hence, this study aims to provide adequate guidance on resolving current and probable legal uncertainties in this newly emerged area. That being said, the analysis focuses on the market structures in the new economy in the following chapter. In order to do that, the critical relationship between innovation and competition policy is underlined in the first place. Following that, understanding of the characteristics of dynamic markets over the decades are discussed, and the situation today is examined. Only then it will be possible to delve deeper into the data-driven economy to reveal the driving force behind using data technology. Following that, the issue of monopolisation in digitalised markets is examined thoroughly.

It is unarguable that competition law needs to stand against Big Data related concerns. Not only academics but also competition authorities and governments are all aware of it. As seen above, current investigations and arguments covered by academics and officials point out the significance of competition concerns in data-driven markets for the future. The intervention of competition law in anti-competitive practices related to Big Data and competition law itself in the EU could also be scrutinised altogether with novel types of conduct in the dawn of the digital era of services.

There are several ideas on how to approach competition law in the digital age. As an option, a non-interventionist approach to data-driven markets in terms of competition law is unlikely to mitigate the current and future competition problems in these markets. Another option is intervention. Legal intervention should be the core feature for data-driven markets.<sup>317</sup> It is a consequence that

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<sup>317</sup> Alain Strowel and Wouter Vergote, 'Responses to the Public Consultation on the regulatory environment for platforms, online intermediaries, data and cloud computing and the

technological developments and new business types challenge the law in the first place.<sup>318</sup> Thus, technology and new market dynamics are likely to continue to override current regulations.

Moreover, technology giants such as Google, Amazon, Facebook and Apple are experts at legal engineering, bringing efficiency claims as merger defences or minimising their tax burdens.<sup>319</sup> Apple's case relating to tax benefits in Ireland<sup>320</sup> and Google's attempt to avoid the application of laws outside the US<sup>321</sup> are relevant examples of their conduct.<sup>322</sup> For instance, in the case of territoriality of competition rules, Big Data, online markets and the global ecosystem of technology giants have made the current rules outdated.<sup>323</sup> What competition law cannot capture today will be the most significant problem for consumers in the future. Thus, developments in the online world necessarily affect the legal landscape and will trigger developments in the context of competition law.

In conclusion, the necessity of a modern approach in the EU is the main claim of this research. This examination has been carried out by scrutinising the effectiveness of competition law, reforms for EU competition law to apply new legal tests to markets in the context of Big Data and its effects are proposed. This conclusion seems inevitable in the wake of Big Data and e-commerce. Therefore, the EU needs necessary tools and legal tests to apply and enforce competition law in data-driven markets. Above all, it should not be forgotten that technology does not follow regulation, and regulatory actions should not stifle innovation. However, along with the development of technology and digital markets, the legal landscape also needs urgent change and development eventually, in the context of EU law.

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collaborative economy' (2016)

Available at: [http://ec.europa.eu/information\\_society/newsroom/image/document/2016-7/uclouvain\\_et\\_universit\\_saint\\_louis\\_14044.pdf](http://ec.europa.eu/information_society/newsroom/image/document/2016-7/uclouvain_et_universit_saint_louis_14044.pdf) accessed 29 May 2021, 9.

<sup>318</sup> Ibid.

<sup>319</sup> Ibid.

<sup>320</sup> Case No COMP/SA.38373 Commission Decision of 30.8.2016 on State Aid (2014/C) (ex 2014/NN) (ex 2014/CP) implemented by Ireland to Apple Brussels, 30.8.2016 C (2016) 5605 final.

<sup>321</sup> Case C-131/12 *Google Spain SL and Google Inc. v Agencia Española de Protección de Datos (AEPD) and Mario Costeja González* [2014] ECLI:EU:C:2014:317.

<sup>322</sup> Strowel and Vergote (n 317) 9.

<sup>323</sup> See Chapter 6.5.4 for more detail.

### 3 DATA-DRIVEN MARKET STRUCTURES AND MONOPOLISATION

#### 3.1 Introduction

The purpose of this chapter is to reveal the effects of data technology on commercial markets and to discuss the characteristics of data-driven markets, followed by a competition law analysis on rapid monopolisation in the online world. First, it is necessary to understand how the new economy shapes commercial activities and the role of innovation in data-driven markets. As is apparent, technology and economic transactions are interrelated with each other. Due to the rapid pace of development, innovation takes a vital role in the development and functioning of markets more than ever. As identified in the *Microsoft/Skype* investigation, the digitalisation of markets<sup>324</sup> has led to a significant research and development trend.<sup>325</sup> It is also acknowledged that innovation cycles are short in digitalised markets where innovator firms can easily enjoy a lead in these types of markets.<sup>326</sup> Thus, competition in a relevant market is characterised by the European Commission as; “the competition in digital markets is highly driven by innovation”.<sup>327</sup> Due to this reason, it has become necessary to touch on innovation and competition since it is relevant for the analysis.

The structures and functioning of innovation-driven dynamic markets have been highly debated lately. Thus, it is not a straightforward analysis to identify the problems regarding the application of competition law rules there. However, inherent characteristics of dynamic markets and innovation-competition analysis would also contribute to creating a consistent implication of Big Data effects on new economy markets. After an insight on innovation and competition policy, structures of data-driven markets must be then identified. Only after then, the effects of Big Data related anticompetitive conduct could be analysed further.

Analysis of data-driven markets would reveal the most important issue on data-driven markets. To be more specific, increasing concentration in data-driven markets and oligopolistic tendencies of online platforms are the first signs of a bigger problem, newly emerging digital monopolies. To put it another way, these

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<sup>324</sup> In this case, analogue communications (video or voice).

<sup>325</sup> Case No COMP/M.6281, *Microsoft/Skype C* [2011] 7239 Final, Commission Decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004, para 82.

<sup>326</sup> *Ibid*, para 83.

<sup>327</sup> *Ibid*, para 84.

data-opolies might hamper innovation and competition in the online world. Moreover, undertakings enjoying monopolistic powers through their data power tend to leverage their powers into adjacent markets and consequently establish a strong presence in these markets. Thus, debate on these concerns must be identified at first. It is also crucial to point out how digital monopolies (or data-opolies) differentiate from the traditional monopoly concept and its effects on markets as it is understood today.

Monopolisation of data-driven markets is also a result of data-driven acquisitions in the online world. Thus, the race to acquire data and 'record' takeover bids for small R&D businesses that do not have high capital stocks have aroused the competition authorities' interest in the EU. Smaller online platforms with little or no turnover are being purchased and swallowed by the technology giants. These smaller companies might hold great value over their data, which had been already collected and classified by the company's algorithms. Unfortunately, the potential significance of this data does not seem to be reflected in merger transactions. However, the significance of data must be adequately addressed. EU Commissioner Margrethe Vestager states that controlling relevant datasets could make it impossible to compete with the data controller technology giants.<sup>328</sup> Thus, data, or Big Data, might be essential in the operation of businesses in both the digital economy and the traditional economy since businesses can engage in more successful marketing and more profitable decisions thanks to data utilisation techniques.<sup>329</sup> Altogether, the analysis in this chapter forms the first pillar of Big Data and competition law challenges through identifying data's role on dominance and the creation of monopolies based upon data utilisation.

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<sup>328</sup> Dafydd Nelson, 'Microsoft, LinkedIn should heed Vestager's warning about 'unique' data' *MLex Market Insight* (9 September 2016) Available at: <https://mlexmarketinsight.com/insights-center/editors-picks/mergers/europe/microsoft-linkedin-should-heed-vestagers-warning-about-unique-data> accessed 29 May 2021.

<sup>329</sup> Marixenia Davilla, 'Is Big Data a Different Kind of Animal? The Treatment of Big Data under the EU Competition Rules' (2017) 8 *Journal of European Competition Law and Practice* 6, 371.

## 3.2 Competition on Innovation

### 3.2.1 “New Economy” Industries<sup>330</sup>

Technological developments affect the structure of markets and transactions in commercial life due to the creation of new industry sectors. Thus, a new economy appears along with the traditional economy of the 20<sup>th</sup> century. As the European economy develops, these “new economy” industries also gain importance in the Internal Market.<sup>331</sup> In his study dates back to 2000, Richard Posner defines a new economy in order to address technological advances and digitalisation.<sup>332</sup> He identifies three distinct industries which could be regarded as “new economy” sectors. According to the study, the new economy consists of the computer software industry, internet-based businesses and communications services designed to support the first two industries.<sup>333</sup> Later, Evans and Schmalensee defined new economy industries as the information technology industries.<sup>334</sup> The reason behind it is that most new economy industries are characterised by the transmission of information by networks with revolutionary inventions in the recent history.<sup>335</sup> Therefore, the most important expansions for the industries were the commercialisation of personal computers in the 1970s and the commercialisation of the internet in the 1990s.<sup>336</sup> Thus, the effects of Big Data and data analytics started to reach new economy markets in the wake of the 21<sup>st</sup> century, as mentioned in detail before. In total, all these developments have created the current state of the art in technology.<sup>337</sup> Thus, a new economy

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<sup>330</sup> Richard A. Posner, ‘Antitrust in the New Economy’ (2000) University of Chicago Law & Economics, Olin Working Paper No. 106, 2.

<sup>331</sup> Jorge Padilla, ‘The role of supply-side Substitution in the Definition of the Relevant Market in Merger Control’ (2001) European Commission, A Report for DG Enterprise A/4, Madrid, 65.

<sup>332</sup> Posner (n 330) 2.

<sup>333</sup> Ibid.

<sup>334</sup> David S. Evans and Richard Schmalensee, ‘Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries’ in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy, Volume 2* (1<sup>st</sup> edn, MIT Press, 2002), 5.

<sup>335</sup> Ibid.

<sup>336</sup> It is unarguable that the commercialisation of computers and internet led to further developments. To make it clear, these developments had three pillars before the 21<sup>st</sup> century. First, developments in computer industry caused a sharp decrease on the costs computer processing and on the costs of storage. After that, a decrease on the costs of transmission of information and data occurred as a sequence. Thirdly, introduction of hypertext technology and creation of hypertext navigation system, hypertext transfer protocol (http) and hypertext markup language (html) for the purposes of using internet effectively between personal computers made way easier to send, edit or view any type of document in the world of internet. Christian Ahlborn, David Evans and Atilano Jorge Padilla, ‘Competition Policy in the New Economy: is European Competition Law up to the Challenge?’ (2001) 22 *European Competition Law Review* 5, 156.

<sup>337</sup> In the last 25 years, many sectors have been created based upon abovementioned substantial inventions. Computer hardware industry (Computers, Tablets, Smartphones, Microprocessors et cetera.), computer software industry (Operating systems, Utilities,

will likely develop further in the future through the Internet of Things and with the aid of advanced Artificial Intelligence technologies.

Inevitably, competition concerns were raised regarding the internet-based industries, bringing demands for regulatory action.<sup>338</sup> The origin of these concerns arises from the market power of global web-based platforms.<sup>339</sup> For instance, Google dominates the search engine market in Europe with a %93 market share.<sup>340</sup> On the global scale, Google has a %76 market share, followed by its Chinese rival Baidu, with only having a %14 market share and Bing-Yahoo, with only having a six per cent market share globally.<sup>341</sup> In a similar vein, Facebook,<sup>342</sup> Microsoft,<sup>343</sup> and many other technology giants also dominate their markets in the European Union and globally. However, market shares should not be an absolute indicator for dominance, as Chapter 4 explains.<sup>344</sup> In addition to the computer-based industries, other traditional industries have also been rapidly digitalising and becoming a part of the new economy, especially after the new

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Applications, Mobile Applications, Games et cetera.), and especially web-based industries (Content providers, Portals, Search Engines, Social Networks, E-commerce, and Online Advertising et cetera.) were either born or revolutionised. David S. Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy, Volume 2* (1<sup>st</sup> edn, MIT Press, 2002), 5.

<sup>338</sup> David S. Evans, 'Antitrust Issues Raised by the Emerging Global Internet Economy' (2008) 102 *Northwestern University Law Review*, 286.

<sup>339</sup> *Ibid*, 286.

<sup>340</sup> Search Engine Market Shares Europe, Available at: <https://gs.statcounter.com/search-engine-market-share/all/europe#monthly-201712-201812-bar> accessed 1 September 2021.

<sup>341</sup> Search Engine Market Shares Worldwide, Available at: <https://www.webfx.com/blog/seo/2019-search-market-share/> accessed 1 September 2021.

<sup>342</sup> Social Media Market Shares Europe, Available at: <http://gs.statcounter.com/social-media-stats/all/europe> accessed 1 September 2021.

<sup>343</sup> Desktop Operating Systems Market Shares Europe, Available at: <http://gs.statcounter.com/os-market-share/desktop/europe> accessed 1 September 2021.

<sup>344</sup> See more detail in Chapter 4.4.2.

millennia.<sup>345</sup> Data has become a critical input for businesses in most industries and has created a data-based value chain.<sup>346</sup>

In brief words, most businesses organise their operations by decentralising and outsourcing their work to move them to the digital world in the new economy.<sup>347</sup> They also take advantage of new technologies by transferring their businesses to the online world.<sup>348</sup> This situation significantly improves the efficiency of businesses by reducing various costs, intermediaries and marketing costs compared to the old-traditional economy industries.<sup>349</sup> As an inherent result, other traditional businesses are also forced to restructure and move their operations to the digital world.<sup>350</sup> In their study, Michael Cusumano and David Yoffie express that the new technology demands that undertakings need to identify opportunities immediately and act quickly to take advantage of them.<sup>351</sup>

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<sup>345</sup> To give an example, banking sector experiences a full-scale change in recent years. Most banks are moving away from traditional services in favour of online banking. This inevitably results in the closure of local branches throughout Europe. According to the European Banking Federation, number of bank branches (Branches of EEA and non-EEA based credit institutions) in the European Union has dropped by %21 in the last decade, which means about 50.000 branch closures. In the same vein, over 38 million people used online banking in the UK over the previous years. Accordingly, there were %26 less visits to local branches in 2017 compared to 2002. There were over 3.000 branch closures of HSBC, Barclays, Lloyds Bank, NatWest, Santander, and other major banks in the UK since 2015. However, digitalisation of banking industry has been just started and it is expected to be prone to great changes in the sector due to further Artificial Intelligence and Blockchain advances. In addition to banking sector, examples can be extended into the travel, food, telecommunication, production, logistic, marketing, retailing and many other traditional sectors which have all been experiencing dramatic changes over the last couple of decades. Structure and Economic Contribution of the Banking Sector, Facts and Figures Banking in Europe 2019, Available at: <https://www.ebf.eu/facts-and-figures/structure-and-economic-contribution-of-the-banking-sector/> accessed 1 September 2021.; Josh Robbins, 'Exclusive: Close to 3000 Bank Branches Close in just Four Years' *Which* (20 September 2018), Available at: <https://www.which.co.uk/news/2018/09/exclusive-up-to-3000-bank-branches-close-in-just-four-years/> accessed 1 September 2021; The Way We Bank Now 2018, UK Finance Publications (May 2018), 6, Available at: <https://www.ukfinance.org.uk/policy-and-guidance/reports-publications/way-we-bank-now-2018> accessed 1 September 2021; Sustainable Financial Services in the Digital Age, UK Finance Publications (May 2018), Available at: <https://www.ukfinance.org.uk/policy-and-guidance/reports-publications/sustainable-financial-services-digital-age> accessed 1 September 2021.

<sup>346</sup> Justus Haucap, 'Competition and Competition Policy in a Data-Driven Economy' (2019) 54 *Intereconomics* 201-208, 201.

<sup>347</sup> Christian Ahlborn, David Evans and Atilano Jorge Padilla, 'Competition Policy in the New Economy: is European Competition Law up to the Challenge?' (2001) 22 *European Competition Law Review* 5, 157.

<sup>348</sup> *Ibid.*

<sup>349</sup> *Ibid.*

<sup>350</sup> *Ibid.*

<sup>351</sup> Michael Cusumano and David Yoffie, *Competing on Internet Time: Lessons from Netscape and its Battle with Microsoft* (1<sup>st</sup> edn, Touchstone New York, 2000), 6.



They also add that, due to that reason, undertakings need to become flexible in operations, strategy and structure in order to compete on the internet.<sup>352</sup>

### 3.2.2 Competition for the Market

Discussion leads to the question; what makes the new economy industries regarded as new? What is meant by the new economy and the traditional-old economy is that the industries have different defining features from each other. On the one hand, traditional economy industries are defined mainly by the price or output competition occurring in these markets.<sup>353</sup> Richard A. Posner exemplifies traditional economies by listing various manufacturing industries of physical goods like automobiles, aluminium, steel, or even cigarettes where heavy capital investments are actually needed.<sup>354</sup> Manufacturing industries are relatively stable since there are slower rates of innovation; thus, few and infrequent entry and exit is generally observed in the traditional economy markets. According to Posner, economies of scale are limited at the firm and the plant level due to these industries' multi-firm and multi-plant production.<sup>355</sup> To put it another way, average total costs in the traditional industries rise at relatively marginal output levels, making these markets more stable.<sup>356</sup>

On the other hand, although still important in the new economy industries, price is not the main parameter to assess the competition. As identified in the *Microsoft/Skype* merger, consumers pay more attention to other features since most products and services are free of charge.<sup>357</sup> Therefore, parameters like quality or innovation (which seems to be the predominant parameter) are significant indicators for competition compared to price. Along the same line, the Commission also indicates in the *Facebook/WhatsApp* merger investigation that the new economy sectors are fast-growing, characterised by frequent market entry and fast innovation cycles.<sup>358</sup> In furtherance, Posner explains new economy industries by very high rates of innovation, fast entry and exit to markets, relatively

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<sup>352</sup> Ibid.

<sup>353</sup> David S. Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy, Volume 2* (1<sup>st</sup> edn, MIT Press, 2002), 2.

<sup>354</sup> Richard A. Posner, 'Antitrust in the New Economy' (2000) University of Chicago Law & Economics, Olin Working Paper No. 106, 2.

<sup>355</sup> Ibid.

<sup>356</sup> Ibid.

<sup>357</sup> Case No COMP/M.6281, *Microsoft/Skype C* [2011] 7239 Final, Commission Decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004, para 81.

<sup>358</sup> Ibid, para 99.

smaller capital investments compared to traditional economies, and falling average costs over a broad range of output.<sup>359</sup> However, fast and frequent entry to markets seems to be an obsolete implication today due to the Big Data effects mentioned below. Another defining characteristic in these industries is the economies of scale in consumption, generally referred to as network externalities -both positive and negative.<sup>360</sup> Compared to physical goods of traditional economies, the main output in the new economy industries is actually a virtual computer code,<sup>361</sup> like intellectual property, service, or data.

In order to underline the dynamic character of the new economy markets, David Evans and Richard Schmalensee argue that the defining characteristics of the new economy industries are the rapid innovation and the race to create intellectual property to stay in the competitive arena.<sup>362</sup> According to them, this race inevitably results in a disruptive technological change.<sup>363</sup> In the new economy industries, market entries generally occur when an undertaking involves in a R&D process and produces a product that eventually triggers technological change. However, in the traditional economy, market entry only occurs when an undertaking enters a similar product with a competitive price. The situation created by the fast innovation race in the new economy industries ends with competition *for* the market itself. Divergently from traditional economies where competition takes place *in* the market, on price or other price-centric grounds, competition through innovation takes place *for* the market. As a result, a new entrant in a traditional market leads to more competitive prices in that market.

However, entrants that are the carriers of superior technology to new economy markets highly possibly enjoy dominance to some extent until rivals innovate in order to dethrone dominant undertakings from their positions. In traditional economies, entry to a given market is impossible due to high entry barriers. Barriers occur on the level of entry price and marginal costs in these markets where monopolistic structures are induced. Thus, entry to the market would not be possible when the incumbent or dominant undertakings can price-cut to the level where new entrants cannot compete at all. The situation in the

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<sup>359</sup> Posner (n 354) 2.

<sup>360</sup> Ibid.

<sup>361</sup> Ibid.

<sup>362</sup> Evans and Schmalensee (n 353) 3.

<sup>363</sup> Ibid.

new economy industries seems disparate. Entry and exit to markets occur on the level of innovation and current technology. Entry to the market can be possible only when an innovation replaces the product market itself.<sup>364</sup>

Also, there is a considerable difference on consumers' side between traditional and new economies. In traditional economies, consumer harm is visible when there are limited choices, lower quality products or even high prices like in monopoly situations. The crucial point here to discuss is the pricing strategies of incumbent undertakings. Static and traditional competition assessment mainly investigates these strategies of incumbent undertakings in favour of consumers. However, the classical assessment does not seem to fit the new economies well.<sup>365</sup> In dynamic industries where innovation constantly occurs, consumers enjoy newer and better quality through technological development. Thus, price starts to lose its effect on the assessment part in competition law and policy. To note, not only industrially but technology and innovation also make daily life considerably easy and open up never-before-seen social activities to humankind. Thus, in the absence of further developments, consumers stuck with the old technology, which lacks to enhance consumers' lives and welfare.

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<sup>364</sup> To exemplify, mobile phone industry had experienced a dramatic change over the last decade. Just in 2008, Nokia had 51-billion-euro worth net sales and had a market share of 38.6% with over 450 million sales, followed by Motorola and Samsung. These were all feature (non-smart) phones and Apple iPhone 3G and Samsung Galaxy II were just released at that time. Total amount of feature phones sold was over 1 billion in 2008, with only 139 million smartphones sold. Although demand for feature phones were not dropped, innovation in mobile phone industry created a market for itself. In a few years, number of smartphones sold drastically increased. In 2020, over 1.5 trillion smartphones are expected to be for sale worldwide, with only over 500 billion feature phone shipments. Numbers clearly show that total amount of feature phones sold increased over a couple 1000% in the last decade, which also indicates that market for feature phones is still growing drastically. However, a new market for smartphones is formed and it grows incredibly. Today Samsung and Apple hold a market share of 31% and 22% globally in mobile vendor market and all of their sales are actually smartphones. This is the effect of innovation on the mobile vendor market. It is clear that Apple or Samsung would not have been created a new market or cannot enjoy huge market shares like Nokia if R&D and innovation did not take place in that market over the last decade and did not leave old technologies obsolete. Nokia's Net Sales 1999 to 2019, Available at: <https://www.statista.com/statistics/267819/nokias-net-sales-since-1999/> accessed 1 September 2021; Forecast: Global Feature Phone and Smartphone Shipments 2008 to 2020, Available at: <https://www.statista.com/statistics/225321/global-feature-phone-and-smartphone-shipment-forecast/> accessed 1 September 2021; Global Smartphone Sales to End Users 2007 to 2020, Available at: <https://www.statista.com/statistics/263437/global-smartphone-sales-to-end-users-since-2007/> accessed 1 September 2021; Mobile Vendor Market Share Worldwide March 2019 to March 2020, Available at: <https://gs.statcounter.com/vendor-market-share/mobile> accessed 1 September 2021.

<sup>365</sup> For detailed analysis, Chapter 5: Assessment of Data-related Market Power.

	<i>Traditional Economy</i>	<i>New Economy</i>
<i>Market Entry by...</i>	<i>A new undertaking</i>	<i>An innovation</i>
<i>Entry leads to...</i>	<i>Competitive prices</i>	<i>Period of dominance by the carrier of the technology</i>
<i>Entry possible...</i>	<i>not If the price is too high</i>	<i>If the same technology stays too long in the market. This new technology creates a market for itself</i>
<i>Harm to consumers...</i>	<i>When the price is too high</i>	<i>When no further innovation takes place</i>

Table 1: Traditional versus New Economy<sup>366</sup>

### 3.2.3 Innovation Shapes Competition

In order to underline the importance of innovation in the new economy, the structural characteristics of these markets should be mentioned in detail. Competition *for* the market is described as a “perennial gale of creative destruction” by Joseph Schumpeter.<sup>367</sup> Schumpeter explains capitalism as an economic process.<sup>368</sup> In this system, constant economic change is a must in order to maintain the capitalist system.<sup>369</sup> Thus, new production methods, new markets, new products or new forms of industries are likely to occur in the capitalist engine. However, it should not be seen as an indicator of population growth or capital growth. This revolutionary character flows from the systems nature.<sup>370</sup> Therefore, Schumpeter stresses that new economic structures in the motion of the system will likely disrupt the previous one.<sup>371</sup> In other words, old markets and industries

<sup>366</sup> Jorge Padilla, ‘The role of supply-side Substitution in the Definition of the Relevant Market in Merger Control’ (2001) European Commission, A Report for DG Enterprise A/4, Madrid, 83.

<sup>367</sup> Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* (9<sup>th</sup> impression, Ruskin House London, 1961), 81.

<sup>368</sup> *Ibid*, 82.

<sup>369</sup> *Ibid*, 82.

<sup>370</sup> *Ibid*, 83.

<sup>371</sup> *Ibid*, 83.

are constantly destroyed by new markets and industries. This economic process is called creative destruction, and according to Schumpeter, it is an essential feature of capitalism.<sup>372</sup> Also, Schumpeter has ideas that monopolies can benefit competition, and monopolistic practices have advantages on welfare compared to competitive markets where potential funding on R&D investments are low, or incentives and settings to innovate are less.<sup>373</sup>

Creative destruction occurs on the grounds of competition on innovation today. In dynamic industries, leading firms enjoy significant profits since they get most of the shares in respective markets.<sup>374</sup> Moreover, strong network, lock-in effects, and even switching costs in high-technology industries prevent rivals from competing in a specific market. To be more precise, competitors do not attempt to fight for the market where the leading firm enjoy huge profits. Instead, they enter into a race of innovation that is leapfrogging the current leader and attempting to create a new market where the competition will likely occur.<sup>375</sup> In other words, competitors enter into a race of innovation to create products that eventually establish new markets. Padilla acknowledges that the recent history of new economy industries demonstrates this race clearly.<sup>376</sup>

Kenneth Arrow, another influential economist, developed a divergent understanding of innovation and competition policy. On the contrary to Schumpeter's ideas, Arrow argued through an analysis that competition actually promotes innovation, not monopoly.<sup>377</sup> He emphasises that "... incentive to invent is less under monopolistic than under competitive conditions, but even in the latter case, it will be less than is socially desirable."<sup>378</sup> In other words, Arrow emphasises the logic behind why a monopolist would have less incentive to innovate rather than in an ideal competitive market. Even if a monopolist invests in improving its product or creating a new product, the undertaking should not expect to gain revenues much since it already has most of the profits in that

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<sup>372</sup> Ibid, 83.

<sup>373</sup> Ibid, 101.

<sup>374</sup> Padilla (n 366) 82.

<sup>375</sup> Ibid, 83.

<sup>376</sup> Ibid, 83.

<sup>377</sup> Kenneth Arrow, 'Economic Welfare and the Allocation of Resources for Invention' in Universities-National Bureau Committee for Economic Research, Committee on Economic Growth of the Social Science Research Council (eds) *The Rate and Direction of Inventive Activity: Economic and Social Factors*, (1<sup>st</sup> edn, Princeton University Press, 1962), 609-626, 619.

<sup>378</sup> Ibid, 619.

market even if it does not innovate. As a consequence, monopolists are likely to have less incentives and budgets on the innovation side of their businesses. Arrow's analysis establishes that incentives to innovate would be more in most cases in a competitive scene rather than in a monopoly scene.<sup>379</sup>

This limitation on the 'incentive to innovate' is regarded as the "Arrow effect" or "replacement effect" in the literature.<sup>380</sup> Jonathan Baker explains the phrase of replacement effect. He argues that a monopolist would likely replace itself rather than developing its current business and product.<sup>381</sup> In furtherance, high-technology monopolists indicate that they have little incentive to innovate.<sup>382</sup> Former CEO of Apple, Steve Jobs, expressed that a monopolist would not innovate a better product if no competitors took the business away from the monopolist.<sup>383</sup> In the same line, former CEO of Intel, Andrew Grove, underlines the importance of innovation in the dynamic competition that undertakings need to innovate in the competitive scene while competitors are developing better products.<sup>384</sup> Additionally, he expresses that, in the new economy, only paranoid businesses could survive.<sup>385</sup> Baker argues that when a new product displaces the old one (it would be a drastic innovation in this sense), this replacement effect seems to be at its strongest to the extent that the undertaking does not fear that another competitor would produce a newer product soon.<sup>386</sup>

In all reason, ideas on innovation and competition policy exceed these abovementioned ideas. Contrary to Schumpeter and Arrow, Philippe Aghion et al. argue that the relationship between competition and innovation is not linear. They eventually formulate the relationship between incentives to innovate and competition with an inverted-U model.<sup>387</sup> According to the formula, there is a peak

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<sup>379</sup> Ibid, 621-622.

<sup>380</sup> Jonathan B. Baker, 'Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation' (2007) 74 *Antitrust Law Journal*, 579; Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 71; Jean Tirole, *The Theory of Industrial Organisation* (1<sup>st</sup> edn, MIT Press, 1988), 392.

<sup>381</sup> Baker (n 380) 579.

<sup>382</sup> Richard Gilbert, 'Looking for Mr. Schumpeter: Where Are We in the Competition-Innovation Debate?' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy, Volume 6* (1<sup>st</sup> edn, MIT Press, 2006), 179.

<sup>383</sup> Ibid.

<sup>384</sup> Ibid.

<sup>385</sup> Andrew S. Grove, *Only the Paranoid Survive: How to Exploit the Crisis Points That Challenge Every Company and Career* (1<sup>st</sup> edn, New York: Currency/Doubleday, 1996).

<sup>386</sup> Baker (n 368) 579.

<sup>387</sup> Philippe Aghion, Nick Bloom, Richard Blundell, Rachel Griffith, and Peter Howitt, 'Competition and Innovation: An Inverted Relationship' (2005) 120 *The Quarterly Journal of Economics*, No. 2, 701-728, 714.

point where innovation leads to competition. Until this point, innovation favours competition and increases in innovation generate a competitive market. However, after the optimal reach, an increase in innovation starts to affect competition negatively.<sup>388</sup> Also, based upon this non-linear formulation, Aghion et al. discuss that the “escape competition” motivates undertakings that are incumbents in a given market to innovate and to invest in the new technology.<sup>389</sup> They discuss the progress under the name dynamic “step-by-step process”, which demonstrates competition and innovation relationship.<sup>390</sup> The step-by-step process explains how competition takes place in a market. According to Aghion, industries are mainly characterised by duopolies, not monopolies.<sup>391</sup> Thus, in a duopoly, an undertaking needs to innovate to catch up with the incumbent firm, which simultaneously invests in R&D. As a result, both undertakings would face neck and neck competition in the market.<sup>392</sup> Neck and neck competition inherently favours competition and creates a healthy functioning market. Only then, a need emerges to take the next initial step and escape from the product market competition by innovation, explained below.

With the aid of contributing ideas from Schumpeter, Arrow and Aghion, Jonathan Baker further formulates ideas on innovation and competition relationship in four steps as the extended literature. According to the list, competition through innovation actually promotes the innovation itself in the first place.<sup>393</sup> This can be seen in Baker’s example: the patent race. Undertakings try to innovate faster than their rivals to obtain patents which construe a race for the innovation itself.<sup>394</sup> Second, innovation is a way to bypass competition in a market.<sup>395</sup> By analysing Aghion’s non-linear formula, Baker argues that undertakings would engage in innovation to not compete with rivals by lowering costs or improving the quality of an existing product. This is called “escape

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<sup>388</sup> Ibid, 720.

<sup>389</sup> Philippe Aghion, Christopher Harris, Peter Howitt and John Vickers, ‘Competition, Imitation and Growth with Step-by-Step Innovation (2001) 68 *The Review of Economic Studies*, No. 3, 467-492, 468.

<sup>390</sup> Ibid, 469.

<sup>391</sup> Ibid, 469.

<sup>392</sup> Ibid, 469.

<sup>393</sup> Baker (n 380) 580.

<sup>394</sup> Ibid.

<sup>395</sup> Ibid.

competition”, and it demonstrates another important incentive to innovate in highly competitive markets.<sup>396</sup>

The third point is the undertakings’ desire to engage in huge R&D investments and innovation if they are going to face harsher competition after their investments.<sup>397</sup> This likely occurs in a new market where competitors have already innovated for newer and better products. In this scenario, undertakings cannot escape from the competition through innovation, and it is believed that undertakings would likely have less incentives to innovate.<sup>398</sup> Baker further explains this formulation as the other side of the second principle. According to him, an undertaking would not invest in innovation in a market. They would not throw the company into a pool of sharks if they anticipate lesser profits from R&D investments at the end.<sup>399</sup> However, Baker then argues that this situation is actually a feature in the high-technology markets.<sup>400</sup> Thus, even if the profits of the undertakings are relatively low, there are social benefits like broadening of intellectual property or rising living standards which cannot be disregarded at all; thus, incentives to innovate for undertakings can be strong even in these situations.<sup>401</sup>

Lastly, Baker emphasises the fourth principle as the pre-emption incentive.<sup>402</sup> This incentive to innovate does not only include the objected profits from innovating newer and better-quality products in a given market but also includes the extra incentives to discourage potential competitors from investing in R&D, as mentioned from another perspective in the third principle.<sup>403</sup> In this manner, monopolists or dominant undertakings try to innovate in order to pre-empt their potential rivals from a market and escape from the product market competition. Through an extensive research and development phase, the leading firms are likely to create products that would eventually discourage rivals from competing in that market. In this scenario, potential rivals or entrants would not be investing and enter into a race with the leading firms. In addition, these undertakings might use their new products for exclusionary conduct to push rivals

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<sup>396</sup> Aghion et. al (n 389) 468.

<sup>397</sup> Baker (n 380) 580.

<sup>398</sup> Ibid, 581.

<sup>399</sup> Ibid, 581.

<sup>400</sup> Ibid, 581.

<sup>401</sup> Ibid, 581.

<sup>402</sup> Ibid, 582.

<sup>403</sup> Ibid, 582.



away by setting entry barriers in the market.<sup>404</sup> As a result, it would be much harder for entrants to invest in R&D or even compete in that market.

Although some abovementioned theories are about probable efficiencies in monopolistic markets, as in Schumpeter's example, or about potential anti-competitive conduct as in Baker's formulation, the role of innovation as a part of market competition is incontrovertible. Through an analysis, Richard Gilbert emphasises that it is highly unlikely to generalise and reach a streamlined conclusion about incentives to innovate in entirely different market structures.<sup>405</sup> However, he concludes that the incentives to innovate generally rise through the expected profits of an undertaking obtained through R&D investments.<sup>406</sup> Additionally, incentives to innovate of an undertaking decreases through the expected diminished profits after a possible investment –in this case, profits can also be obtained through not investing that money into R&D.<sup>407</sup> In the same line, in the case of monopolistic markets, incentives to innovate expected to be relatively low since the monopolists would not transfer profits into R&D if they are protected from competition in a product market where the monopolist maintains exclusive rights, or in the absence of rivals.<sup>408</sup> Gilbert then adds that even in the absence of a general innovation and competition theory, recent empirical and theoretical theories create a framework for a conclusion.<sup>409</sup> Through a more sophisticated use of data, cross-industry market structure studies and a better measure of competition helps to prove sharper insights for understanding the relationship between innovation and competition.<sup>410</sup>

In line with the idea of promoting innovation, another important view on innovation and its impact on competition policy can be found in the views of the European Commission. In its communication "*Europe 2020, a strategy for smart, sustainable and inclusive growth*" paper, the Commission underlines three crucial aims as the main priorities for the EU economy for the near future.<sup>411</sup> These are called smart growth, sustainable growth and inclusive growth objectives, mutually

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<sup>404</sup> Ibid, 583.

<sup>405</sup> Gilbert (n 382) 205.

<sup>406</sup> Ibid.

<sup>407</sup> Ibid.

<sup>408</sup> Ibid.

<sup>409</sup> Ibid, 206.

<sup>410</sup> Ibid, 206.

<sup>411</sup> European Commission, Communication from the Commission, Europe 2020, A European strategy for smart, sustainable and inclusive growth, COM(2010)2020, 3.

reinforcing each other. Smart growth aims to develop an economy based on innovation and knowledge together with sustainable growth -to promote a greener and a more competitive economy- and also with inclusive growth -to foster the economy through higher employment rates in the EU-.<sup>412</sup> In order to achieve the smart growth objective, the Commission find it necessary to identify the EU's structural weaknesses. According to the study, the economic growth rate in Europe is slow due to the productivity gaps, lower levels of R&D investments, lesser innovation, meagre use of data technology and unwillingness to promote innovation in some societies in Europe and also existing entry barriers to various markets.<sup>413</sup> Thus, to boost economic growth and improve competitiveness, a better R&D capacity and innovation through sectors of the economy must be created.<sup>414</sup> The Commission sees innovation as a flagship initiative and frames a roadmap for the EU.<sup>415</sup> Thus, the Commission concludes that; "to gear the single market to serve the Europe 2020 goals requires well-functioning and well-connected markets where competition and consumer access stimulate growth and *innovation*."<sup>416</sup>

To sum up, in terms of new economy markets, it has now become clear that innovation is a major step in product/process competition and an important process in developing higher quality products and new markets. The reason behind it is the inclusion of innovative technologies, which generates dynamic competition in the new economy markets. Thus, innovation can be viewed as the main feature of dynamically competitive markets where competitors constantly innovate to achieve higher standards in their products. Before the emergence of dynamic industries, innovation remained unrelated to competition in markets to some extent. However, many markets experience fierce competition on the level of innovation today. This heavy role of innovation will be one of the main pillars of assessing competition in data-driven markets through this research. Therefore, competition law and enforcement need to address the incentives to innovate carefully on a case-by-case basis together with its impact on R&D mergers and anti-competitive conduct today. In conclusion, it can be assumed that innovation

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<sup>412</sup> Ibid, 3.

<sup>413</sup> Ibid, 5.

<sup>414</sup> Ibid, 9.

<sup>415</sup> Ibid, 10-11.

<sup>416</sup> Ibid, 19 (emphasis added).

must be a central part of the competition assessment like prices, output, or quality.

### 3.3 Data-Driven Markets

As mentioned above, the industrialisation and commercialisation of personal computers and the internet have led to the creation of online ecosystems for business and daily life. All forms of data are collected and easily stored for various economic and social transactions online and offline through these decades.<sup>417</sup> Data collection increased the amount of available data for governments and private businesses.<sup>418</sup> Due to the introduction of Big Data and Data Analytics in the last couple of decades, commercial markets are under the influence of Big Data more than ever today. There are two main types of commercial markets in the new economy. The first type is the digitalised markets which were at one time traditional. Most already-known commercial activities can be included in this category. The utility of Big Data in online and offline activities opens the way to the transformation of economic and social activities. Even the most fundamental transactions are done online today. For instance, banking<sup>419</sup> and grocery shopping are moved to the online world lately. In these activities, data is effectively used, kept, and analysed for future transactions aimed for various efficiencies on all sides of these markets.

The second type of data-driven market is much newer to the commercial and social life: online platforms or intermediaries. In the memorandum of a regulation proposal regarding fairness and transparency for online businesses, the European Commission stated that:

“Online platforms are key enablers of digital trade. ... More than a million EU enterprises trade through online platforms in order to reach their customers, and it is estimated that around 60% of private consumption ... of goods and services related to the total digital economy are transacted via online intermediaries. ....<sup>420</sup>

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<sup>417</sup> Jens Prüfer and Christoph Schottmüller, 'Competing with Big Data' (2017) Tilburg Law School Research Paper No. 06/2017, TILEC Discussion Paper No. 2017-006, CentER Discussion Paper 2017-007, 1.

<sup>418</sup> Ibid.

<sup>419</sup> As mentioned above.

<sup>420</sup> European Commission, Proposal for a regulation of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation

Most of these markets have just emerged through recent technological developments. They mainly profit from offering free products or services on one side of the market and bring different buyer and seller groups together. Thus, they tend to attract consumers and generate huge advantages through data collection and network effects.<sup>421</sup> For instance, Google, Amazon and many others act as online intermediaries. The main revenue of these undertakings is online advertising. Search engines, social media, online video sharing, games and messaging markets offer free services to end-users and get an advantage from the other side of the market, which is the online advertisement side aiming to attract more consumers. Many players in these markets try to catch consumers' attention; thus, they frequently add new features to their products or services.<sup>422</sup> These two types of markets, digitalised and newly emerged markets, are further explained below.

### **3.3.1 Digitalised Traditional Markets**

A digitalised market is a market where products or services are moved onto web-based operations. The online environment gave rise to transaction platforms in the wake of the 21<sup>st</sup> century, when Amazon and eBay launched their first online services.<sup>423</sup> Transaction platforms act both as an online intermediary that connects individual buyers and sellers and as a seller in that market. For instance, eBay provides a safe ecosystem through PayPal technology, where many buyers and sellers trade safely.<sup>424</sup> This ecosystem reduces the costs of reaching buyers from the businesses' side and sellers from the consumers' side. Eventually, the online intermediary gains revenues through transaction fees and targeted advertisements. Some platforms like Amazon have started their own businesses where they sell merchandise directly from their warehouses. Amazon provides merchandise under its own trading name and acts as a retailer in addition to numerous small retailers in amazon.com,<sup>425</sup> where Amazon provides a platform

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services, COM(2018)238 Final 2018/0112(COD), Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0238>.

<sup>421</sup> David S. Evans, 'Attention Rivalry Among Online Platforms' (2013) 9 *Journal of Competition Law and Economics* 2, 313.

<sup>422</sup> *Ibid.*

<sup>423</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 28.

<sup>424</sup> David S. Evans, 'Antitrust Issues Raised by the Emerging Global Internet Economy' (2008) 102 *Northwestern University Law Review*, 291.

<sup>425</sup> amazon.co.uk/amazon.de/amazon.it/amazon.ru/amazon.cn and many others.

to gather sellers and buyers altogether.<sup>426</sup> Today, most smaller online retailers depend on transaction platforms such as Alibaba, eBay or Amazon to gain revenue and sales.<sup>427</sup>

Additionally, transaction platforms can be found in many other web-based platforms. Global web-based platforms like Google and Facebook also act as transaction platforms as part of their businesses. These global giants provide web-based services to other businesses by making their software services available for them.<sup>428</sup> For example, various games and music services of third-party businesses are available via Facebook for social media users.<sup>429</sup> Various popular applications are accessible through Facebook, and they raise the value of Facebook as a whole by attracting more consumers.<sup>430</sup> To give another example, Google provides its mapping service not only for its users but also for third-party application creators and other web-based businesses.<sup>431</sup> By this means, Google allows developers to write applications based on their map service, making Google popular and increasing its value overall. Even Apple has been using the Google Map services for iOS by default until recently.<sup>432</sup> These are the examples of multi-sided platforms where many intermediary or retailer businesses enjoy revenues through transaction costs, online advertisement fees and software licensing agreements based on the digitalised economy. Smaller businesses-retailers in the online world now rely on these transaction platforms to reach the target audience.<sup>433</sup> By the traffic created by retailers and consumers, the value of the transaction platforms rises, attracting even more consumers creating strong feedback loops.

### **3.3.2 Newly Emerged Markets through Big Data**

Like digitalised markets, newly emerged markets also act as online transaction platforms, intermediary market participants. That being said, their business model is mainly based on online advertising-supported models. The search engine and social media(network) markets are the most recognised markets where this model is put into practice effectively. Both markets

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<sup>426</sup> Evans (n 424) 291.

<sup>427</sup> *Ibid.*, 292.

<sup>428</sup> *Ibid.*

<sup>429</sup> *Ibid.*

<sup>430</sup> *Ibid.*

<sup>431</sup> *Ibid.*

<sup>432</sup> Default between 2007-2012, until Apple released its own mapping software and service.

<sup>433</sup> Evans (n 424) 292.

substantially need advertisements for their functioning.<sup>434</sup> The common characteristic of both digitalised and newly emerged markets is the business model of utilising the Big Data technique, which enables platforms to function on more than one side of a market. Most data-driven markets have a multi-sided characteristic thereof.

The search engine market, for instance, is an online platform where users can conduct searches through the internet to access needed information, services or products. The business model of search engines is basically to connect users, content providers and advertisers who are all looking for each other on that platform.<sup>435</sup> Accordingly, Google expresses its objective as; “Our mission is to organise the world’s information and make it universally accessible and useful” in its web page.<sup>436</sup> When Google first started its operations as a search engine, it was not collecting or storing users’ data.<sup>437</sup> It took a few years for Google, until around 2001, to utilise consumer data for further searches and transactions.<sup>438</sup> While competitors like AltaVista, AOL or Yahoo were trying to catalogue search results for consumers where actual staff members were working, Google started using algorithms to create organic search results.<sup>439</sup> Google’s method, called “learning-by-doing” or “trial-and-error”, was the key to their success.<sup>440</sup> Through algorithms, the most relevant results are generated and shown to users in the Google search engine.<sup>441</sup>

In this method, according to users’ search terms, algorithms determine probable results that the user would likely be searching for by mathematical calculations.<sup>442</sup> Results are ranked based on the algorithm due to previous and similar searchers.<sup>443</sup> The search engine makes a judgment on each result to

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<sup>434</sup> Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 21.

<sup>435</sup> Ioannis Lianos and Evgeniya Motchenkova, ‘Market Dominance and Search Quality in the Search Engine Market (2012) 9 Journal of Competition Law and Economics 2, 419-455, 421.

<sup>436</sup> Available at: <https://about.google/>

<sup>437</sup> Around 1998.

<sup>438</sup> Jens Prüfer and Christoph Schottmüller, ‘Competing with Big Data’ (2017) Tilburg Law School Research Paper No. 06/2017, TILEC Discussion Paper No. 2017-006, CentER Discussion Paper 2017-007, 27.

<sup>439</sup> Ibid.

<sup>440</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 173.

<sup>441</sup> Ibid.

<sup>442</sup> Testimony of Eric Schmidt, Executive Chairman, Google Inc. Before the Senate Committee on the Judiciary Subcommittee on Antitrust, Competition Policy, and Consumer Rights, 112<sup>th</sup> congress (21 September 2011), p 2.

<sup>443</sup> Ibid.

generate what the user might have been seeking by typing the search terms.<sup>444</sup> More people using search engines means more data to utilise and more trials for the trial-and-error method.<sup>445</sup> Thus, the Google Search Engine would likely “learn-by-doing” while storing more data with every search done by mapping users' personal preferences.<sup>446</sup> This would result in better search results, eventually attracting even more users to engage with the search engine. When Google becomes increasingly popular in years due to accurate and relevant results, more room has opened for more tests on Googles' side.<sup>447</sup> Eventually, the popularity of Google has increased even more.<sup>448</sup> It is important to note that this method requires a robust infrastructure to collect, store, and analyse data to subtract value from it that many of the rivals of Google are not capable of doing.

Due to its success in utilising Big Data for its search engine service, Google has surpassed its competitors in the search engine market and has become a leading tech company in just a couple of decades. Today, Google receives 63,000 searches per second on average.<sup>449</sup> The success of Google in the learning-by-doing method entrenched the dominance of Google.<sup>450</sup> In recent years, Google has widened its business to many sectors. Connecting markets is one of the key accomplishments that Google have managed to do. Through acquisitions and investments, Google channelled its Big Data accumulation to various web-based and traditional sectors.<sup>451</sup> Starting only as a web-based search engine provider, Google focuses on other sectors like autonomous car manufacturing, video sharing-cinema-music sectors, map and navigation sector and many others.<sup>452</sup> As a giant in the search engine and online advertisement markets, it is only a matter of time when Google becomes a giant in another sector. Due to this reason, Google's success is much more related to its ability to

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<sup>444</sup> Ibid.

<sup>445</sup> Stucke and Grunes (n 440) 175.

<sup>446</sup> Ibid.

<sup>447</sup> Pamela Jones Harbour and Tara Isa Koslov, 'Section 2 in a Web 2.0: An expanded Vision of Relevant Product Markers' (2010), 76 *Antitrust Law Journal*, 777.

<sup>448</sup> Stucke and Grunes (n 440) 178.

<sup>449</sup> 63 Fascination Google Search Statistics, *Seotribunal.com* (26 September 2018), Available at: <https://seotribunal.com/blog/google-stats-and-facts/> accessed 1 September 2021.

<sup>450</sup> Stucke and Grunes (n 440) 183.

<sup>451</sup> Prüfer and Schottmüller (n 438) 30.

<sup>452</sup> Ibid.

connect markets today. Google has seven products or services with more than 1 billion users in total.<sup>453</sup>

The social network market is another example of a newly emerged market. Although they first emerged in the 1990s, the first successful social networks were Friendster and Myspace in the early 2000s.<sup>454</sup> Facebook has initially followed them and attained immense success in later years. Following the closure of Google+ in April 2019, there are three primary social networking services, Facebook, Instagram (which is owned by Facebook) and Twitter. Also, various social networks aim to attract specific consumers, like LinkedIn, ResearchGate or Tinder, but their scope is much limited compared to what Facebook or Instagram have. The most significant distinction between social networks and other web-based services is that the social network does not offer any content provided by the service itself.<sup>455</sup> Unlike other markets mentioned above, the social network does not create content for users themselves in its business model and requires users to provide their content.<sup>456</sup> In this business model, businesses mainly offer their services for free<sup>457</sup> and let users create content by posting ideas, sharing photos and videos, and interacting with each other.<sup>458</sup>

Although the business model is slightly different, the revenue sources of social networks are more or less the same as other web-based services. The main revenue item for social networks is online advertising. While providing free access to users, the social network relies on advertising to operate.<sup>459</sup> For instance, Facebook provides advertisement space to advertisers on people's profiles and news feeds to display to Facebook, Facebook Messenger and Instagram users.<sup>460</sup> Like Google, Facebook's algorithms aim to match advertisers to users as relevant as possible. Facebook uses algorithms to deliver relevant ads to users by their interests based on their profiles, geographic location, and

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<sup>453</sup> Anita Balakrishnan, Here's How Billions of People Use Google Products, *CNBC* (18 May 2017), Available at: <https://www.cnbc.com/2017/05/18/google-user-numbers-youtube-android-drive-photos.html> accessed 1 September 2021.

<sup>454</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 24.

<sup>455</sup> *Ibid*, 25.

<sup>456</sup> *Ibid*, 25.

<sup>457</sup> Social networks like LinkedIn and Tinder also have paid 'premium' memberships.

<sup>458</sup> Graef (n 454) 25.

<sup>459</sup> *Ibid*.

<sup>460</sup> What is Facebook's Revenue Breakdown, *NASDAQ.COM* (28 March 2019), Available at: <https://www.nasdaq.com/articles/what-facebooks-revenue-breakdown-2019-03-28-0> accessed 1 September 2021.



many other factors determined by automated systems.<sup>461</sup> In 2018, 98.5% of the total revenue of Facebook was generated from algorithm delivered advertisements.<sup>462</sup> It is expected that Facebook will generate 99% of total revenue from online advertising only.

Additionally, Facebook generates revenue from other payments from application developers and the Oculus business. Various third-party application developers use Facebook's web-based services to reach consumers for their games and other kinds of applications. Facebook then receives payment for each application developed presented to users on the social network service. Recently, it has been reported that Facebook is also working on a Blockchain-based payment system for the near future.<sup>463</sup> Similar to Google, Facebook now has over 1 billion users due to its acquisition of the messaging application WhatsApp.<sup>464</sup>

To sum up, collecting personal data combined with data analytics is a vital resource for a functioning online advertising-supported business model and online intermediary markets in general. As mentioned in the previous chapter, the high amount,<sup>465</sup> speed<sup>466</sup> and variation<sup>467</sup> of data collected from consumers by online transaction platforms amplify the total value of web-based services and enable new techniques to process and use data for consumer services and products. The unique feature of digital markets is the utility of Big Data and the implementation of data analytics technologies. Big Data technologies are the reason why today's technology giants are actually giants, and Big Data has a significant impact on commercial and social life.

The above analysis reveals that digitalised economies are not characterised only by their web-based functionalities. The contribution and infrastructure provided by the internet are not meant to be negated here. The recent technologies have forced businesses to move their operations to the online world and eventually led to the creation of digitalised markets. However, it is unarguable that Big Data determines the bone structure of digitalised economies today. In this structure, data is used as a source for online advertising. Therefore, in

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<sup>461</sup> Ibid.

<sup>462</sup> Ibid.

<sup>463</sup> Ibid.

<sup>464</sup> Stucke and Grunes (n 440) 182.

<sup>465</sup> *Volume*; see Section 2.2.1.

<sup>466</sup> *Velocity*; see Section 2.2.1.

<sup>467</sup> *Variety*; see Section 2.2.1.

addition to digitalised and newly emerged markets, the existence of the online advertising market is another critical discussion in this sense.

### **3.3.3 Online Advertising as a Market Itself**

In data-driven markets, businesses implement the classic method of advertising-media model for various services and products.<sup>468</sup> In this model, web-based content is used to attract consumers in order to create traffic.<sup>469</sup> Then, access to this nascence is provided to businesses that prepare advertisements through this traffic to attract consumers for their products or services.<sup>470</sup> Today businesses like Google, Facebook, Amazon, eBay and Alibaba effectively use online advertising-supported business models, and these models are regarded as the most significant developments in recent history.<sup>471</sup> For instance, most online newsletters and blogs, even the well-known ones, rely on Google advertisement services for revenue.<sup>472</sup> These web-based businesses sell advertisement space on their web pages to advertisers and their advertisements to third-party web pages by the Google Ad, an intermediary provider.<sup>473</sup> By this means, businesses enjoy ad revenues together with Google itself as the online traffic occurs through web pages. Inge Graef stresses the importance of Big Data and data analytics in the advertising-supported media model in data-driven markets. Hereunder, the two most important characteristics of this business model are explained.

First, the provided advertisements on various online platforms are not random at all. Businesses in the online world use targeted advertisement quite efficiently. For instance, Amazon,<sup>474</sup> eBay,<sup>475</sup> Google<sup>476</sup> and Facebook<sup>477</sup> collect their users' preferences by collecting data on product views, previous purchases, virtual shopping baskets, behavioural factors, geographic location and even

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<sup>468</sup> David S. Evans, 'Antitrust Issues Raised by the Emerging Global Internet Economy' (2008) 102 Northwestern University Law Review, 290.

<sup>469</sup> Ibid.

<sup>470</sup> Ibid.

<sup>471</sup> Ibid, 291.

<sup>472</sup> Ibid, 292.

<sup>473</sup> Ibid, 292.

<sup>474</sup> Amazon Advertising Preferences, Available at: [https://www.amazon.co.uk/adprefs\\_](https://www.amazon.co.uk/adprefs_)

<sup>475</sup> eBay AdChoice Service, Available at: <https://www.ebay.co.uk/help/account/adchoice/adchoice?id=4648> accessed 1 September 2021.

<sup>476</sup> Google, Targeting your Ads, Available at: <https://support.google.com/google-ads/answer/1704368?hl=en> accessed 1 September 2021.

<sup>477</sup> What are My Ad Preferences and How Can I Adjust Them on Facebook, Available at: [https://en-gb.facebook.com/help/247395082112892?helpref=uf\\_permalink](https://en-gb.facebook.com/help/247395082112892?helpref=uf_permalink) accessed 1 September 2021.

demographic information like age.<sup>478</sup> Then, these personal preferences are used to generate possible results, which are recommendations of various products to consumers. For instance, on amazon.com, advertisements are both displayed on product pages and also search results.<sup>479</sup> Advertisers determine keywords for their products, and together with product category and product page contents, advertisements are filtered automatically and shown to relevant consumers.

Similarly, the Google Ad service, which many web-based businesses use today, runs audience and content targeting advertisements. Google lets advertisers design a profile for their ads to reach a wider and more relevant audience. For instance, Google explains that if a San Francisco based dog day-care centre adds the keywords “dog”, “day-care”, and “San Francisco” to its advertisement, consumers who search “dog” or “day-care centre” through Google are displayed with these advertisers’ ads.<sup>480</sup> Similarly, when a business designs advertisements for special event costumes, consumers who visit web pages related to Halloween or other special occasions are displayed with the advertisers’ ads by the Display Network of Google Ads.<sup>481</sup>

Moreover, the recommendation system is widely used together with targeted advertisements on e-commerce platforms.<sup>482</sup> Even smaller businesses embed recommendation systems on their platforms today. These systems hold substantial importance for advertisers. Relevant suggestions displayed to consumers subsequently increase sales by reaching relevant consumers fast and easy.<sup>483</sup> These sales are also subjected to transaction fees and form the primary revenue source for intermediaries.<sup>484</sup> The personal preferences mentioned above, like data on product views, previous purchases, virtual shopping baskets and every other interaction made by consumers in the past, are used by the recommendation system to improve suggestions. The recommendation system of transaction platforms mainly uses “collaborative filtering” algorithms that make

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<sup>478</sup> Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 28.

<sup>479</sup> Ibid.

<sup>480</sup> Google, Targeting your Ads, Available at: <https://support.google.com/google-ads/answer/1704368?hl=en> accessed 1 September 2021.

<sup>481</sup> David S. Evans, ‘The Online Advertising Industry: Economics, Evolution, and Privacy (2009) 23 Journal of Economic Perspectives 3, 41; Google, Targeting your Ads, Available at: <https://support.google.com/google-ads/answer/1704368?hl=en> accessed 1 September 2021.

<sup>482</sup> Graef (n 478) 28.

<sup>483</sup> Ibid.

<sup>484</sup> Ibid.

automatic estimates through machine learning to deliver the most relevant advertisements for consumers.<sup>485</sup> Consequently, Big Data and data analytics let ad services of transaction platforms predict appropriate assumptions on what a specific consumer can be interested in. Examples can be seen on the websites like Amazon or eBay, in the form of “customers who bought this also bought”, “frequently bought together”, “products related to this item”, or “items based on your recent views”.<sup>486</sup>

Apart from being a business model as the core part of the online commercial world, the online advertising business can be regarded as a market itself.<sup>487</sup> David Evans proposes the phrase “attention markets” for that newly emerged market.<sup>488</sup> As mentioned above, there is a side in data-driven markets where services or products are offered for free to consumers, like in the search engine and social networking. This is the one side of the market. On the other side, businesses enjoy advertising revenues by offering ad spaces to advertisers in their web-based services. Thus, it is widely discussed how these markets can be defined in competition law assessment. There are two options. The first is to define a standalone market for the online advertising business.<sup>489</sup> The second is to define a broader market that comprises all sides of a web-based platform.<sup>490</sup> That being said, if there is a separate market, “attention market”, called by academics, then how can this market be assessed together with other data-driven markets? It still remains unclear how to react to these markets in specific competition law cases, which is discussed throughout Chapter 4.<sup>491</sup> In the next section, the discussion moves on the characteristics of data-driven markets in order to emphasize how they lead to high concentration and monopolisation.

### **3.3.4 Multi-Sided and Ecosystem Nature of Data-Driven Markets**

According to Sokol and Comerford, in order to assess Big Data related competition infringements on markets, the starting point should be an

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<sup>485</sup> Ibid.

<sup>486</sup> Ibid.

<sup>487</sup> Jan Kupcik and Stanislav Mikes, ‘Discussion on Big Data, Online Advertising and Competition Policy’ (2018) *European Competition Law Review*, 397.

<sup>488</sup> David S. Evans, ‘The Economics of Attention Markets’ (2017) *Global Economics Group*; University College London, Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3044858](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3044858).

<sup>489</sup> Kupcik and Mikes (n 487) 397.

<sup>490</sup> Ibid.

<sup>491</sup> See Chapter 4 for more information.

understanding of two-sided platforms.<sup>492</sup> Big Data's effects on online markets have made it necessary to identify a multi-sided platform since the most prominent feature of data-driven markets is their multi-sided nature. Literature on two-sided platforms is relatively comprehensive and dates back to the 1950s.<sup>493</sup> At first, there were industries like traditional advertising-supported media operating in a multi-sided way even before the introduction of new economy industries.<sup>494</sup> Australian economist, Warner Max Cordon, identified the business method of newspapers back in 1953. He revealed that the newspaper industry has two sides, the advertising and non-advertising side.<sup>495</sup> Later on, in 1963, Brian Reddaway carried out a study on the newspaper industry and delved into the issue between advertisers and newspaper companies while acknowledging the two sides of the market, sales and advertising sides.<sup>496</sup> In other words, the idea of multi-sided markets was not new to competition law. However, traditional media outlets like radio, television and newspaper cannot use algorithms to match users and advertisements on the offline world. Thus, there is a clear difference in how advertising models are developed due to Big Data and data analytics.

Since the emergence of new economy industries, the importance of identifying relevant markets regarding two-sided platforms for competition

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<sup>492</sup> Daniel Sokol and Roisin Comerford, 'Antitrust and Regulating Big Data' (2016) 23 *George Mason Law Review* 5, 1141.

<sup>493</sup> Julian Wright, 'One-sided Logic in Two-sided Markets' (2004) 3 *Review of Network Economics* 1; Mark Armstrong, 'Competition in Two-sided Markets' (2006) 37 *The RAND Journal of Economics* 3, 668-691; Bernard Caillaud and Bruno Jullien, 'Chicken and Egg: Competition Among Intermediation Service Providers' (2003) 34 *The RAND Journal of Economics* 2, 309-328; David S. Evans, 'The Antitrust Economics of Multi-sided Platform Markets' (2003) 20 *Yale Journal on Regulation* 2; David S. Evans, 'Some Empirical Aspects of Multi-Sided Platform Industries' (2003) 2 *Review of Network Economics* 3; Jean-Charles Rochet and Jean Tirole, 'Cooperation among Competitors: Some Economics of Payment Card Associations' (2002) 33 *The RAND Journal of Economics* 4, 549-570; Jean-Charles Rochet and Jean Tirole, 'Platform Competition in Two-Sided Markets' (2003) 1 *Journal of the European Economic Association* 4, 990-1029; Jean-Charles Rochet and Jean Tirole, 'An economic analysis of the Determination of Interchange Fees in Payment Card Systems' (2003) 2 *Review of Network Economics* 2; Jean-Charles Rochet and Jean Tirole, 'Defining Two-Sided Markets' (2004), Available at: [https://web.mit.edu/14.271/www/rochet\\_tirole.pdf](https://web.mit.edu/14.271/www/rochet_tirole.pdf) accessed 1 September 2021; Thomas Höppner, 'Defining Markets for Multi-Sided Platforms: The Case of Search Engines' (2015) 38 *World Competition* 3, 349-366.

<sup>494</sup> David S. Evans and Richard Schmalensee, 'The Industrial Organization of Markets with Two-Sided Platforms' (2007) 3 *Competition Policy International*, 152.

<sup>495</sup> W. M. Corden, 'The Maximisation of Profit by a Newspaper' (1953) 20 *The Review of Economic Studies* 3, 181-186.

<sup>496</sup> W. B. Reddaway, 'The Economics of Newspapers' (1963) 73 *The Economic Journal* 290, 204.

authorities and courts has become more apparent.<sup>497</sup> Thus, many different definitions have been proposed for the advertising-supported web-based industries.<sup>498</sup> Jean-Charles Rochet and Jean Tirole have been discussing a proper definition for two-sided platforms.<sup>499</sup> One of their earlier studies identified strong network effects in two-sided markets, and these markets are characterised by network effects.<sup>500</sup> Thus, two-sided markets can be defined as markets having internal and external network effects together. Armstrong, Caillaud and Julian underlined the importance of indirect network externalities between two or more customer groups.<sup>501</sup> In addition to that, in 2006, Rochet and Tirole proposed another definition. According to their study, “a market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board.”<sup>502</sup> Moreover, they made a distinction between one-sided and two-sided markets by narrowing down the definition.<sup>503</sup> According to the distinction; a market “is one-sided if the end-users negotiate away the actual allocation of the burden (i.e., the Coase theorem applies); it is also one-sided in the presence of asymmetric information between buyer and seller if the transaction between buyer and seller involves a price determined through bargaining or monopoly price-setting, provided that there are no membership externalities”.<sup>504</sup>

The definition proposed by Rochet and Tirole solely relies on the pricing structures on both sides of the market. This is a result of a study on the payment systems market, a two-sided market. There are two sides in the payment systems

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<sup>497</sup> David S. Evans and Richard Schmalensee, ‘The Industrial Organization of Markets with Two-Sided Platforms’ (2007) 3 Competition Policy International, 152.

<sup>498</sup> Lapo Filistrucchi, Damien Geradin and Eric van Damme, ‘Identifying Two-sided Markets’ (2012) TILEC Discussion Paper No. 2012-008; M. Rysman, ‘The Economics of Two-sided Markets’ (2009) 23 Journal of Economic Perspectives (3), 125. David S. Evans, ‘The Antitrust Economics of Multi-sided Platform Markets’ (2003) 20 Yale Journal on Regulation 2.

<sup>499</sup> Jean-Charles Rochet and Jean Tirole, ‘Two-sided Markets: A Progress Report’ (2006) 37 The RAND Journal of Economics 3, 645-667; Also (Rochet and Tirole 2002, 2003, 2006).

<sup>500</sup> Jean-Charles Rochet and Jean Tirole, ‘Platform Competition in Two-Sided Markets’ (2003) 1 Journal of the European Economic Association 4, 990-1029, 1017-1018.

<sup>501</sup> Mark Armstrong, ‘Competition in Two-sided Markets’ (2006) 37 The RAND Journal of Economics 3, 668-691, 668; Bernard Caillaud and Bruno Jullien, ‘Chicken and Egg: Competition Among Intermediation Service Providers’ (2003) 34 The RAND Journal of Economics 2, 309-328, 309.

<sup>502</sup> Rochet and Tirole (n 499) 665.

<sup>503</sup> Gönenç Gürkaynak, Öznur Inanılır, Sinan Diniz and Ayşe Gizem Yasar, ‘Multi-sided Markets and the challenge of incorporating multi-sided Considerations into Competition Law Analysis’ (2017) Journal of Antitrust Enforcement 5, 103.

<sup>504</sup> Rochet and Tirole (n 499) 665.

market where pricing structures affect the demand on the other side of the market. This situation creates a functional deficit in identifying two-sided markets through Rochet and Tirole definition. Today, there are many multi-sided platforms where 'price' is not a parameter on one side of the market due to the fact that prices for products or services are mostly non-existent.<sup>505</sup> As a result, this approach is not fully applicable to many web-based platforms.<sup>506</sup> Gürkaynak et al. argue that in markets such as the social media or search engine, transactions on the one side of the market cannot be identified (especially on the end-users and platform providers side), and it would be hard to assess whether pricing structures affect the other side of the market.<sup>507</sup>

On the other hand, David Evans proposes a different approach for multi-sided platforms. He argues that standard market definitions, pricing strategies, restraints, and other effects must be redefined for multi-sided markets.<sup>508</sup> According to Evans, there are three important conditions for identifying a market, whether multi-sided or not. First, there must be more than one distinct group of consumers like software developers and software users or credit merchants and debit card users in a given platform.<sup>509</sup> Second, there must be network externalities in a given platform.<sup>510</sup> For instance, credit card merchant benefits when more users use credit cards and cardholders benefit when they enjoy smooth transactions worldwide. The same applies to all web-based services. Third, there must be an intermediary in the platform. In multi-sided markets, intermediaries internalise the externalities created by both sides of the market.<sup>511</sup> In light of these conditions, Evans and Schmalensee propose the definition for multi-sided platforms as "... businesses serve distinct groups of customers who need each other in some way. ... The core business is to provide a common (real or virtual) meeting place and to facilitate interactions between members of the two distinct customer groups."<sup>512</sup>

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<sup>505</sup> Gürkaynak et al. (n 503) 103.

<sup>506</sup> Ibid.

<sup>507</sup> Ibid, 104.

<sup>508</sup> David S. Evans, 'The Antitrust Economics of Multi-sided Platform Markets' (2003) 20 *Yale Journal on Regulation* 2, 331.

<sup>509</sup> Ibid.

<sup>510</sup> Ibid, 332.

<sup>511</sup> Ibid, 332.

<sup>512</sup> David S. Evans and Richard Schmalensee, 'The Industrial Organization of Markets with Two-Sided Platforms' (2007) 3 *Competition Policy International*, 152.

Furthermore, Andre Hagiu and Julian Wright proposed another definition regarding multi-sided platforms. According to them, the definitions mentioned above have limitations.<sup>513</sup> Thus, multi-sided platforms have two fundamental requirements as their key features are independent of other parameters like network effects. First, a multi-sided platform enables direct “interactions” between two or more distinct consumer groups, and second, all sides of the market are “affiliated” with the platform itself.<sup>514</sup> Hagiu and Wright focus on the “interaction” and “affiliation” terms. According to the context, interaction means any kind of pricing, bundling, marketing and transaction between two different sides of the market.<sup>515</sup> However, Affiliation means users of a platform consciously make a specific expenditure to interact directly with the other side of the market. For instance, any access fees (like buying a video game console), or spending resources other than money (like time spent while using or developing mobile phone applications) or fees for any opportunities (like participating in a loyalty scheme of a business) can be regarded as affiliation.<sup>516</sup>

Gürkaynak et al. argue that the new definition of Hagiu and Wright seems to have limitations also.<sup>517</sup> While criticising that network effects should not be the main parameter in multi-sided platforms, the authors’ new definition does not seem to be fit for data-driven markets like search engines and social media.<sup>518</sup> In these markets, users of a given platform do not make any specific investments to go online through web-based platforms and do not need to have any particular “affiliations”. Thus, the definition does not seem to catch the structure of quintessential web-based multi-sided platforms.<sup>519</sup> In addition to that, pricing interactions proposed by Hagiu and Wright focus on pricing as a key parameter for these interactions. Along the same line, multi-sided platforms where pricing is not a parameter at all, “interactions” cannot be identified clearly to demonstrate the multi-sided characteristic.

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<sup>513</sup> Andrei Hagiu and Julian Wright, ‘Multi-sided Platforms’ (2015) 43 *International Journal of Industrial Organization*, 5.

<sup>514</sup> *Ibid.*

<sup>515</sup> *Ibid.*

<sup>516</sup> *Ibid.*

<sup>517</sup> Gönenç Gürkaynak, Öznur Inanılır, Sinan Diniz and Ayşe Gizem Yasar, ‘Multi-sided Markets and the challenge of incorporating multi-sided Considerations into Competition Law Analysis (2017) *Journal of Antitrust Enforcement* 5, 104.

<sup>518</sup> *Ibid.*

<sup>519</sup> *Ibid.*



Accordingly, the European Commission has also discussed a definition for the “ad network” and “ad exchange” markets to identify and assess competition in these web-based platforms. In 2008, the Commission cleared the *Google/DoubleClick* merger, where Google acquired an intermediation platform for ad exchange that sells advertisement services.<sup>520</sup> DoubleClick’s intermediation services are offered through “ad exchanges” and “ad networks”, and they were identified as two-sided markets.<sup>521</sup> In order to identify the relevant market for the merger analysis, the Commission found it necessary to define multi-sided platforms. According to the ruling, “an ad network is a two-sided platform serving (on the one side of the market) publishers that want to host advertisements, and (on the other side of the market) advertisers that want to run ads on those sites”.<sup>522</sup> Similarly, as a two-sided platform, “an ad exchange provides a marketplace where advertisers and publishers buy and sell ad space on a real-time basis.”<sup>523</sup> Although there are significant differences between these two markets, they provide a closed system and an open (virtual) marketplace for various buyers to sellers who can access and execute transactions. In other words, both businesses act as intermediary service providers.<sup>524</sup>

To sum up, it can be deduced that these distinct definitions underline specific characteristics of multi-sided platforms. Examining the literature on multi-sided platforms reveals that definitions through pricing structures or affiliations may not be fully applicable since the emergence of free products and services on different sides of these businesses. However, they all apply to some extent for multi-sidedness discussions, which have greatly extended in the last couple of decades. Therefore, the debate is definitely moving on, and broader definitions, including other features of multi-sided platforms, are all to be welcomed in the future. Along the same line, Filistrucchi et al. underline the contribution from the literature regarding multi-sided platforms and value each of them.<sup>525</sup>

According to the literature, there are specific common characteristics of data-driven markets. In the current structure, it can be concluded that multi-sided

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<sup>520</sup> Case No COMP/M.4731, *Google/DoubleClick C* [2008] 927 Final, para 5.

<sup>521</sup> *Ibid*, para 20.

<sup>522</sup> *Ibid*, para 20.

<sup>523</sup> *Ibid*, para 21.

<sup>524</sup> *Ibid*, para 21.

<sup>525</sup> Lapo Filistrucchi, Damien Geradin and Eric van Damme, ‘Identifying Two-sided Markets’ (2012) TILEC Discussion Paper No. 2012-008, 9.

platforms are complex platforms comprised of various network externalities. Tipping effects and lock-in effects are specifically important there. Also, the accumulation of data and utility of Big Data have strong effects on the functioning of multi-sided platforms. Thereby, it can be summarised that there are three major characteristics of data-driven markets. Data-driven markets are characterised by strong network effects (economies of scale and scope), tipping and lock-in effects, and the utility (and access) to Big Data, all explained below.

### **3.4 Markets Characteristics of Data-Driven Markets**

#### **3.4.1 Indirect Network Externalities**

Economies of scale are common in data-driven markets, and it occurs as a result of indirect network effects. Especially first-mover undertakings tend to become dominant on all sides of a multi-sided platform where the innovation led to a new product or service. In new economy industries where indirect network externalities are internalised, undertakings can cut high fixed costs to operate the platform and focus on more R&D investments due to the scale effects. Therefore, web-based platforms offer a variety of products with almost the same fixed costs due to network effects.<sup>526</sup> In other words, offering more than one service together on a platform cost much less to offer each of them separately.

Then, how are network effects important in data-driven markets? Traditional network effects have always been important for specific products. For instance, two-way communication systems create a direct network effect on users of the system. For instance, when users of a telephone or messaging application increase, the value created by the telephone network or the messaging application also increases. If many people have iPhones, they derive more value from the iMessage application. This is the simplistic example of direct network effects, where the total value of the system or service increase with the increasing number of users.<sup>527</sup> However, indirect network effects can also be observed in data-driven markets aside from direct network effects to the point that indirect network effects characterise data-driven markets. A simple example of indirect network effects is the use of web-based platforms.

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<sup>526</sup> Cento Veljanovski, 'Network Effects and Multi-sided Markets' (2007), 7, Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1003447&download=yes](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1003447&download=yes) accessed 1 September 2021.

<sup>527</sup> Ibid.

It is then important to distinguish the main groups and the linkage of network effects between them in data-driven markets. For instance, there are three main user groups in the search engine market: search engine users, content providers and advertisers.<sup>528</sup> There are low to zero direct network effects for all consumer groups in the search engine market. For instance, advertisers do not benefit from having more advertisers in the ecosystem since their advertisements would become less attractive, and they need to pay more for their advertisements. Also, search engine users do not have any positive direct interaction with advertisements, and consumers view on advertisements are usually negative. Similarly, content providers do not benefit from having more content providers on the search engine results page since their chances to appear on the search results page are significantly lower when more websites are listed by the search engine.<sup>529</sup> In brief, there are low direct network effects (positive) between the main groups in the search engine market.<sup>530</sup>

However, the situation with indirect network effects is dissimilar. Positive indirect network effects are quite high in data-driven markets, such as the search engine market.<sup>531</sup> Indirect network effects can be observable when consumers derive value from additional products or services with the increasing number of consumers and services offered by third parties through an intermediary in a platform. In other words, more content attracts more consumers since they are able to search and find relevant content for their desires. Thus, more search queries/more consumers make search engines more attractive for advertisers at the same time.<sup>532</sup> For advertisers, more search queries/consumers mean more target audience and a popular search engine becomes crucial to more advertisers where they can advertise much more effectively.

Another example for the same value derived is in the software programs or operating systems market. If fewer people own an iPhone, third-party application developers would likely develop fewer applications and products specific to iPhones and iOS. The limited use of Apple products limits the direct network

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<sup>528</sup> Barbara Engels, 'Data Portability among Online Platforms' (2016) 5 Internet Policy Review 2, 11.

<sup>529</sup> German Monopolies Commission (*Monopolkommission*), 'Competition policy: The Challenge of Digital Markets' (2015) Special Report No 68, p 56.

<sup>530</sup> Engels (n 528) 11.

<sup>531</sup> Ibid.

<sup>532</sup> Ibid.

effects inside the Apple ecosystem and any indirect effects received from third-party businesses. Thus, when more people use iPhone, and more developers offer products for the iPhone, the value created on both sides of the market affect each other. Thus, network externalities on both sides of the market can be internalised by the platform's operator. Eventually, developers develop more applications and offer sales in the ecosystem, becoming far more valuable for content providers, advertisers, and consumers alike.

In many cases, network effects are beneficial for users, especially in the short term.<sup>533</sup> Strong network effects create valuable products or services for consumer use. Consequently, the value of a product increases its utility.<sup>534</sup> However, network effects and feedback loops on data-driven markets also bring crucial negatives. Extensive network externalities seem to create barriers to entry for new entrants and allow dominant undertakings to monopolise data-driven markets. On this side of the coin, the accumulation of Big Data, tipping effects, lock-in effects, and increasing switching costs are negative results of indirect network effects regarding healthy competition on data-driven markets.

The accumulation of Big Data<sup>535</sup> and feedback loops in data-driven markets increase returns to scale due to strong indirect network effects. By this means, the technology giants monetise their data supplies. More data attract advertisers to the platform, which can deliver better-targeted advertisements on the market's other side (user side). When the platform is fed from both sides of the market, the loop enables the platform owner to create newer and better products or services. Additional data means additional sources for better services and products by third parties and platform owners. The positive feedback loop which brings more data, more users and revenues to the platform is due to complex indirect network effects in data-driven markets. The multi-sidedness and utilisation of Big Data are the specific features for the feedback and monetisation loops for the platform owners.

The importance of indirect network effects is more visible in data-driven markets than in any other market. Stucke and Grunes give the example of

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<sup>533</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 44.

<sup>534</sup> Ibid.

<sup>535</sup> See Chapter 4.3.6.

toothpaste and search engine.<sup>536</sup> Unlike traditional product markets, in data-driven markets, network effects amplify the gain and loss of users.<sup>537</sup> For instance, when someone purchases a different toothpaste, the other toothpaste would not lose its quality. The effect occurs on the sales and profits grounds, which means the rival toothpaste company will definitely lose extra profits in this circumstance. However, in data-driven markets like the search engine market, every single search query is important since it leads to the accumulation of Big Data. The winner in data-driven markets not only gain extra profits but also search queries increase the quality of service, and the winner takes more control of the market.<sup>538</sup> Stucke and Ezechai claim that the ability of undertakings to utilise and then monetise Big Data significantly increases through better quality and more relevant search results.<sup>539</sup> At the same time, it significantly decreases the quality of the rival search engine providers' service. Potential degradation of quality means more consumer loss for the rival undertakings.

The main reason behind it is the inequality in access to data.<sup>540</sup> When a rival loses search queries to Google, they also lose consumers, and the gap widens between the two undertakings. When Google controls most consumer data and practices more learning-by-doing trials to offer better services, the rival companies lose all these potential data, and the quality of their products lowers eventually. In contrast to the toothpaste market, every loss is a profit loss and a quality loss for competitors in the search engine market. At this point, Stucke and Ezechai underline the gap between the dominant undertaking and its rivals, which widens significantly to the point that rivals cannot compete in the market at all.<sup>541</sup> The reason behind it is that the dominant search engine can use advantages in the scale and scope to intentionally lower the quality of its products to increase its revenues and manipulate search results in its favour.<sup>542</sup> In the toothpaste market, rivals can lower their quality to offer cheaper products to obtain market share and profits. However, in the search engine market, the dominant

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<sup>536</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 201.

<sup>537</sup> *Ibid.*

<sup>538</sup> *Ibid.*, 202.

<sup>539</sup> Maurice E. Stucke and Ariel Ezechai, 'When Competition Fails to Optimize Quality: A Look at Search Engines' (2016) 18 *Yale Journal of Law and Technology* 70, 90-91.

<sup>540</sup> *Ibid.*, 103.

<sup>541</sup> *Ibid.*, 96.

<sup>542</sup> *Ibid.*, 96-97.

undertaking can better utilise the mass amount of data and algorithm results to offer better services than its rivals who cannot collect and utilise enough data. Thus, smaller rivals in the search engine market cannot even lower their quality to compete with the dominant rival and struggle to offer services to users due to insufficient data.<sup>543</sup> Consequently, indirect network effects and positive feedback loops on these platforms create irrevocable barriers in the market in favour of the dominant undertaking.

Indirect network effects create rather large minimum efficient scales in data-driven markets. In contrast to what some academics argue,<sup>544</sup> entry barriers to data-driven markets are not low. Investments necessary to enter data-driven markets and the minimum scales necessary to operate multi-sided platforms are huge. In its decision, *Microsoft/Yahoo* merger, the European Commission underlined that Google's rivals could not achieve sufficient scales in the search engine market. According to the Commission, Google is a strong market player in the search engine market.<sup>545</sup> On the other hand, its rival, Yahoo, despite being in the business for over a decade, was unable to make sufficient investments to reach minimum scale to compete effectively with Google.<sup>546</sup> In the same vein, Microsoft (Bing) invests heavily in search engines and algorithms but cannot achieve sufficient scale to compete effectively with Google either.<sup>547</sup> Also, the Commission adds that:

“Additionally, the market investigation has revealed that currently Google enjoys a large competitive advantage compared to other search engines and is perceived as a “must-have” for users. Therefore, it is possible that if the transaction, through the scale effects, leads to a stronger competitor more able to innovate, Google will also have an incentive to keep, or even accelerate, its innovation efforts in the market.”<sup>548</sup>

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<sup>543</sup> Ibid, 97.

<sup>544</sup> Andres Lerner, 'The role of Big Data in online platform competition' (2014) Available at: SSRN: <https://ssrn.com/abstract=2482780> or <http://dx.doi.org/10.2139/ssrn.2482780> accessed 1 September 2021.

<sup>545</sup> Case No COMP/M.5727, *Microsoft/Yahoo! Search Business C* [2010] 1077 Final, para 159.

<sup>546</sup> Ibid.

<sup>547</sup> Ibid.

<sup>548</sup> Case No COMP/M.5727, *Microsoft/Yahoo! Search Business C* [2010] 1077 Final, para 219.

At the time of the decision, Google had 94% market share, and Bing and Yahoo had 1.5% market shares separately.<sup>549</sup> Today, none of their market shares changed at all.<sup>550</sup>

Moreover, the European Commission explicitly states in its guidelines to abusive exclusionary conduct by dominant undertakings that economies of scale and scope and networks effects can be barriers to market entry and anti-competitive conduct there may create entry barriers. Paragraph 17 states that:

“Barriers to expansion ... may take the form of advantages specifically enjoyed by the dominant undertaking, such as economies of scale and scope. They may also include costs and other impediments, for instance, resulting from network effects... The dominant undertakings own conduct may also create barriers to entry... Persistently high market shares may be indicative of the existence of barriers to entry and expansion.”<sup>551</sup>

Are all the features mentioned above leading to entry barriers and anti-competitive conduct in data-driven markets? The view of the European Commission in the noteworthy merger decisions in recent history seems to be somewhat neutral on networks effects. In its *Facebook/WhatsApp* decision, the Commission ruled that the mere existence of network effects do not reflect any competition problems in markets.<sup>552</sup> Thus, competition problems may arise if undertakings controlling network effects foreclose competitors and prevent them from expanding their customer base.<sup>553</sup> Therefore, network effects must be examined on a case-by-case basis.<sup>554</sup> Accordingly, in the *Google/DoubleClick* decision, the Commission acknowledges that network effects are primary to achieve success and sufficient scale and could be subject to various foreclosure strategies.<sup>555</sup> However, the Commission did not find network effects themselves as a cause and evidence for anti-competitive behaviour.<sup>556</sup> Moreover, their

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<sup>549</sup> Search Engine Market Share Europe 2009, Available at: <https://gs.statcounter.com/search-engine-market-share/all/europe/2009> accessed 1 September 2021.

<sup>550</sup> Search Engine Market Share Europe 2019, Available at: <https://gs.statcounter.com/search-engine-market-share/all/europe/2019> accessed 1 September 2021.

<sup>551</sup> Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9, para 17.

<sup>552</sup> Case No COMP/M.7217, *Facebook/WhatsApp* C [2014] 7239 Final, para 130.

<sup>553</sup> *Ibid.*

<sup>554</sup> *Ibid.*

<sup>555</sup> Case No COMP/M.4731, *Google/DoubleClick* C [2008] 927 Final, para 304.

<sup>556</sup> *Ibid.*

investigation suggests that network effects would not lead to tipping effects in data-driven markets (this actually seems to be an inaccurate implication).<sup>557</sup> Even more, the Commission stresses in its *Microsoft/Skype* decision that:

“...Respondents to the market investigation also stress the existence of network effects ... as a barrier to expansion. They consider that the more users a provider of communications has, the better its chance to expand the user base. However, the network effects are mitigated by the fact that most consumers of communications services make the majority of their voice and video calls to the small number of family and friends that make up their so called "inner circle". ... Moreover, the Commission observes that consumers multi-home to a certain degree among various providers of consumer communications services.”<sup>558</sup>

In the *Microsoft/Skype* decision, the Commission clearly underlines multi-homing as a factor that diminishes the potential anti-competitive effects of network externalities in data-driven markets. Some academics also argue that multi-homing is an important feature in most data-driven markets since services and products are mostly free on one side of data-driven markets. It is quite an easy task for users to switch services as they are only one click away.<sup>559</sup> However, in data-driven markets like the search engine, online advertising or social network markets, effects of networks externalities and scale economies seem to exceed the implications of the Commission. Thus, the Commission’s outcomes do not reflect the real potential of scale economies and indirect network effects in these markets. Proof for competition problems can be found in tipping and lock-in effects, which eventually monopolise data-driven markets after these mergers.<sup>560</sup> The phenomenon of “multi-homing” does not seem to relieve the competition concerns and excessive network effects in new economy industries.

### **3.4.2 Accumulation of Big Data**

In many new economy industries, network effects and the accumulation of Big Data lead to snowballing and tipping effects. In the *Google/Waze* merger, the

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<sup>557</sup> Ibid.

<sup>558</sup> Case No COMP/M.6281, *Microsoft/Skype C* [2011] 7239 Final, para 91-92.

<sup>559</sup> Konstantinos Stylianou, ‘Exclusion in Digital Markets’ (2018) 24 *Michigan Telecommunications and Technology Law Review* 2, 223-226; Andres Lerner, ‘The role of Big Data in online platform competition’ (2014) Available at: SSRN: <https://ssrn.com/abstract=2482780> accessed 1 September 2021.

<sup>560</sup> See more detail in Chapter 3.5.



UK Competition Authority explicitly stated that an undertaking could accelerate its growth based on network effects.<sup>561</sup> According to the Authority, when more consumers use a network, the network becomes more valuable to those users.<sup>562</sup> More importantly, where these network effects exist, “there is the potential for the market to ‘tip’, so whilst there may still be competition from other suppliers, there is one leading supplier, although it is not clear the extent to which this may occur here.”<sup>563</sup> Dominance is the key to tipping effects in markets. In markets where no undertaking is dominant, rivals try to prevent each other from tipping the market. However, network and scale effects lead to dominance. As mentioned above, a considerable amount of quality difference occurs due to network effects, and the market would likely tip in one undertaking’s favour.<sup>564</sup>

When dominance is established in a market, and the market has once tipped, smaller rivals cannot acquire stable market access<sup>565</sup> or even a sufficient scale to operate their services or offer products. For instance, at the time of the Microsoft (Bing) and Yahoo merger, Google had more than 90% of the search engine market; years after (in 2019), its strongest rival, Bing, only has 2.25% of the search engine market in the EU.<sup>566</sup> The reason behind it is the quality of Bing’s service. Bing has less consumers, thus has lower quality search results compared to Google. Bing’s algorithms cannot predict and create better search results than Google since the algorithm works with much less data. As a result, Google attracts more users and liquidates search results by paid services like advertisements or paid search results. Moreover, Prüfer and Schottmüller stress that dominant undertakings can make continuous small investments in innovation to raise their services’ quality, resulting in tipping.<sup>567</sup> According to them, this is a feature of dynamic competition and data-driven markets thereof.

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<sup>561</sup> UK Office of Fair Trade, Google/Waze ME/6167/13, para 44. Available at: <https://assets.publishing.service.gov.uk/media/555de2cfed915d7ae2000027/motorola.pdf> accessed 1 September 2021.

<sup>562</sup> UK Office of Fair Trade, Google/Waze ME/6167/13, para 44, footnote 28.

<sup>563</sup> Ibid.

<sup>564</sup> Jens Prüfer and Christoph Schottmüller, ‘Competing with Big Data’ (2017) Tilburg Law School Research Paper No. 06/2017, TILEC Discussion Paper No. 2017-006, CentER Discussion Paper 2017-007, 2.

<sup>565</sup> Ibid.

<sup>566</sup> Search Engine Market Share Europe 2019, Available at: <https://gs.statcounter.com/search-engine-market-share/all/europe/2019> accessed 1 September 2021.

<sup>567</sup> Prüfer and Schottmüller (n 564) 2.

Competition problems are not limited to dominance and tipping effects in data-driven markets. Prüfer and Schottmüller identify that the first movers in data-driven markets can create monopolies due to the abovementioned effects.<sup>568</sup> The reason behind it is the inherent feature of data-driven markets. In these markets, there are meagre incentives for smaller rivals to innovate, which leaves the dominants alone in the market and contributes to the creation of monopolies.<sup>569</sup> Likewise, Stucke and Grunes argue that although the data-driven network effects do not automatically reward the first mover undertakings, first movers have strong advantages to gain dominance in markets.<sup>570</sup> As a result, anti-competitive or pro-competitive incentives of the first mover firms would likely increase in this scenario. In other words, dominant undertakings would likely exercise anti-competitive behaviour to tip the market in their favour.<sup>571</sup> Consequently, dominant undertakings may use network effects and feedback loops to prevent their rivals from competing and become monopolies. It is a data race, first gaining control over mass data, innovating, becoming a first mover, becoming dominant, and ultimately creating a monopoly position.

Prüfer and Schottmüller studied those dominant undertakings that also use their inherent data advantage and Big Data feedback loops to dominate other markets. Undertakings aware of the power of Big Data utilisation as a key input for services and products in data-driven markets tend to map potential markets where they can extend their powers.<sup>572</sup> Consequently, with the utilisation of mass datasets, they move their business to adjacent markets where Big Data can be effectively used. To be more precise, dominant undertakings leverage their market power into other markets. Through the utilisation of Big Data, this situation creates a domino effect. Prüfer and Schottmüller express that; “a first mover in market A can leverage its dominant position, which comes with an advantage on user information, to let connected market B tip, too, even if market B is already served by traditional incumbent firms.”<sup>573</sup> Google is the pioneer firm to connect markets through the Big Data utilisation.<sup>574</sup>

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<sup>568</sup> Ibid.

<sup>569</sup> Ibid.

<sup>570</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 204.

<sup>571</sup> Ibid.

<sup>572</sup> Prüfer and Schottmüller (n 564) 3.

<sup>573</sup> Ibid.

<sup>574</sup> See the example of Google, Chapter 4.3.

The argument of the existence of low switching costs in data-driven markets might be a remedy for excessive network effects and tipping of the markets.<sup>575</sup> However, data-driven markets experience lock-in effects affecting users even though consumers use free products on one side of the market. According to the European Commission, “the vast majority of social networking services are provided free of monetary charges”.<sup>576</sup> Along the same line, most data-driven markets provide free of charge services. Therefore, these free services and products are monetised through other mechanisms, such as advertising or charges for premium services.<sup>577</sup> On this basis, the multi-sided platforms are generally characterised by free products or services on one side of the platform. At that point, it may be assumed that switching costs in data-driven markets are quite low. Any user could change to a different search engine or social media since the services are offered for free. One click would be enough in the online world.

However, this is not the reality. In data-driven markets, competition is not one click away, and consumers are usually locked into services which they choose in the first place. In theory, consumers can change services and products they use quite easily in the online world. However, the data advantage and network effects that some platforms enjoy make it partially invalid. For instance, although ordinary users may leave the Google search engine, they cannot expect to find better search results for their preferences elsewhere.<sup>578</sup> Their personal preferences have been accumulated and tailored by Google’s algorithms to adopt higher quality search results for individuals.<sup>579</sup> Smaller rivals of Google are not capable of adapting search results to the consumers’ expectations.<sup>580</sup> In time, this situation starts to lock consumers to the Google search engine.

Another example is Facebook. Most social media users use Facebook in the world. People have contacts, family, friends, acquaintances, photos, memories, and other personal information on Facebook. Thus, when users switch to another social media, these established connections would likely dissuade

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<sup>575</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final, para 270.

<sup>576</sup> Case No COMP/M.7217, Facebook/WhatsApp C [2014] 7239 Final, para 47.

<sup>577</sup> Ibid.

<sup>578</sup> Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 52.

<sup>579</sup> Ibid.

<sup>580</sup> Ibid.

them. Therefore, smaller rivals of Facebook do not have as many users as Facebook; thus, users would not be likely to find their connections in Facebook alternatives.<sup>581</sup> As a result, users face lock-in effects and considerably high switching costs in the social media market. This argument excludes markets like China, where Facebook versus rival competition is not present.

In their study, Whittington and Hoofnagle underline high switching costs in data-driven markets. According to them, consumers make investments by providing their personal information by using a platform. Those investments are specific to the platform being used. This means that consumers may feel locked into the platform where they have made investments.<sup>582</sup> To sum up, switching costs occur when users choose to change a product or service they have been using. In order to do so in data-driven markets, consumers need to make the same investments to move onto a different provider in the online world. At this point, many would realise that they are already locked-in or need to cope with high switching costs to the specific service or product due to the limited portability of data, including network and scale effects.

Overall, characteristics of data-driven markets such as indirect network externalities, accumulation of Big Data, and tipping effects reveal an important concern about data-driven markets: the increasing concentration in data-driven markets. A few quite successful undertakings have created their own business ecosystems around specific markets in the online world.<sup>583</sup> In these markets, oligopolistic tendencies can be traced, and this is the first sign of a greater problem, monopolisation in the online world. This oligopoly structure can hamper innovation and competition and create entry barriers in data-driven markets to a great extent.

### **3.4.3 Monopolisation**

The situation reveals that there are dominant undertakings in the online world, and they are in near-monopoly positions in various data-driven markets. The main concern here is how dangerous the increasing concentration of online

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<sup>581</sup> Instagram can be regarded as a strong rival against Facebook as a social media today. However, Facebook owns 100% of Instagram. Author do not think there is a real rivalry between these platforms since they do share same data pool. E.g.: When someone post something in their Facebook page, it can automatically appear in their Instagram page also, and vice versa.

<sup>582</sup> Jan Whittington and Chris Jay Hoofnagle, 'Unpacking Privacy's Price' (2012) 90 North Carolina Law Review 1327, 1354.

<sup>583</sup> See Chapter 4.5.4.

platforms is for consumers in the EU. The fierce competition in the online world through innovations are good for a functioning market. Innovation and first-mover advantage are inherent in dynamic competition. In the same vein, these do not pose any competitive threats themselves. These are the characteristic features of data-driven markets. However, newly emerging monopolies and high concentration differentiate notably from the traditional monopoly concept; thus, it is hard to determine anticompetitive behaviour in data-driven markets since the current competition tools are designed to engage with anti-competitive actions towards traditional competition concept.

#### **3.4.3.1 Winner Takes All**

According to the EU law, dominance in a market can be observed if an undertaking has a 40-50 per cent share in the relevant market. In the guidance paper of the Commission regarding abuse of dominant position, it is indicated that dominance would not likely occur if an undertaking's market share were below 40 % in the relevant market.<sup>584</sup> An exception to the rule can be found in the *British Airways* case before the CJEU. The General Court ruled that British Airways has a dominant position in the UK market for air travel agency services with only 39.7% market share.<sup>585</sup> In brief, undertakings would have dominant positions if they have more or less half of the relevant market. However, in most data-driven markets, dominance is established by over 85-90% of market shares. Accordingly, the market positions of Microsoft, Google, or Facebook must be regarded as “super-dominance”. Super-dominance is an indication of a near-monopoly position in a market. Thus, near-monopoly digital markets must be under special scrutiny compared to traditional abuse cases.

Super-dominance is a result of the abovementioned effects in markets where competitors fight over the control of the market. In data-driven markets, winner takes all. Therefore, technology giants are able to create impregnable monopolies.<sup>586</sup> Google has been the dominant undertaking in the global search

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<sup>584</sup> European Commission, Communication from the Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) (2009/C 45/02), para 14.

<sup>585</sup> Case T-219/99 *British Airways v. Commission* [2003] ECLI:EU:T:2003:343, para 195-225.

<sup>586</sup> David S. Evans, 'Antitrust Issues Raised by the Emerging Global Internet Economy' (2008) 102 *Northwestern University Law Review*, 302.

engine market for almost a couple of decades,<sup>587</sup> and Facebook established a strong dominance worldwide.<sup>588</sup> Numbers reveal that the super-dominance of online platforms are not fragile at all. Neither of them was indeed first movers. Google surpassed Yahoo, and Facebook surpassed Myspace back in the 2000s. However, the establishing situation and evolution of data-driven markets reveal that the accumulation and utility of Big Data surpassed the point where rivals dethrone incumbents through an innovation cycle. In other words, today, it is nearly impossible to dethrone super-dominant undertakings for smaller rivals without controlling and utilising Big Data.

In addition to that, a handful of undertakings having near-monopoly positions are now connecting markets together and controlling specific segments of the online world since their positions are protected by the scale effects and Big Data advantage.<sup>589</sup> Super-dominant undertakings can combine subtracted data from other market segments.<sup>590</sup> Therefore, to compete in winner-takes-all markets, rivals need to enter on multiple platforms simultaneously with further innovations to attract consumers.<sup>591</sup> However, it is quite hard to achieve since there are many services that are distinct from each other. On one side, rivals need to attract advertisers and users on the other. Therefore, investments on both sides of the market without having a data advantage would be quite troublesome for rivals.<sup>592</sup> Undertakings who desire to compete with technology giants today need to invest in more than one area at once.<sup>593</sup>

Technology giants such as Google and Facebook and the rise of data-driven markets have created a paradox.<sup>594</sup> Today, many online start-ups that might well be competitors for technology giants in the future rely on Google advertising or Facebook advertising in the first place.<sup>595</sup> The reason behind it is that the only revenue channel for start-ups is online advertising in the new

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<sup>587</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 25.

<sup>588</sup> For instance, over 70% of page views of all social media sites came from Facebook and Instagram in December 2018 in the UK. Furman Report (n 587) 25.

<sup>589</sup> Evans (n 586) 302.

<sup>590</sup> Jan Kupcik and Stanislav Mikes, 'Discussion on Big Data, Online Advertising and Competition Policy' (2018) *European Competition Law Review*, 399.

<sup>591</sup> *Ibid.*

<sup>592</sup> *Ibid.*

<sup>593</sup> *Ibid.*

<sup>594</sup> *Ibid.*

<sup>595</sup> *Ibid.*

economy. The online advertising industry is a highly concentrated market with very few players. Without using an online advertising revenue channel, start-ups cannot reach the audience for their services or products, like message applications, navigation or social media. Rivals must compete with the services of technology giants by using their online advertising services. However, these players are also inherent rivals for start-ups. Thus, it is quite challenging for start-ups to offer high-quality products which equal competitors' product quality. The out of balance data advantage between start-ups and established technology giants creates a relationship called "frenemy" in data-driven markets.<sup>596</sup>

### **3.4.3.2 Moligopolists**

Maurer et al. underline the current situation in data-driven markets dramatically. They express that "Google has become the main interface for our whole reality."<sup>597</sup> Along the same line, in his comments towards Google's investigation before the European Commission, Cade Metz expresses that:

"Google ..., is not just a search engine. It is a multi-billion-dollar company that offers countless other internet services involving everything from news search and image search to video hosting, maps, finance, and even price-comparison shopping... Now controlling as much as 85 per cent of the search market, this de facto internet gateway is also a place where Google can deliver its own services to netizens across the globe. YouTube, Google Maps, Google Product Search, and any other Google service — as well as any service Google might build in future years — all have an obvious advantage over competitors."<sup>598</sup>

Another main point here is the quasi rivalry between online platforms. In traditional markets like manufacturing or retail, competition among firms is based on similar services or products.<sup>599</sup> However, rivals in the online world are super

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<sup>596</sup> Ibid, 400; See More in Section 5.2.5.

<sup>597</sup> Hermann Maurer, Tilo Balke, Frank Kappe, Narayanan Kulathuramaiyer, Stefan Weber and Bilal Zaka, Report on Dangers and Opportunities Posed by Large Search Engines, Particularly Google 16 (2007) Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.94.5633&rep=rep1&type=pdf> accessed 1 September 2021.

<sup>598</sup> Cade Metz, We Probe the Google Antitrust Probe. Vigorously, REGISTER (1 December 2010), [http://www.theregister.co.uk/2010/12/01/google\\_eu\\_investigation\\_comment](http://www.theregister.co.uk/2010/12/01/google_eu_investigation_comment) accessed 1 September 2021.

<sup>599</sup> David S. Evans, 'Attention Rivalry Among Online Platforms' (2013) 9 Journal of Competition Law and Economics 2, 330.

dominant in their markets, and they do not only compete in their core markets.<sup>600</sup> For instance, Apple is primarily in the software and hardware business (personal computers and mobile phones), Google is mainly a search engine, Facebook is a social media, and Amazon is primarily an e-commerce platform.<sup>601</sup> They are all near-monopolies in their respective markets, but they also form oligopolies together in wider-connected markets.<sup>602</sup> These undertakings may be coming from divergent online markets, yet they are top competitors for each other in most data-driven markets.<sup>603</sup>

In his study, Nicolas Petit mentions a concept called “Moligopoly” for data-driven markets. He underlines the theory of competition between technology giants as a “three-dimensional competitive process”.<sup>604</sup> According to the findings, the degree of competition in data-driven markets is not linear.<sup>605</sup> These undertakings offer substitute products or services in many markets out of their core markets. For instance, Google, Facebook, Apple and Microsoft are all in rivalry in the personal communication application market through their products like Hangouts, iMessage, Skype and Facebook Messenger. The same applies to mail services and many more. In addition to rivalry in linked markets, they also compete against each other by creating new market segments and obtaining the first-mover advantage. This is either done to gather information and create a data advantage or to monetise their data advantage in new markets and establish dominance. In other words, the rivalry among online platforms has three pillars; substitute product competition in the same market, escape competition in order to create new market segments and capitalise on data and other entrepreneurial assets. While they have super dominant positions in their own core markets and compete against each other on various other markets, they tend not to compete on their core markets. Petit explains that; “those firms follow each other outside of the core, to keep iron in the fire.”<sup>606</sup>

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<sup>600</sup> Konstantinos Stylianou, ‘Exclusion in Digital Markets’ (2018) 24 Michigan Telecommunications and Technology Law Review 2, 249.

<sup>601</sup> Evans (n 599) 330.

<sup>602</sup> Jason Furman, ‘Unlocking digital competition: Report of the Digital Competition Expert Panel’ HM Treasury (2019), 31.

<sup>603</sup> Stylianou (n 600) 249.

<sup>604</sup> Nicolas Petit, ‘Technology Giants, the Moligopoly Hypothesis and Holistic Competition: A Primer’ (2016). Available at SSRN: <https://ssrn.com/abstract=2856502>, accessed 1 September 2021, 46.

<sup>605</sup> Ibid.

<sup>606</sup> Ibid.



<i>TOP COMPETITORS OF TECHNOLOGY GIANTS<sup>607</sup></i>				
<i>Google<sup>608</sup></i>	<i>Apple<sup>609</sup></i>	<i>Facebook<sup>610</sup></i>	<i>Microsoft<sup>611</sup></i>	<i>Amazon<sup>612</sup></i>
<i>Yahoo</i>	<i>Google</i>	<i>Google</i>	<i>Google</i>	<i>Alibaba</i>
<i>Microsoft</i>	<i>Samsung</i>	<i>Twitter</i>	<i>Apple</i>	<i>Apple</i>
<i>Facebook</i>	<i>Hewlett- Packard</i>	<i>Snapchat</i>	<i>Oracle</i>	<i>Google</i>

Table 2: Moligopolists<sup>613</sup>

In other words, when competition exists in data-driven markets, five technology giants are frequently in that competition.<sup>614</sup> These are Google (dominates online search), Facebook (dominates social media), Google and Apple (duopoly in mobile app services), Microsoft (dominates PC operating systems and software) and Amazon (dominating e-commerce). All of these undertakings have control over separate online ecosystems which they own.<sup>615</sup> This trend shows how a few technology giants have become prominent in the online world. Also, the Furman Report states that: “Many stakeholders also submitted evidence to the Panel arguing that such a trend can be harmful to competition... This strategy can create barriers to entry, as new firms need to offer an entire ecosystem by competing across a range of related markets to

<sup>607</sup> Hoovers Industry Reports, [www.hoovers.com](http://www.hoovers.com), 2019.

<sup>608</sup> Google Company Profile, Available at: [http://www.hoovers.com/company-information/cs/company-profile.google\\_llc.fb3f79c4d1791506.html#competitors](http://www.hoovers.com/company-information/cs/company-profile.google_llc.fb3f79c4d1791506.html#competitors) accessed 1 September 2021.

<sup>609</sup> Apple Company Profile, Available at: [http://www.hoovers.com/company-information/cs/company-profile.apple\\_inc.4c9baa063908dbd8.html#competitors](http://www.hoovers.com/company-information/cs/company-profile.apple_inc.4c9baa063908dbd8.html#competitors) accessed 1 September 2021.

<sup>610</sup> Facebook Company Profile, Available at: [http://www.hoovers.com/company-information/cs/company-profile.facebook\\_inc.f1fe73cc6a208e18.html#competitors](http://www.hoovers.com/company-information/cs/company-profile.facebook_inc.f1fe73cc6a208e18.html#competitors) accessed 1 September 2021.

<sup>611</sup> Ibid, Microsoft Company Profile, Hoovers.

<sup>612</sup> Ibid, Amazon Company Profile, Hoovers.

<sup>613</sup> Table taken from Nicolas Petit, ‘Technology Giants, the Moligopoly Hypothesis and Holistic Competition: A Primer’ (2016), 7.

<sup>614</sup> Jason Furman, ‘Unlocking digital competition: Report of the Digital Competition Expert Panel’ HM Treasury (2019), 31.

<sup>615</sup> See Chapter 4.5.4.

survive.”<sup>616</sup> As discussed in detail above, the increasing concentration in data-driven markets is a direct result of the indirect network effects, accumulation of Big Data, feedback loops, tipping and lock-in effects.<sup>617</sup>

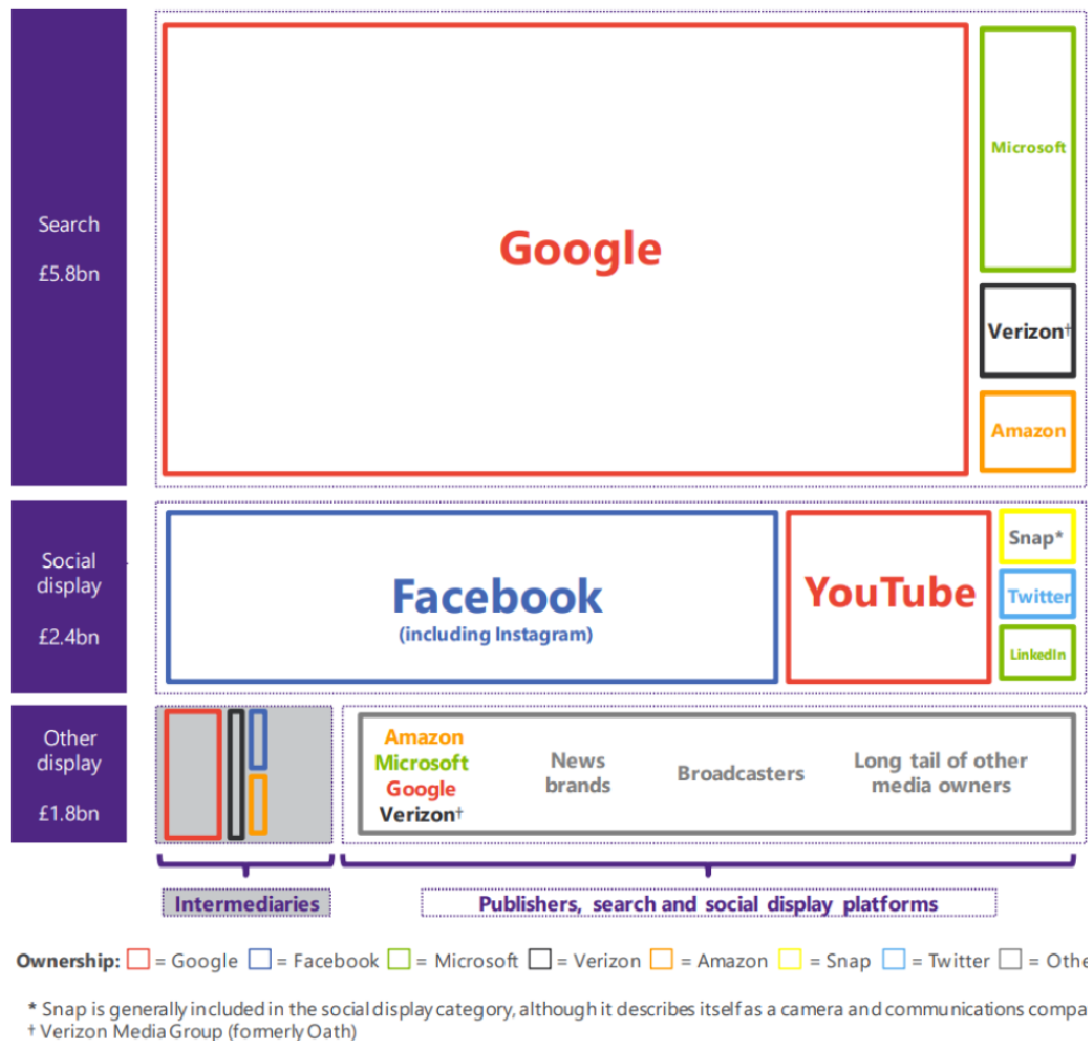


Table 3: Market shares of online advertising expenditure by moligopolists in 2017<sup>618</sup>

### 3.4.3.3 Concerns over Data-Opolies

As mentioned above, digital monopolies have novel features and need urgent attention from a competition law perspective. Problems arise when tools for the assessment regarding abuse of dominant position cases and data-driven mergers are used. The situation is visible in the decisions of the Commission and

<sup>616</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), 31.

<sup>617</sup> See Chapter 3.4.

<sup>618</sup> Taken from Furman Report (n 616) 28; citing Plum Consulting report commissioned by DCMS, Online advertising in the UK, January 2019.

also the Competition Authorities in Europe. Also, rules for dynamic competition and innovation are not vis-à-vis applicable to data-driven markets since the market participants compete on three fronts. Technology giants do not compete to dethrone each other in specific markets but compete on a wider basis to establish connected markets. By this means, undertakings hoard a mass amount of data that even governments do not have.

For example, the persistence of high-concentration and super dominance is a crucial concern regarding data-driven markets. Super-dominant Google has control over the largest search engine globally, and the Google search engine is even identified as the gateway to the internet.<sup>619</sup> It is not erroneous to state that Google has become the internet itself for many people. It is the first step when people go online and connect to the internet nowadays. In such a situation, Google integrates map, video, image, shopping, news, books, flights, restaurants, and finance-related search to its search engine with other online services such as mail, cloud storage, YouTube, and numerous other ones. In this structure, Google makes peoples' lives easier if consumers do use Google's services exclusively. As a result, Google becomes not only the largest search engine but also becomes the largest map service, video streaming service or e-mail service. Competitively speaking, Google's rivals which compete with Google in one or more segments of this ecosystem, have a significant competitive disadvantage in servicing comprehensive, high-quality online services due to lack of data and Google's strong indirect network externalities.

Similarly, to exemplify the persistence of high concentration, the situation in the mobile operating system market where Google and Apple have become a worldwide duopoly can be given. Millions of mobile applications are produced for either Apple's iOS or Google's Android, which allow both operating systems to offer competitive and attractive products.<sup>620</sup> Even once huge competitors in the mobile software and hardware industry such as Nokia or BlackBerry cannot achieve success due to the prominence of iOS and Android in the market. When

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<sup>619</sup> Hermann Maurer, Tilo Balke, Frank Kappe, Narayanan Kulathuramaiyer, Stefan Weber and Bilal Zaka, Report on Dangers and Opportunities Posed by Large Search Engines, Particularly Google 16 (2007) Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.94.5633&rep=rep1&type=pdf> accessed 1 September 2021.

<sup>620</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), 40.

these companies were dethroned by Samsung phones (Android) and Apple phones (iOS) back in the day, there was no such a thing where software and applications were more important than the device itself to become competitive and offer attractive products. However, today new entrants do not have a chance to offer competitive and attractive products if millions of mobile applications do not swarm their mobile operating systems. Thus, Microsoft ceased its mobile operating system in 2017 and moved to Android for their mobile phones just like BlackBerry did in 2016.<sup>621</sup> Microsoft reported that; “one factor behind the lack of success had been app developers’ reluctance to develop apps for the Windows operating system (mobile) because they were already making apps for two larger operating systems.”<sup>622</sup> As Geoffrey Parker et al. stress:

“In the complexity of the governance issues they face, today’s biggest platform businesses resemble nation-states. With more than 1.5 billion users, Facebook oversees a ‘population’ larger than China’s. Google handles 64 per cent of the online searches in the U.S. and 90 per cent of those in Europe, while Alibaba handles more than 1 trillion yuan (162 billion US dollars) worth of transactions a year and accounts for 70 per cent of all commercial shipments in China. Platform businesses at this scale control economic systems that are bigger than all but the biggest national economies.”<sup>623</sup>

Another concern related to super dominant undertakings is the wider consumer harms outside commercial transactions, such as political processes. For instance, the Chinese government collaborates with one of the biggest technology giants in China, Tencent Holdings, owner of the WeChat mobile communication service, to monitor its citizens. The Chinese state news agency published information on a pilot system where Tencent Holdings cooperates with the Chinese Ministry of Public Security to create a digital identification system in Guangzhou.<sup>624</sup> According to the report, it is clear that the Chinese government

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<sup>621</sup> Ibid. See also: <https://www.pocket-lint.com/phones/news/blackberry/136383-blackberry-appears-to-be-going-android-only-say-goodbye-to-bb10> accessed 1 September 2021.

<sup>622</sup> Ibid.

<sup>623</sup> Geoffrey G. Parker, Marshall W. Van Alstyne and Sangeet Paul Choudary, *Platform Revolution: How Networked Markets Are Transforming the Economy--and How to Make Them Work for You*, (W. W. Norton & Company, 2016), 159

<sup>624</sup> Alyssa Abkowitz, ‘The Internet Tightens: Popular Chinese WeChat App to Become Official ID’ *The Wall Street Journal* (31 December 2017), Available at:

relies on the Big Data power and digital capabilities of technology giants to monitor its population.<sup>625</sup> Although collaboration between firms and governments to execute services is not a novel thing, the extent to which the Chinese government uses information extracted from the WeChat application for the private commutation of Tencent Holdings brings the situation to another level. Similar executions of this idea will create huge risks on people, their privacy, and their democracy in the western world and worldwide.

Along the same line, the New York Times claims that Russia manipulated the U.S. political elections by using social media platforms such as Google's YouTube media, Facebook's social network and Instagram.<sup>626</sup> Google, Facebook, and Twitter reported that most U.S. citizens saw some Russian-backed propaganda online.<sup>627</sup> Therefore, it is claimed that Russia affected the outcome of the election in the U.S. considerably. Similarly, the Russian government claimed that Google and Facebook circulated "interfered adverts" to manipulate elections in Russia recently.<sup>628</sup> Facebook responded that Russia must talk to advertisers that are responsible for complying with laws in Russia.<sup>629</sup> Also, Google expressed that they only supported "responsible advertising", which is complied with Russian laws. No matter what the claims and outcomes are, if people, groups, or governments can manipulate elections in these countries through social media, it is quite hard to imagine the power limits of super-dominant undertakings.

Not only the data-driven sector but also markets that are not data-driven are also affected. Digital super-dominance and monopolies influence other industries and spread their dominance by leveraging their power. The Big Data power of technology giants may well contribute to creating higher quality products for consumers. However, eliminating competitors and exploiting and manipulating

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<https://www.wsj.com/articles/internet-tightens-popular-chinese-wechat-app-to-become-official-id-1514541980> accessed 1 September 2021.

<sup>625</sup> Ibid.

<sup>626</sup> Mike Isaac and Daisuke Wakabayashi, 'Russian Influence Reached 126 Million Through Facebook Alone', *The New York Times* (30 October 2017), Available at: <https://www.nytimes.com/2017/10/30/technology/facebook-google-russia.html> accessed 1 September 2021.

<sup>627</sup> 126 million Facebook users saw posts, 131.000 tweet was sent and over 1000 YouTube videos uploaded.

<sup>628</sup> Russia Complains about Facebook and Google Election Ads, *BBC News* (9 September 2019), Available at: <https://www.bbc.co.uk/news/technology-49634688> accessed 1 September 2021.

<sup>629</sup> Ibid.

market power will pose problems on quality, privacy, welfare, social and even moral concerns. Recent abuse of dominant position investigation for the online markets acknowledges these concerns. However, to put a finer point on it, it should be noted that three-dimensional competition on data-driven markets cannot be anticipated by competition regulation and authorities in the past. Digitalisation and the creation of new economy markets generate a situation that the competition law of the 1970s may not be able to cope with. Therefore, tools to assess market power and dominance and merger control should be reconsidered in light of data-driven markets.

In order to address persistent high-concentration, dominance, monopolies, and concerns over peoples' free will and choice, it is important to acknowledge that data-driven markets do not have a self-corrective nature; thus, intervention should not be seen as detrimental. According to the conservative claim, markets self-correct upon new entry into markets and emergence of new competitors.<sup>630</sup> However, this claim is relevant only if entry into markets is considerably easy. When there are entry barriers, strong oligopolies, and super-dominant platforms, market dynamics characterise around the conduct of dominant undertakings. In this situation, the super-dominant technology giants also set the online world's rules and eventually become *de facto* regulators.<sup>631</sup> In other words, huge barriers are created in data-driven markets. With the accumulation of Big Data and other characteristics of data-driven markets, new market entries and effective competition become almost non-existent.

In brief, high concentration in the online world does not seem to contribute to competition positively. Market structures in data-driven markets are not healthy for the functioning of the market in the long run at all. However, the problem is not limited to market structures. Business practices also harm competition, such as abusive conduct and data acquisitions. Data acquisition is not a result but a method to gain market power through the power of data. How data acquisitions lead to monopolies is discussed below.

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<sup>630</sup> Frank H. Easterbrook, 'The Limits of Antitrust' (1984) 63 Texas Law Review, 2-3; Jonathan B. Baker, 'Taking the Error Out of "Error Cost" Analysis (2015) 80 Antitrust Law Journal 1, 1-38, 8-9.

<sup>631</sup> See Chapter 6.5.1.

### 3.5 Data-Driven Acquisitions lead to Online Monopolies

#### 3.5.1 Concerns related to Data-Driven Acquisitions

The acquisition of vast amounts of datasets by technology giants is a real concern. The literature usually refers to these kinds of acquisitions as R&D mergers, which are meant to have pro-competitive effects such as efficiency gains for both consumers and businesses. There could be pro-competitive outcomes of R&D mergers in terms of providing high-quality and innovative products or services.<sup>632</sup> For instance, the accumulation of consumer data in the hands of an undertaking through data acquisitions might lead to significant improvements in the quality of products since undertakings can obtain increasing feedback, thus provide more personalised services to consumers.<sup>633</sup>

Another example would be the initialisation of free-to-use services online. Through the power of Big Data, it is now possible for undertakings to operate using a multi-sided business model.<sup>634</sup> On the one side, there is a market where undertakings operate free services such as online newspapers and use social networking to gather data.<sup>635</sup> On the other side, they sell the gathered data to generate revenue in the form of online advertisements.<sup>636</sup> By this means, they can offer free services on the market while monetising their free services through advertisers.<sup>637</sup> In the end, high-quality free-of-charge services inherently benefit consumers.

Various issues pose threats to markets from a competition law perspective, which may occur after a data-driven merger. Firstly, a merged entity could take control of a massive amount of data through a horizontal merger to increase its market power and create barriers to entry for its competitors to reduce competition in the market.<sup>638</sup> According to paragraph 36 of the Horizontal Merger Guidelines, through mergers that restrict competitors' ability to compete, merged undertakings may have control over important entities such as the supply of

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<sup>632</sup> Ben Holles de Peyer, 'EU Merger Control and Big Data' (2017) 13 *Journal of Competition Law and Economics* 4, 767–790, 776.

<sup>633</sup> *Ibid*, 777.

<sup>634</sup> *Ibid*, 777.

<sup>635</sup> Damian Geradin and Monika Kuschewsky, 'Competition law and personal data: Preliminary thoughts on a complex issue' (2013) 2 *Concurrences*, 3.

<sup>636</sup> *Ibid*.

<sup>637</sup> Holles de Peyer (n 632) 777.

<sup>638</sup> *Ibid*, 769.

inputs, patents, or other types of intellectual property (IP) rights.<sup>639</sup> In this case, the argument should be whether Big Data is such input for businesses. Additionally, these undertakings may raise the costs or degrade the quality of services in general.<sup>640</sup>

Second, threats may occur through vertical and conglomerate mergers. Undertakings may choose to acquire data, not through competitors but instead merge vertically downstream or upstream.<sup>641</sup> According to the non-horizontal Merger Guidelines, a merged undertaking might limit access to important inputs for downstream or upstream rivals.<sup>642</sup> In this scenario, after a merger, an undertaking that has acquired datasets from upstream or downstream markets might foreclose input or restrict the access of third market players to these data sets, which might be essential for businesses.<sup>643</sup> Additionally, this foreclosure might eventually result in raised prices, degraded quality of products and services, or the elimination of competitors ultimately.

In the conglomerate scenario, undertakings might tie their own services to acquired data sets or services.<sup>644</sup> By this means, undertakings try to leverage their market power in related markets. According to a study by the CMA, businesses gain market power from datasets in their own markets and then enter into other markets for data analytics with the aid of tying their products to datasets.<sup>645</sup> Then, they use the gathered information for further data analytics.<sup>646</sup> Although the identification of conglomerate effects might be more complicated in these scenarios, the analysis of broader anti-competitive effects should not be excluded from merger control tools. The broader effects of data-driven acquisitions are explained below.

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<sup>639</sup> European Commission, Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2004] OJ C31/03, para 36.

<sup>640</sup> Ibid.

<sup>641</sup> Holles de Peyer (n 632) 774.

<sup>642</sup> European Commission, Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2008] OJ C265/7, para 36.

<sup>643</sup> Holles de Peyer (n 632) 775.

<sup>644</sup> Ibid.

<sup>645</sup> The Competition and Markets Authority, The commercial use of consumer data Report on the CMA's call for information (2015) Available at: <https://www.gov.uk/cma-cases/commercial-use-of-consumer-data> accessed 29 May 2021, 90.

<sup>646</sup> Ibid.



### 3.5.2 New Global Value Chains

Online platforms take over innovation-centric firms to gain competitive advantage through the accumulation of Big Data.<sup>647</sup> In other words, M&As have become instruments to collect data under the name of R&D mergers. Acquisitions aiming to obtain data from smaller businesses might pose anti-competitive threats in the Internal Market.<sup>648</sup> This is called the acquisition of nascent rivals,<sup>649</sup> and through these kinds of acquisitions, technology giants obtain data, preserve concentration, or even monopolise in the online world.<sup>650</sup> Prime examples for this action are Google's, Facebook's, Apple's and Microsoft's recent acquisitions.<sup>651</sup> There have been more than 400 acquisitions in the last decade.<sup>652</sup> Most of these acquisitions were not harmful to competition or at least deemed to have future pro-competitive benefits according to the EUMR rules. However, the abovementioned acquisitions raised the issue of whether risks are contained in vertical and conglomerate mergers in the online world since there is a boom in conglomerate mergers and the traditional assessment tools for mergers and abusive conduct could be ill-equipped to address the market characteristics and structures. Conglomerate mergers do contain competitive risks, and these important acquisitions are dealt with in detail in the following chapter.<sup>653</sup>

That being said, there is a growing pace of data acquisitions in the online world in general. Technology giants create value chains based on Big Data through data acquisitions and the collection of consumer data directly from users. The question is, how do data acquisitions create or re-structure global value chains? Furthermore, through data-driven mergers, how do businesses create data related dominance in online platforms?

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<sup>647</sup> OECD, Data-Driven Innovation, Big Data for Growth and Well-Being, OECD Publishing Paris (2015) Available at: [https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation\\_9789264229358-en](https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation_9789264229358-en) accessed 1 September 2021.

<sup>648</sup> Marixenia Davilla, 'Is Big Data a Different Kind of Animal? The Treatment of Big Data under the EU Competition Rules' (2017) 8 Journal of European Competition Law and Practice 6, 373.

<sup>649</sup> Keith Hylton, 'Digital Platforms and Antitrust Law' (2019) Boston Univ. School of Law, Law and Economics Research Paper No. 19-8, 10-11.

<sup>650</sup> Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016] Available at:

[https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108) accessed 1 September 2021, 16-17.

<sup>651</sup> For details, See Chapter 4.

<sup>652</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 91.

<sup>653</sup> For details, See Chapter 4.

Year	Acquirer	Company acquired	Transaction value (\$million)
2006	Google	YouTube	1,650
2007	Google	DoubleClick	3,100
2011	Microsoft	Skype Technologies	8,500
2011	Google	Motorola Mobility	12,500
2012	Facebook	Instagram	1,000
2012	Microsoft	Yammer	1,200
2013	Google	Waze	970
2014	Apple	Beats Electronics	3,000
2014	Google	Nest Labs	3,200
2014	Google	Deepmind Technologies	625
2014	Facebook	WhatsApp	19,000
2014	Facebook	Oculus	2,000
2016	Microsoft	LinkedIn	26,200
2017	Apple	Shazam	400
2018	Amazon	Ring	1,000

Table 4: Major high-value acquisitions by technology giants<sup>654</sup>

The answer is similar to data collection. Due to the network effects, accumulation of big data and data analytics, the value of data is derived, and better products and services are offered to consumers.<sup>655</sup> However, in addition to the sheer accumulation of data, high concentration is created way faster due to data acquisitions. As mentioned in the previous sections, competition *for* the market is the main type of competition and data acquisitions also impede “competition *for* the market”. Acquisition of nascent rivals is a way for technology giants to swallow new entrants and their research and developments in addition to their data related to consumers of that service or technology. Therefore, the acquisition of innovations and start-ups to pre-empt smaller businesses from

<sup>654</sup> Furman Report (n 652) 49.

<sup>655</sup> See Chapter 2.

becoming their competitors in the online world.<sup>656</sup> As barriers to entry rise, competition weakens, and even new waves of competition *for* the market is prevented, high concentration occurs in data-driven markets and the online world.<sup>657</sup>

The presence of a few technology giants in the online world is a risk since they establish and entrench market power in different industries quite easily due to their huge data advantage.<sup>658</sup> In other words, data-driven acquisitions become the very first step to leverage market power in data-driven markets. It is the most common way exercised by technology giants. Through data-driven acquisitions, businesses such as Google or Apple have extended their reach beyond core markets like social media or search engines into a wide ecosystem including wearable devices (smartwatches and AR/VR glasses), autonomous vehicle technologies, and online broadcasting services, even the energy sector.<sup>659</sup> Data-driven acquisitions demonstrate how they can easily embody conglomerate effects but can also be overlooked by competition authorities. The prime examples would be Google's DoubleClick acquisition in 2010<sup>660</sup> and the Fitbit acquisition in 2020.<sup>661</sup> In 2010, the European Commission cleared the *Google/DoubleClick* acquisition on the basis that there would not be any conglomerate effects between the search engine market and the online advertising sector, which was a huge error. In time, the search engine market and online advertising were welded into one bigger ecosystem of Google's, and Google has huge control over online advertising today. In a similar vein, Google notified the European Commission regarding the *Google/Fitbit* acquisition ten years after the DoubleClick decision. However, this time the Commission's first response was the concerns over conglomerate effects that could occur between wearable devices and online advertising.<sup>662</sup> Departure from old ideas and the realisation of the new global value chains through data-driven acquisitions is

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<sup>656</sup> Inge Graef, 'Rethinking the essential facilities doctrine for the EU digital economy', (2019) 53 *Revue juridique Thémis de l'Université de Montréal*, no. 1, 33-72, 39.

<sup>657</sup> *Ibid.*

<sup>658</sup> See Chapter 5.4.1.2.

<sup>659</sup> Graef (n 656) 39-40.

<sup>660</sup> Case No COMP/M.4731, *Google/DoubleClick C* [2008] 927 Final, Commission Decision of 11/03/2008 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement.

<sup>661</sup> Case No COMP/M.9660, *Google/Fitbit* [2020] Prior Notification of a Concentration OJ 2020/C 210/09.

<sup>662</sup> *Ibid.*

important in applying competition in the digital age. However, the overlooked points in previous acquisitions will be discussed in detail in the following chapter.<sup>663</sup>

### 3.5.3 Conglomerate Effects and Wider Analysis

*Conglomerate Effects.* Data-driven acquisitions contain conglomerate strategies, and they are used to create new global chains. Although such conglomerate strategies cannot be deemed anti-competitive itself<sup>664</sup> or problematic, it is an important aspect of data-driven acquisitions and competition authorities should assess it in every case related to data-driven markets and online ecosystems. The reason behind it is that the pattern of data-driven acquisitions containing conglomerate strategies to exploit data advantage is hard to assess compared to traditional markets. As mentioned above, data acquisitions do not only affect the related markets of the parties in the acquisition but also adjacent online markets, digitalised traditional markets, future innovation, and ultimately the method of competition there: competition *for* the market. Thus, these acquisitions need a comprehensive understanding and analysis of how the acquirer could utilise data. However, it is important to mention that these data-driven acquisitions do not have to pose threats to competition even if they contain conglomerate strategies.<sup>665</sup>

The first problem faced by the competition authorities is on addressing conglomerate effects in an acquisition of a start-up by a technology giant where huge sums of money are paid for quite small businesses. As a matter of course, the record takeover bids for small R&D businesses that do not have high capital stocks have aroused the competition authorities' interest in Europe. Technology giants have been purchasing small online platforms with little or no turnover. For instance, in 2014, when Facebook acquired WhatsApp for almost \$20 billion,<sup>666</sup> WhatsApp's had only \$10 million in revenue and a net loss of \$138 million. Facebook broke down the money it spent for the acquisition as \$450 million for the WhatsApp brand, \$288 million for tech, \$2 billion for the user base, and the rest (more than \$15 billion) for something that competition authorities

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<sup>663</sup> See Chapter 4 for more information.

<sup>664</sup> Graef (n 656) 39-40.

<sup>665</sup> Furman Report (n 642) 93.

<sup>666</sup> Case No COMP/M.7217, Facebook/WhatsApp C [2014] 7239 Final, Commission Decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004.

overlooked.<sup>667</sup> It is said that the huge difference was spent for the “future growth”, “potential monetisation opportunities”, and for “strategic advantages provided in the digital mobile ecosystem”.<sup>668</sup>

The point is, these smaller companies, such as WhatsApp, hold great value due to their databases, which had been already collected and classified and waiting for utilisation for better products, but also the creation of ecosystems, lock-in effects, abusive behaviour, and monopolisation. However, this potential significance of the consumer data was not acknowledged in the merger transactions in the near past. Therefore, the question remains: Will consumer data become prominent and competitive? If so, do undertakings that do not have data fall behind in data-driven markets in the future?<sup>669</sup> As Margrethe Vestager states, controlling relevant data could make it impossible to compete with these data controller undertakings.<sup>670</sup> Thus, data, or more specifically Big Data (containing 4Vs), is already becoming essential in businesses operating in both the digital economy and the traditional economy, where businesses can also engage in more successful marketing and more profitable decisions.<sup>671</sup>

In light of these concerns, a considerable number of mergers have been investigated by the European and American authorities.<sup>672</sup> In 2008, the *Google/DoubleClick* merger was approved by the European Commission and the Federal Trade Commission of the US. The main justification was that collected data was non-rivalrous, and competitors (such as Microsoft) had easy access to the data.<sup>673</sup> It was one of the earliest decisions regarding Big Data and its effects on competition, and it is proven that the assessment of this acquisition was quite

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<sup>667</sup> Josh Constone, ‘WhatsApp’s First Half Of 2014 Revenue Was \$15M, Net Loss Of \$232.5M Was Mostly Issuing Stock’ *Techcrunch* (29 October 2014), Available at: <https://techcrunch.com/2014/10/28/whatsapp-revenue/> accessed 1 September 2021.

<sup>668</sup> *Ibid.*

<sup>669</sup> Marixenia Davilla, ‘Is Big Data a Different Kind of Animal? The Treatment of Big Data under the EU Competition Rules’ (2017) 8 *Journal of European Competition Law and Practice* 6, 371.

<sup>670</sup> Dafydd Nelson, ‘Microsoft, LinkedIn should heed Vestager’s warning about ‘unique’ data’ *MLex Market Insight* (9 September 2016) Available at: <https://mlexmarketinsight.com/insights-center/editors-picks/mergers/europe/microsoft-linkedin-should-heed-vestagers-warning-about-unique-data> accessed 29 May 2021.

<sup>671</sup> Davilla (n 669) 371.

<sup>672</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final; Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final; Case No COMP/M.6314 *Telefónica UK/Vodafone UK/Everything Everywhere/JV* C[2012] 6063 final; Case No COMP/M.6281 *Microsoft/Skype* C[2011] 7239 final; Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final ; Case No COMP/M.8124 *Microsoft/LinkedIn* C [2016] 8404 final; Case No COMP/M.8228 *Facebook/WhatsApp* C [2017] 3192 final.

<sup>673</sup> Case No COMP/M.4731 *Google/DoubleClick* C [2008] 927 final, para 344.

erroneous.<sup>674</sup> Another highly debated acquisition, the *Facebook/WhatsApp* merger, was approved by both Commissions in 2014. The main justification was the irrelevancy between WhatsApp's consumer data and Facebook's targeted advertising services.<sup>675</sup> However, both Facebook's data-driven efficiency claims and the Commission's assessment were inaccurate.<sup>676</sup> Consequently, in 2017 the Commission fined Facebook €110 million for providing misleading information about the WhatsApp merger.<sup>677</sup>

In academia, some commentators argue that the EU Merger Regulation is sufficient to deal with the Big Data issue.<sup>678</sup> According to Kadar and Bogdan, these recent merger approvals clearly show a degree of consistency in their approach.<sup>679</sup> Thus, the established theories of harm, including conglomerate effects, could be sufficiently flexible to be applied to Big Data mergers.<sup>680</sup> However, some commentators argue that merger control in the EU has proved its insufficiency in assessing mergers involving Big Data.<sup>681</sup> According to this idea, substantive analysis is not adequate for the new economy market structures, and the tools used to assess mergers are misleading.<sup>682</sup>

*Thresholds.* As a precursor/preliminary policy response, an issue has emerged regarding the effectiveness of turnover-based thresholds in data-driven mergers since merger control tools might not capture every transaction that contains serious anti-competitive threats for data-driven markets.<sup>683</sup> According to a European Commission public consultation, in which stakeholders' views were sought on the effectiveness of the turnover based jurisdictional thresholds of

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<sup>674</sup> For the discussion: See Chapter 4.

<sup>675</sup> Case No COMP/M.7217 *Facebook/WhatsApp C* [2014] 7239 final, para 179-189.

<sup>676</sup> For the discussion: See Chapter 4.

<sup>677</sup> European Commission Press Release, 'Mergers: Commission fines Facebook €110 million for providing misleading information about WhatsApp takeover' Brussels, 18 May 2017 Available at: [http://europa.eu/rapid/press-release\\_IP-17-1369\\_en.htm](http://europa.eu/rapid/press-release_IP-17-1369_en.htm) accessed 29 May 2021.

<sup>678</sup> Massimiliano Kadar and Mateusz Bogdan, 'Big Data' and EU Merger Control – A Case Review (2017) 8 *Journal of European Competition Law and Practice* 8; Ben Holles de Peyer, EU Merger Control and Big Data (2017) *Journal of Competition Law and Economics* 13(4), 767–790.

<sup>679</sup> Kadar and Bogdan (n 678) 486.

<sup>680</sup> *Ibid.*

<sup>681</sup> Hanna Stakheyeva and Fevzi Toksoy, Merger Control in the Big Data World: To Be or Not to Be Revisited? (2017) 38 *European Competition Law Review* 6, 265-271, 270.

<sup>682</sup> *Ibid.*, 270-271.

<sup>683</sup> European Commission, 'Consultation on Evaluation of procedural and jurisdictional aspects of EU merger control' [2016] Available at: [http://ec.europa.eu/competition/consultations/2016\\_merger\\_control/index\\_en.html](http://ec.europa.eu/competition/consultations/2016_merger_control/index_en.html) accessed 29 May 2021.

merger control in the EU, it is stressed that the effects of controlling valuable data might be quite significant, especially in the digital and pharmaceutical industries.<sup>684</sup> In Germany, lawmakers have identified a problem with such assessment: the ineffectiveness of the current *ex-ante* merger control measures. Due to this reason, an amendment in the German Competition Act (ARC) came into force back in 2017. The 9<sup>th</sup> amendment to the German Competition Act brought a major change to merger control, and an additional threshold was added to merger transactions. According to the amendment, mergers must be notified when the transaction value is more than €400 million in total, where the target has little or no turnover (below €5 million) in Germany.<sup>685</sup> Discussion spread over Europe. For instance, France has opted against an amendment related to value-based transactions and turnover thresholds but considered *ex-post* control mechanisms over data-driven acquisitions for mitigation.<sup>686</sup> It can be predicted that merger control mechanisms, either *ex-ante* or *ex-post*, are also subject to change in light of these situations on the EU level.

On the other hand, Jacques Crémer et al. argue in their report for the European Commission regarding competition policy in the digital era that the thresholds of the EU Merger Regulation should not be changed just like it was done in Germany.<sup>687</sup> According to the idea, although there are competitive concerns over the acquisition of start-ups with no significant thresholds, it is still early for an EU-wide regulatory amendment.<sup>688</sup> Thus, they consider waiting on how the new transaction thresholds affect merger control in Germany before introducing the new EUMR thresholds for data-driven markets.<sup>689</sup> To put it in a different way, authors advocate for more detailed monitoring regarding threshold issues and emphasise the importance of wider effects of a merger in data-driven markets. Therefore, as for a substantive assessment of acquisitions, possible new theories of harm are needed in order to capture the potential wider effects of acquisitions on competition in the online world.<sup>690</sup> Thus, they argue that merger

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<sup>684</sup> Ibid.

<sup>685</sup> Germany, Act Against Restraints of Competition (Competition Act – GWB), s(35)1.2.

<sup>686</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition Policy for the Digital Era: Final Report (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), accessed 1 September 2021, 114.

<sup>687</sup> Ibid, 115-116.

<sup>688</sup> Ibid, 115

<sup>689</sup> Ibid, 115.

<sup>690</sup> Ibid, 124.

analysis must include a discussion on how undertakings create online ecosystems through mergers, entrench their positions and shield these ecosystems from competitive pressure.<sup>691</sup> In this sense, if strong indirect network effects and economies of scale are already present in a market, acquisitions could likely lead to high concentration and leveraging market power.<sup>692</sup> For this reason, competition assessment for the acquisitions of start-ups must be conducted carefully to analyse the ecosystem structure and conglomerate effects correctly.<sup>693</sup>

Fortunately, the approach to data-driven mergers seems to be changing. For example, in the case of data-driven efficiencies, the new market structures and especially Big Data's role in the competition.<sup>694</sup> This can be seen in the latest investigations of the European Commission in 2020.<sup>695</sup> Contrary to earlier merger decisions, the European competition authorities are now focusing their methods on assessing Big Data and data-driven markets and the wider effects of data utilisation in the cases of technology giants and online platform owners. New investigations will hopefully bring more clarification to the area of law.

*Data Privacy Dimension.* In addition to the discussion of conglomerate effects and possibly ineffective *ex-ante* merger control tools, another challenge is the non-price dimension of competition law related to Big Data: privacy. Do the competition authorities analyse the effects of a merger in the non-price dimension of competition law? Although privacy-as-a-quality (non-price) parameter was discussed in the EU in mergers such as *Facebook/WhatsApp*, *Microsoft/Yahoo!* and *Microsoft/LinkedIn*, and was found to be a quality parameter of non-price competition;<sup>696</sup> the European Commission also ruled in the *Facebook/WhatsApp* merger that: "Any privacy-related concerns flowing from the increased concentration of data within the control of Facebook as a result of the Transaction do not fall within the scope of the EU competition law rules but

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<sup>691</sup> Ibid, 124.

<sup>692</sup> Ibid, 124.

<sup>693</sup> See Chapters 4 and 5.

<sup>694</sup> Akiva Miller, 'The Dawn of the Big Data Monopolists' (2016), Available at: <https://ssrn.com/abstract=2911567>, accessed 1 September 2021, 7.

<sup>695</sup> Case No COMP/M.9660, Google/Fitbit [2020] Prior Notification of a Concentration OJ 2020/C 210/09.

<sup>696</sup> Case No COMP/M.5727, Microsoft/Yahoo! Search Business C [2010] 1077 Final, para 101-223; Case No COMP/M.7217, Facebook/WhatsApp C [2014] 7239 Final, para 87.



within the scope of the EU data protection rules.”<sup>697</sup> Similarly, scholars advocate that privacy concerns stemming from data should be addressed by data-protection laws solely.<sup>698</sup> However, competition law becomes relevant whenever a violation of data protection rule also violates the competition rules such as Article 102 TFEU.<sup>699</sup>

As competition policy is concerned with a healthy and functioning market and consumer welfare, if privacy becomes a fundamental parameter to be assessed for competition in data-driven markets, it must be addressed within competition law since data protection laws definitely have different aims than competition law.<sup>700</sup> However, it also does not mean that there cannot be a case where both competition and data protection laws are relevant.<sup>701</sup> Discussion on competition assessment through quality-innovation-privacy triangle in Chapter 5 demonstrates that privacy should be incorporated into competition law and become a non-price dimension of competition law assessment in the EU.<sup>702</sup>

To sum up, it seems that data-driven mergers should be analysed in light of new market dynamics.<sup>703</sup> Even the assessment method might need to change, like in the example of the amendment of the competition act of Germany, since Big Data changes the structure of economic transactions in the digital age. In order to find the appropriate remedy, the first point which needs to be addressed is the global value chains created by Big Data since data-driven mergers are more likely to have strong conglomerate effects on markets, as discussed. Therefore, price-centric traditional assessments – horizontal and vertical – for markets seem to be ill-equipped due to the growth in data-driven conglomerate mergers. In the same vein, dominant undertakings use their data dominance in adjacent markets for anticompetitive purposes. Together, these two situations

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<sup>697</sup> Case No COMP/M.7217, Facebook/WhatsApp C [2014] 7239 Final, para 164.

<sup>698</sup> Davilla (n 669) 380.

<sup>699</sup> Bundeskartellamt’s Facebook investigation. See Chapter 5.6.2.

<sup>700</sup> Giuseppe Colangelo and Mariateresa Maggolino, ‘Data Protection in Attention Markets: Protecting Privacy through Competition?’ (2017) 8 *Journal of European Competition Law and Practice* 363, 367; Thorsten Mager and Philipp Otto Neideck, ‘European Union: Data-related Abuse of Dominance’ (2018) *Global Competition Review*, Available at: <https://globalcompetitionreview.com/insight/e-commerce-competition-enforcement-guide/1177726/european-union-%E2%80%93-data-related-abuse-of-dominance> accessed 1 September 2021.

<sup>701</sup> Nils-Peter Schepp and Achim Wambach, ‘On Big Data and Its Relevance for Market Power Assessment’ (2016) 7 *Journal of European Competition Law and Practice* 2, 120–124, 123.

<sup>702</sup> See more in Chapter 5 of this thesis.

<sup>703</sup> See more in Chapter 4 of this thesis.

create enormous negative long-term effects in terms of competition, which is the main finding of this thesis. In the following chapters, both issues are discussed in detail.

### **3.6 Concluding Remarks**

Data-driven markets are the new economy markets created by the commercialisation of the internet and by the utilisation of Big Data through algorithms and artificial intelligence. Innovation is the predominant characteristic of data-driven markets, and competition *for* the market is the main type of competition. Competition *for* the market creates innovation cycles, leading to first-mover advantage and dominance in data-driven markets. In the online world, the Big Data user undertakings tip markets in favour of them, which creates barriers by the strong indirect network effects. Therefore, the accumulation of Big Data creates irreversible damage on markets regarding competition and markets tip in favour of dominant undertakings. Having an inherent advantage by having and using Big Data, these undertakings achieve efficient scales. Thus, smaller rivals cannot dethrone dominant undertakings or even compete. Even though the monopolisation of markets and tipping effects cannot be deemed anti-competitive itself by looking at the current structure of a market in the new economy, the accumulation of Big Data and contributory effects create barriers to entry in data-driven markets and do not contribute to healthy competition positively. Thus, there are no low entry barriers in data-driven markets, and it is impossible for markets to self-correct themselves as *laissez-faire* competition claims suggest.

The utilisation of Big Data affects the structures of newly emerged markets and changes the structures in traditional markets considerably. Due to the creation of the online advertising market, many firms which may want to be rivals of technology giants in commercial life actually depend on revenues and consumers stemming from online advertising services of super-dominants. However, the online advertising industry is at the hands of a few firms that hoard mass amounts of user data. These undertakings and their services have millions and even billions of users worldwide. These undertakings enjoy the externalised power of indirect network effects created by billions of consumers. However, this network effect develops differently than in traditional markets of manufactory industry or telecom sector. In addition to the existent direct network effects in traditional markets, there are also indirect network effects on both sides of the

markets in multi-sided platforms where the platform owner can internalise both sides for benefits. Only a handful of businesses can compete in markets where strong indirect network effects and returns to scale are present.<sup>704</sup> As a result, near-monopolies are established.

These near-monopolies are not ephemeral in data-driven markets due to the inherent advantages given by Big Data to undertakings. In the last decade, the evolution of data-driven markets shows signs that digital monopolies will be the norm in the near future. Three-dimensional competition between “moligopolists” and near-monopolies of super-dominant undertakings poses several concerns. The structure in data-driven markets are not temporary, and data-driven markets do not seem to have self-corrective nature. Tipping the markets and sophisticated relationship between technology giants prove that the existent and potential rivals of technology giants in the online world cannot revert the situation since they all rely on the services of technology giants. Digital monopolies are a problem for healthy competition and new markets. However, the current structure and behaviour of dominant undertakings also bring up further issues regarding abuse of dominant position, data acquisitions, and assessment of market power. Many of the highlighted issues are delved deeper in recent cases and investigations in the following chapters. However, the case law is quite far from mitigating the current problems.

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<sup>704</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, ‘Competition Policy for the Digital Era: Final Report’ (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html) accessed 1 September 2021, 36.

## **4 ASSESSMENT OF DATA-RELATED MARKET POWER IN DATA-DRIVEN MARKETS**

### **4.1 Introduction**

Previous chapters are focused on Big Data technology and its effects on markets in total. This chapter aims to cover issues gathered around the second research question: “How could Big Data be used by dominant undertakings to undermine the process of competition?”.<sup>705</sup> It is clearly seen that Big Data is a valuable asset for undertakings and a technology that has changed many markets irreversibly. Big Data has changed the structures and the operation of multi-sided markets -which was very well known in the media sector (paper media) long before- led to the creation of ecosystems. Multi-sidedness of a market and platform-ecosystem structure is a norm today if Big Data power is present in a market.

In virtue of excessive network effects stemming from Big Data processing and utilisation, undertakings with relatively low initial capitals have gained unprecedented market power. In a world where giant oil companies and banking companies predominated the global market for decades, technology companies are the most valuable ones today. Most of them are the creators of digital ecosystems mentioned in the previous chapter. In multi-sided platforms, undertakings created advantageous positions for themselves through the effective use of Big Data, could well abuse their dominant positions. In a scenario like this, Article 102 of the TFEU is applied to these situations. In EU competition law, abuse of dominant position cases start with the relevant market examination followed by the market power analysis to identify the market power of undertakings.

Although it is widely accepted that defining a relevant product and geographic market is an inevitable part of the abuse of dominant position cases for the purposes of competition law; some academics argue that definition of a relevant market might not be useful and necessary in a number of competition cases, especially in the digital economy.<sup>706</sup> Along the same line, in recent merger investigations, the Commission seemed to leave definitions of relevant markets

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<sup>705</sup> Chapter 1- Introduction.

<sup>706</sup> Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 85.

open to some extent. Therefore, this chapter analyses the necessity of defining relevant markets in data-driven markets for abuse of dominant position cases and merger investigations. The materiality of a definition and regulatory challenges around defining relevant markets are also discussed below. This also links the issue with challenges around the assessment of market power in new economy markets.

In the following sections, challenges on defining a relevant market for Article 102 of the TFEU breaches and EU merger control mechanism in data-driven markets, including a discussion on the assessment of market power in general, is scrutinised. The method for the analysis is an examination of recent abuse cases regarding Google in the EU. Alongside the cases of Google before the Commission, recent merger investigations of other technology giants, including Microsoft and Facebook, are also analysed due to their relevance on the definition of relevant markets and assessment of market power for Article 102 TFEU purposes.

## **4.2 Market Definition in EU Competition Law**

Competition law consists of various legal norms and rules. Many concepts, either legal or economic, are utilised in this framework. Definition of the relevant market is one of these concepts.<sup>707</sup> Primarily, it is not a legal norm for competition law purposes. Instead, it is an interpretation of an economic concept into the legal context. Today, market power assessment, including relevant market definition, is economic-based in most jurisdictions in terms of competition law. In other words, economic analysis is used by the competition authorities, and market definition serves as an analytical tool for competition law purposes.<sup>708</sup> So-called the hypothetical monopolist test (HMT), small but significant non-transitory increase in price test (SSNIP) and demand-supply side substitutability assessment can be mentioned as examples. However, only after the initial economic analysis, the legal concepts are created. Therefore, concepts such as “dominant position” or “relevant market” find a place in the legal context.

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<sup>707</sup> Viktoria H. S. E. Robertson, ‘The relevant market in competition law: a legal concept’ (2019) 7 *Journal of Antitrust Enforcement* 158–176, 167.

<sup>708</sup> *Ibid*, 175.

In the traditional assessment of market power, in order to measure concentration, defining a relevant market is a must.<sup>709</sup> According to the European Commission, market definition is a tool to define the boundaries of competition between firms.<sup>710</sup> Thus, the main purpose of defining a relevant market is to engage a systemic analysis regarding how undertakings are involved in anti-competitive conduct.<sup>711</sup> The conventional inquiry of defining the relevant market is an empirical method where the undertaking's market shares are calculated to determine whether it is large enough for possible abusive behaviour.<sup>712</sup> Milton Friedman expresses the main underlying reason for the relevant market analysis by referring to the hypothesis of Alfred Marshall.<sup>713</sup> According to the idea, undertakings can be separated into different industries regarding the similarities between the undertakings and their products.<sup>714</sup> These specific industries can be identified through similar problems aroused in that industry. For many problems, similarities between undertakings in each industry are more important than their differences.<sup>715</sup> For instance, small changes in the demand for a product or an effect on the supply would affect all undertakings in the same industry to a larger extent compared to players in other industries.<sup>716</sup> However, it is also important to note that not every undertaking in a specific industry is affected at the same level as each other, for instance, in case of a change in demand. Detrimental effects can differ.

In order to assess the abusive behaviour of dominant undertakings, case law in the EU established a two-stage procedure to identify relevant markets and then examine the alleged undertakings market position in the relevant market.<sup>717</sup>

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<sup>709</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' (2019), 33, Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 24.

<sup>710</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5, para 2.

<sup>711</sup> Ibid.

<sup>712</sup> William Landes and Richard Posner, 'Market Power in Antitrust Cases' (1980) 94 Harvard Law Review 937, 938.

<sup>713</sup> Milton Friedman, 'The methodology of Positive economics' in *Essays in Positive Economics* (University of Chicago Press, 1966) 3-16, 30-43, 35. Alfred Marshall, 'The Present Position of Economics' (1885), reprinted in *Memorials of Alfred Marshall*, ed. A. C. Pigou (London: Macmillan & Co., 1925); John Stuart Mill, *Principles of Political Economy* (Ashley ed.; Longmans, Green & Co., 1929)

<sup>714</sup> Ibid.

<sup>715</sup> Ibid.

<sup>716</sup> Ibid.

<sup>717</sup> Alison Jones and Brenda Sufirin, *EU Competition Law* (5<sup>th</sup> edn, Oxford University Press, 2014), 304.

After this two-stage procedure, the abusive behaviour of the alleged undertaking is addressed. According to the Court of Justice (the CJEU), the identification of a relevant market holds an essential significance for the purposes of competition law.<sup>718</sup> Identification of relevant markets is engaged for defining the boundaries of competition between undertakings.<sup>719</sup> Identification of the relevant market and boundaries of competition would reveal any kind of competitive constraints that undertakings might have involved.<sup>720</sup>

Technically speaking, reaching a relevant market for a product or service has two dimensions. First, the market is needed to be defined on a product basis. Friedman defines a product as “a collection of units that are perfect substitutes to purchasers, so the elasticity of demand for the output of one firm with respect to the price of another firm in the same industry is infinite for some price and some outputs.”<sup>721</sup> The second dimension is on a geographical basis. The main purpose of defining markets both on product and geographical dimension is to reveal the actual and potential competitors for an undertaking which could restrict the behaviour of that undertaking and also could prevent them from acting independently through competitive pressure.<sup>722</sup> In this respect, defining a relevant market also enables the identification of the market shares, which can provide useful information about market power and assess dominance and apply Article 102 TFEU.<sup>723</sup>

The method of defining a relevant market is relatively straightforward. Identifying related buyers and sellers for a specific product, including substitute products, is necessary along with the purchasing and output decisions.<sup>724</sup> In its ‘Notice on the Definition of Relevant Market’, the European Commission defines ‘relevant product markets’ as markets created by interchangeable or substitutable

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<sup>718</sup> Case 6-72 *Europemballage Corporation and Continental Can Company Inc. v Commission of the European Communities* [1973] ECR 1973 -00215, p 217 (para 14).

<sup>719</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5, para 2.

<sup>720</sup> *Ibid.*

<sup>721</sup> Milton Friedman, ‘The methodology of Positive economics’ in *Essays in Positive Economics* (University of Chicago Press, 1966) 3-16, 30-43, 35.

<sup>722</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5, para 2.

<sup>723</sup> *Ibid.*

<sup>724</sup> Gönenç Gürkaynak, Büşra Aktüre and Sıla Coşkunoglu, ‘Challenges of the Digital Age: The Relevant Product Market Definition in Online and Offline Sales’ in Gönenç Gürkaynak (eds), *The Second Academic Gift Book of ELIG Gürkaynak Attorneys-at-Law on Selected Contemporary Competition Law Matters* (Istanbul, Legal Yayincilik, 2019), 219.

products or services based upon their processes, intended use and characteristics.<sup>725</sup> In order to identify the relevant market and assess competition in a given market, the elasticity and interchangeability of a specific product must be determined first.<sup>726</sup> Then, whether the specific product and its substitutes constitute a separate market must be identified. The relevant market concept refers to the effective competition between undertakings.<sup>727</sup> When there is a sufficient degree of substitutability between similar products or services which constitute a separate market, then it can be presumed that there is competition between these products or services in that specific market.<sup>728</sup> Along the same line, regarding data-driven markets, the Commission expresses in the *Google Search (Shopping)* decision:

“For the purposes of investigating the possible dominant position of an undertaking on a given product market, the possibilities of competition must be judged in the context of the market comprising the totality of the products or services which, with respect to their characteristics, are particularly suitable for satisfying constant needs and are only to a limited extent interchangeable with other products or services.”<sup>729</sup>

Additionally, according to the CJEU, products must be classified not only by their packaging or other sale similarities but must be classified by the specific characteristics of the production process that make them similarly suitable for their purposes.<sup>730</sup> That being said, relevant product market analysis is not limited to interchangeability. It also covers the objective characteristics of products or services.<sup>731</sup> This is called the functionality test. The CJEU repeatedly underlines the importance of competitive structure in identifying the relevant market. According to the Court, “the competitive conditions and the structure of supply

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<sup>725</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5, para 7.

<sup>726</sup> Case 6-72 *Europemballage Corporation and Continental Can Company Inc. v Commission of the European Communities* [1973] ECR 1973 -00215, p 217 (para 14).

<sup>727</sup> Case 85-76 *Hoffmann-La Roche & Co. AG v Commission of the European Communities* (1979) ECLI:EU:C:1979:36, para 28

<sup>728</sup> *Ibid.*

<sup>729</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 145.

<sup>730</sup> Case 6-72 *Europemballage Corporation and Continental Can Company Inc. v Commission of the European Communities* [1973] ECR 1973 -00215, p 217 (para 14).

<sup>731</sup> Case 322-81 *NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities* (1983) ECLI:EU:C:1983:313, para 37.



and demand on the market must also be taken into consideration”.<sup>732</sup> Therefore, in the relevant market analysis, undertakings are subject to three sources of competitive constraints: demand substitutability, supply substitutability and potential competition.<sup>733</sup> Demand substitutability is the most prominent and reliable way of considering and defining a relevant market. However, supply substitutability can also be referred to when it is found as effective as demand substitutability.

Along with the relevant product market, identification of relevant geographical markets is also important. The Commission defines ‘relevant geographical market’ as markets in which undertakings are involved in the supply and demand of relevant products where conditions are more or less uniform.<sup>734</sup> In other words, the geographical market is a territory where competition is homogeneous between rival undertakings. Therefore, these markets can become distinguishable from other markets since the competition occurring in that market is specifically different from others.<sup>735</sup> Identifying geographical market together with the product market seems necessary to assess the market power of undertakings and the competition in a given case. Regarding data-driven markets, identifying a relevant geographical market is not practical since all players in data-driven markets operate on a global scale; thus, examinations and investigations of the CJEU and the Commission would reveal that the relevant geographical market is the EEA in every single case.<sup>736</sup> There are no physical and geographical boundaries in the online world. It is effectively an unprecedented global sector.

### **4.3 Relevant Product Market Failure in the Data-Driven Economy**

The main problem of relevant market definition in data-driven markets is finding a relevant ‘product’ market for the competition law analysis. As data-driven markets have such unique characteristics,<sup>737</sup> defining a relevant product market as the first stage to conduct market power analysis might not be relevant today.

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<sup>732</sup> Case 322-81 *NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities* (1983) ECLI:EU:C:1983:313, para 37; Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 146.

<sup>733</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 149.

<sup>734</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5, para 8.

<sup>735</sup> *Ibid.*

<sup>736</sup> For instance, Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 82-84.

<sup>737</sup> See Chapter 3.3 for more information.

Therefore, the Commission's conduct on defining relevant markets in data-driven markets is discussed in the following section. In this sense, the analysis is divided into separate discussions regarding the definition of relevant product markets, the interchangeability of products, and how narrow product markets are defined in competition law analysis regarding data-driven markets and why narrower relevant product market definitions are irrelevant is discussed below. To note, geographical relevant market analysis is left outside the discussion since there are no geographical limits for the functioning of most data-driven markets.

#### 4.3.1 Market Segmentation

The European Commission received a notification about a merger between Google Inc. and DoubleClick Inc. in 2007. The investigation is about one of the newly emerged markets, online advertising,<sup>738</sup> where Google had already established a worldwide dominance. In the investigation, it is found that both Google and DoubleClick are parts of the "online advertising industry."<sup>739</sup> The online advertising market is regarded as a separate market from the offline advertising market<sup>740</sup> and has become a whole sector itself.<sup>741</sup> After the second

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<sup>738</sup> Online advertising started as a business model for undertakings operating in the online world. Online advertising industry have three main players; advertisers who buy ad space and show their ads, web publishers who sell that space to advertisers to gain revenue, and the intermediaries who provide ad services and bring advertisers and publishers together. Although started in 1998, the first online advertising service of Google was launched in 2000 (AdWords). AdWords was the first service which placed advertisements on Google search results page. Later, in 2002, Google launched an updated version of its AdWords service which was based on cost-per-click pricing. Following investments, in a short period of time, Google has reached to 100.000 advertisers to serve its online ad services. At that time, Google's daily search count was about 200 million worldwide. Shortly after in 2003, Google expanded its online advertisement business and started to offer click-through rate based targeted advertisements to users, AdSense. This was a significant breakthrough in the online advertisement sector. In 2005, Google launched another service, Site Targeting. This service enabled advertisers to reach specific websites to show their ads in order to narrow their audience and to generate more relevant advertisements. James Ratliff and Daniel Rubinfeld, 'Online Advertising: Defining Relevant Markets' (2010) 6 *Journal of Competition Law and Economics* 3, 658; Google, Press Release, 'Google Builds World's Largest Advertising and Search Monetization Program' ( 4 March 2003), Available at: <http://www.google.com/press/pressrel/advertising.html> accessed 1 September 2021.

<sup>739</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 8.

<sup>740</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 45-51; Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 61; Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 75-79; Case No COMP/M.8124 *Microsoft/LinkedIn* C [2016] 8404 final, para 159; James Ratliff and Daniel Rubinfeld, 'Online Advertising: Defining Relevant Markets' (2010) 6 *Journal of Competition Law and Economics* 3, 653-686.

<sup>741</sup> It is important to point out that offline advertising in print media like newspapers or magazines, have experienced sharp decreases since the emergence of online advertising business model. Thomas Höppner, 'Defining Markets for Multi-Sided Platforms: The Case of Search Engines' (2015) 38 *World Competition* 3, 359 ; Florence Thépot, 'Market Power in Online Search and Social Networking: A Matter of Two-sided Markets' (2013) 36 *World Competition* 2, 211-212; Avi Goldfarb and Catherine Tucker, 'Substitution between Offline and

phase of the merger investigation, the Commission concluded that the merger would not have detrimental effects on competition in the Internal Market, and the merger was cleared.

The Commission segmented the online advertising market into several fragments in its investigation. Three main types of ads, search ads, non-search or display ads and classified ads, are found in the investigation.<sup>742</sup> The Commission argued that the main difference between these fragments is the way of targeting and reaching the audience.<sup>743</sup> The argument here is that the non-search ads are more general and non-specific for users, which means they are less targeted than others.<sup>744</sup> However, search ads are more relevant to users since these ads can actually be shown after a search query; users have to type some keywords to search in the engine. These ads target consumers since users reveal their interests, geographic location, and more by conducting search queries. In this way, advertisements appear to be more relevant for users.

Nonetheless, the Commission found a narrower product market definition unnecessary by defining separate display or search advertisement markets since there is no relevant distinction between the fragments of online advertising for the investigation.<sup>745</sup> The reason behind it is the method used to distinguish these services, demand-side substitutability of mentioned segments of online advertising. A demand-side substitutability test was performed for search and display ads from the advertisers' point of view.<sup>746</sup> The Commission investigated the technical part of the online advertising market and concluded that the differences between are actually diminishing.<sup>747</sup> They argued that the ability of non-search/display ads to target consumers is improving significantly.<sup>748</sup>

The decision not to define a separate narrow online advertising market seems to be a correct move. This decision is nuanced in the following

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Online Advertising Markets' (2011) 7 *Journal of Competition Law and Economics* 37, 39; James Ratliff and Daniel Rubinfeld, 'Online Advertising: Defining Relevant Markets' (2010) 6 *Journal of Competition Law and Economics* 3, 665–670.

<sup>742</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 11.

<sup>743</sup> *Ibid*, para 50.

<sup>744</sup> Thomas Höppner, 'Defining Markets for Multi-Sided Platforms: The Case of Search Engines' (2015) 38 *World Competition* 3, 360.

<sup>745</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 48.

<sup>746</sup> *Ibid*, para 53.

<sup>747</sup> *Ibid*, para 52.

<sup>748</sup> *Ibid*, para 52.

investigations of *Microsoft/Yahoo*,<sup>749</sup> *Facebook/WhatsApp*, *Telefonica/Vodafone/EE*, and *Microsoft/LinkedIn*.<sup>750</sup> It has been more than a decade since the decision in 2008; today, the online advertising market functions slightly differently. Today, any non-search/display advertising can target consumers and be one hundred per cent relevant for them. Today, algorithms not only use the online history of users and user profiling systems through efficient use of Big Data, but also their respective algorithms use personal assistants like Siri, Alexa, Cortana, and Google Assistant for improved services, which also include all types of advertising. Therefore, it can be assumed that there is no need for a search query to make an ad more relevant to the end-user today.

On the contrary, the French Competition Authority distinguished search and display advertising. In its opinion, in 2018, the aspects of online advertising were discussed, and two issues were found. These are the issues on social network online advertising and the level of substitutability between the display and search advertising.<sup>751</sup> According to the discussion, users were still experiencing the difference in targeting. The discussion was actually based on a study carried out through consultation for stakeholders. The Authority found that search ads are better at targeting than social media ads or display ads in their results.<sup>752</sup> Also, the structure of the search ads market seemed to be found different from the display ad market.<sup>753</sup> The number of suppliers in the search ad market is significantly less than the display ad market due to the established barriers to entry and the expansion of Google and its subsidiaries.<sup>754</sup> The key to eliminating that barrier is creating a powerful search engine and an intermediary platform for online advertising, which is quite difficult. Along the same line, the Federal Trade Commission (FTC) concluded that search and non-search/display advertising

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<sup>749</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 75; Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 76; Case No COMP/M.6314 *Telefónica UK/Vodafone UK/Everything Everywhere/JV* C[2012] 6063 final 151; Case No COMP/M.8124 *Microsoft/LinkedIn* C[2016] 8404 final, para 161.

<sup>750</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 56.

<sup>751</sup> Autorité de la Concurrence, French Competition Authority, Opinion 18-A-03 on data processing in the online advertising sector, (6 March 2018) Available at: [https://www.autoritedelaconcurrence.fr/sites/default/files/integral\\_texts/2019-10/avis18a03\\_en\\_.pdf](https://www.autoritedelaconcurrence.fr/sites/default/files/integral_texts/2019-10/avis18a03_en_.pdf), accessed 1 September 2021, para 176.

<sup>752</sup> *Ibid*, para 179.

<sup>753</sup> *Ibid*, para 182.

<sup>754</sup> *Ibid*, para 182.

segments are not substitutes for each other; thus, they must be regarded as different markets.<sup>755</sup>

Another important issue in the *Google/DoubleClick* investigation is that the Commission defined a separate market for the ad intermediation and ad servicing markets.<sup>756</sup> In data-driven markets, publishers may sell ad spaces directly to ad providers. In this method, publishers can charge higher prices for ad spaces.<sup>757</sup> However, the existence of an intermediary/ad server service creates another method for ad space selling. In this way, publishers and ad providers come together via an intermediary or an exchange service. In other words, there is always a third player in the market. This market, however, is argued not to be a single relevant market. Segmentation of intermediary services market as ad intermediation and ad services/exchanges is a widely discussed issue. The French Competition Authority makes a clear distinction between these markets.<sup>758</sup> Along the same line, Geradin and Katsifis argue that not only ad intermediation and ad servicing but also further market-segmentation of these two markets is desirable.<sup>759</sup> Further possible segmentation is not under the scope of this analysis. However, the segmentation of ad intermediation/ad servicing seems to be the main reason why the Commission found the merger is not detrimental for competition within the EEA.

In *Google/DoubleClick*, the Commission defined a separate market for online display ad services distinguishing it from other ad services, including ad intermediation.<sup>760</sup> Therefore, the Commission decided that, as a search engine and a player in the online advertising industry, Google is the dominant undertaking in the ad intermediary (through AdSense) segment of the online advertising industry.<sup>761</sup> Therefore, its main competitors in the ad intermediation

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<sup>755</sup> Federal Trade Commission, 'Statement of Federal Trade Commission concerning Google/DoubleClick', FTC File No. 071-0170, Available at: [https://www.ftc.gov/system/files/documents/public\\_statements/418081/071220googledc-commstmt.pdf\\_3](https://www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf_3) accessed 1 September 2021.

<sup>756</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 68.

<sup>757</sup> Damien Geradin and Dimitrios Katsifis, 'An EU competition law analysis of online display advertising in the programmatic age' (2018) 15 European Competition Journal, 55-96, 68.

<sup>758</sup> Autorité de la Concurrence, French Competition Authority, Opinion 18-A-03 on data processing in the online advertising sector, (6 March 2018) Available at:

[https://www.autoritedelaconcurrence.fr/sites/default/files/integral\\_texts/2019-10/avis18a03\\_en\\_.pdf](https://www.autoritedelaconcurrence.fr/sites/default/files/integral_texts/2019-10/avis18a03_en_.pdf), accessed 1 September 2021, para 185.

<sup>759</sup> Damien Geradin and Dimitrios Katsifis, 'An EU competition law analysis of online display advertising in the programmatic age' (2018) 15 European Competition Journal, 55-96, 68.

<sup>760</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 74-81.

<sup>761</sup> *Ibid*, para 92.

market are Yahoo! (around 5% market share) and Microsoft (around 5% market share).<sup>762</sup> On the other hand, DoubleClick is found to be the dominant undertaking in the display ad servicing segment of the online advertising market.<sup>763</sup> As a result, its main competitors are identified as aQuantive/Atlas, Real Media/Open AdStream and ADTECH/AOL.<sup>764</sup> Market analysis shows that dominance and competition are parallel in the EEA and worldwide for both Google and DoubleClick. Consequently, it is decided that Google and DoubleClick are not main competitors to each other; there would be a sufficient number of competitors left in both markets after the merger; and elimination of DoubleClick from competition would not impede competition at all within the EEA.

#### 4.3.2 Non-horizontal Effects

*The Google/DoubleClick* investigation missed an important discussion on the value chain created by Google in the online advertising sector and a comprehensive analysis regarding the non-horizontal effects in the segments of the online advertising sector. First, the segmentation of the online advertising market made it difficult to see the wider effects in the value chain. Google operates on every segment of the online advertising market, and Google's presence on these segments enables a dual-channel data analytics service.<sup>765</sup> Moreover, the latest of Google's technologies allow processing all data across the online advertising sector (display, search and other).<sup>766</sup> The new analytic systems integrate third-party data for advertisers by combining data from sources like websites, audiences and CRMs<sup>767</sup> to make ads more relevant for users.<sup>768</sup>

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<sup>762</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 110.

<sup>763</sup> *Ibid*, para 113.

<sup>764</sup> *Ibid*, para 115.

<sup>765</sup> Autorité de la Concurrence, French Competition Authority, Opinion 18-A-03 on data processing in the online advertising sector, (6 March 2018) Available at: [https://www.autoritedelaconcurrence.fr/sites/default/files/integral\\_texts/2019-10/avis18a03\\_en\\_.pdf](https://www.autoritedelaconcurrence.fr/sites/default/files/integral_texts/2019-10/avis18a03_en_.pdf), accessed 1 September 2021, para 147.

<sup>766</sup> Google Analytics Suite 360: Analytics 360 (formerly known as GA Premium), Attribution 360 (formerly known as Adometry), Data Studio 360(new), Tag Manager 360(new), Optimize 360(new), Audience Center 360(new) Available at: <https://www.blog.google/products/marketingplatform/360/introducing-google-analytics-360-suite> accessed 1 September 2021.

<sup>767</sup> Consumer Data.

<sup>768</sup> Paul Muret, 'Introducing the Google Analytics 360 suite: An enterprise-class solution for a multi-screen world' (15 March 2016) Available at: <https://www.blog.google/products/marketingplatform/360/introducing-google-analytics-360-suite> accessed 1 September 2021.

Also, the new analytics systems integrate Google's ad services of AdSense, Ad Mob, AdWords and all others.<sup>769</sup>

It is crucial to point out that Google is a unique company that operates on both display and search advertising segments, including ad intermediation and ad serving services.<sup>770</sup> Google's competitors like Microsoft or Yahoo! also offer display and search ads via their search engines, but they have never had an ad intermediation service like Google. Under its unique operation, Google used several algorithm-based analytics services to develop a relationship between its online ad services' display and search advertising segments.<sup>771</sup> In other words, Google created a mechanism to derive value from the cross-correlation of available data. This affected the way advertisements are served and targeted to users. Everything aside, newer data analytic systems of Google to generate relevant data by emerging all available data to them across the online platforms (Google's wider ecosystem) would have been quite challenging to be predicted by competition authorities during the investigation.

Nevertheless, the role of Big Data in the value chain, algorithms and possible data analytics have not been included in the analysis. Instead, datasets were mentioned only as an asset. The discussion was on the probability of what would happen if Google utilises DoubleClick's datasets. Google's investigation on the other side of the Atlantic was no different. The Federal Trade Commission concluded that a data combination created by Google and DoubleClick would not harm competition due to similar reasons mentioned above. In this regard, Google had already had an enormous amount of user data prior to the merger, and the data which DoubleClick was collecting belongs to publishers.<sup>772</sup> As a result, any info would be protected due to foreclosure restrictions since Google has already committed to the sanctity of these agreements.

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<sup>769</sup> Autorité de la Concurrence, French Competition Authority, Opinion 18-A-03 on data processing in the online advertising sector, (6 March 2018) Available at: [https://www.autoritedelaconcurrence.fr/sites/default/files/integral\\_texts/2019-10/avis18a03\\_en\\_.pdf](https://www.autoritedelaconcurrence.fr/sites/default/files/integral_texts/2019-10/avis18a03_en_.pdf), para 147.

<sup>770</sup> Ibid, para 144.

<sup>771</sup> Ibid, para 145.

<sup>772</sup> Federal Trade Commission, 'Statement of Federal Trade Commission concerning Google/DoubleClick', FTC File No. 071-0170, Available at: [https://www.ftc.gov/system/files/documents/public\\_statements/418081/071220googledc-commstmt.pdf\\_12](https://www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf_12) accessed 1 September 2021.

Moreover, there was no evidence found even if Google manage to use these sensitive data for competitive advantage over competitors in the online ad intermediation services.<sup>773</sup> However, trade commissioner Pamela Jones Harbour gave a dissenting statement for the FTC's decision regarding Google and DoubleClick. In her comments, Harbour underlined the importance of data for these kinds of mergers where networks effects are prominent, but the FTC overlooked the issue about data-driven efficiencies. Harbour argued that excessive network effects would be generated due to this merger, and this would likely affect the development of online advertising services in its entirety.<sup>774</sup> Also, she added that the merger would create additional network effects which were non-existent beforehand.<sup>775</sup> As mentioned in Chapter 3, Big Data creates network effects and a value chain that gives access to a vast advertising data inventory.

A couple of years after the *Google/DoubleClick* merger, the European Commission received a notification of a merger between Microsoft Corporation and Yahoo! Inc. The *Microsoft/Yahoo!* investigation is noteworthy since it identifies the online search market for the first time. A definition was given for the online search engines: tools consisting of search boxes where users enter their queries to search information on the web.<sup>776</sup> In regard to defining a relevant market for online advertising, the investigation nuanced its previous decision of *Google/DoubleClick*. In line with the Google decision, the Commission stated that the online advertising market constitutes the relevant market of the merger.<sup>777</sup> Hereunder, a distinction was made between offline and online advertising markets, and a segment called the ad intermediation services market in the online

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<sup>773</sup> Ibid.

<sup>774</sup> Federal Trade Commission, Dissenting Statement of Commissioner Pamela Jones Harbour, In the matter of Google/DoubleClick F.T.C. File No. 071-0170 (2007), p 4, Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf) accessed 1 September 2021.

<sup>775</sup> Ibid.

<sup>776</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 30; The search results which rely on algorithms to generate most relevant information may be in the form of texts (links), images, videos, news, shopping and even maps. Furthermore, there are distinct types of search engines; horizontal and vertical. General, or horizontal, search engines are targeted to users for searching through a vast available online index. On the other hand, vertical search engines are for more specialised uses like travel, library, medical or academic search. Vertical search engines use a smaller portion of the index available online which focuses on the type of the search engine. However, the Commission left open the issue about defining a relevant separate market for vertical internet search. As a consequence, the differentiation between the segments of internet search market, vertical and horizontal, was not discussed further about whether they are separate markets.

<sup>777</sup> Ibid, para 87.



advertising market was found.<sup>778</sup> For the search and non-search (display) advertising markets, the situation was slightly different.<sup>779</sup> Microsoft argued that search advertising should be separated as a product market for the investigation since its characteristics are unique and different from the display advertising market. The results of the market investigation carried out by the Commission for a larger number of market respondents also gave relatively similar results.<sup>780</sup> However, the Commission found it unnecessary to define separate search and display markets and open the exact product market definition.<sup>781</sup> As for the intermediation services, since the Commission identified it as a separate segment, they did not find it necessary to define a narrower market and left this definition open also.<sup>782</sup>

In its decision, the Commission found the relevant market to be the online advertising market and not the online search engine market, which could also be determined as the relevant market for this specific investigation.<sup>783</sup> According to the ruling, Microsoft (Bing) and Yahoo! merger must be successful in the online search market to affect the online advertising market in the first place. For this reason, the notifying party argued that Google is the dominant undertaking in the online search and online advertising markets; thus, Microsoft lacks scale, and Yahoo has a declining performance in the online advertising market.<sup>784</sup> Notifying parties also acknowledged that data is an important ingredient to achieve scale and to become a successful search engine but at the same time approved Google's argument that the value of the incremental data loses its importance when the amount of collected and analysed data increases.<sup>785</sup> On the Commission's part, the decision led to an analysis of the legality of the transaction regarding the online advertising market while merging discussions on the internet search engine.<sup>786</sup> Thus, the Commission assessed any potential pro-competitive and anti-competitive effects of the merger on the relevance of internet search, the

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<sup>778</sup> Ibid, para 61, 82-83.

<sup>779</sup> Ibid, para 62.

<sup>780</sup> Ibid, para 71-74.

<sup>781</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 75.

<sup>782</sup> Ibid, para 87.

<sup>783</sup> Ibid, para 86.

<sup>784</sup> Ibid, para 136-149.

<sup>785</sup> Ibid, para 174.

<sup>786</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 93.

multi-homing issue, achieving scale, algorithms, variety of choice and innovation.<sup>787</sup>

As a result, the Commission did not find Microsoft and Yahoo as competitors in the online advertising markets except for UK and France within the EEA.<sup>788</sup> Initial analysis on advertisers, publishers and distributors drew the conclusion for the online advertising market.<sup>789</sup> However, Microsoft (through Bing) and Yahoo were long time competitors in the online search market within the EEA and the world. The *Microsoft/Yahoo!* merger was a missed opportunity for an in-depth analysis of the online search market and its conglomerate links with market segments such as online or mobile advertising. Additionally, for the *internet search and search advertising*, both parties' activities were found to be quite limited with a combined share below 10% within the EEA which leads to the situation where Microsoft and Yahoo cannot compete with Google at all.<sup>790</sup> For the above reasons, the merger was found to be pro-competitive, and the Commission declared it is compatible with the internal market and competition law.

In another Microsoft merger, *Microsoft/Skype*, as for the potential competition, the Commission discussed the structure of the communication services market. In this sense, the focus was given to internet communication services which is the first time the internet communication services market was studied from a demand-side substitutability point of view.<sup>791</sup> Later on, a similar assessment will also be made in the *Facebook/WhatsApp* merger. In the decision, a distinction was made between consumer communications and enterprise communication services, declaring them as two distinct markets.<sup>792</sup> For consumer communications, any communication across platforms between individuals fall into this category; instant messaging, voice calls or video calls. WhatsApp Messenger, Telegram, Viber, Facebook Messenger, Skype, Hangouts (Google Messaging), FaceTime, iMessage and many others can be listed as consumer communication services. The Commission, however, left open the

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<sup>787</sup> Ibid; Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 220-226.

<sup>788</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 132.

<sup>789</sup> Ibid, para 255.

<sup>790</sup> Ibid, para 252-254.

<sup>791</sup> Case No COMP/M.6281 *Microsoft/Skype* C[2011] 7239 final, para 20.

<sup>792</sup> Ibid, para 17.

discussion of whether the consumer communication services should be separated into different markets based on platform or operating system differences.<sup>793</sup> On a par, the Commission did not further segment the enterprise communication services on the basis of OS, platform or functionality.<sup>794</sup> The Commission defined enterprise communication services in the *Cisco/Tandberg* decision.<sup>795</sup> According to it, these services are used by business customers in order to improve collaborative communications, thus provide a consistent but simple user experience.<sup>796</sup>

The *Microsoft/Skype* merger also has non-horizontal links. In its assessment, the Commission widely discussed possible foreclosure effects, incentives to foreclosure and overall impact on competition for the consumer communications market.<sup>797</sup> The ability to foreclose was studied through three practices in the investigation. These were tying, bundling and degradation of interoperability. Foreseeable effects of all three practices were found to be non-existent to limited in the present case. Thus, the Commission considered the merger compatible with the Internal Market regarding consumer communication services. For enterprise communication services, conglomerate effects were found to be irrelevant.<sup>798</sup> The course taken by the Commission lacks an assessment of data effects for the conglomerate structure. The necessity of an argument around Big Data analytics, capabilities, and non-horizontal effects on several markets is unarguable by the investigation. This is not an assumption that the *Microsoft/Skype* merger led to anti-competitive incentives through connecting several online markets. However, before the conclusion, at least an analysis should be undertaken on how Microsoft could use Skype, Bing, or any of its services to channelise available datasets for foreclosure purposes or tipping effects. As revealed in the previous case, Microsoft and Yahoo were identified as participants in the online advertising market. Although both lacked scale and struggled to compete with Google, the initial *Microsoft/Yahoo* merger would have changed the situation. Retrospective analysis on the capabilities of Microsoft in

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<sup>793</sup> Ibid, para 10-43.

<sup>794</sup> Ibid, para 44-63.

<sup>795</sup> Ibid, para 9.

<sup>796</sup> Ibid.

<sup>797</sup> Case No COMP/M.6281 *Microsoft/Skype* C[2011] 7239 final, para 133-170.

<sup>798</sup> Ibid, para 203.

the online advertising market and possible conglomerate effects was skipped in the investigation.

In the most recent Microsoft merger, *Microsoft/LinkedIn*, the online advertising market was again studied by the Commission. In the investigation, eight separate relevant markets were determined. In 7 of them, namely, the PC operating systems, productivity software, CRM<sup>799</sup> software, sales intelligence, online communications services, social network services and online recruitment services, the Commission concluded that Microsoft and LinkedIn are not competitors since they were not operating at the same time in any of these digital markets.<sup>800</sup> In other words, the parties both offer services only in the online advertising market; Microsoft offers search and non-search (display) ads, and LinkedIn provides non-search ads, respectively.<sup>801</sup> Following its previous decisions,<sup>802</sup> the Commission distinguished offline and online advertising markets but left further market segmentation questions open and did not assess search and non-search advertising markets separately.<sup>803</sup>

Although cross-market influence was found to be existent in the *Microsoft/LinkedIn* merger, along the same line with the *Yahoo!* and *Skype* mergers, data issue was not seen as a source to create non-horizontal links with close markets in the ecosystem by the Commission. Instead, arguments on data were focused on data merging. According to the decision, the proposed transaction would not raise concerns for competition due to the data combination in possession of the parties, especially for online advertising purposes.<sup>804</sup> The Commission underlines that merged entities must comply with the applicable data protection rules of the EU, which is the General Data Protection Regulation (GDPR) of 2016.<sup>805</sup> Therefore, such data combination would significantly limit the merged entity's ability to exercise foreclosure effects, and possible anti-competitive effects would be non-existent to limited.

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<sup>799</sup> Customer Relationship Management Software Solutions.

<sup>800</sup> Case No COMP/M.8124 *Microsoft/LinkedIn* C[2016] 8404 final, para 8-151.

<sup>801</sup> *Ibid*, para 8-152.

<sup>802</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 61; Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 45-46, 56.

<sup>803</sup> Case No COMP/M.8124 *Microsoft/LinkedIn* C[2016] 8404 final, para 159.

<sup>804</sup> *Ibid*, para 176.

<sup>805</sup> General Data Protection Regulation (GDPR), Entry into force 25 May 2018.

The Commission then identified a couple of possible horizontal effects in the assumption that the data protection rules allow such data merging. First, combining data sets of two previously independent undertakings can hypothetically increase the merged entity's market power.<sup>806</sup> In this scenario, a merged entity can increase barriers to entry due to the supply of data by forcing competitors to hold and analyse more datasets. However, these barriers can intrinsically be created without a merger; every competitor would collect more data to compete effectively in the online advertising market. Second, before the merger, there might be effective competition between merging entities based on data-collection and ad services; and the transaction would eliminate competition in total between these undertakings. However, these possible effects are for the assumption that data protection rules allow data merging without limitations.

In any case, the proposed merger would not raise any competition concerns regarding data use and online advertising since these entities are tiny players in the online advertising market and its arguable sub-segments, according to the Commission.<sup>807</sup> Although both Microsoft and LinkedIn provide online advertising services as part of their businesses, parties' post-merger market share of online advertising revenues is estimated to be less than 5%.<sup>808</sup> Thus there will be a vast amount of data out of Microsoft control for online advertising after the transaction. Other competitors in the online advertising market, especially Google, control most user data collected online. Data issues were left into the hands of the EU data protection rules, and the examination of Big Data effects on competition was shallow. If this ruling were for Google, it would possibly create significant barriers to entry as it did after the DoubleClick decision. Therefore, it is unarguable to state that the conclusion of the Commission regarding the conglomerate effects related to the accumulation of data was erroneous in the *Microsoft/LinkedIn* merger<sup>809</sup> just like *Google/DoubleClick* and the change of how the Commission interprets the situation regarding the conglomerate effects can be seen in the preliminary assessment of the *Google/Fitbit* merger in 2020.<sup>810</sup>

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<sup>806</sup> Case No COMP/M.8124 *Microsoft/LinkedIn* C[2016] 8404 final, para 179.

<sup>807</sup> *Ibid*, para 180.

<sup>808</sup> *Ibid*, para 169.

<sup>809</sup> *Ibid*, para 185-186

<sup>810</sup> Case No COMP/M.9660, *Google/Fitbit* [2020] Prior Notification of a Concentration OJ 2020/C 210/09.

Just recently, the European Commission opened an in-depth investigation into the acquisition of Fitbit by Google on 25 June 2020 following the notification of Google. Fitbit is a US-based company that manufactures and develops smartwatches and fitness trackers, which are spectacularly efficient in consumer data collection. Therefore, the Commission is highly concerned that the acquisition will contribute and strengthen the already established dominance of Google in the online advertising market by allowing Google to use additional consumer data extracted from Fitbit for personalised advertising and other linked services.<sup>811</sup> This is a welcomed investigation after the failed analysis of the *Google/DoubleClick* merger. It demonstrates that the European Commission acknowledges that there are strong conglomerate data-related effects in the online world. Margrethe Vestager states that:

“The use of wearable devices by European consumers is expected to grow significantly in the coming years. This will go hand in hand with an exponential growth of data generated through these devices. This data provides key insights about the life and the health situation of the users of these devices. Our investigation aims to ensure that control by Google over data collected through wearable devices as a result of the transaction does not distort competition.”<sup>812</sup>

After the first phase investigation of *Google/Fitbit*, the Commission concluded that collected consumer data through wearable mobile devices such as fitness trackers would entrench Google’s market power since it increases the data advantage of dominant Google in the online world.<sup>813</sup> By acquiring Fitbit, Google would also acquire the database about Fitbit users health and fitness and the technology that could allow developing an extensive database based on Fitbit’s one.<sup>814</sup> The Commission expresses that Google’s capabilities on data analytics would allow more personalisation of the ads via their search engine and other internet pages, making it harder for rivals to compete with Google in the online advertising market and raising higher barriers to entry for new entrants.<sup>815</sup>

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<sup>811</sup> European Commission, Press Release, ‘Merger: Commission opens in-depth investigation into the proposed acquisition of Fitbit by Google’ (Brussels, 4 August 2020), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1446](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1446) accessed 1 September 2021.

<sup>812</sup> Ibid.

<sup>813</sup> Ibid.

<sup>814</sup> Ibid.

<sup>815</sup> Ibid.

Google's expansion may initially result in monopolisation of the online advertising market of the online world. The competition world will very welcome the decision.

Although the European Commission realised the conglomerate effects in data-driven acquisitions by accumulating and utilising data in 2020, this was not realised in the 2008-2010 era. Thus, due to the abovementioned reasons, the relevant market analysis in the *Google/DoubleClick* merger seems to be unsuccessful in identifying the competitive structure of the online advertising market and the market power of Google, DoubleClick, and Google's rivals such as Microsoft or Yahoo!.

### 4.3.3 Functionality Test

In 2014, Facebook submitted a notification to the Commission for the acquisition of WhatsApp wholly into Facebook Inc. Facebook is a provider of applications and websites, operates in the social network market and offers consumers communications services, including photo and video sharing features. The other party, WhatsApp, also offers consumer communications services but not a social network service at full. In the first stage of the market power assessment, the social networking market, consumer communications market and online advertising were found to be possible relevant markets regarding the transaction.

This decision is important since it is the first time Commission has identified a market for social networks beyond data-driven markets.<sup>816</sup> Although the social network market is potentially relevant for the transaction, the decision underlines a functionality difference between social networks and consumer communications. Social networks provide features such as newsfeed, timeline or user profile.<sup>817</sup> The idea was that social networking services provide a wider and richer experience compared to consumer communication services.<sup>818</sup> Therefore, the conclusion was that WhatsApp or Facebook Messenger are not social networking services. During the initial investigation, further sub-segmentation of social network services was also considered since these social network services are offered on different devices (PC, smartphone) and platforms (iOS, Android,

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<sup>816</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 96.

<sup>817</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 48.

<sup>818</sup> Graef (n 816) 96.

Windows, Mac). No functional differences were found in the services of an undertaking between devices or platforms, and the question was ultimately left open.<sup>819</sup> However, it is important to note that, today, WhatsApp and Facebook Messenger offer 'status' sharing service in text, photo, or video formats, which was initially offered in Facebook and Instagram by Facebook. Today, WhatsApp's and Facebook Messenger's status services should be regarded as a novel type of news feed. This instance is a good indication of how online services/markets may evolve further in future.

Back to the *Facebook/WhatsApp* transaction regarding relevant markets, the Commission expressed that only Facebook is active on the online advertising market. Although both offer consumer communication services, WhatsApp and Facebook do not provide advertising spaces in their consumer communications applications. However, Facebook offers advertising spaces in non-search (display) ads in its social network service.<sup>820</sup> Facebook collects user data from its social network service and executes data analytics through algorithms to serve 'targeted' advertisements on behalf of various advertisers who are actually customers of Facebook ad services.<sup>821</sup> Another point is that Facebook neither provides its data analytics services to customers who provide advertisements nor offer any data sets collected from social network users as separate services and selling advertising spaces for display advertising purposes.<sup>822</sup>

Therefore, merging parties were considered competitors in the consumer communications services market but neither in the social network market nor in the online advertising market. As mentioned above, WhatsApp offers a mobile communication application for a nominal fee,<sup>823</sup> and Facebook's consumer communication service, Facebook Messenger, is offered free of charge. Without a suspicion, they both offer consumer communication applications; thus, the market power assessment should be engaged in this relevant market. However, curiously enough, Facebook Messenger and WhatsApp are considered not to be close competitors. In other words, although they compete with each other on the market, the Commission did not regard them as close competitors, which initially

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<sup>819</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 57-59.

<sup>820</sup> *Ibid*, para 69.

<sup>821</sup> *Ibid*, para 70.

<sup>822</sup> *Ibid*, para 70.

<sup>823</sup> WhatsApp became free of charge after the transaction.



gave way to clear the transaction. The Commission makes two problematic implications for the transaction. Misvaluation of market power due to erroneous market definition and misunderstanding of Big Data issue at the stage of market power assessment from a conglomerate point of view.

In *Facebook/WhatsApp*, the Commission expressed that merging parties' consumer communications services are quite different in certain aspects. Even though both applications have similar consumer audiences and networks, there are many functionality differences between the two services, which significantly decrease competition against each other.<sup>824</sup> One example would be the way to join the service and the source of contacts (Facebook ID and friend list for Messenger, phone number and address book for WhatsApp).<sup>825</sup> Today, there are no differences between applications from this aspect since these functional differences are diminished. Today, Facebook Messenger also uses phone numbers and address books if consent is given, just like WhatsApp. Another difference identified by the Commission was the user experience and the features offered by the products. Today, there are no functional differences, as both applications offer group chats, voice calls, video calls, emojis, and others. The Commission also underlined that the privacy policies of these applications were remarkably distinct. Unlike WhatsApp, Facebook's application allows data to be collected from Facebook users for the purposes of online advertising.<sup>826</sup> This aspect assumed that, in case of a successful merger, the merged entity would not benefit from any data from WhatsApp since they were not collected prior to the merger.<sup>827</sup>

#### **4.3.4 Potential Data Merging**

Another vital point in *Facebook/WhatsApp* was the misvaluation of data accumulation regarding its relevance to competition law and policy. The Commission acknowledged a potential data concentration after the transaction even though WhatsApp does not collect user data regarding their age, gender, habits or any other characteristics for online advertising purposes.<sup>828</sup> Moreover, not only the collection but also storage of data by classification does not exist in

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<sup>824</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 103.

<sup>825</sup> *Ibid*, para 102.

<sup>826</sup> *Ibid*, para 102.

<sup>827</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 76.

<sup>828</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 166.

WhatsApp. It means that WhatsApp does not categorise and store the data of its users but only associates data sent and received with mobile numbers.<sup>829</sup> Nonetheless, many concerns were raised about data collection and privacy at that time.<sup>830</sup> The reason behind it is the privacy policy of Facebook. Just after the acquisition of Instagram in 2012, Facebook changed its privacy policy of Instagram.<sup>831</sup> The policy change would especially be crucial since users perceive WhatsApp as a valuable source for close, private and accurate sharing and communication due to its strict data protection policy.<sup>832</sup> Therefore, a similar policy change might occur after the merger.<sup>833</sup> In *Facebook/WhatsApp*, the Commission strictly defined the borders for competition law and policy in terms of data collection and privacy matters that might occur after the merger.<sup>834</sup> According to the ruling, any privacy-related concerns must be referred to the EU data protection rules. The EU competition law rules must not address any privacy concerns related to the increased concentration due to a merger.<sup>835</sup> As a consequence, possible data concentration was discussed from the perspective of Facebook's online advertising services.<sup>836</sup>

In terms of online advertising, two possible theories of harm were identified for the proposed transaction. According to this, Facebook may introduce advertising services on WhatsApp, or Facebook may use WhatsApp as a source for Big Data accumulation which contributes to its advertising services on Facebook.<sup>837</sup> Due to relatively low market shares of Facebook in the online advertising market in the EU (around 20% to 30% at that time) and the slim chance of a change in the privacy policy of WhatsApp made the first theory of harm not to be a concern in the assessment of the Commission. Even if Facebook introduces advertising on WhatsApp, this will not raise any competition concerns in the EU since there are many competitors where advertisers can purchase

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<sup>829</sup> Ibid.

<sup>830</sup> Nikolai Van Gorp and Olga Batura, 'Challenges for Competition Policy in a Digitalised Economy', A study for the ECON Committee, Directorate General for Internal Policies, European Parliament, July 2015, IP/A/ECON/2014-12 PE 542.235, 43.

<sup>831</sup> Ibid.

<sup>832</sup> Ibid.

<sup>833</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016). 76.

<sup>834</sup> Van Gorp and Batura (n 830) 43.

<sup>835</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 164.

<sup>836</sup> Ibid, para 165-190.

<sup>837</sup> Ibid, para 167.

online advertising space.<sup>838</sup> In this regard, Google, Microsoft and some other local providers were mentioned as online advertising space providers. The same reasoning applied to the second theory of harm. Even though it was not believed that Facebook would be able to collect data from WhatsApp after the merger due to the existent data protection scheme, the possible data accumulation will not raise any competition concerns due to the existence of competitors.<sup>839</sup> As a result, the merger was cleared and declared to be compatible with the internal market.

In brief, the assessment of the competition in the consumer communications market was not accurate and led to an erroneous implication that WhatsApp and Facebook were not close competitors. In addition, even though data was assumed to be a source of market power, concerns regarding data collection were decided to be a matter for the EU data protection scheme primarily. However, in the summer of 2016, Facebook announced that it would change “the terms of service and privacy policy” of WhatsApp. According to the policy change, Facebook could now acquire user data of WhatsApp through a form of user matching technology and transfer this data to its data analytics for improving advertisement services.<sup>840</sup> This resulted in an action where the parent company could obtain information like phone numbers, photos, status for online targeted advertisements. The Commission considered this as an infringement based on intentionally supplying incorrect information during the merger in 2014.<sup>841</sup> By then, Facebook stated that cross-platform data sharing was impossible unless a substantial re-engineering was made to Facebook and WhatsApp.<sup>842</sup> In other words, Facebook argued that data sharing between WhatsApp and Facebook was technologically impossible in 2014. However, it is now possible to transfer and process data and Facebook’s action was found intentional back then. The Commission considered this as an infringement of supplying incorrect and misleading information, at least negligently. As a result, the Commission decided to impose penalties under Article 14 of the current Merger Regulation, which was a total of 110 million euros for the infringements falling within Article 14(1)(a) and 14(1)(b) of the Merger Regulation. As can be seen, the Authority considers matters arising from the data accumulation of the merged entity as a competition

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<sup>838</sup> Ibid, para 176.

<sup>839</sup> Ibid, para 188.

<sup>840</sup> Case No COMP/M.8228 *Facebook/WhatsApp* C[2017]3192 final, para 30.

<sup>841</sup> Ibid, para 56.

<sup>842</sup> Ibid, para 61.

concern by imposing penalties under the Merger Regulation. If the Commission were to follow its implication which indicates that any privacy-related issue should be referred to data protection rules, the privacy change of WhatsApp should not have been dealt with in the Merger Regulation. That being said, Facebook also announced in January 2021 that it would change the privacy policy of WhatsApp on 8 February 2021 but delayed it until 15 May 2021 due to the extensive critics about privacy and competition around the world.<sup>843</sup>

Nevertheless, another event in the aftermath of the merger clearly shows problems related to merger assessment in the EU.<sup>844</sup> The Commission's post-merger investigation on supplying inaccurate information regarding data collection and data merging was not enough to reflect the concerns in the market. In February 2019, the Bundeskartellamt (the German Competition Authority) concluded its investigation against Facebook, alleging that Facebook abuses its dominant position in the social media market by collecting data from third-party sources such as WhatsApp and Instagram.<sup>845</sup> The Bundeskartellamt believes that Facebook abuses its dominant position by amassing third-party data and emerging it with relevant Facebook data.<sup>846</sup> In order to address this investigation, a retrospective analysis of the *Facebook/WhatsApp* investigation is a must since the theory of harm did not address accurately in the investigation. Consequently, this led to the abuse of dominance case before the German Competition Authority. Irreversible competitive damage is likely done to the social media market already. If the EU merger regulation and market power assessment were effective enough, problems could be prevented at an earlier stage: during the initial merger investigation.<sup>847</sup>

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<sup>843</sup> Katie Canales, 'WhatsApp is delaying a new policy change after critics claimed the update would have turned over' *BusinessInsider* (15 January 2021), Available at: <https://www.businessinsider.com/whatsapp-privacy-policy-delay-three-months-2021-1?r=US&IR=T#:~:text=WhatsApp%20is%20delaying%20its%20privacy,company%20blog%20post%20published%20Friday.&text=WhatsApp%20also%20said%20no%20one's,scheduled%20to%20go%20into%20effect> accessed 1 September 2021.

<sup>844</sup> Hedvig K. Schmidt, 'Taming the shrew: is there a need for a new market power definition for the digital economy?' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 39.

<sup>845</sup> See Chapter 5.6.2. Bundeskartellamt (FCO) Press Release, 'Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive' (19 December 2017) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19\\_12\\_2017\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html) accessed 29 May 2021.

<sup>846</sup> Ibid.

<sup>847</sup> Schmidt (n 844) 39.

### 4.3.5 Overlaps between Market Segments

The most important case concerning Big Data related infringements in data-driven markets is the *Google Search (Shopping) Case*, followed by the *Google Android and Google AdSense Cases*.<sup>848</sup> The ground-breaking decision that changed perspectives to Big Data and data-driven markets in terms of competition policy was started in 2010. A small, UK-based vertical search company called Infederation Ltd. (Foundem) filed a complaint against Google before the Commission regarding allegations that Google actually manipulated search results and eventually harmed competition. Additional complaints were then made by competitors who are also somewhat active in the online advertising sector.<sup>849</sup> Later during the investigation, cases that were started by others' complaints were merged under a single case: COMP/C-3/39740.<sup>850</sup> The Commission concluded that two relevant markets need to be examined; the general search engine market and the online comparison-shopping market.<sup>851</sup> This indicates that the Commission approached the issue from a traditional approach by looking at the demand/supply-side substitutability of the products.<sup>852</sup>

Discussions on the search engine market were particularly important. Unlike the *Microsoft/Yahoo!* decision, the Commission found it relevant to assess the differences between vertical and general (horizontal) search engines. That being said, numerous distinctive characteristics were found. The first finding is the nature of horizontal and vertical search. Horizontal and vertical search engines are quite different from each other, and substitutability between them is extremely limited.<sup>853</sup> Vertical search engines do not show results from all over the internet. Instead, their services are specialised on specific topics, and results are often monetisable. Therefore, their scope and consumer audience are considerably limited compared to a general search engine. For this very reason, sources of horizontal and vertical search engines also differ. On one side, horizontal search engines such as Google or Bing use all available data online. Thus, they generate

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<sup>848</sup> These three separate investigations are also known as *European Union v. Google*.

<sup>849</sup> These include eJustice.fr, Ciao GmbH, VfT, VDZ, BDZV, nntp.it, AEDE, Euro-Cities, Hotmap, Streetmap EU, Elfvoetbal, Twenga, Yelp, Expedia, TripAdvisor, Nextag, Odigeo, Visual Meta GmbH and BEUC, Deutsche Telekom, HolidayCheck, Trivago and many others. Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 38-106.

<sup>850</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 55.

<sup>851</sup> *Ibid*, para 154.

<sup>852</sup> Schmidt (n 844) 48.

<sup>853</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, paras 166-167.

relevant results using data analytics services. On the other side, a vertical search engine's main input is not readily available data through the internet. Instead, they provide results supplied by third parties relevant to the search engine. For instance, hotel search web pages like 'booking.com' do not originate results from any hotel/accommodation data available on the internet. Instead, they provide relevant information about specific businesses participating in the vertical search engine.

According to the Commission, the creation of vertical and horizontal search engines followed different evolution routes.<sup>854</sup> Vertical search engines have always been separate from horizontal search engines and existed as a standalone product in the online world. Shopping, hotel, flight, or insurance search services are examples of vertical search engines that do not require any specific link to horizontal search engines to function. Therefore, substitutability between general search engines and specialised ones is nearly non-existent on the demand side. Likewise, the Commission regards Google shopping service as a separate standalone product from its search engine service. The decision refers to Google's own categorisation of its products.<sup>855</sup> In this context, Google offers its shopping service under the 'Specialised Search' category, whereas Google Search is categorised as 'Web Search'.

The Commission also refers to the study of *Monopolkommission* (Monopolies Commission of Germany) regarding market definition in the search engine market. The *Monopolkommission* underlines the interdependencies between types of search engines and expresses that vertical search engines do not act as substitutes but act more as complements to horizontal search engines.<sup>856</sup> However, the *Monopolkommission* stresses that the relationship between vertical and horizontal services is increasingly more interrelated than in the past. Horizontal search engines such as Google has started to include more specific and specialised services into their general services for consumers.<sup>857</sup> In other words, today, general search engines also provide specialised searches in

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<sup>854</sup> Ibid, para 169-171.

<sup>855</sup> Ibid, para 169-172.

<sup>856</sup> German Monopolies Commission (*Monopolkommission*), 'Competition policy: The Challenge of Digital Markets' (2015) Special Report No 68, para 183; Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 174.

<sup>857</sup> German Monopolies Commission (*Monopolkommission*), 'Competition policy: The Challenge of Digital Markets' (2015) Special Report No 68, para 244.

the forms of maps, news, videos or others, including restaurant or hotel searches.<sup>858</sup> Incorporating vertical results into horizontal search platforms illustrates that general search engines can be substituted for specialised search engines. Not only general search engines but specialised vertical services are also putting competitive pressure on general search engines.<sup>859</sup> For instance, even platforms like Amazon, Facebook and Twitter today offer comprehensive search results, including products, news, information, and videos. Facebook specifically incorporated a marketplace into its social network platform, and Amazon offers online services wider than just e-commerce specific products. In the near future, it can be expected from other platforms to grow bigger and wider and come closer to what a horizontal search engine offers today. Therefore, the differences between vertical and horizontal search engines are not enough to consider them as separate markets. The Commission should have focused more on the interplay between these services and potential overlaps.

The second important discussion was about the comparison shopping market and online advertising market. In its *Google Search (Shopping)* case, the Commission concluded that comparison shopping services of Google must be considered apart from other specialised search services and online search advertising services; since the comparison shopping services constitutes a separate market.<sup>860</sup> The decision argues that there is very limited substitutability between comparison shopping and online advertising services from the demand side perspective.<sup>861</sup> In order to expand on the issue, the Commission stressed the divergence between both services. First, users and online retailers are said to perceive such services as dissimilar from each other.<sup>862</sup> When users use search engines for specific queries for shopping purposes, they expect to see services related to their searches. The Google comparison shopping service is a result of a search query that is navigable by users. The Google comparison shopping service is exclusively accessible through the Google search results.<sup>863</sup> On the other side, users do not perceive online advertising services as a service for them. The Google ad service is not limited to the Google search engine, and

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<sup>858</sup> Ibid.

<sup>859</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 96.

<sup>860</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 193.

<sup>861</sup> Ibid, para 196-197.

<sup>862</sup> Ibid, para 197.

<sup>863</sup> Ibid, para 205.

Google displays only a limited amount of online display ads (sponsored links) on the search results page. Moreover, users usually try to avoid these types of advertisements and online advertising is perceived as a “compensation for the use of free online services”.<sup>864</sup> Nevertheless, online retailers use online advertising services to promote their products or gain additional revenues by selling ad space in their web pages to other advertisers.

In addition to demand-side differences, comparison shopping and online advertising did not seem to be rivals or substitutes for each other from the supply side in the eyes of the Commission.<sup>865</sup> Not every advertiser can bid to be listed on search results pages in comparison shopping services. Online retailers or merchants can only be listed for comparison online shopping services due to the provisions of comparison-shopping services. Also, advertisers in the ecosystem must give access to their structured data to Google to be listed as sellers.<sup>866</sup> Accordingly, price changes and any related information can be reflected on the advertisement without clicking the link itself, and buyers could easily navigate through the comparison shopping service.

On the contrary, any service or product can be shown through advertisement spaces in online advertising services. This is not a shopping service specifically. The advertisement might contain links to the actual online shopping service, or it can be a slogan only, and the advertisement might not be linked to a separate online service. For instance, it can be a McDonald's advertisement without McDonald's or Deliveroo's web page link. Inherently, comparison shopping services contain richer online accessibility, navigation, and shopping options than the online advertising model.<sup>867</sup>

In brief, the Commission distinguished the search and comparison-shopping services far from each other in its decision. The search engine market was further sub-segmented into vertical and horizontal search services. According to the idea, both vertical and horizontal search and comparison shopping and online advertising are identified as complementary services rather than rivals. This indicates how the Authority still presumably defines narrower

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<sup>864</sup> Ibid, para 198.

<sup>865</sup> Ibid, para 199-200.

<sup>866</sup> Ibid, para 201.

<sup>867</sup> Ibid, para 202.



markets for competition concerns regarding data-driven markets. Additionally, the decision left open the argument about how the online advertising market is affected by the abusive behaviour of Google.<sup>868</sup> This is particularly important for identifying a relevant market since the value chain is created specifically for advertising purposes. Therefore, the value chain around Big Data and related value creation mechanisms were avoided. However, a narrow product market definition seems to be highly inaccurate for data-driven markets. Many unaddressed issues have remained regarding the specific characteristics of data-driven markets in the *Google Search (Shopping) Case*.

For instance, Sebastien Broos and Jorge Marcos Ramos argue that online search services and comparison-shopping services operate in the same relevant market.<sup>869</sup> The argument was discussed from both consumers' and advertisers' perspectives. Although there might be slight differences in the functioning of these services, both users and advertisers consider online advertising and comparison shopping as substitutes at times. For instance, users often expect to see almost the same results when they click the links of online advertising and comparison-shopping ads. Thus, both services intended use is to get clicked by the users.<sup>870</sup> For advertisers, the situation is not dissimilar. Although comparison shopping services are for online retailers, online advertising service is open to everyone. Therefore, for retailer advertisers, comparison shopping and online advertising could become substitutes.<sup>871</sup> Also, a study from Adobe, using US market data, indicates that comparison shopping services act as substitutes to online advertisements for most retailers.<sup>872</sup> According to the idea, different business models can co-exist in a market and compete to attract users and advertisers. In this case, a narrower relevant market definition will miss a huge part of the value creation mechanism.<sup>873</sup> Consequently, it can be assumed that

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<sup>868</sup> Konstantina Bania, 'The European Commission's decision in Google Search: Exploring old and new frontiers of competition enforcement in the digital economy' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 278.

<sup>869</sup> Sébastien Broos and Jorge Marcos Ramos, 'Google, Google Shopping and Amazon: The Importance of Competing Business Models and Two-Sided Intermediaries in Defining Relevant Markets' (2017) 62 *The Antitrust Bulletin* 2, 11.

<sup>870</sup> *Ibid*, 12.

<sup>871</sup> *Ibid*, 12.

<sup>872</sup> Adobe, Global Digital Advertising Report Adobe Digital Index Q4 2014, 12-14 Available at: [https://offers.adobe.com/en/na/marketing/landings/\\_64058\\_q414\\_digital\\_advertising\\_report.html](https://offers.adobe.com/en/na/marketing/landings/_64058_q414_digital_advertising_report.html) accessed 1 September 2021.

<sup>873</sup> Even defining a wider relevant market consisting of online advertising and comparison shopping in this case seems to be questionable for the assessment of market power.

these services are highly interrelated with each other and might well be perceived as rivals from both users' and advertisers' perspectives.

To sum up, the fundamental part of the traditional market power assessment, identification of a relevant product market, was quite limited in recent merger investigations and abuse of dominant position cases regarding data-driven markets. There are more than a couple of reasons. First, the non-horizontal effects of data were shallowly examined. The multi-sided nature of data-driven markets was not efficaciously discussed, and analysis stayed limited to the consumers' and advertisers' side of demand substitutability of certain products or services. Additionally, the conglomerate effects deriving from indirect network effects resulting from data collection and processing were not stressed well, and competition in these markets could not be addressed accurately. In these analyses, efforts to establish a specific product market in innovation-driven fast-growing markets have resulted in a discussion of sub-segmentation of already amorphous markets. As seen from discussions regarding consumer communications, social networks, search engines and online advertising markets, the Commission classified products and services by functionalities.<sup>874</sup> By this means, several separate relevant markets in which companies offer functionally diverse services were identified, and analysis on these individual markets eventually limited the scope of the competition analysis.

#### **4.4 Ineffective Tools to Assess Market Power in the Data-Driven Economy**

A persistent problem regarding data-driven markets lies with the tools to assess market power in competition law. Market power assessment is undertaken through various tests and benchmarks, which are all economic by their nature.<sup>875</sup> These can be exemplified as; market shares, the number of actual competitors and potential competitors, countervailing buyer power and many others.<sup>876</sup> That being said, the identification of market power in competition law cases must be executed within the legal framework. Therefore, competition law and related case law in the EU have created their own tests based on economic

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<sup>874</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 99.

<sup>875</sup> Hedvig K. Schmidt, 'Taming the shrew: is there a need for a new market power definition for the digital economy?' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 55.

<sup>876</sup> *Ibid.*

indicators. The most prominent way is the undertakings position on a specific market, its market shares and time scale.<sup>877</sup> In addition to these, the case law has established many other indicators such as network effects, product differentiation, possession of intellectual property rights, access to essential inputs, and vertical integration throughout the history of recent case law.<sup>878</sup>

The market power assessment and its legal basis clearly show that law is constantly evolving to determine competitive structures and needs in markets. In other words, as Hedvig Schmidt stresses, the development of legal definitions of market power and its analysis where different tools are initially used proves that case law adopts in due course to market's needs.<sup>879</sup> In this manner, it can be assumed that EU competition law and case law should identify the market conditions of data-driven markets and adopt its market power assessment in the wake of the Big Data era. In this manner, at least a couple of challenges await competition authorities to shed light on. First is about defining relevant markets for competition law analysis: How could economic oriented tools based on price be effective in identifying dominance in data-driven markets where the price is not a prominent parameter? Second, regarding an undertaking's dominance: When is an undertaking regarded as dominant and how prominent are the market shares in identifying dominance in data-driven markets?

#### **4.4.1 Substitutability and Zero-Price Problem**

Many products and services in at least one side of data-driven markets are free of charge. The services mentioned above, such as the Google search engine, Facebook Messenger, WhatsApp, Bing, Amazon, YouTube, and many other social networks, search engines, dictionaries, video-music streaming services, and online storage services, are mostly free consumer goods, in other words, *freemium* goods. Many of these platforms also offer *premium* goods, where consumers pay monthly prices to access supplemental services, which

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<sup>877</sup> Ibid.

<sup>878</sup> NE: Case COMP/C-3/37.792 *Microsoft* C[2004] 900 final, para 437–447, PD: Case C - 27/76 *United Brands Company and United Brands Continentaal BV v Commission of the European Communities* [1978] ECLI:EU:C:1978:22, para 91–92, IP: Case C-333/94 P *Tetra Pak International SA v Commission of the European Communities* [1996] ECLI:EU:C:1996:436, Access: Cases C - 6 and 7/73 *Istituto Chemioterapico Italiano and Commercial Solvents v. Commission* [1974] ECLI:EU:C:1974:18, Vertical: Case C - 27/76 *United Brands Company and United Brands Continentaal BV v Commission of the European Communities* [1978] ECLI:EU:C:1978:22, para 70–81.

<sup>879</sup> Schmidt (n 875) 57.

basically are not necessary to use the products or services.<sup>880</sup> In the online world, freemium products and services are the primary methods to catch consumers' attention.<sup>881</sup> However, these companies aim to attract consumers and generate revenue since most of their services are essentially commercial. Crémer et al. argue that a platform owner often cannot charge a price due to the fact that they are willing to subsidise participation among users, and payments for widely used online services would have detrimental effects in increasing consumer numbers.<sup>882</sup> Therefore, monetisation of free services must be done through alternative ways such as *advertising*.

Although most services are free of charge, companies exchange consumers' personal information instead of a monetary price or exchange consumers' attention for various targeted online advertising purposes.<sup>883</sup> Therefore, it can be deduced that free services are actually not free and are exchanged at the cost of consumer information. This transaction is also acknowledged as an economic exchange<sup>884</sup> since platform owners monetise personal information through technological developments on Big Data and algorithms. In the *Google Search (Shopping)* case, the Commission ruled that “a product or service is provided free of charge does not prevent the offering of such a service from constituting an economic activity for the competition rules”<sup>885</sup> in the EU.

Additionally, John Newman expresses that the information used in data-driven markets where the price is zero and consumers pay the price for services

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<sup>880</sup> Michael S. Gal and Daniel L. Rubinfeld, 'The Hidden Costs of Free Goods: Implication for Antitrust Enforcement' (2016) 80 Antitrust Law Journal 521, 525.

<sup>881</sup> Even users of premium services first try freemium version of these services.

<sup>882</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition Policy for the Digital Era: Final Report (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), accessed 1 September 2021, 44.

<sup>883</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' (2019), 33, Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 22; Gal and Rubinfeld (n 880) 527; Chris Jay Hoofnagle and Jan Whittington, 'Free: Accounting for the Costs of the Internet's Most Popular Price' (2014) 61 UCLA Law Review 606, 608-626; John Newman, 'Antitrust in Zero-Price Markets foundations' (2015) 164 University of Pennsylvania Law Review, 165; John Newman, 'Antitrust in Zero-Price Markets: applications' (2016) 94 Washington University Law Review 1, 54; Magali Eben, 'Market Definition and Free Online Services: The Prospect of Personal Data as Price' (2018) 14 I/S: A Journal of Law and Policy for the Information Society 2, 227, 230.

<sup>884</sup> Magali Eben, 'Market Definition and Free Online Services: The Prospect of Personal Data as Price' (2018) 14 I/S: A Journal of Law and Policy for the Information Society 2, 227, 231.

<sup>885</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 152.

with their attention or information is a property subject to the commercial exchange.<sup>886</sup> Therefore, information becomes a currency for free services and products in data-driven markets.<sup>887</sup> In the *Google Search (Shopping)* case, the Commission expresses that even in the absence of monetary charges for the use of search services, users are charged by the service by paying the price in the form of personal data through every search query.<sup>888</sup> The Commission establishes that data-search service exchange is a contractual relationship between parties.<sup>889</sup> Therefore, more attention from consumers leads to more personal information exchange and more data is collected. This way, data becomes an intangible asset in the new economy since it allows services to generate significant revenue through advertising channels.<sup>890</sup> By this means, zero prices for these services and products create network externalities intrinsically, and data becomes an indispensable part of online services.<sup>891</sup>

Free products and services have created novel problems in the competition world. Traditional analysis methods for the market power assessment are designed for goods with actual price tags.<sup>892</sup> When a product's price becomes zero, the price dimension of competition analysis becomes null, and reliance on these techniques diminishes<sup>893</sup> since two times zero or twenty times zero is all zero. Therefore, David Evans stresses that free goods are 'red flags' for the traditional competition models and that traditional methods do not apply to that type.<sup>894</sup> Evans adds that competition in a market is assessed on a basic finding in which competitive prices of a good tend to equal the marginal cost of

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<sup>886</sup> John Newman, 'Antitrust in Zero-Price Markets: applications' (2016) 94 *Washington University Law Review* 1, 54.

<sup>887</sup> Gal and Rubinfeld (n 880) 522.

<sup>888</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 158.

<sup>889</sup> *Ibid.*

<sup>890</sup> David S. Evans, 'Attention Rivalry Among Online Platforms' (2013) 9 *Journal of Competition Law and Economics* 2, 313; Howard A. Shelanski, 'Information, Innovation, and Competition Policy for the Internet' (2013) 161 *University of Pennsylvania Law Review* 6, 1678; Michael S. Gal and Daniel L. Rubinfeld, 'The Hidden Costs of Free Goods: Implication for Antitrust Enforcement' (2016) 80 *Antitrust Law Journal* 521, 522.

<sup>891</sup> Gal and Rubinfeld (n 880) 522.

<sup>892</sup> Ania Thiemann and Pedro Gonzaga, "Big Data: Bringing Competition Policy to the Digital Era" OECD 2016, DAF/COMP (2016), 15; Michael S. Gal and Daniel L. Rubinfeld, 'The Hidden Costs of Free Goods: Implication for Antitrust Enforcement' (2016) 80 *Antitrust Law Journal* 521, 552.

<sup>893</sup> Aleksandra Gebicka and Andreas Heinemann, 'Social Media & Competition Law' (2014) 37 *World Competition* 2, 149-172, 154.

<sup>894</sup> David S. Evans, 'The Antitrust Economics of Free' (2011) *Competition Policy International*, 71, 81.

production, and the marginal cost prices are indicators for dominance.<sup>895</sup> Therefore, an undertaking that enjoys monopolistic powers may raise prices yet do not lose demand. For this reason, dominance and market power is seen as an ability to raise prices out of the competitive zone.<sup>896</sup>

In EU Competition law, demand and supply substitutability of a product and potential competition are measured to infer the market power of an undertaking. However, demand substitutability is the essence of market definition and the first step for market power assessment.<sup>897</sup> For instance, demand substitutability demonstrates that an undertaking in a competitive market cannot impose excessive terms and conditions or prices since consumers can easily switch to rival services or products.<sup>898</sup> Therefore, the main method to measure demand substitution or interchangeability of a product or service in the EU is an economic analysis called the 'Hypothetical Monopolist Test' (HMT).<sup>899</sup> In order to conduct the HMT test, an economic tool called the 'Small but Significant Non-transitory Increase in Price' (SSNIP) test is performed.

The HMT and SSNIP tests are initially designed for traditional markets where monetary prices exist, which are the basic requirement for commercial transactions. As mentioned above, a hypothetical monopolist in a market can impose higher prices if their new pricing plan is still profitable for the business. In this sense, the SSNIP test aims to identify the relevant market and the undertaking's market power through assessing the slightest possible price change in the 'possible' relevant markets from the lens of potentially substitute products or bundles.<sup>900</sup> The main idea behind the SSNIP test is to find that if there is an increase found to be unprofitable, then there must be other products in the given market where consumers move towards these substitutes.<sup>901</sup> If so, both these products must be in the same market since they are interchangeable. This

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<sup>895</sup> Ibid, 82.

<sup>896</sup> Gal and Rubinfeld (n 880) 552.

<sup>897</sup> Richard Whish and David Bailey, *Competition Law* (8<sup>th</sup> edn, Oxford University Press, 2015), 28; Stephen Weatherill, *Cases & Materials on EU Law* (6<sup>th</sup> edn, Oxford University Press, 2003), 552.

<sup>898</sup> Weatherill (n 897) 552.

<sup>899</sup> Alison Jones and Brenda Sufrin, *EU Competition Law* (5<sup>th</sup> edn, Oxford University Press, 2014), 67; Whish and Bailey (n 897) 27; Commission Notice on the Definition of Relevant Market for the purposes of Community competition law OJ [1997] C 372/5.

<sup>900</sup> Jones and Sufrin (n 899) 67.

<sup>901</sup> Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, 'Market Definition in Two-sided Markets: Theory and Practice' (2014) 10 *Journal of Competition Law and Economics* 2, 330.

is also an implicit benchmark in identifying the smallest relevant market comprising these mentioned products.<sup>902</sup> Consequently, as John Newman phrases, “This analytical framework loses its coherence in zero-price markets, where the basic unit of value extracted from customers is not expressed as a price.”<sup>903</sup> Along the same line, the Commission ruled in the *Google Search (Shopping)* case that; “the SSNIP test would not have been appropriate in the present case because Google provides its services for free to users.”<sup>904</sup>

Many academics argue that the problem regarding the application of the SSNIP test in multi-sided data-driven platforms is its nature.<sup>905</sup> The SSNIP test is designed for one-sided markets. Thus, the basic SSNIP test does not take into account the indirect networks effects effectively to reflect interdependencies between sides of a platform.<sup>906</sup> Due to this reason, Filistrucchi et al. underline the importance of addressing the price issue when performing the hypothetical monopolist test on different sides of the market where different prices are present.<sup>907</sup> In other words, the literature suggests that analysing all sides of the platform should be engaged separately for a more accurate market power analysis since leaving one group or side would lead to erroneous assumptions.<sup>908</sup>

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<sup>902</sup> Ibid.

<sup>903</sup> John Newman, ‘Antitrust in Zero-Price Markets: applications’ (2016) 94 *Washington University Law Review* 1, 65.

<sup>904</sup> Case No COMP/AT.39740, *Google Search (Shopping)* [2017] 4444 Final, para 245.

<sup>905</sup> Sebastian Wismer, Christian Bongard, and Arno Rasek, ‘Multi-Sided Market Economics in Competition Law Enforcement’ (2017) 8 *Journal of European Competition Law and Practice* 4 *Economist’s Note* 257, 260-261; David S. Evans and Michael D. Noel, ‘Analyzing Market Definition and Power in Multi-Sided Platform Markets’ (2005), Available at SSRN: <https://ssrn.com/abstract=835504> accessed 1 September 2021; David S. Evans and Michael D. Noel, ‘The Analysis of Mergers that Involve Multisided Platform Businesses’ (2008) 4 *Journal of Competition Law and Economics* 3, 663-695; Renata B. Hesse, ‘Two-Sided Platform Markets and the Application of the Traditional Antitrust Analytical Framework’ (2007) 3 *Competition Policy International*, 191.

<sup>906</sup> Sebastian Wismer, Christian Bongard, and Arno Rasek, ‘Multi-Sided Market Economics in Competition Law Enforcement’ (2017) 8 *Journal of European Competition Law and Practice* 4 *Economist’s Note* 257, 260-261; Renata B. Hesse, ‘Two-Sided Platform Markets and the Application of the Traditional Antitrust Analytical Framework’ (2007) 3 *Competition Policy International*, 191, 192–93; David S. Evans, ‘Two-Sided Market Definition’ (2009) ABA Section of Antitrust Law, *Market Definition in Antitrust: Theory and Case Studies*, 2, Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1396751](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1396751) accessed 1 September 2021; Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, ‘Market Definition in Two-sided Markets: Theory and Practice’ (2014) 10 *Journal of Competition Law and Economics* 2, 331–32; Gönenç Gürkaynak, Öznur Inanılır, Sinan Diniz and Ayşe Gizem Yaşar, ‘Multisided markets and the challenge of incorporating multisided considerations into competition law analysis’ (2017) 5 *Journal of Antitrust Enforcement* 100-129, 109.

<sup>907</sup> Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, ‘Market Definition in Two-sided Markets: Theory and Practice’ (2014) 10 *Journal of Competition Law and Economics* 2, 330.

<sup>908</sup> David S. Evans and Michael D. Noel, ‘The Analysis of Mergers that Involve Multisided Platform Businesses’ (2008) 4 *Journal of Competition Law and Economics* 3, 663-695; Lapo

Dirk Auer and Nicolas Petit stress the importance of developing or adjusting the SSNIP test for multi-sided platforms to reflect all sides of the market for proper competition analysis.<sup>909</sup> However, all of these studies are focused on multi-sided platforms like the payment card systems, where distinct prices are set for different groups on each side of the market. In the literature, multi-sided platforms like shopping malls, franchising and many others are studied for adjusting the SSNIP test. Thus, solutions are addressed in terms of “distinct” prices on different sides of a platform. Therefore, another problem arises.

There are a vast number of unique multi-sided platforms containing different business strategies and different pricing structures today.<sup>910</sup> Some have indirect network effects as predominant characteristics, and some do not. As a result, performing a sole SSNIP test to all these various markets might not be useful.<sup>911</sup> In an economy where new business models are constantly emerging, it would be quite hard to perform a one-size-fits-all test.<sup>912</sup> As mentioned above, the situation in data-driven multi-sided platforms is quite different from two-sided markets with two different prices on each side of the market. Free of monetary charges on at least one side of a market is the main reason the SSNIP is incompatible with data-driven markets. In addition to free monetary charges on one side of a market, data-driven markets mainly exercise unlimited different prices on the advertising side.<sup>913</sup> Platform owners charge different prices in different situations, whether it is an advertisement for a keyword search or top page display advertisement or any other conditions where prices are set by artificial intelligence for advertising purposes. In brief, there are billions of different prices

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Filistrucchi, 'A SSNIP test for two-sided markets: the case of media' (2008) 34 NET Institute Working Papers; Gönenç Gürkaynak, Öznur Inanılır, Sinan Diniz and Ayşe Gizem Yaşar, 'Multisided markets and the challenge of incorporating multisided considerations into competition law analysis' (2017) 5 Journal of Antitrust Enforcement 100-129, 109; Renata B. Hesse and Joshua H. Soven, 'Defining Relevant Product Markets in Electronic Payment Network Antitrust Cases' (2006) 73 Antitrust Law Journal 709, 727–28; Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, 'Market Definition in Two-sided Markets: Theory and Practice' (2014) 10 Journal of Competition Law and Economics 2.

<sup>909</sup> Dirk Auer and Nicolas Petit, 'Two-Sided Markets and the Challenge of Turning Economic Theory into Antitrust Policy' (2015) 60 Antitrust Bulletin 4, 30.

<sup>910</sup> Gönenç Gürkaynak, Öznur Inanılır, Sinan Diniz and Ayşe Gizem Yaşar, 'Multisided markets and the challenge of incorporating multisided considerations into competition law analysis' (2017) 5 Journal of Antitrust Enforcement 100-129, 110.

<sup>911</sup> Ibid.

<sup>912</sup> Ibid.

<sup>913</sup> Sébastien Broos and Jorge Marcos Ramos, 'Google, Google Shopping and Amazon: The Importance of Competing Business Models and Two-Sided Intermediaries in Defining Relevant Markets' (2017) 62 The Antitrust Bulletin 2, 11.



for advertisers in the online world and the SSNIP or a similar test is not applicable on such a scale in order to identify the competitive structure.<sup>914</sup> In the opposite situation where the SSNIP test is applied to the advertiser side of specific data-driven markets, it is inevitable that each pricing strategy for each individual search or display could be identified as separate relevant markets.<sup>915</sup> Also, indirect network effects make the SSNIP test incompatible with no monetary charges on one side of a market. The demand on one side is affected by the pricing strategy on the other side; thus, a price increase that seems to be unrelated to the ‘determined’ substitutability of a product affects the demand.<sup>916</sup> Consequently, if personal data object to a commercial transaction by being traded or sold, the SSNIP test can be the correct tool to assess competition.<sup>917</sup> Other than that, when data becomes the subject of a transaction, any price-centric tool becomes ill-suited for market power analysis.<sup>918</sup> According to Petit, this was not seen as the inadequacy of price-centric competition tools but as an increased sophistication of price strategies in data-driven markets.<sup>919</sup>

In all reason, academics have discussed alternative methods for assessing demand-side substitutability.<sup>920</sup> The main idea is to move away from an analysis based on prices and focus on other aspects like consumer choice, privacy and quality, which are already in the framework of competition law analysis. Accordingly, the European Commission found quality as a significant competition parameter in the absence of price.<sup>921</sup> In the *Microsoft/Yahoo* merger decision, the Commission expressed that competition predominantly occurs based on the

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<sup>914</sup> Ibid.

<sup>915</sup> Ibid, 12.

<sup>916</sup> Thomas Höppner, ‘Defining Markets for Multi-Sided Platforms: The Case of Search Engines’ (2015) 38 *World Competition* 3, 349-366, 355-356.

<sup>917</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 126.

<sup>918</sup> Ibid.

<sup>919</sup> Nicolas Petit, ‘Technology Giants, the Moligopoly Hypothesis and Holistic Competition: A Primer’ (2016). Available at SSRN: <https://ssrn.com/abstract=2856502> or <http://dx.doi.org/10.2139/ssrn.2856502> accessed 1 September 2021, 57.

<sup>920</sup> Michael S. Gal and Daniel L. Rubinfeld, ‘The Hidden Costs of Free Goods: Implication for Antitrust Enforcement’ (2016) 80 *Antitrust Law Journal* 521, 553; Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 116; Aleksandra Gebicka and Andreas Heinemann, ‘Social Media & Competition Law’ (2014) 37 *World Competition* 2, 149-172, 156; OECD, Ania Thiemann and Pedro Gonzaga, ‘Big Data: Bringing Competition Policy to the Digital Era’ [2016] DAF/COMP (2016)14 Available at: [https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf), accessed 1 September 2021, 15.

<sup>921</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 101; Case No COMP/M.6281 *Microsoft/Skype* C[2011] 7239 final, para 81.

quality of search results and user interface of the service.<sup>922</sup> Therefore, priority must be given to other parameters than price. Along the same line, Aleksandra Gebicka and Andreas Heinemann advocate a cautious approach to the SSNIP test since price is not an accurate benchmark in data-driven markets instead of withdrawing the test altogether.<sup>923</sup> As a possible solution, they advise taking into account the quality of a product in order to execute the test.<sup>924</sup> This would be the SSNDQ (Small but Significant Non-Transitory Decline in Quality) test. Quality is a predominant parameter in markets such as the social network or search engine since most services' selling point is their reliability.<sup>925</sup> Consumers would move away from the service when there is a slight decrease in reliability, like logging in problems, crashes, excessive maintenances, hackings or spam. However, the decrease in quality must be small but significant non-transitory and must not be wide scale.<sup>926</sup> Although the overall quality of a product or service can be quite easy to detect, the SSNDQ test is highly subjective. For instance, an additional maintenance every month on a mobile app might not be perceived as a motive for consumers to leave the platform, or it might be for some.

Also, in a policy roundtable of OECD for competition, the Portuguese delegate proposed to exercise the SSNDQ test in market definition and merger assessments.<sup>927</sup> However, replacing the SSNIP test with the proposed SSNDQ test was found to be troublesome by the EU delegate. A decrease in quality was found immeasurable since quality is reflected quite subjectively by consumers.<sup>928</sup> Additionally, it is argued that the traditional SSNIP test already incorporates an assessment on quality since consumers take into account prices by also evaluating the quality of the product or service before switching to substitute products.<sup>929</sup> In addition to these ideas, it can be deduced that tests like the SSNIP are fundamentally quantitative tests executed by measurable parameters. However, what the SSNDQ test tries to achieve is a qualitative analysis which

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<sup>922</sup> Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final, para 101.

<sup>923</sup> Aleksandra Gebicka and Andreas Heinemann, 'Social Media & Competition Law' (2014) 37 *World Competition* 2, 149-172, 157.

<sup>924</sup> *Ibid.*

<sup>925</sup> *Ibid.*, 158.

<sup>926</sup> *Ibid.*

<sup>927</sup> OECD, Policy Roundtable: The Role and Measurement of Quality in Competition Analysis, October 2013 (OECD Quality Report) Available at: <http://www.oecd.org/competition/Quality-in-competition-analysis-2013.pdf>, accessed 1 September 2021, 163.

<sup>928</sup> *Ibid.*, 164.

<sup>929</sup> *Ibid.*

does not seem to be the initial objective of small but significant non-transitory change tests. Therefore, it can be concluded that it is quite hard to adopt any form of the HMT test or the SSNDQ test for competition law purposes in data-driven markets.

#### 4.4.2 Digital Ecosystems and Market Shares Problem

The other issue about market power assessment for data-driven markets is the arguable prominence of market shares. In the traditional assessment method, the principles for assessing dominance include assessing the static market power of a given undertaking in a relevant market. Market shares are regarded as direct evidence of market power in competition law. For instance, a market share of 50% is clear evidence of a dominant position according to the CJEU.<sup>930</sup> Moreover, the European Commission stresses that an undertaking would likely be dominant if its market share is over 40%.<sup>931</sup> This approach is rather an economic one and is accepted as a shortcut in determining market power.<sup>932</sup> However, the sheer numbers do not reflect the accurate market power by itself. In order to analyse market shares, the real and potential competitors, characteristics, and the structure of the market should also be considered.<sup>933</sup> As a matter of fact, many commentators have lately criticised the economic analysis of market shares in the case of data-driven markets.<sup>934</sup>

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<sup>930</sup> Case C-62/86 *AKZO Chemie BV / Commission* [1991] ECLI:EU:C:1991:286, para 60.

<sup>931</sup> Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9, para 13-14.

<sup>932</sup> Hedvig K. Schmidt, 'Taming the shrew: is there a need for a new market power definition for the digital economy?' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 63.

<sup>933</sup> Richard Whish and David Bailey, *Competition Law* (8<sup>th</sup> edn, Oxford University Press, 2015), 192.

<sup>934</sup> Daniel Mandrescu, 'Applying EU competition law to online platforms: the road ahead - Part 2' (2017) 38 *European Competition Law Review* 9, 410-422, 413; Hedvig K. Schmidt, 'Taming the shrew: is there a need for a new market power definition for the digital economy?' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 63-65; David S. Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy, Volume 2* (1<sup>st</sup> edn, MIT Press, 2002), 18; German Monopolies Commission (*Monopolkommission*), 'Competition policy: The Challenge of Digital Markets' (2015) Special Report No 68, p 24, Available at: [https://www.monopolkommission.de/images/PDF/SG/s68\\_fulltext\\_eng.pdf](https://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf) accessed 1 September 2021; David S. Evans and Richard Schmalensee, 'The Antitrust Analysis of Multi-Sided Platform Businesses' in Roger Blair and Daniel Sokol (eds), *Oxford Handbook on International Antitrust Economics* (Oxford University Press, 2013), 20-21; Jonathan Faull and Ali Nikpay, *The EU Law of Competition* (Oxford University Press, 2014), 367-368.

Criticisms are based on the dynamic characteristic of data-driven markets. In an earlier study, Evans and Schmalensee argue that the static market power measured by shares might not be relevant for new economy industries for a couple of reasons. First, they argue the fragility of dominance in high-industry markets.<sup>935</sup> According to the idea, market leadership in new economy markets is not an indicator of long-term dominance. Along the same line, Mandrescu underlines the dynamic character of data-driven markets and expresses that market shares change drastically in short periods.<sup>936</sup> Google's and Facebook's quick rise and established dominance in their respective markets even though they were not first movers in the search engine or social media market proves the point. Therefore, a measurement of market shares might not deliver accurate conclusions for these online markets. Accordingly, the Commission stressed that market shares would provide a limited indication of market power in *Microsoft/Skype*.<sup>937</sup> This is due to the dynamic structure, fast changes in market shares, and the free-of-charge price policy of the consumer communications market. Consequently, the market share assessment was found to be a rather lacking proxy to evaluate market power and can only give a preliminary indication for the market's competitive structure.<sup>938</sup> The judgment was also enunciated before the General Court in the *Cisco v. Commission* and *Microsoft* cases.<sup>939</sup> Similar to the Commission's decision, the CJEU also ruled that the consumer communications market is a fast-growing sector, and these markets are characterised by short innovation cycles.<sup>940</sup> Therefore, even large market shares cannot be relevant indicators for the market power assessment since it is not helpful to assess competition damages.<sup>941</sup>

Second, Evans and Schmalensee relate the problem with market shares to the multi-sided structure of data-driven markets. As is apparent, cross-market connection and multi-sidedness make it challenging to measure the actual market

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<sup>935</sup> David S. Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy, Volume 2* (1<sup>st</sup> edn, MIT Press, 2002), 19.

<sup>936</sup> Daniel Mandrescu, 'Applying EU competition law to online platforms: the road ahead - Part 2' (2017) 38 *European Competition Law Review* 9, 410-422, 413-414.

<sup>937</sup> Case No COMP/M.6281 *Microsoft/Skype* C[2011] 7239 final, para 78.

<sup>938</sup> *Ibid*, para 99.

<sup>939</sup> Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* [2013] ECLI:EU:T:2013:635, para 69.

<sup>940</sup> *Ibid*, para 99.

<sup>941</sup> *Ibid*, para 99.

shares of dominant undertakings.<sup>942</sup> Most undertakings are active in various linked markets, as mentioned in the “Moligopoly” discussion.<sup>943</sup> Therefore, while the definition of relevant markets becomes obsolete due to diminishing boundaries between online markets, the determination of market shares cannot be indicative. Since undertakings are active on various platforms through different services, market shares often differ, and the situation creates complications while assessing competition individually and cumulatively.<sup>944</sup> In a later study, Evans and Schmalensee point out that market share measurements are often used to assess dominance for traditional single-sided undertakings.<sup>945</sup> In all reason, it is not clear how to measure market shares of multi-sided platforms.<sup>946</sup>

Online advertisement fuelled markets are the primary examples of it. Consider the search engine market. One of the main services of Google is its general online search. Measuring shares of rivals through comparing total enquiries would reveal a conclusion in the absence of price in that market. Although the calculation cannot be done over a value-based market share, the total amount of enquiry would still give a relatively accurate conclusion. As a result, Google’s market share is usually calculated as over 90 per cent globally. However, the advertisement side of the market is an entirely different scenario, and even Google might have different market shares on different sides of the multi-sided platform. Therefore, measurements executed in specific sides of a market would not pinpoint a correct analysis of the market power of undertakings. In furtherance, the Commission underlines that the dynamic link between online markets creates an inaccurate picture of the market reality in new economy industries since the significance of market shares differs in each individual market segment.<sup>947</sup> In a situation like this, the market power assessment should move the focus from market shares into the undertakings overall strength as a whole in online ecosystems. This could be done by analysing specific characteristics of data-driven markets like the multi-sidedness, indirect network externalities, market barriers and Big Data capabilities. This suggests a huge paradigm shift in

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<sup>942</sup> David S. Evans and Richard Schmalensee, ‘Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries’ in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy*, Volume 2 (1<sup>st</sup> edn, MIT Press, 2002), 20-21.

<sup>943</sup> See Chapter 3.4.3.

<sup>944</sup> Evans and Schmalensee (n 942) 20-21; Mandrescu (n 936) 413.

<sup>945</sup> Evans and Schmalensee (n 942) 20.

<sup>946</sup> Ibid.

<sup>947</sup> Case COMP/C-3/37.792 *Microsoft* 24 C[2004] 900 final, paras 437–447.

competition analysis when compared to traditional markets in terms of market power assessment.

In brief, market shares are deemed inaccurate indicators for the market power analysis. Low or even high market shares cannot establish dominance in new economy markets. Especially in data-driven markets where price is non-existent on at least one side of the platform, the competitive structure should not be assessed by market shares. In this sense, an over-reliance on market shares could result in inaccurate conclusions. That being said, Mark Patterson argues that it would be a mistake if Google's market power is measured by its high market shares in the search engine market.<sup>948</sup> Similarly, Christian Kersting and Sebastian Dworschak advocate that Google's significant market share should not be an indicator for the market power analysis.<sup>949</sup> They also conclude that Google is not dominant in the search engine market in the EEA. This implication is also erroneous.<sup>950</sup> Justification of this idea stems from the analysis of the Commission and the CJEU mentioned above. Although an undertaking's high market share measured by an online user base is not determinative in assessing dominance *per se*, a claim suggests Google is not dominant in the search engine market since a "search engine" market does not exist due to free-of-charge services, seems to be incorrect also. That is to say, even following the decisions of competition authorities in the EU, which deem high market shares as impractical measures to assess dominance, this does not mean that undertakings which do have high market shares are not dominant. Methods like the 'reverted' market share based analysis, which claims undertakings cannot be dominant in free of charge markets even if they control the whole sector, should not be executed for data-driven markets. In conclusion, the irrelevance of the price-centric economic

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<sup>948</sup> Mark R. Patterson, 'Google and Search-Engine Market Power' (2013) Harvard Journal of Law and Technology, 6-7.

<sup>949</sup> Christian Kersting and Sebastian Dworschak, 'Does Google Hold a Dominant Market Position? – Addressing the (Minor) Significance of High Online User Shares' (2014) 16 Ifo Schnelldienst, 7, Available at SSRN: <https://ssrn.com/abstract=2495300> accessed 1 September 2021.

<sup>950</sup> Ibid; James D. Ratliff and Daniel L. Rubinfeld, 'Is There a Market for Organic Search Engine Results and Can Their Manipulation Give Rise to Antitrust Liability?' (2014) 10 Journal of Competition Law and Economics, 1-25, 2-3; Florence Thépot, 'Market Power in Online Search and Social Networking: A Matter of Two-sided Markets' (2013) 36 World Competition 2, 217–18; Florian Wagner-von Papp, 'Should Google's Secret Sauce be Organic?' (2015) 16 Melbourne Journal of International Law 2, 609, 646–647; Marina Lao, 'Search, Essential Facilities, and the Antitrust Duty to Deal' (2013) 11 Northwestern Journal of Technology and Intellectual Property 275, 292; Andrea Renda, 'Searching for harm or harming search? A look at the European Commission's antitrust investigation against Google' (2015) CEPS Special Report No. 118, Available at: <http://aei.pitt.edu/67571/>, accessed 1 September 2021, 31–32.

competition tools and the irrelevance of market shares in complex data-driven markets reveal an urgent need of developing new tools to assess market power for data-driven markets. In this sense, could an assessment based on Big Data possession and overall capability of undertakings across online platforms be used to measure market power?<sup>951</sup>

#### **4.5 New Tests for Market Power Assessment in the Data-Driven Economy**

The dynamics of the new economy require a change in the traditional concept of relevant markets for competition law analysis in both mergers and abuse of dominant position cases.<sup>952</sup> The traditional concept of defining a narrow product market seems less significant and irrelevant for the competition law analysis in data-driven markets.<sup>953</sup> Therefore, a broader understanding of market power analysis should be engaged. Competition Policy for the Digital Era, a European Commission report by Crémer et al. stresses that:

“In the digital world, market boundaries might not be as clear as in the “old economy”. They may change very quickly... In the case of multisided platforms, the interdependence of the “sides” becomes a crucial part of the analysis whereas the traditional role of market definition has been to isolate problems. Therefore, we argue that, in digital markets, we should put less emphasis on analysis of market definition, and more emphasis on theories of harm and identification of anti-competitive strategies. ... Where the firms’ lock-in strategies are successful, and consumers find it difficult to leave a digital ecosystem, ecosystem-specific aftermarkets may need to be defined.”<sup>954</sup>

Also, the current competition law tools to assess market power does not contain adequate mechanisms to identify Big Data related market power. For

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<sup>951</sup> See Chapter 6.5 for more detail.

<sup>952</sup> Vanessa Turner and Agustin Reyna, ‘Market Definition in EU Competition Law Enforcement: Need For An Update’, BEUC’s Response to the Public Consultation [2020] Available at: [https://www.beuc.eu/publications/beuc-x-2020-092\\_beuc\\_response\\_public\\_consultation\\_on\\_market\\_definition.pdf](https://www.beuc.eu/publications/beuc-x-2020-092_beuc_response_public_consultation_on_market_definition.pdf), accessed 1 September 2021, 3-4.

<sup>953</sup> Ibid.

<sup>954</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition Policy for the Digital Era: Final Report (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), accessed 1 September 2021, 3-4.

instance, in the Commission Notice on the definition of relevant market,<sup>955</sup> multi-sided market structures or the ecosystem nature are not mentioned despite their prevalence and importance in the new economy.<sup>956</sup> Moreover, other aspects of data-driven markets such as the importance of data accumulation, lock-in effects stemming from data utilisation and networks effects, the interrelationship between the two (or more) sides of a market, and the implications of ecosystem business strategies are not reflected in the assessment of market power and the definition of relevant markets in EU Competition law. Accordingly, the dynamic nature of the new economy, innovative character, Big Data's role, online ecosystem's structure, and multi-sidedness should be at the centre of competition law analysis in this regard.

#### **4.5.1 Dynamic Nature of the New Economy**

As mentioned in the previous chapter, it is studied that data-driven markets have unique characteristics regarding the functioning of markets.<sup>957</sup> Strong indirect network and feedback effects, Big Data accumulation and tipping markets are all identified as the main characteristics of data-driven markets. As a consequence, assessment of market power must be differed to some extent compared to traditional markets. However, dynamic competition, fast-changing nature, and indirect network externalities are not new to competition law, and discussion on the compatibility of defining a relevant product market for data-driven markets was started two decades ago.

For a study to the European Commission in the early 2000s, Alexis Jacquemin underlined the emergence of new economy markets and their highly innovative character.<sup>958</sup> In the EU, the microeconomic theory tools and models of imperfect competition have been increasingly used for the assessment of market power. Jacquemin argues that the market power assessment method replaced the more static approaches of the past for the dynamic competition model.<sup>959</sup> However, in European competition law, market power assessment has not been

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<sup>955</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (Text with EEA relevance) [1997] OJ C 372/5.

<sup>956</sup> Turner and Reyna (n 952) 4.

<sup>957</sup> See sections 4.5.1 – 4.5.3.

<sup>958</sup> Alexis Jacquemin, 'Theories of Industrial Organisation and Competition Policy: What are the Links?' (2000) European Commission Forward Studies Unit Working Paper, 11.

<sup>959</sup> Ibid.



changed significantly, methodically speaking.<sup>960</sup> According to Van Gorp and Batura, the main problem of the relevant market analysis is the assumption that market definition is an obligatory step for the market power assessment procedure.<sup>961</sup> In data-driven markets, competition occurs on the grounds of progress, innovation and the creation of new market segments.<sup>962</sup> Therefore, in markets where boundaries are continuously redefined and new segments are created, identification of a specific product market for market power assessment would not serve the purpose well.<sup>963</sup>

In data-driven markets, when analysis takes place to define a relevant product and geographical market in an abuse of a dominant position case, various issues can be encountered.<sup>964</sup> First, due to its multi-sided nature, there might be more than one relevant product market in specific cases regarding data-driven markets. When there is more than one relevant market, market power might not be measured accurately. In many cases related to abuse of a dominant position or R&D acquisitions in data-driven markets, the Commission had to identify more than one relevant market for the market power assessment.<sup>965</sup> This, inevitably caused misvaluations on the market power of intermediaries in multi-sided platforms: online ecosystems.

Second, due to the reliance on user data, many data-driven markets do not show characteristics of a traditional market, such as price competition. Many online services offered on multi-sided platforms are zero-priced. As Ioannis Kokkoris underlines, “in markets that are driven by innovation, neither price nor quantity plays any decisive role since the services are not monetized on the consumer side... The only parameters that can be used as yardsticks to determine the effects on fair competition in such markets are quality, innovation and choice.”<sup>966</sup> Thus, price-based indicators are not relevant for data-driven markets. The price-based assessment of market power causes significant

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<sup>960</sup> Nikolai Van Gorp and Olga Batura, ‘Challenges for Competition Policy in a Digitalised Economy’, A study for the ECON Committee, Directorate General for Internal Policies, European Parliament, July 2015, IP/A/ECON/2014-12 PE 542.235, 50.

<sup>961</sup> Ibid.

<sup>962</sup> See Section 3.4.2 for inverted analytical steps in data-driven markets.

<sup>963</sup> Van Gorp and Batura (n 960) 50.

<sup>964</sup> Ibid, 52.

<sup>965</sup> See Sections 5.2.1-5.2.2.

<sup>966</sup> Ioannis Kokkoris, ‘The Google Saga: Episode I’ (2018) 14 European Competition Journal No. 2–3, 464.

misevaluations. Also, it is highly unlikely to draw a boundary in terms of substitute products or geographical scope in data-driven markets. Boundaries of data-driven markets are mostly immeasurable due to the creation of ecosystems in the online world. All these problems are enunciated in the following subsections.

#### **4.5.2 Innovative Character of the New Economy**

In the early 2000s, Evans and Schmalensee highlighted the problems of defining relevant markets in the new economy. According to the study, a classic market definition analysis where the price and output decisions, including the supply and demand analysis, create a misleading picture regarding the actual competition in new economy markets.<sup>967</sup> The main reason behind it is the dynamic competition occurring in the new economy.<sup>968</sup> Especially in data-driven markets, price and output competition do not seem to be prevalent; instead, undertakings compete by investing in R&D to create new products to address novel needs and demands of society. As mentioned in the previous chapter, new market segments are created as a result of a R&D race.<sup>969</sup> In this sense, data-driven markets where the dynamic competition takes place significantly differ from static markets. Consequently, it cannot be assumed that a relevant market definition or a static market share examination are essential parts of the market power assessment today.

In a similar vein, Ioannis Lianos underlines the importance of the new economy and complex processes, which include new value creation mechanisms. He expresses that questions on the role, function and scope of competition law in the digital age have not been expanded to cover new value creation mechanisms and the complex economic links in the economy.<sup>970</sup> In the new economy, a dynamic system is created where interacting players connect through feedback loops. In this system, players interact in non-linear ways where that small changes in parameters can create huge differences in behaviour. According to Lianos, references should be made to concepts such as tipping points, leverage points or increased returns.<sup>971</sup> He argues that the neoliberal price

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<sup>967</sup> David S. Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds) *Innovation Policy and the Economy*, Volume 2 (1<sup>st</sup> edn, MIT Press, 2002), 16.

<sup>968</sup> Ibid.

<sup>969</sup> See Chapter 3.2.

<sup>970</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 8.

<sup>971</sup> Ibid.

theories of the 20th-century competition law are insufficient to capture market power and anticompetitive conduct. The complex structure of multi-sided data-driven markets and the players' complexity in the markets and their interactions should be engaged in the framework.<sup>972</sup> According to the idea, simple theories based on the supply and demand curves indicating market equilibrium, rational choice models, or even business conduct are not adequate to identify the complex nature of the new economy.

In the new economy, the role of Big Data should not also be disregarded. Big Data takes the role of price analysis and markets equilibrium of neoclassical economics. Big Data is the raw material for value creation in data-driven markets.<sup>973</sup> Therefore, emphasis should be given to undertakings' Big Data utilisation capability. In addition to that, in data-driven markets, players in a market may change their roles due to markets multi-sided nature.<sup>974</sup> That is to say, players can be both consumers and producers at the same time. This, in turn, would make classic supply and demand analysis quite troublesome. Also, a seller might be the marketplace owner and might govern rules for rival sellers in the same ecosystem. Thus, new methods are needed to be established for the market power assessment.<sup>975</sup>

Evans and Schmalensee propose an assessment based on innovation and innovative threats since the race for market dominance occurs on innovation grounds.<sup>976</sup> According to the idea, assessment should include an examination of the potential innovative threats based on new technologies and the likelihood of how they radically change the product market.<sup>977</sup> However, there is no empirical evidence that the new technology's innovative possibilities and occurrence can be assessed under the market power assessment. More recently, Van Gorp and Batura reaffirmed the problems in the traditional approach of the current market power assessment. Defining a relevant market in data-driven markets as a starting point for market power assessment should be abandoned in favour of a more dynamic concept.<sup>978</sup> An example of a more dynamic market analysis would

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<sup>972</sup> Ibid.

<sup>973</sup> See Chapter 3.1 for more detail.

<sup>974</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 8.

<sup>975</sup> See Chapter 6.5 for more detail.

<sup>976</sup> Evans and Schmalensee (n 967) 16.

<sup>977</sup> Ibid.

<sup>978</sup> Van Gorp and Batura (n 960) 51.

be the examination of behaviours of undertakings. Like the proposal of Evans and Schmalensee, they also argue that competition authorities should focus more on business behaviours (in other words, business model substitutability) and potential competitors who may occur in the market.<sup>979</sup> Business behaviour analysis inevitably includes an examination of innovative threats in the form of various business models that may steal the proportion of the market and profits.<sup>980</sup>

Data-driven markets are innovative, and they have dynamic character. However, the measurability of innovativeness is questionable for the market power assessment. There is no real-life evidence on how to assess possible innovative threats. In the previous chapter, the link between competition and innovation is analysed. Although a close relationship between innovation and competition has been found, this relationship cannot be deemed linear.<sup>981</sup> As a result, the inconsistent findings on some market segments' innovative character would lead to erroneous assumptions on market power assessment. More important than that, it is highly unlikely for competition authorities and courts to examine future segmentation of potential new markets through the current innovation cycle. An examination would only reveal subjective prejudgments of decision-makers about specific technologies or even about data-driven markets in general.

In addition to that, it is unclear how the behavioural examination of business strategies can reveal the competition possibilities in a market. Although business conduct would give preliminary ideas of a specific market's character, in general, to identify competition, such as Facebook's intentions on the privacy policy of WhatsApp, and about the assessment of market power, business behaviours might differ significantly. To exemplify, the analysis shows that many businesses in data-driven markets are in near-monopoly positions. In other words, they are super dominant undertakings. However, these dominant undertakings are in blistering competition at the same time in regard to specific market segments related to online advertising. Therefore, tools to analyse which market segment in which undertaking has the market power to become a dominant one seem

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<sup>979</sup> Ibid.

<sup>980</sup> Ibid.

<sup>981</sup> See Chapter 3 for more detail.

uncertain. To put it another way, determining market power through business behaviour in new economy markets seems as complex as determining market power through narrow, inaccurate product market definitions combined with the market share analysis.

Accordingly, Inge Graef also argues how the European Commission misunderstood the dynamics of data-driven markets.<sup>982</sup> As for the market power analysis in the merger decisions of Microsoft, Google and Facebook<sup>983</sup> and abuse of dominant position case of Google,<sup>984</sup> relevant market analysis was the first step. The Commission considered narrower relevant markets for data-driven markets in all of them. For instance, in *Google/DoubleClick*, the Commission discussed sub-segmentation of online advertising market: display advertising market, search advertising market, and ad intermediation market. Likewise, narrower relevant markets were also discussed for online communications and social network markets. According to Graef, this is an indication of how the Commission defines relevant markets based on functionality.<sup>985</sup> As mentioned above, even the rival services in the same market as WhatsApp and Facebook Messenger were not regarded as competitors due to assessment based on functionality. The interpretation of the Commission shows that the Authority reacts to the situation in data-driven markets to protect innovation by not extending the initial investigation in these high-technology markets.<sup>986</sup> However, narrower relevant market definitions based on functionality miss out on the disruptive character of new economy markets.

Christian Ahlborn criticises the approach of the Commission, which predominantly focuses on demand-side substitutability.<sup>987</sup> The short-term analysis of demand-side substitutability on specific products tends to miss the nature of innovation, resulting in superior, newer, and unprecedented products.<sup>988</sup> As a result, the analysis also misses the future products that will create their own

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<sup>982</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 110.

<sup>983</sup> See Chapter 5.2.1.

<sup>984</sup> See Chapter 5.2.2.

<sup>985</sup> Graef (n 982) 110.

<sup>986</sup> Ibid.

<sup>987</sup> Christian Ahlborn, David Evans and Atilano Jorge Padilla, 'Competition Policy in the New Economy: is European Competition Law up to the Challenge?' (2001) 22 *European Competition Law Review* 5, 161.

<sup>988</sup> Ibid.

market segments and misses possible competitive pressures by potential competitors in *broader* markets. When a relevant market is defined as a narrow product market in data-driven markets, potential constraints, non-horizontal effects, and new market segmentations cannot be examined in the market power assessment.<sup>989</sup> In other words, excessively narrow market definitions result in erroneous assumptions on market power and lead to incorrect findings, both false negatives and false positives, of dominance in data-driven markets.<sup>990</sup> In brief, innovation can be deemed the main parameter for data-driven markets even in arguably necessary relevant market analysis rather than neoclassical analysis of the short-term demand and supply-side substitutability regarding specific products. The business model substitutability also seems to be unclear since presumptions on innovation might give false results regarding the structure of markets and competition there.

#### **4.5.3 Big Data as a Misleading Factor**

Regarding the market power assessment, the role of Big Data is incontrovertible. However, there are many opposing views on Big Data itself in terms of competition.<sup>991</sup> For the longest time, the Big Data issue was misunderstood whether the technology is an input variable, a barrier to entry, or a piece of confidential information that consumers cannot hold control of fully, or even a market itself. Unlike today, the perception of data was quite different in the previous decade regarding competition law and policy. In general view, the Big Data issue was associated exclusively with consumer privacy itself. In other words, data collection, data processing, and data analytics were all privacy law and consumer protection matters.<sup>992</sup> Consumers of online services willingly or unwillingly provide information about themselves to platform owners; thus, any exploitation, including collected data without the user's knowledge, must be

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<sup>989</sup> Graef (n 982) 110.

<sup>990</sup> Ahlborn et al (n 987) 162.

<sup>991</sup> Greg Sivinski, Alex Okuliar and Lars Kjolbye, 'Is big data a big deal? A competition law approach to big data' (2017) 13 *European Competition Journal* 2-3; Robert P. Mankhe, 'Big data as a Barrier to Entry' (2015) 2 *Competition Policy International Antitrust Chronicle*; Nathan Newman, 'The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google' (2014) 40 *William Mitchell Law Review* 849, 54; Maurice E. Stucke and Allen P. Grunes, 'No Mistake About It: The Important Role of Antitrust in the Era of Big Data' (2015) *The Antitrust Source* April, University of Tennessee Legal Studies Research Paper No.269 Available at SSRN: <https://ssrn.com/abstract=2600051>\_accessed 29 May 2021.

<sup>992</sup> Maureen K. Ohlhausen and Alexander P. Okuliar, 'Competition, consumer protection and the right (approach) to privacy' (2015) 80 *Antitrust Law Journal* 1 121, 156; David A. Balto and Matthew Lane, 'Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data' (2016), Available at SSRN: <https://ssrn.com/abstract=2753249>\_accessed 29 May 2021, 9.

addressed within privacy or consumer protection law rules. In other words, trade or sale of consumer data without consumer consent is a matter of data privacy.<sup>993</sup> Therefore, competition authorities deliberately avoided all issues stemming from Big Data in their analyses. However, that idea is overcome today.

The use of personal data for competition in a market, or access to data that creates a market position itself, moves away from the statement that the Big Data issue is peculiar to data privacy and consumer protection.<sup>994</sup> When access and use of consumer data raise competition issues, it should become a competition law concern.<sup>995</sup> Collection and utilisation of consumer data have recently become a key component for companies to compete in data-driven markets in the age of the Internet of Things and Internet of Services.<sup>996</sup> In data-driven markets, personal data evolves into a tool where companies harvest these data sets in order to provide customised and targeted services. It is important to note that services and products are often offered at zero price but requires personal data to function. In other words, users must provide their data in order to use these services.

Moreover, consumers' free will and self-determination are likely to depend on the services they desire to use.<sup>997</sup> According to the data protection rules, users must be aware of what kind of information will be used by the service. However, the take it or leave it nature of these services -when someone does not want their data to be processed for advertising purposes cannot access the website, for instance-, left no other choice for consumers.<sup>998</sup> At this point, consumers exchange their personal data in order to use these services. Exposure of various information about consumers to service/product owners should be regarded as a "hidden cost" for consumers. However, consumers do not tend to assess the value of data and service exchange accurately, and they do have quite a limited understanding of what companies could achieve with their data.<sup>999</sup> One can still

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<sup>993</sup> Hedvig K. Schmidt, 'Taming the shrew: is there a need for a new market power definition for the digital economy?' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 35.

<sup>994</sup> *Ibid.*, 40.

<sup>995</sup> See Chapter 5.6 for more detail.

<sup>996</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 9.

<sup>997</sup> *Ibid.*

<sup>998</sup> *Ibid.*

<sup>999</sup> Schmidt (n 993) 37.

argue that these arguments are irrelevant to competition law. However, competition law today could well be applied in accordance with the data privacy norms as a part of the protection of consumers, consumer welfare.<sup>1000</sup> Therefore, even matters pertaining to privacy can become competition issues. In terms of how undertakings establish dominance by accumulating Big Data in data-driven markets and its relation to privacy, Senator Al Franken, US Senator from Minnesota, underlines that:

“The more dominant these companies become over the sectors in which they operate, the less incentive they have to respect your privacy. But the problem does not stop there. Because accumulating data about you is not just a strange hobby for these corporations. It is their whole business model. And you are not their client. You are their product.”<sup>1001</sup>

Frankly, increasing data collection improves a companies ability to compete in a data-driven market. Moreover, the future of the Internet of Things will contribute to the data advantage of companies that utilise data analytics and data collection through advanced algorithms and artificial intelligence systems.<sup>1002</sup> Not only increasing data collection but also internet-based products or services that were not previously online will let companies collect massive amounts of data due to the Internet of Things.<sup>1003</sup> A limited number of companies hold onto that data; thus, network effects and high switching costs are created due to the massive data collection and data analytics capabilities of these companies. Inevitably, the competitive advantage created by Big Data raises many competition concerns.

Today, it should be acknowledged that the abovementioned competition concerns can arise on issues related to confidential data, anonymous data, or any type of accumulated data. In light of the information given above, it can be assumed that Big Data should play a crucial role in the market power assessment and become a matter of competition law.<sup>1004</sup> As mentioned in the previous

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<sup>1000</sup> Ibid, 38.

<sup>1001</sup> Senator Alan Stuart Franken, ‘How Privacy Has Become an Antitrust Issue’ (29 March 2012) Speech at the American Bar Association Section of Antitrust Law Spring Meeting Dinner, Available at: [https://www.huffpost.com/entry/how-privacy-has-become-an\\_b\\_1392580](https://www.huffpost.com/entry/how-privacy-has-become-an_b_1392580) accessed 1 September 2021.

<sup>1002</sup> Ioannis Lianos, ‘Competition Law for the Digital Era: A Complex Systems’ Perspective’ (2019) CLES Research Paper Series 6/2019, 95.

<sup>1003</sup> Ibid.

<sup>1004</sup> Schmidt (n 993) 35.



chapters, the joint report of German and French Competition Authorities stresses that Big Data should be regarded as an important source for market power in data-driven markets, which raises barriers to entry and results in several types of data-related anti-competitive conduct.<sup>1005</sup> Although commentators argue that Big Data would not be a barrier to entry itself and instead would be quite beneficial for the data-driven economy,<sup>1006</sup> when competitors rely on a similar input to their rivals to be in a market, Big Data then becomes a barrier to entry. Therefore, evaluation of market shares would be misleading when Big Data is overlooked in the market power assessment.

Another matter regarding the Big Data related market power assessment is the existence of a market for data itself. The existence of data markets has been a widely discussed subject in recent years.<sup>1007</sup> However, data is acknowledged as an input in data-driven markets, and it is not sold or traded in these markets. If data is used as an input for other services or products, it cannot constitute a separate relevant market for competition law analysis.<sup>1008</sup> Also, acting as an input, data is not a product or service directly available to users on both sides of the platform, to advertisers or consumers.<sup>1009</sup> According to the current competition law, the only possible option to define a relevant market for data would be when online platforms sell personal data directly to advertisers or other users of the online service. Even so, there will be other issues pertaining to the characteristics of data. Behavioural user data, including traded data (like music charts), cannot be treated similarly, and a line must be drawn between them. As an example, music data was not regarded as personal data,<sup>1010</sup> and it can be

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<sup>1005</sup> Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016] Available at: [https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108\\_1](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108_1), accessed 1 September 2021, 11.

<sup>1006</sup> Renato Nazzini, 'Online Platforms and Antitrust: Where do we go from here?' (2018) 5 Italian Antitrust Review, 17.

<sup>1007</sup> Inge Graef, 'Market Definition and Market Power in Data: The Case of Online Platforms' (2015) 38 World Competition 4, 489; Darren S. Tucker and Hill B. Wellford, 'Big Mistakes Regarding Big Data' (2014) 14 Antitrust Source 1, 4-5; Aleksandra Gebicka and Andreas Heinemann, 'Social Media & Competition Law' (2014) 37 World Competition 2, 149-172, 156; Pamela Jones Harbour and Tara Isa Koslov, 'Section 2 in a Web 2.0: An expanded Vision of Relevant Product Markers' (2010), 76 Antitrust Law Journal, 769-797; D. Daniel Sokol and Roisin Comerford, 'Antitrust and Regulating Big Data' (2016) 23 George Mason Law Review 5 1129, 1155-1156.

<sup>1008</sup> Tucker and Wellford (n 1007) 4; Lianos (n 1002) 77.

<sup>1009</sup> Tucker and Wellford (n 1007) 4.

<sup>1010</sup> Case No COMP/M 8788 *Apple/Shazam* C[2018] 5748 final.

licenced. However, behavioural user data cannot be licenced, traded, or sold. Ioannis Lianos sheds light on the *Apple/Shazam*<sup>1011</sup> merger decision and argues the difficulties in defining a relevant market for data available to be sold or traded to other parties along with its structure as collected user data.<sup>1012</sup>

However, trade commissioner Pamela Jones Harbour underlined a crucial point in her dissenting statement for the FTC's *Google/DoubleClick* decision, where collected behavioural data was identified as a "special asset". The first recognition and proposed definition for data markets was given by Pamela Jones Harbour there. She expressed that Google's actual aim is to obtain DoubleClick's data before other rivals reach it.<sup>1013</sup> In other words, Google's objective was to purchase datasets of DoubleClick, not the other assets of DoubleClick in the first place. If this was the case, then a proper analysis of the role of data must have been taken place. In order to address the concern, Harbour expressed that; "to define a putative relevant product market comprising data ... may be useful to advertisers and publishers who wish to engage in behavioural targeting."<sup>1014</sup> Following the idea, Harbour and Koslov published a study on data and definition of data markets. They gave suggestions for defining relevant markets in data-driven markets. First, they separate data from data-driven markets like social networks, online advertising, or search engines, which are fuelled by the data itself.<sup>1015</sup> Then, they argue that a definition for a relevant data market should be made while recognising the increasing significance and value of data accumulation.<sup>1016</sup> This would also enable to distinguish the collected data and processed data from each other.

Regarding the *Google/DoubleClick merger*, Harbour and Koslov argue that the market power assessment should have followed a more dynamic approach instead of defining narrow product markets, which was also observed in the European Commission's decision.<sup>1017</sup> Therefore, in a market where Google holds

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<sup>1011</sup> Ibid.

<sup>1012</sup> Lianos (n 1002) 77.

<sup>1013</sup> Federal Trade Commission, Dissenting Statement of Commissioner Pamela Jones Harbour, In the matter of Google/DoubleClick F.T.C. File No. 071-0170 (2007), p 9, Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf) accessed 1 September 2021.

<sup>1014</sup> Ibid.

<sup>1015</sup> Pamela Jones Harbour and Tara Isa Koslov, 'Section 2 in a Web 2.0: An expanded Vision of Relevant Product Markers' (2010), 76 Antitrust Law Journal, 773.

<sup>1016</sup> Ibid.

<sup>1017</sup> Ibid, 784.

significant power by collecting data through Google search engine to fuel its online advertising services, the possibility of further accumulation of data must be taken into account.<sup>1018</sup> Therefore, a market for “data used for behavioural advertising” could be defined in this situation. In the relevant market for data used for behavioural advertising, Google’s position could be concerning where Google continues to amass collected data to strengthen network effects and raise barriers further to entry.<sup>1019</sup> Harbour and Koslov’s proposal for defining a relevant data market for the *Google/DoubleClick* merger approaches data as a special asset for the market power assessment, which is equally important for merger control and abuse of dominant cases.

Even obtaining data in possession of DoubleClick might be the most important motivation for Google in the *Google/DoubleClick* merger. It would be hard to assume that online platforms compete *in* a data market or *for* a data market. It is nearly impossible to identify a pure data market in the cornerstone abuse cases and mergers in data-driven markets.<sup>1020</sup> In none of the services, either end-users or advertisers’ side of their businesses; Google, Microsoft or Facebook sell datasets or behavioural data to other parties. Thus, it makes it irrelevant to define a data market. However, stemming from the idea that Harbour and Koslov have identified market power for Google through their possession of Big Data, a slightly different approach could have been considered without defining a separate market for data. In this scenario, data can be used as an assessment tool to substitute the market share assessment, which is not a relevant indicator for market power in data-driven markets.<sup>1021</sup>

#### **4.5.4 Creation of Online Ecosystems**

Due to the dynamic and innovative characteristics, data-driven markets are rapidly changing and evolving. This resulted in a shift in which the way of competition was changed considerably. For most businesses, competition to out-innovate is a norm today.<sup>1022</sup> Therefore, traditional assessment tools designed for a static market analysis fail for data-driven markets.<sup>1023</sup> In other words, it does

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<sup>1018</sup> Ibid, 784.

<sup>1019</sup> Ibid, 785.

<sup>1020</sup> Lianos (n 1002) 77.

<sup>1021</sup> See Chapter 6.5.2 for more detail.

<sup>1022</sup> James F. Moore, ‘Predators and Prey: A New Ecology of Competition’ (1993) 71 *Harvard Business Review* 3, 75.

<sup>1023</sup> Gönenç Gürkaynak, Büşra Aktüre and Sıla Coşkunoglu, ‘Challenges of the Digital Age: The Relevant Product Market Definition in Online and Offline Sales’ in Gönenç Gürkaynak (eds),

not seem to be logical to define a product market by considering the current substitutes of a specific product or its geographical scope as did in the abovementioned investigations before the Commission. One of the main reasons behind it is the emergence of online ecosystems. The concept of ecosystem is relatively new to business life.<sup>1024</sup> Business ecosystems follow a process similar to biological ecosystems, which is a constant evolutionary process where companies that follow well-adapted strategies and innovate can only survive.<sup>1025</sup>

In 1993, James Moore analysed the emergence of business ecosystems and explained it through four evolutionary stages. According to the study, companies create a revolutionary product backed by an innovation process, bring their product to consumers, and scale-up supply to achieve substantial market coverage.<sup>1026</sup> In a business ecosystem, companies work with third parties and innovators to bring new ideas, products or services to the ecosystem.<sup>1027</sup> In other words, although there is usually one leading company initiating with rapid improvements and drawing consumers to the ecosystem, ecosystems generally co-evolve.<sup>1028</sup> Also, many other companies or institutions contribute to the creation and sustainment of new products and services.<sup>1029</sup> David Teece expresses that “the co-evolution of the system is ... reliant on the technological leadership ... that provide a platform around which other system members, providing inputs and complementary goods, align their investments and strategies.”<sup>1030</sup>

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*The Second Academic Gift Book of ELIG Gürkaynak Attorneys-at-Law on Selected Contemporary Competition Law Matters* (Istanbul, Legal Yayincilik, 2019), 228; Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, *Competition Policy for the Digital Era: Final Report* (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), accessed 1 September 2021, 47; William F. Baxter, ‘The Definition and Measurement of Market Power in Industries Characterized by Rapidly Developing and Changing Technologies’ (1984-1985) 53 *Antitrust Law Journal* 717.

<sup>1024</sup> Lianos (n 1002) 103; James F. Moore, ‘Predators and Prey: A New Ecology of Competition’ (1993) 71 *Harvard Business Review* 3, 75; Michael G. Jacobides, Carmelo Cennamo and Annabelle Gawer, ‘Towards a Theory of Ecosystems’ (2018) 39 *Strategic Management Journal*, 2255; David J. Teece, ‘Next-Generation Competition: New Concepts for Understanding How Innovation Shapes Competition and Policy in the Digital Economy’ (2012) 9 *Journal of Law, Economics and Policy*, 106.

<sup>1025</sup> Teece (n 1024) 106.

<sup>1026</sup> Moore (n 1024) 77.

<sup>1027</sup> *Ibid.*

<sup>1028</sup> *Ibid.*, 79.

<sup>1029</sup> Teece (n 1024) 104.

<sup>1030</sup> *Ibid.*

Many online services or product providers aim to bring consumers into a comprehensive ecosystem of theirs. Online providers such as Google, Apple or Facebook offer a wide range of products and services to draw more consumers into their ecosystems. Therefore, they can maintain control over consumers' demands and meet consumers' needs with supplementary products and services without losing consumers.<sup>1031</sup> For instance, Facebook offers arguably substitute products such as Facebook and Instagram, or WhatsApp and Facebook Messenger in order to compete with rivals such as Snapchat, Telegram, Viber or Signal. By offering Instagram, Facebook provides the best substitute for the Facebook application, or WhatsApp for Facebook Messenger and does not lose consumers who lost interest in one of their applications.

Also, as long as consumers stay in an ecosystem, platforms owners can effectively use personal data accumulated within the ecosystem.<sup>1032</sup> For instance, Google and Apple have created ecosystems through their mobile operating systems (mobile OS). Also, they draw consumers into their ecosystems by providing cloud services, mail services, and many more through smartphones and tablets. Therefore, smartphones are increasingly becoming access points to consumers for various services. Using services from one provider (ecosystem) allows better quality services since providers have access to all available consumer data to personalise services and offer content.<sup>1033</sup> Consumers would find it difficult to leave these specific ecosystems in doing so. This also means that providers are quite successful in their lock-in strategies.

Ecosystems and lock-in strategies result in the creation of entry barriers to specific data-driven markets. Today, Apple iOS and Google Android are the most prevalent mobile operating systems through smartphones. Thus, most application developers create applications for Apple and Google's operating systems specifically, making it difficult for potential rivals to compete in the operating systems market. A company may even offer the highest quality, a superior mobile operating system with excellent privacy protection. That being

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<sup>1031</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition Policy for the Digital Era: Final Report (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), accessed 1 September 2021, 47.

<sup>1032</sup> Ibid.

<sup>1033</sup> Ibid, 48.

said, many companies have offered mobile OSs for smartphones recently.<sup>1034</sup> However, the existence of a rich variety of mobile applications through Android and iOS makes these ecosystems attractive for consumers. Recently, BlackBerry left its OS for Android in order to compete in the smartphone market, and Microsoft announced that it would not produce smartphones with the Windows Mobile OS due to the lack of applications and reluctance of application developers to develop apps for Windows Mobile.<sup>1035</sup> In 2019, Microsoft announced that they killed off support for Windows Mobile in 2020 and suggested that Windows Mobile users switch to Android.<sup>1036</sup>

Ioannis Lianos stresses that Big Data and its effects on markets requires competition authorities to reconsider the dynamics of data-driven markets and reveal interactions beyond the traditional competition law regarding the relevant market analysis.<sup>1037</sup> At this point, competition law and policy must deal not only with competitive struggle to gain advantage on a specific product or geographical market as traditional market power assessment does, but also engage with the value creation mechanisms that are valued higher today, created in various new economy industries.<sup>1038</sup> This means Big Data's innovative character and multi-sided nature must be considered altogether to capture the dynamics of the ecosystem and create an accurate analysis. In data-driven markets, competition analysis focused on the relevant product market analysis and price-centric tools should be abandoned due to the limited role of price competition<sup>1039</sup> and other characteristics that are just mentioned. Consequently, Lianos underlines the need for new tools to identify horizontal and vertical interactions in multi-sided data-driven markets.<sup>1040</sup> Putting ecosystems into the centre of market power assessment and abandoning relevant product market definition in favour of competition analysis on the platforms itself should not seem unjustifiable.<sup>1041</sup>

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<sup>1034</sup> Tizen, Symbian, Bada, Windows 10 Mobile, KaiOS, Blackberry OS, Palm OS and others.

<sup>1035</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' (2019), 33, Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 40.

<sup>1036</sup> Todd Haselton, 'Microsoft recommends switching to iPhone or Android as it prepares to kill off Windows Phones' *CNBC* (18 January 2019) Available at: <https://www.cnbc.com/2019/01/18/microsoft-ending-windows-10-mobile-says-switch-to-iphone-or-android.html> accessed 1 September 2021,

<sup>1037</sup> Lianos (n 1002) 161.

<sup>1038</sup> *Ibid.*

<sup>1039</sup> See Section 5.4.1.

<sup>1040</sup> Lianos (n 1002) 161.

<sup>1041</sup> See Chapter 6.5.1 for more detail.

#### 4.5.5 Multi-Sided Market Confusion

In the data-driven economy, many markets are multi-sided.<sup>1042</sup> Therefore, the assessment of market power on both fronts plays an important role in finding dominance in data-driven markets.<sup>1043</sup> Thus, defining a product market requires an analysis of every side of a multi-sided market. Hence, academics argue that defining more than one relevant market in data-driven markets is necessary.<sup>1044</sup> However, Filistrucchi et al. underline the distinction between transaction and non-transaction markets as distinct types of multi-sided markets and propose that defining multiple relevant markets is relevant only for the non-transaction markets.<sup>1045</sup> Thus, only one relevant market should be defined in two-sided transaction markets.<sup>1046</sup>

According to the study, the difference between transaction and non-transaction two-sided markets is the absence or at least non-observance of a transaction between the two sides of the market.<sup>1047</sup> In markets like social media or search engine, there are no transactions between the two sides since they are connected via an intermediary, an online platform. However, there is a direct link in markets such as payment cards, a transaction between groups who are using the same platform. Also, another difference between the two types of multi-sided markets is the “usage externalities”.<sup>1048</sup> Although indirect network effects

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<sup>1042</sup> See Chapter 4.

<sup>1043</sup> Hedvig K. Schmidt, ‘Taming the shrew: is there a need for a new market power definition for the digital economy?’ in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 45; Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, ‘Market Definition in Two-sided Markets: Theory and Practice’ (2014) 10 *Journal of Competition Law and Economics* 2, 293-339; Lapo Filistrucchi, Damien Geradin, and Eric van Damme, ‘Identifying Two-Sided Markets,’ (2012) TILEC Discussion Paper. No. 2012-008; Robert Lind, Paul Muysert and Mike Walker, ‘Innovation and Competition Policy, Part I, Conceptual Issues, Report Prepared for the Office of Fair Trading by Charles River Associates’ (2002); Inge Graef ‘Market Definition and Market Power in Data: The Case of Online Platforms’ (2015) 38 *World Competition* 4, 473–506.

<sup>1044</sup> Nikolai Van Gorp and Olga Batura, ‘Challenges for Competition Policy in a Digitalised Economy’, A study for the ECON Committee, Directorate General for Internal Policies, European Parliament, July 2015, IP/A/ECON/2014-12 PE 542.235, 53; Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, ‘Market Definition in Two-sided Markets: Theory and Practice’ (2014) 10 *Journal of Competition Law and Economics* 2, 293-339; Lapo Filistrucchi, Damien Geradin, and Eric van Damme, ‘Identifying Two-Sided Markets,’ (2012) TILEC Discussion Paper. No. 2012-008; James D. Ratliff and Daniel L. Rubinfeld, ‘Is There a Market for Organic Search Engine Results and Can Their Manipulation Give Rise to Antitrust Liability?’ (2014) 10 *Journal of Competition Law and Economics*, 1-25, 21.

<sup>1045</sup> Lapo Filistrucchi, Damien Geradin, Eric Van Damme, and Pauline Affeldt, ‘Market Definition in Two-sided Markets: Theory and Practice’ (2014) 10 *Journal of Competition Law and Economics* 2, 302.

<sup>1046</sup> *Ibid.*

<sup>1047</sup> *Ibid.*, 298.

<sup>1048</sup> *Ibid.*

characterise both markets, transaction markets have usage externalities, unlike non-transaction markets. The usage externalities or usage effects occur from using the platform itself. For instance, a user who sells or buys something through their credit card directly benefits the payment system companies in the payment card market. However, a social media user does not benefit the advertiser, despite creating value through contributing to the intermediary. In brief, in non-transaction markets, the usage externalities and transactions between parties on different market sides are non-existent.

Many identified data-driven markets where the price is zero on one side can be categorised as a non-transaction market, according to the Filistrucchi analysis. Therefore, data-driven markets such as search engine and social media markets can be separated into the users and advertisers' sides of markets. In terms of market power assessment, the users and advertisers sides of the market then should be assessed, and authorities should consider both sides of the market.<sup>1049</sup> In light of this idea, Filistrucchi et al. argue the Commission's interpretation in *Google/DoubleClick* to be insufficient to capture the potential aim of Google to acquire the datasets of DoubleClick.<sup>1050</sup> First of all, the Commission correctly identified that Google is an online intermediary and active in the online advertising market. In the analysis, the online advertising market was not separated into the users and advertisers' sides and was regarded as one single market. However, as Filistrucchi et al. suggest, the online advertising market could be separated into several non-transaction markets from advertisers' side of the market, and this could make it possible to reveal how and why Google tries to acquire the datasets of DoubleClick to improve its advertising services across all platforms, devices, and applications.<sup>1051</sup>

On the contrary, although academics argue that analysis on both sides of the market is crucial for the relevant market definition,<sup>1052</sup> recent case law has

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<sup>1049</sup> Ibid, 322.

<sup>1050</sup> Ibid, 307-308.

<sup>1051</sup> Ibid, 308.

<sup>1052</sup> Thomas Höppner, 'Defining Markets for Multi-Sided Platforms: The Case of Search Engines' (2015) 38 *World Competition* 3, 349-366, 354; David S. Evans, 'The Antitrust Economics of Multi-sided Platform Markets' (2003) 20 *Yale Journal on Regulation* 2, 357-360; Francesco Russo and Maria Luisa Stasi, 'Defining the Relevant Market in the Sharing Economy' (2016) 5 *Internet Policy Review* 2, 8; Miguel S. Ferro, 'Ceci n'est pas un marché: Gratuity and competition law' (2015) *Concurrences* 10, 10-13; Christian Kersting and Sebastian Dworschak, 'Does Google Hold a Dominant Market Position? – Addressing the (Minor) Significance of High Online User Shares' (2014) 16 *Ifo Schnelldienst*, 7; Hedvig K. Schmidt, 'Taming the shrew: is



identified no need for the sub-segmentation in multi-sided markets from users and advertisers' side the markets.<sup>1053</sup> At this point, it is important to note that analysis that identifies both sides of the market always should be done on a case-by-case basis in data-driven markets. Nevertheless, the interaction between both sides of the market seems to be an important point. Thomas Höppner expresses that in order to define a relevant sub-market, a separate interaction must be identified.<sup>1054</sup> Moreover, he adds that data-driven markets could have more than two sides. In the case of online search engines, Höppner identifies three distinct sides.<sup>1055</sup> As being an intermediary itself, a search engine is not regarded as a side of the business. Instead, three sides are identified as search, advertising, and content sides.<sup>1056</sup> According to the classification, search engines used by internet users who desire to find information on the web constitute the market's user/search side. Advertisers who buy advertising space is on the advertisers' side of the market. Furthermore, providers of online content on the web are on the content side of the market. Unlike the social media market, where providers and users are the same, they are on strictly different sides in the search engine market. As a result, the interaction between all these groups must be identified together in the market power analysis.

To sum up, the price analysis or substitutability analysis, which is performed on every side of the market, seems to be an adequate response for emerging data-driven markets in the eyes of many academics. However, as mentioned previously, the relevant market analysis defines the “boundaries” of a market in terms of product and geographical scope. The traditional approach does not seem to work in markets where companies continuously redefine boundaries or create new market segments.<sup>1057</sup> For instance, regarding the *Google Search (Shopping)* case, Ratliff and Rubinfeld concluded that the relevant market for

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there a need for a new market power definition for the digital economy?’ in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 47, citing: Pinar Akman ‘Market Definition in Online Markets: Mission Impossible’ presentation 9 September 2016 at University of Leeds Conference on ‘Competition and Regulation in Digital Markets’.

<sup>1053</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final; Case No COMP/M.5727 *Microsoft/Yahoo! Search Business* C[2010] 1077 final.

<sup>1054</sup> Thomas Höppner, ‘Defining Markets for Multi-Sided Platforms: The Case of Search Engines’ (2015) 38 *World Competition* 3, 349-366, 354.

<sup>1055</sup> *Ibid.*, 356.

<sup>1056</sup> *Ibid.*

<sup>1057</sup> Antonio Capobianco and Anita Nyeso, ‘Challenges for Competition Law Enforcement and Policy in the Digital Economy’ (2018) 9 *Journal of European Competition Law and Practice* 1, 19–27, 23.

Google should be defined at least as broad as the online advertising market, including organic search engines.<sup>1058</sup> The reason behind it is the indirect network effects between search-related advertising and organic searches inside the search engine.<sup>1059</sup> Network effects stemming from organic searches are vital for the functioning of online advertising.

Moreover, online search services would be quite unprofitable without advertising services as a freestanding service.<sup>1060</sup> As a reminder, the Commission concluded that the online comparison-shopping and search engine markets are two separate relevant markets in the EU for that abusive behaviour case. That is to say, the platform itself or the online advertising market could be defined as the sole, broad relevant markets for the abuse of dominant position analysis. In this manner, interactions, dependency, network effects and the value chain could have been identified correctly for the analysis. In the same vein, regarding the *Google Search (Shopping)* case, Broos and Ramos advocate that Google operates in only one market where Google links two sides to each other; users and advertisers (or three sides if Höppner's analysis implemented).<sup>1061</sup> In other words, the relevant market consists of search services, shopping services and advertising services which operate together.<sup>1062</sup>

In conclusion, the static product market definition should be avoided in data-driven markets primarily due to these markets' fast-changing and innovative character. Also, the multi-sided nature of online platforms makes narrower product market definitions null. Hence, data-driven markets must be analysed as ecosystems to infer correct results for the market power analysis. The most important point why competition authorities should avoid traditional market power analysis is the role of Big Data as a value creation mechanism there. Big Data and the power stemming from data utilisation are the lost links between services operating in data-driven markets for users, advertisers, and other identified platform sides.

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<sup>1058</sup> James D. Ratliff and Daniel L. Rubinfeld, 'Is There a Market for Organic Search Engine Results and Can Their Manipulation Give Rise to Antitrust Liability?' (2014) 10 *Journal of Competition Law and Economics*, 1-25, 1.

<sup>1059</sup> *Ibid*, 22.

<sup>1060</sup> *Ibid*, 22.

<sup>1061</sup> Sébastien Broos and Jorge Marcos Ramos, 'Google, Google Shopping and Amazon: The Importance of Competing Business Models and Two-Sided Intermediaries in Defining Relevant Markets' (2017) 62 *The Antitrust Bulletin* 2, 11-13.

<sup>1062</sup> *Ibid*.

## 4.6 An Appropriate Market Power Assessment

Traditionally speaking, courts and competition authorities always define relevant markets first for the competition law analysis. This is followed by an analysis of market power measured by market shares to identify dominance in that specific market. Market shares are generally measured through companies' total sales in that specific market. Market dominance is inferred for that undertaking where a certain threshold is passed. However, today, tools to assess market power do not seem ideal for a competition law analysis. The technical, economic, and legal fundamentals of competition enforcement and policy need to be altered for the characteristics of data-driven markets.<sup>1063</sup>

Therefore, many challenges arose for competition law in terms of market power assessment.<sup>1064</sup> For over a decade, scholars and courts have discussed novel challenges in new economy markets regarding competition law and policy where multi-sided businesses are prominent.<sup>1065</sup> Multi-sided platforms, innovative character, the emergence of moligopolies, online ecosystems, and data reliance are the highlights of the discussion. In light of the shortcomings mentioned above and overlooked points in recent cases and investigations, market power assessment as a part of merger investigation and dominance cases must be rethought by considering these characteristics. It is clear that more flexibility is needed for data-driven mergers and Big Data related abusive behaviour.

For data-driven markets, ways to define relevant markets and the concept of market shares as a whole are not useful tools to assess market power and dominance. In terms of market shares, the percentage of sales or sale prices are irrelevant since prices are not indicators of the value of the goods or services in the eyes of consumers in data-driven markets. The reason behind it is the zero prices of goods and services where price is not an actual motivation for undertakings and consumers.<sup>1066</sup> However, the market power analysis is not only about short-term static market analysis, and it should serve a wider goal;

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<sup>1063</sup> Crémer et al (n 1031) 48.

<sup>1064</sup> Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, 'Modernising the Law on Abuse of Market Power: Report for the Federal Ministry for Economic Affairs and Energy (Germany)' (2018) Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3250742](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3250742), accessed 1 September 2021, 7.

<sup>1065</sup> Crémer et al (n 1031) 60.

<sup>1066</sup> Ibid, 49.

determination of long-term welfare effects.<sup>1067</sup> Zero prices in a market indicate positive welfare effects since consumers receive services or goods without monetary charges. This simplistic and economical conclusion is erroneous.<sup>1068</sup> Accordingly, assumptions based on the static analysis of market conditions in a given data-driven market most likely would not reflect the actual competitiveness of the market.

Special characteristics of data-driven markets, such as the ecosystem structure and multi-sidedness, should be taken into account in the market power assessment. In addition, free goods and services and indirect network externalities also make the traditional market power and market share analysis less significant. In this situation, market power analysis needs to expand to cover interrelated and affected markets and long-term welfare effects created in these markets.<sup>1069</sup> Regarding data-driven markets, Howard Shelanski stresses the importance of long-term welfare effects in the absence of prices and expresses; “... In addition to changing the analytic framework for enforcement from one that begins with market definition to one that begins with competitive effects, competition policy for digital platforms would benefit from further shifting its focus from conventional price and output effects to innovation effects. There are several reasons why this shift might improve the long-term performance of platform markets while reducing the overenforcement errors....”<sup>1070</sup>

However, in the absence of price, data well may take its place as a motivator for both consumers and undertakings in the online markets. Data used for improved services and products in the online world provides a quite strong advantage for incumbents due to the fact that it is not readily available for new market entrants.<sup>1071</sup> Data as well may lead an undertaking to market dominance, and that undertaking can leverage its market power to adjacent markets in which the same source of power is used, Big Data.<sup>1072</sup> Control over Big Data, and market positions in different segments of a platform where the same data is relevant for services, can yield an unprecedented and reinforcing market power

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<sup>1067</sup> Michael S. Gal and Daniel L. Rubinfeld, ‘The Hidden Costs of Free Goods: Implication for Antitrust Enforcement’ (2016) 80 Antitrust Law Journal 521, 553.

<sup>1068</sup> Ibid, 554.

<sup>1069</sup> Ibid, 554.

<sup>1070</sup> Howard A. Shelanski, ‘Information, Innovation, and Competition Policy for the Internet’ (2013) 161 University of Pennsylvania Law Review 6, 1692.

<sup>1071</sup> Crémer et al (n 1031) 49.

<sup>1072</sup> Ibid.

to the undertaking.<sup>1073</sup> This is why competition authorities and courts first need to consider the Big Data issue in the market power assessment and create a legal framework on how Big Data is accessed and used by incumbent undertakings. The main point here should be the Big Data capabilities and the value chain created by Big Data for incumbent undertakings. Any analysis regarding market power in data-driven markets also needs to cover a wider analysis through interrelated adjacent segments.

Regarding competition concerns stemming from the Big Data issue in data-driven markets, a couple of points should be underlined for the legal framework. First, Big Data is a source of market power. Data is a significant input for all services and products in so-called data-driven markets.<sup>1074</sup> In the emerging markets, contents, services, goods, and all other variety of business models adopted the data collection and analytics methods to offer a free of monetary charge model funded by online advertising incomes through extensive Big Data capabilities.<sup>1075</sup> As a result, access to data, data collection and data analytics can easily be transformed into market power by undertakings. By using Big Data, undertakings are able to improve and monetise their services and products efficiently. However, these abilities are also used for anti-competitive strategies such as rising entry barriers, denying data access, or excluding competitors.<sup>1076</sup> In all reason, data becomes one the most critical inputs for undertakings and becomes one the most important benchmarks for competition authorities and courts to consider during merger investigations and Article 102 cases.

Second, in markets where Big Data is one of the most significant inputs, there seems to be a few undertakings that have control over the available data of consumers. These companies are super dominant undertakings. They have control over nearly all available data of the consumer base for improved services or goods and monetisation purposes in the online world. Thus, a few rival undertakings in the market control an equal amount of collected data as

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<sup>1073</sup> Ibid.

<sup>1074</sup> The Competition and Markets Authority, 'The commercial use of consumer data Report on the CMA's call for information' (2015) para 3.78; Inge Graef, 'Market Definition and Market Power in Data: The Case of Online Platforms' (2015) 38 *World Competition* 4, 504; Antonio Capobianco and Anita Nyeso, 'Challenges for Competition Law Enforcement and Policy in the Digital Economy' (2018) 9 *Journal of European Competition Law and Practice* 1, 19–27, 25.

<sup>1075</sup> Capobianco and Nyeso (n 1074) 25.

<sup>1076</sup> The Competition and Markets Authority (n 1074) para 3.78; Capobianco and Nyeso (n 1074) 25.

incumbent dominants.<sup>1077</sup> Additionally, in markets where incumbents have already access to nearly all available data, it is not viable for new entrants to collect data and create datasets for commercial purposes.<sup>1078</sup> The reason behind it is the excessive indirect network effects and tipping markets. New entrants most likely cannot collect data comparable to incumbents' datasets and compete in the market. In a situation like this, incumbent undertakings gain the ability to practise exclusionary conduct. Their dominant positions lead to the exploitation of further market power over data collection, data acquisitions and Big Data analytics.<sup>1079</sup> Apart from the exclusionary conduct and exploitation where Big Data controller undertakings force smaller competitors out of the market, these companies may well restrict access to data where data is a crucial input for business strategies. These points are discussed in detail in the next chapter.

The analysis leads to the conclusion that tools for the market power assessment must be rethought. In terms of what needs to be highlighted in the market power assessment, the innovative character of the new economy, ecosystem and multi-sidedness, and Big Data as a factor but not a market for itself was mentioned above. Hereunder, there are multiple ways to deal with the emerging issues.

Although sticking to the market definition route is highly arguable for data-driven markets, Inge Graef argues for a broader market definition in data-driven markets. The main reason behind it is the innovative character of data-driven markets. It is highly unlikely to foresee further developments in innovation-driven markets and identify the technology of the future.<sup>1080</sup> Although existing assets like patents or conducted R&D investments may deliver hints for future developments, it is not viable to define narrow product markets.<sup>1081</sup> For integrated multi-sided markets, online advertising and horizontal/vertical search engine markets, defining a relevant market as wide as possible is necessary.<sup>1082</sup> A wide market definition is a must in ecosystems where companies compete in specific product markets and on a wider scale. In multi-sided platforms, various horizontal

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<sup>1077</sup> The Competition and Markets Authority (n 1074) para 3.78; Graef (n 1074) 504.

<sup>1078</sup> Graef (n 1074) 504.

<sup>1079</sup> The Competition and Markets Authority (n 1074) para 3.78.

<sup>1080</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 114.

<sup>1081</sup> See Chapter 4.3.1. for more detail.

<sup>1082</sup> Graef (n 1080) 114.

and vertical interactions contribute to the market powers of Big Data user undertakings for data collection and related commercial purposes like online advertising. In this way, ecosystems should be at the centre of market power assessment as traditional product/geographical relevant markets were before. Abandoning narrow product market definitions in favour of wider market definitions, in other words, ecosystems, is the most reliable way to assess dominance and investigate the current market conditions. The proposed way would be favourable to the innovative characteristics and flexible enough to identify the competitive structure of data-driven platforms.<sup>1083</sup>

On a side note, almost all services and products online are aimed at both desktop and mobile users. On top of this, there are not many differences that could make a difference for advertisers in how they reach consumers in the ecosystem of a search engine. Almost all ecosystems are integrated through internet devices of personal users. Thus, conducting a search query on a mobile device or a PC would not make any difference in data collection, online advertising, or network effects. A wider market definition would serve better for competition analysis since it does not rely on specific products. As Evans proposes, the benchmark for relevant market analysis should not be the product substitution, but instead, it should be attention substitution. He argues that consumers have a limited time to spend on the internet, and service providers actually compete over consumers' attention.<sup>1084</sup> Therefore, it would be erroneous to define relevant markets by considering the demand substitution of specific products.<sup>1085</sup> In data-driven markets, companies try to get consumers' attention constantly by innovation and creative products and services and try to keep their consumers in the ecosystem. This type of competition is naturally broad. Although companies like Google, Facebook, Microsoft, and others are dominant undertakings in their core businesses, they compete by providing a wider range of online services and products. This is ultimately engaged in order to keep consumers in these ecosystems and attract advertisers to the system.

However, relevant market definition is only a part of the analysis. On top of that, the traditional market share analysis and assumptions on dominance based

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<sup>1083</sup> Ibid.

<sup>1084</sup> David S. Evans, 'Attention Rivalry Among Online Platforms' (2013) 9 *Journal of Competition Law and Economics* 2, 313.

<sup>1085</sup> Ibid, 357.

on market shares should also be abandoned for competition assessment in data-driven markets. Instead, two methods could be used: potential competition driven by innovation and Big Data power. It is already mentioned that instead of relying on market shares, innovation can be deemed as a parameter for dominance. In the innovation assessment, potential competition should be analysed. Rather than the current static structure of the market, the strength of potential competition and the undertaking's ability to act independently from the market, consumers or its competitors should be assessed together with the barriers to entry to a given market.<sup>1086</sup> Competition in data-driven markets is mostly *for* the market. Therefore, analysis of the current competitive structure on specific product markets would not be helpful for dynamic markets. Competitors constantly move away from product markets and escape innovation results in emergent markets or market segments at the least. In this sense, an undertaking with more than 50% of market share might not be in a leading position that possesses market power and pressure to competitors or consumers. An analysis of potential competition considering the ecosystem of a given service or product as a whole while identifying the role of innovation and cross-market competitors would be better suited for competition law analysis.

However, assessment of innovation and potential competition in an ecosystem of online products and services cannot be conducted without Big Data considerations and valuation. Presumptions on innovation or business strategies that highlight potential competition might give erroneous results if the power of Big Data is overlooked. Big Data should be the main parameter and factor in assessing market power of undertakings for digitalised and newly emergent data-driven markets.<sup>1087</sup> As mentioned before, Big Data as a standalone market, a relevant market for data, is not the intention here. Rather, the market power of undertakings can be measured through the Big Data value chain. Thus, the 4Vs of data, volume, variety, velocity, and value of data can be measured and examined for competition purposes. The reason behind it is the value creation mechanism itself. The wide variety and volume of data in possession of an undertaking allow the creation of indirect networks effects and lock-in effects,

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<sup>1086</sup> Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (1<sup>st</sup> edn, Kluwer Law International, 2016), 125.

<sup>1087</sup> Jan Kupcik and Stanislav Mikes, 'Discussion on Big Data, Online Advertising and Competition Policy' (2018) 39 *European Competition Law Review* 9, 393-402, 396.



ultimately resulting in a total increase of consumers in the ecosystem. Moreover, since undertakings use Big Data to offer better services and targeted advertising due to algorithms that can learn by themselves (learning by doing), sellers and advertisers are also attracted to the ecosystem. This mechanism is the subject of market power, and Big Data fuels this mechanism. As a result, instead of primarily relying on the market shares, analysing the Big Data capabilities and Big Data possession of undertakings would be more accurate for competition analysis.<sup>1088</sup> This would lead to a more transparent market in which many other privacy-related concerns can also be addressed clearly. Overall, the Big Data-based market power assessment not only contributes to competition law and policy in better addressing the competitive structure, but it also contributes to a wider goal that enhances consumers' welfare in terms of providing transparency to data-driven markets.

Lastly, as a policy consideration, Renato Nazzini stresses that traditional methods of defining relevant markets and market power analysis could stay in the centre of competition law and policy if only necessary steps are taken. First, Nazzini emphasises the importance of considering all plausible relevant market definitions.<sup>1089</sup> This could serve as a wider perspective in competition assessment regarding multi-sided platforms. In addition to this, price-quality changes and indirect network effects from one side of the market to the other should be considered.<sup>1090</sup> Therefore, competitive pressure must be analysed on the platform or ecosystem to identify the structure better regardless of market shares or product markets.<sup>1091</sup> Moreover, implications of 'market power equals market shares' or 'market power equals anti-competitive conduct' should be rejected in any market power analysis.<sup>1092</sup> Regarding the suggestions, the Commission and the CJEU seem to consider almost all these suggestions in the abovementioned cases and investigations. However, the current tools were proved to be ineffective for data-driven markets.

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<sup>1088</sup> Ibid.

<sup>1089</sup> Renato Nazzini, 'Online Platforms and Antitrust: Where do we go from here?' (2018) 5 Italian Antitrust Review, 15.

<sup>1090</sup> Ibid.

<sup>1091</sup> Ibid.

<sup>1092</sup> Ibid.

## 4.7 Concluding Remarks

In data-driven markets, the traditional approach to market power assessment is not as useful as lawmakers intended. There were many important data-driven acquisitions and abuse of dominant cases where authorities and courts had difficulty applying traditional tools of competition to cases and investigations. In these investigations, authorities tried to define relevant markets by segmenting and narrowing proposed markets for specific products. Therefore, in most cases, more than one relevant market was identified. Apart from the market definition, authorities were sceptical about market share measurements. Nevertheless, many critical issues were overlooked.

The main reason behind the problems is that data-driven markets have some novel characteristics which pose difficulties while assessing market power. In the new economy, markets are characterised by fast innovation cycles and competition *for* the market. This is not a new phenomenon. However, these markets have multi-sided nature, and in many of these markets, price/monetary charges are non-existent on at least one side of the market. Another important feature is the creation of ecosystems. The valuable data led to the creation of online ecosystems where companies attract consumers to extract information from them to serve them better products and services, thus monetising these services through online advertising. As a result of this, product markets connected and relevant markets widened considerably. Overall, due to the innovative character, dynamic competition, creation of ecosystems and Big Data value chain, competition tools to assess market power are insufficient for data-driven markets. Undervaluation of the power of data in the online world resulted from using traditional competition assessment tools for data-driven markets.

Traditional competition tools for the assessment are mainly price centric. The hypothetical monopolist test and SSNIP tests to identify monopolistic powers under the HMT umbrella are based on price as the main parameter of competition law. Thus, these methods are primarily designed for products and services which do have price tags. Therefore, products and services in data-driven markets are 'red flags' for traditional competition models since these methods cannot be sufficiently applied to free online products or services. Another problem is the irrelevance of competition law's static market share analysis. As mentioned above, data-driven markets are quite complex; thus, static market shares in

narrowly defined relevant markets do not contribute to the market power analysis. Instead of relying on market shares and other price-centric tools, new methods should be developed.

In most digitalised and newly emerged markets, Big Data has become a significant input and a source of market power. The significance of data as an input and a source of market power also reveals an urgent need to develop new methods to measure the market power of undertakings and the general competitive structure of data-driven markets. As a proposal, an assessment through Big Data could take the place of the neoclassical economic tools which are gathered around price analysis. Big Data capabilities and data possession of technology giants and other companies in the new economy could well contribute to competition analysis. It could lead to a well-defined competitive structure based on the current competition methods of competitors. Data collection – Data analytics – better services/products – better-targeted advertisements – more consumers and advertisers – network effects – the creation of ecosystems - tipping effects and finally monopolisation chain is the main mechanism in data-driven markets. In brief, Big Data fuels the mechanism for the creation of market power across the online world.

Consequently, assessment of Big Data possession and data analytics capabilities of undertakings must be primarily identified in the market power analysis.<sup>1093</sup> Conclusions based on 'data power' as a new form of 'market power' would give accurate results regarding the competitive structure of data-driven markets. Such an analysis will also serve a wider goal than the competition itself for the community, total welfare of consumers. Well-identified data collection methods, data possession, data analytics, and targeted advertisements will also provide great transparency throughout data-driven markets. Consequently, any privacy-related concern regarding data collection by technology giants can be addressed relatively more accurately.

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<sup>1093</sup> See Chapter 6.5 for more detail.

## 5 ABUSIVE BEHAVIOUR IN DATA-DRIVEN MARKETS

### 5.1 Introduction

After determining market power appropriately, the next step is to identify whether abusive conduct occurs in the market. Market power is just an inherent characteristic of markets in general.<sup>1094</sup> Although consisting of risks, being a monopoly or having a dominant position in a market is not anti-competitive *per se*.<sup>1095</sup> In most cases, dominant undertakings are the most successful companies with underlying successful business strategies. Likewise, implementing data-driven strategies with the effective use of Big Data analytics and making use of any type of network effects and ecosystem dependences cannot be deemed anticompetitive themselves.<sup>1096</sup> However, when dominance sustains, entry barriers arise, and network effects are created, the situation becomes problematic in terms of competition.<sup>1097</sup> These conditions easily give rise to abusive conduct, and Big Data contributes to such conditions.<sup>1098</sup> Therefore, the identification of data-related abuses has become critical today. Identifying abuses and assessing competitive harms should be unique to data-driven markets due to special characteristics such as the ecosystem structures, multi-sidedness, and non-price parameters.<sup>1099</sup> Also, the mechanisms of data-driven markets pose some additional challenges to competition authorities and courts.<sup>1100</sup>

Three important aspects need to be dealt with urgently by competition law and policy regarding data-driven abuses. The first aspect is related to the established types of exclusionary and predatory conduct. Data utilisation and

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<sup>1094</sup> Harry van Til, Nicolai van Gorp and Katelyn Price, 'Big Data and Competition' (2017) ECORYS Report Paper, Available at: <https://zoek.officielebekendmakingen.nl/blg-813928.pdf>, accessed 1 September 2021, 33.

<sup>1095</sup> OECD, Ania Thiemann and Pedro Gonzaga, "Big Data: Bringing Competition Policy to the Digital Era" [2016] DAF/COMP (2016)14 Available at: [https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf), accessed 1 September 2021, 20.

<sup>1096</sup> Björn Lundqvist, 'Regulating Competition in the Digital Economy with a special focus on platforms' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 16.

<sup>1097</sup> Ibid; Bundeskartellamt and Autorité de la Concurrence, *Competition Law and Data* [2016] Available at: [https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108), accessed 1 September 2021, 15-16.

<sup>1098</sup> Gönenç Gürkaynak, Ali Kağan Uçar and Zeynep Buharali, 'Data-Related Abuses in Competition Law' in Nicolas Charbit and Sonia Ahmad (eds), *Frédéric Jenny Liber Amicorum, Standing Up for Convergence and Relevance in Antitrust* (Concurrences, 2019), 298.

<sup>1099</sup> See Chapter 4.5; Harry van Til, Nicolai van Gorp and Katelyn Price, 'Big Data and Competition' (2017) ECORYS Report Paper, 34.

<sup>1100</sup> Miguel Rato and Nicolas Petit, 'Abuse of Dominance in Technology-enabled Markets: Established Standards Reconsidered?' (2013) 9 *European Competition Journal* 1.

extracting additional value from the same datasets throughout different market segments in the online world is quite easy for data-rich undertakings. As a result, leveraging market power into adjacent markets, vertical integration, and various other forms of abuse can be regarded as data-driven.<sup>1101</sup> So far, almost all data-driven abuses are related to leveraging market power into adjacent markets and their different segments.

Another important aspect that needs attention is the problem stemming from the importance of Big Data itself for online companies. Access to data issue is widely discussed in academia. Dominant undertakings' refusal to supply data or discriminatory access to data might well amount to anti-competitive conduct in the online world. Some commentators argue the necessity of Big Data as a part of the online business process, thus advocating that the essential facilities doctrine of the EU law should be implemented to the data-driven abuse of dominant position cases.<sup>1102</sup> In addition to mandatory data sharing, the data portability remedy is also evaluated by commentators as a possible competition law remedy.

The last and third aspect of data in terms of abuses is data privacy. There is already a problem with assessing market power in terms of the data power of technology companies. In addition to that, there is a risk that dominant undertakings may exploit their data advantage and harm consumers in terms of limited choices or quality degradation in data-driven markets. Until recently, consumer protection laws have addressed data privacy issues, and even EU

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<sup>1101</sup> Nikolai Van Gorp and Olga Batura, 'Challenges for Competition Policy in a Digitalised Economy', A study for the ECON Committee, Directorate General for Internal Policies, European Parliament, July 2015, IP/A/ECON/2014-12 PE 542.235, 61; Aleksandra Gebicka and Andreas Heinemann, 'Social Media & Competition Law' (2014) 37 *World Competition* 2, 149-172, 170; Crémer et al (n 1031); Bundeskartellamt and Autorité de la Concurrence, *Competition Law and Data* [2016] Available at: [https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108) accessed 1 September 2021; Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016); Autorité de la Concurrence, French Competition Authority, Opinion 10-A-13 on the cross-usage of customer databases, (14 June 2010) Available at: <https://www.autoritedelaconcurrence.fr/fr/avis/relatif-utilisation-croisee-des-bases-de-clientele> accessed 1 September 2021; Maren Tamke, 'Big Data and Competition Law' (2017) *Zeitschrift für Wettbewerbsrecht* 4; Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 *Yale Journal on Regulation* 2.

<sup>1102</sup> Inge Graef, 'Data as Essential Facility: Competition and Innovation on Online Platforms' (PhD Thesis, KU Leuven Faculty of Law, 2016), 170; Inge Graef, 'Rethinking the essential facilities doctrine for the EU digital economy', (2019) 53 *Revue juridique Thémis de l'Université de Montréal*, no. 1, 33-72, 36.

competition authorities stressed that data privacy issues are not a concern of competition law. In its decision, the European Commission ruled that “...any privacy-related concerns flowing from the increased concentration of data within the control of Facebook as a result of the Transaction do not fall within the scope of the EU competition law rules but within the scope of the EU data protection rules.”<sup>1103</sup> However, many believe that abuse could be possible through data privacy infringements;<sup>1104</sup> thus, competition law needs to deal with these abuses.

## **5.2 Abuse through Leveraging Market Power**

In competition law, leveraging market power is a unique abuse type since abuse and dominance are expected to happen on different markets such as neighbouring or downstream markets as a prerequisite for this kind of abuse.<sup>1105</sup> Other abuses mostly harm competitors or competition in general in the same market where dominant undertakings’ conduct happens. In data-driven markets, leveraging market power abuse occurs in a segment of the ecosystem of dominant undertakings. As discussed in Chapter 4, segments of the online advertising sector merged with search engines and social media are the primary examples of the data-driven market structure. Thus, the main problem is, data-rich undertakings do not use their market power, relying on scale economies or lower prices to leverage power.<sup>1106</sup> The main method is to leverage their “data advantage” into new market segments and utilise personal information to swallow new platforms and businesses.

Apart from linking new business platforms or market segments into a bigger ecosystem, leveraging market power could well occur where dominant undertakings try to gain ground in a market unrelated to the original ecosystem. For instance, these data-rich undertakings such as Google, Apple or Amazon

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<sup>1103</sup> Case No COMP/M.7217, Facebook/WhatsApp C [2014] 7239 Final, para 164.

<sup>1104</sup> Federal Trade Commission, Dissenting Statement of Commissioner Pamela Jones Harbour, In the matter of Google/DoubleClick F.T.C. File No. 071-0170 (2007), 9-10, Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf) accessed 1 September 2021; OECD, Ania Thiemann and Pedro Gonzaga, “Big Data: Bringing Competition Policy to the Digital Era” [2016] DAF/COMP (2016)14, Available at: [https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf\\_1](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf_1) accessed 1 September 2021, 21, para 69; Bundeskartellamt (FCO) Press Release, ‘Preliminary assessment in Facebook proceeding: Facebook’s collection and use of data from third-party sources is abusive’ (19 December 2017) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19\\_12\\_20\\_17\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_20_17_Facebook.html) accessed 29 May 2021.

<sup>1105</sup> Aleksandra Gebicka and Andreas Heinemann, ‘Social Media & Competition Law’ (2014) 37 World Competition 2, 149-172, 170.

<sup>1106</sup> Ibid.

jump to other sectors out of the online world, like automotive, white appliances or even energy, to extend their businesses to take advantage of the Internet of Things (IoT).<sup>1107</sup> Data-rich undertakings are experts in data processing, algorithms and new business models; thus, they are leveraging their qualities into other industries.<sup>1108</sup> The application of digital technology introduces new data-driven platforms and businesses connected with the core online ecosystems of these undertakings. These undertakings compete for market presence and compete based on their merits.<sup>1109</sup> They force other undertakings in those industries to innovate into data-driven business models and technologies. Therefore, innovation and data-driven business strategies expand in these industries as well.<sup>1110</sup> However, harm to innovation and exclusionary effects are inevitable when the conduct becomes abusive. In its *Microsoft* decision, the European Commission has decided that leveraging market power reduces consumers' choices and causes great harm to innovation.<sup>1111</sup>

Leveraging market power can occur in diverse ways in data-driven markets: leveraging or self-preferencing. Leveraging can be offensive or defensive.<sup>1112</sup> Offensive leveraging is a business strategy that aims to generate more profits and expansion.<sup>1113</sup> On the other hand, defensive leveraging is a strategy of undertakings trying to prevent entry into a market where dominance is already established.<sup>1114</sup> Data-rich undertakings controlling bottlenecks may abuse their positions through defensive leveraging. Instead of reaping more profits from neighbouring markets, it is purely an attempt to protect their dominant positions.<sup>1115</sup> Thus, characteristics of data-driven markets such as strong indirect network effects and access to data contribute to defensive leverage strategies as well.<sup>1116</sup> However, there are no legal or analytical differences between offensive

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<sup>1107</sup> For more information of leveraging market power: Giorgio Monti, *EC Competition Law* (1<sup>st</sup> edn, Cambridge University Press, 2007), 186-195.

<sup>1108</sup> Van Gorp and Batura (n 1101) 61; Antonio Capobianco and Anita Nyeso, 'Challenges for Competition Law Enforcement and Policy in the Digital Economy' (2018) 9 *Journal of European Competition Law & Practice* No. 1, 26.

<sup>1109</sup> Van Gorp and Batura (n 1101) 61; Capobianco and Nyeso (n 1108) 26.

<sup>1110</sup> *Ibid.*

<sup>1111</sup> Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289, para 1095.

<sup>1112</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, 'Competition Policy for the Digital Era: Final Report (Publications Office of the European Union 2019), 7.

<sup>1113</sup> *Ibid.*

<sup>1114</sup> *Ibid.*

<sup>1115</sup> Van Gorp and Batura (n 1101) 61.

<sup>1116</sup> Crémer et al (n 1112) 66.

and defensive leveraging in competition law.<sup>1117</sup> When a data-rich undertaking leverages its market power, competition law should effectively identify these abuses.

The other type of leveraging is called self-preferencing. Self-preferencing is not as straightforward as defensive leveraging. It is mainly about undertakings that favour and give favoured treatment to their own products while competing with rivals within the same platform of an ecosystem. According to the EU Competition Law, self-preferencing is not an abuse of dominant position situation, *per se*. Article 102 TFEU does not prohibit dominant undertakings from self-preferencing their products. There seems to be a couple of exceptions to the main rule. First is the special responsibility that the essential facility owner dominant undertakings have. According to the CJEU, owning an essential facility requires not to engage with self-preferencing practices.<sup>1118</sup> The second exception should be the platform owners themselves in the online ecosystems. According to Crémer et al., in data-driven markets where platforms serve as intermediary services and platform owners act as intermediaries who compete in the platforms, these undertakings become *de facto* regulators of the ecosystem.<sup>1119</sup> In these integrated online platforms, dominant undertakings must prove that self-preferencing does not contain any exclusionary effects or demonstrate any pro-competitive rationale behind self-preferencing.<sup>1120</sup> In other words, the burden of proof should be shifted to dominant undertakings in that case.

Abuse through self-preferencing was relevant and discussed in detail in the *Google Search (Shopping)* case.<sup>1121</sup> As discussed in Chapter 4, the Commission found that Google promotes its own services by decreasing traffic to rival shopping services from the Google Search results page.<sup>1122</sup> Instead, a systematical replacement to Google's own shopping service in search results occurred for a long time. The Commission added that traffic to comparison-shopping services is mostly through the general search services of Google, and the conduct of Google creates a situation where rival comparison-shopping

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<sup>1117</sup> Ibid, 8.

<sup>1118</sup> Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289, para 1088.

<sup>1119</sup> Crémer et al (n 1112) 66.

<sup>1120</sup> Ibid.

<sup>1121</sup> Case No COMP/AT.39740, *Google Search (Shopping)* [2017] 4444 Final.

<sup>1122</sup> See Chapter 5.4.1.3 below.



services are excluded from the market.<sup>1123</sup> Therefore, the abusive conduct was labelled as “self-preferencing” since Google promotes and gives favoured treatment to its own shopping service on its own platform where it competes with rivals. Self-preferencing as abuse is also discussed by the Commission and the *Bundeskartellamt* for Amazon’s abuse.<sup>1124</sup> In the subsequent paragraphs below, methods of leveraging market power used as abusive conduct in data-driven markets are discussed.

### 5.2.1 Tying and Bundling

The first method of leveraging market power as an exclusionary abuse is through tying and bundling, similar commercial sales practices. Although bundling refers to package deals where consumers can buy products separately but for a higher amount, tying is more aggressive than bundling practices. In tying, the sale of a product or service is mandatorily tied to another product and consumers are forced to buy both products even they only want to acquire one of them. The competition risk of tying and bundling practices is exploitative and exclusionary. Through tying and bundling practices, dominant undertakings can exploit their market powers and foreclose markets.<sup>1125</sup> Tying and bundling is a common type of abusive behaviour, and it also became an important concern for data-driven markets. According to Stefan Holzweber, the concept of tying and bundling stretched in the advent of the digital economy and evolved into a general theory of leveraging market power.<sup>1126</sup> The reason behind it is the competition concerns behind tying and bundling practices.<sup>1127</sup> Today, the anti-competitive effects of tying and bundling practices are broader than the wording covered by Article 102 of the TFEU.<sup>1128</sup>

Cases against Microsoft are the primary examples of tying practices in new economy markets. In the *Windows Media Player* case, Microsoft was accused of incentivising consumers to use its own media player by bundling the Windows

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<sup>1123</sup> See Chapter 5.4.1.3 below.

<sup>1124</sup> See Chapter 5.4.1.3 below.

<sup>1125</sup> Case T-30/89 *Hilti AG v Commission of the European Communities* [1991] ECLI:EU:T:1991:70; Case C-333/94 P *Tetra Pak International SA v Commission of the European Communities* [1996] ECLI:EU:C:1996:436.

<sup>1126</sup> Stefan Holzweber, ‘Tying and Bundling in the Digital Era’ (2018) 14 *European Competition Journal*, 342-366, 345.

<sup>1127</sup> *Ibid.*

<sup>1128</sup> *Ibid.*

media player with the Windows operating system in PCs.<sup>1129</sup> In this manner, it is clear that Microsoft disincentivises consumers to install different media players and excludes other media player creators from the Windows ecosystem by altering the competition balance in favour of themselves and to the detriment of the rivals.<sup>1130</sup> In response to the abuse, the European Commission observed that Microsoft must offer an unbundled version of Windows that should be of the same quality and functionality without the media player option.<sup>1131</sup> However, Microsoft should retain the right to offer a bundled Windows version, including its own media player.<sup>1132</sup> Therefore, Windows produced and distributed a “Windows N” version for the EU market without the media player.<sup>1133</sup> The remedy for bundling does not seem to be successful. According to Nicholas Economides and Ioannis Lianos, due to the availability of the Windows version with a media player for the same price as the unbundled version, the remedy imposed by the Commission did not have much effect.<sup>1134</sup> It is because consumers were not interested in the unbundled version much when they could purchase a “better” version.<sup>1135</sup>

A similar but more aggressive example is Microsoft’s Internet Explorer web browser and the Windows Operating System tied sales. Microsoft tied its web browser, Internet Explorer, to its operating systems by pre-installing it in this latter case.<sup>1136</sup> Thus, the Commission observed that in Windows Vista and before, consumers could not legally buy Windows without Internet Explorer and could not technically remove the web browser from the operating system.<sup>1137</sup> This is a textbook case of tying, and it was found to be anti-competitive. Through abusive behaviour, Microsoft leverages its market power in the operating system market into the web browser market to gain grounds and eliminate the rival web

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<sup>1129</sup> Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289.

<sup>1130</sup> *Ibid*, para 1034. 1288.

<sup>1131</sup> *Ibid*, para 1137- 1194.

<sup>1132</sup> *Ibid*, para 1141-1194.

<sup>1133</sup> Nicholas Economides and Ioannis Lianos, ‘A Critical Appraisal of Remedies in the EU Microsoft Cases’ (2009) NET institute Working Paper No. 09-29, 21-22.

<sup>1134</sup> *Ibid*.

<sup>1135</sup> Aleksandra Gebicka and Andreas Heinemann, ‘Social Media & Competition Law’ (2014) 37 *World Competition* 2, 149-172, 168.

<sup>1136</sup> Case No COMP/AT.39530 – Microsoft (Tying), Commission Decision of 6.3.2013 addressed to Microsoft Corporation relating to a proceeding on the imposition of a fine pursuant to Article 23(2)(c) of Council Regulation (EC) No 1/2003 for failure to comply with a commitment made binding by a Commission decision pursuant to Article 9 of Council Regulation (EC) No 1/2003.

<sup>1137</sup> Case COMP/C-3/39.530 — Microsoft (Tying), Summary of Commission Decision of 16.12.2009 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement, para 2iii.

browsers. In response to the abuse, the European Commission forced Microsoft to create a mechanism in Windows which offers an option to turn on or off the Internet Explorer within the European Economic Area ('EEA').<sup>1138</sup> Additionally, Microsoft must let personal computer manufacturers pre-install any web browser of their choice on computers. Consumers will choose their browsers when first setting up a PC.<sup>1139</sup> All remedies seemed to be effective in order to end the abuse. However, Microsoft did not respect their commitments; thus, a failure to comply with the commitments decision by the Commission, Microsoft was fined four years later, in 2013.<sup>1140</sup>

These cases against Microsoft are the primary examples of leveraging market power by tying practices into adjacent markets or segments. According to the Commission, tied products or services in the abovementioned cases are situated in distinctive markets; thus, dominance in one market leads to leveraging market power into tied products markets.<sup>1141</sup> Consumers have no rational choice left in the case of Microsoft, instead of buying the tied product together with the original product. This inevitably leads to exclusionary effects on competition. Unlike earlier tying cases such as the *Hilti* and *Tetra Pak*,<sup>1142</sup> *Microsoft* cases clearly show that the narrow application of tying and bundling clause in competition law now evolved into a concept to cover the issues around leveraging market power in data-driven markets.<sup>1143</sup> However, that does not mean that the reasoning and application of tying and bundling need to change for data-driven markets.

### 5.2.2 Leveraging Data Advantage

Big Data could also be used by undertakings to abuse their dominant positions by exploiting it into adjacent markets.<sup>1144</sup> In Europe, the UK Competition

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<sup>1138</sup> Ibid, Commitments para 1.

<sup>1139</sup> Ibid, Commitments paras 2 and 7.

<sup>1140</sup> Case No COMP/AT.39530 – Microsoft (Tying), Commission Decision of 6.3.2013 addressed to Microsoft Corporation relating to a proceeding on the imposition of a fine pursuant to Article 23(2)(c) of Council Regulation (EC) No 1/2003 for failure to comply with a commitment made binding by a Commission decision pursuant to Article 9 of Council Regulation (EC) No 1/2003.

<sup>1141</sup> Ibid.

<sup>1142</sup> Case T-30/89 *Hilti AG v Commission of the European Communities* [1991] ECLI:EU:T:1991:70; Case C-333/94 P *Tetra Pak International SA v Commission of the European Communities* [1996] ECLI:EU:C:1996:436.

<sup>1143</sup> Stefan Holzweber, 'Tying and Bundling in the Digital Era' (2018) 14 *European Competition Journal*, 342-366, 364.

<sup>1144</sup> Maren Tamke, 'Big Data and Competition Law' (2017) *Zeitschrift für Wettbewerbsrecht* 4, 373; Bundeskartellamt and Autorité de la Concurrence, *Competition Law and Data* (2016), 20.

and Markets Authority stressed the role of data in leveraging market power practices. According to the study, the significance of data in some markets, namely data-driven markets, will increase the ability to exclude competitors.<sup>1145</sup> Therefore, the study mentions the higher probability of leveraging market power practices through tying and bundling datasets. According to the study, a data-rich undertaking with market power stemming from Big Data's value may tie or bundle their datasets to several data analytics services or algorithms.<sup>1146</sup> In these cases, tying and bundling practices may benefit both consumers and undertakings in the form of efficiencies.<sup>1147</sup> However, when these practices monopolise data or prevent market entry, it could exclude competitors, harm consumers, and ultimately harm competition.<sup>1148</sup> It is important to point out that the accumulated datasets via online platforms could be used to gain grounds in several segments of the ecosystem or neighbour platforms as a potential source of market power.

Along with tying datasets to data processing programs, the cross-usage of datasets and leveraging that data advantage is a similar method for leveraging market power. Like tying datasets to data analytics services, having a data advantage is also related to market power. This advantage could lead undertakings to exercise exclusionary actions in data-driven markets. Another European Competition Authority, the *Autorité de la Concurrence*, discussed how cross-usage of datasets could be used for abusive practices having foreclosing effects.<sup>1149</sup> The study discussed legal monopolies and their advantages on data accumulation. The *Autorité de la Concurrence* identified anti-competitive conduct, which aims to foreclose the market by cross-selling the client databases.<sup>1150</sup> This

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<sup>1145</sup> The Competition and Markets Authority, The commercial use of consumer data Report on the CMA's call for information (2015), para 17.

<sup>1146</sup> Ibid, para 3.61.

<sup>1147</sup> Ibid.

<sup>1148</sup> OECD, Ania Thiemann and Pedro Gonzaga, "Big Data: Bringing Competition Policy to the Digital Era" [2016] DAF/COMP (2016)14 Available at: [https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf), accessed 1 September 2021, 21; The Competition and Markets Authority, The commercial use of consumer data Report on the CMA's call for information (2015), para 3.61; Gönenç Gürkaynak, Ali Kağan Uçar and Zeynep Buharali, 'Data-Related Abuses in Competition Law' in Nicolas Charbit and Sonia Ahmad (eds), *Frédéric Jenny Liber Amicorum, Standing Up for Convergence and Relevance in Antitrust* (Concurrences, 2019), 302; Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016], 20; Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 290.

<sup>1149</sup> French Competition Authority, Opinion 10-A-13 on the cross-usage of customer databases, (14 June 2010) Available at: <https://www.autoritedelaconcurrence.fr/fr/avis/relatif-lutilisation-croisee-des-bases-de-clientele> accessed 1 September 2021.

<sup>1150</sup> Ibid.

conduct is especially important when the market power advantage is obtained through legal monopolies, allowing privileged access to the customer database and related information.<sup>1151</sup> An undertaking that formerly had a legal monopoly could use its already accumulated data and other databases in order to serve personalised offers and tailored services to consumers even on adjacent markets to gain grounds and competitive advantage and possibly to foreclose that market.<sup>1152</sup>

There are a couple of notable examples for the cross-usage of dataset abuse before competition authorities. First is the *GDF-Suez* decision of the *Autorité de la Concurrence*.<sup>1153</sup> GDF-Suez was once in a legal monopoly position in the energy market in France. As the only incumbent, they have accumulated vast data throughout the years. In 2007, gas customers in France had the option to leave the incumbent provider and choose other gas supplier companies that are competitors to GDF-Suez.<sup>1154</sup> According to the new regulation, customers had two options; either staying with GDF-Suez and their regulated tariffs by the administration or accepting offers fixed by all gas suppliers, including GDF-Suez, in a free market environment.<sup>1155</sup> However, the new gas supplier's total market share stayed quite low (around 10%) for seven years.<sup>1156</sup> In 2014, a complaint was made with the *Autorité de la Concurrence* by a private gas supplier. The abuse of a dominant position investigation revealed that “the historical database and the marketing resources inherited from GDF's former monopoly status are necessary tools for the new entrants to develop” and these tools and other advantages gained through previous data accumulation cannot be replicated since rivals of GDF-Suez do not have wide databases that allow them to locate all gas consumers and their consumptions.<sup>1157</sup> The use of the regulated tariff database in the market clearly is not compatible with competition on merits since

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<sup>1151</sup> European Competition Network, 'France: Ex-officio Opinion on Crossed Usage of Client Databases in Telecom Sector' (2010) ECN Brief October 04/2010, Available at: [https://ec.europa.eu/competition/ecn/brief/04\\_2010/fr\\_crossed.pdf](https://ec.europa.eu/competition/ecn/brief/04_2010/fr_crossed.pdf) accessed 1 September 2021; Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016], 20.

<sup>1152</sup> Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016], 20.

<sup>1153</sup> Autorité de la Concurrence, French Competition Authority, Decision No. 14-MC-02 (GDF-Suez Decision) 9 September 2014.

<sup>1154</sup> Autorité de la Concurrence, French Competition Authority, Press Release, 'Gas Market' (9 September 2014), Available at: <https://www.autoritedelaconcurrence.fr/en/communiqués-de-presse/9-septembre-2014-gas-market> accessed 1 September 2021.

<sup>1155</sup> Ibid.

<sup>1156</sup> Ibid.

<sup>1157</sup> Ibid.

the accumulation of data is not a result of an innovation or a business strategy, instead, it was inherited from their former monopoly status.<sup>1158</sup> Therefore, the Authority concluded that GDF-Suez abused its data advantage to foreclose the market by switching regulated customers to unregulated tariffs with the best possible offers and pre-empt rivals.<sup>1159</sup> As for the remedy, the Authority forced GDF-Suez to disclose information strictly necessary for competition in that market, like consumers addresses, names and characteristics of their consumption.<sup>1160</sup> However, the remedy opens up another discussion, data privacy. Disclosing consumers' confidential information to all sector participants would likely infringe 'some' consumers' privacy interests. This also means competition authorities do not necessarily avoid privacy issues in competition matters.<sup>1161</sup> Therefore, a balance must be redressed between data privacy and abusive conduct.<sup>1162</sup>

Another notable case regarding leveraging data advantage to adjacent markets is the abuse of a dominant position investigation of the Belgian Competition Authority against the Belgian National Lottery (BNL).<sup>1163</sup> For the organisation of public lotteries, the Belgian National Lottery had a legal monopoly position.<sup>1164</sup> In addition to public lotteries, the BNL started offering a betting product called 'Scoore!' along with their competitors in the sports betting products market in 2013. In May 2013, rival undertakings in the market filed a complaint with the Belgian Competition Authority due to the fact that the BNL using its data advantage acquired through a legal monopoly in the public lottery by blocking rivals in the sports betting market.<sup>1165</sup> The Authority identified a competition infringement where the BNL utilised contact details of its consumers, which was accumulated by organising public lotteries before, to reach consumers, announce, and advertise the launch of Scoore!.<sup>1166</sup> The conduct

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<sup>1158</sup> Ibid.

<sup>1159</sup> Ibid.

<sup>1160</sup> Ibid.

<sup>1161</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 291.

<sup>1162</sup> See Chapter 5.5 for more detail.

<sup>1163</sup> Belgian Competition Authority, Press Release, 'The Belgian Competition Authority imposes a fine of 1.190.000 EUR on the National Lottery for having abused its dominant position when launching its sports betting product Scoore! N° 15/2015' (23 September 2015) Available at: <https://www.belgiancompetition.be/en/about-us/actualities/press-release-nr-15-2015> accessed 1 September 2021.

<sup>1164</sup> Ibid.

<sup>1165</sup> Ibid.

<sup>1166</sup> Ibid.

was anti-competitive since the National Lottery acquired consumer data through a legal monopoly and did not follow competition on merits. Rivals cannot replicate the accumulated database on the market within a reasonable period.<sup>1167</sup> Although this was a one-time infringement during the launch of the Scoore!, the Belgian Competition Authority imposed a fine of 1.1 million euros on the National Lottery.

These examples clearly show that tying and bundling data and cross-usage of datasets in adjacent markets or market segments are common leveraging market power strategies in data-driven markets. On top of that, the accumulation of data through a legal monopoly or in free-market conditions could well be tools for distorting competition in online markets. The advent of digital technology and the creation of online ecosystems open up many possible exclusionary practices since the accumulation and processing of Big Data contain huge risks for healthy competition in the online world.

### **5.2.3 Self-Preferencing**

In data-driven markets, self-preferencing is an important competition concern in terms of leveraging market power. Self-preferencing as an abuse is widely discussed during and after the Commission's key investigation against Google's comparison shopping services.<sup>1168</sup> As mentioned in Chapter 4, the investigation started back in 2010 in order to find out whether Google abuses its dominant position by showing the Google Shopping links more prominently on the Google Search screen through giving systematic favourable treatment to the Google Shopping service and demoting rival comparison shopping services in the search results page at the same time.<sup>1169</sup> After a lengthy investigation almost ended with commitments in 2014,<sup>1170</sup> Google was fined 2.42 billion Euros by the European Commission in 2017. In its decision, the Commission reported that Google abused its dominant position in the search engine market by diverting

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<sup>1167</sup> Ibid.

<sup>1168</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final.

<sup>1169</sup> European Commission, Press Release, 'Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping services' (Brussels, 27 June 2017), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_17\\_1784](https://ec.europa.eu/commission/presscorner/detail/en/IP_17_1784) accessed 1 September 2021.

<sup>1170</sup> European Commission, Press Release, 'Antitrust: Commission obtains from Google comparable display of specialised search rivals' (Brussels, 5 February 2014), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_14\\_116](https://ec.europa.eu/commission/presscorner/detail/en/IP_14_116) accessed 1 September 2021.

traffic away from rival shopping services to its own service.<sup>1171</sup> The abuse was done by decreasing traffic to the rival comparison shopping services from the Google search engine.<sup>1172</sup> According to the Commission, the conduct does not fall in the scope of competition on merits since the conduct excludes rivals by diverting the traffic and has anti-competitive effects on both the search engine and comparison shopping service markets. Google was not the inventor of comparison-shopping services, and its shopping service was not gaining significant traffic before the favoured appearance on the search results page.<sup>1173</sup> Google is the super dominant undertaking in the search engine market and being at the general search results page affects online comparison-shopping services greatly.

Regarding the dominance of Google in the search engine market and holding the largest proportion of traffic for comparison shopping services, the Commission underlined that although multi-homing could be frequent in theory, most consumers who use the Google Search engine in the EEA do not multi-home in reality.<sup>1174</sup> In other words, a significant number of consumers would likely continue to use Google's search engine even if the quality of the service Google provides lowers.<sup>1175</sup> In addition, as a result of the anti-competitive conduct, the Commission found evidence of huge drops in traffic to certain comparison shopping services which are rivals of Google in the EEA, such as 92% in Germany, 85% in the United Kingdom and 80% in France.<sup>1176</sup> According to the Commission, "the evidence shows that consumers click far more often on ... the results appearing higher up in Google's search results... the ten highest-ranking generic search results on page 1 together generally receive approximately 95%

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<sup>1171</sup> Summary of Commission decision of 27 June 2017, Relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement (Case AT.39740 — Google Search (Shopping)), para 10; Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final, para 341.

<sup>1172</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final, para 341.

<sup>1173</sup> *Ibid.*, para 343.

<sup>1174</sup> *Ibid.*, paras 306-312.

<sup>1175</sup> *Ibid.*, para 312; Konstantina Bania, 'The European Commission's decision in Google Search: Exploring old and new frontiers of competition enforcement in the digital economy' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 280.

<sup>1176</sup> European Commission Press Release, 'Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping services' (Brussels, 27 June 2017), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_17\\_1784](https://ec.europa.eu/commission/presscorner/detail/en/IP_17_1784) accessed 1 September 2021.



of all clicks on generic search results.”<sup>1177</sup> Therefore, favourable treatment to the Google Shopping service on the search results page had exclusionary effects and led to market foreclosure ultimately. The main reason behind why the conduct forecloses market is that the traffic for comparison shopping services largely flows through the Google search results page. This cannot be replaced by other sources currently available for comparison shopping services.

The investigation also highlights the power of Google in determining access to specific online services and ultimately deciding the fate of its rivals who rely on Google’s services, such as its search engine.<sup>1178</sup> As mentioned above, in an online ecosystem where platforms owners are both competitors and intermediaries (service providers), there are huge risks since platform owners become regulators of an ecosystem. In the online world, technology giants have the power of deciding the fates of smaller competitors, businesses, and start-ups. Due to this very reason, the Commission should impose special responsibilities on dominant undertakings.

In *the Google* case, the Commission asked the company to give ‘equal treatment’ to rival comparison shopping services and use the same processes and methods in deciding the display results of shopping links on the search results page.<sup>1179</sup> As the remedy stands next to the search neutrality principle, the actual remedy is a form of duty to deal. This remedy is important to reveal how intermediaries can regulate the ecosystem in the online world. Thus, they must have special responsibilities not to distort competition.<sup>1180</sup> In 2018, Margrethe Vestager stressed that behavioural remedies of the Commission on Google search and comparison shopping services have had an effect and are beginning to bear fruit.<sup>1181</sup> This can be seen from the increasing number of rival comparison shopping services appearing on the first page of search results and from the rival companies’ traffic.<sup>1182</sup>

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<sup>1177</sup> Ibid.

<sup>1178</sup> Ariel Ezrachi and Maurice Stucke, ‘Emerging Antitrust Threats and Enforcement Actions in The Online World’ (2017) 13 *Competition Law International* 2, 8.

<sup>1179</sup> Case No COMP/AT.39740, *Google Search (Shopping)* [2017] 4444 Final, para 671.

<sup>1180</sup> Dominant players that have *de facto* regulatory roles in ecosystems are discussed in detail in Chapter 6.

<sup>1181</sup> Pallavi Guniganti, ‘Google shopping remedies have had effect, Vestager says’ *Global Competition Review* (18 June 2018), Available at: <https://globalcompetitionreview.com/google-shopping-remedies-have-had-effect-vestager-says> accessed 1 September 2021.

<sup>1182</sup> Ibid.

In a more recent investigation against the Amazon marketplace, similar concerns were raised before the European Commission and the Federal Cartel Office of Germany (the *Bundeskartellamt*). The European Commission started an investigation regarding Amazon's use of sensitive data collected from independent retailers on Amazon's marketplace.<sup>1183</sup> Amazon has a dual role both as an intermediary between online retailers and consumers and an online retailer itself in a marketplace platform called a "hybrid platform".<sup>1184</sup> Possible anti-competitive conduct is related to Amazon's collection and the utilisation of retail data in order to maximise its profits. Amazon can collect and analyse all available data on the marketplace regarding every single transaction, thus can learn which products sell most at what price.<sup>1185</sup> Therefore, Amazon can gain a crucial competitive advantage over its rivals dependent on Amazon's marketplace to continue the business. In other words, operating on both sides of the platform (upstream merchant intermediation side and downstream retail market side) creates an advantageous position for Amazon.<sup>1186</sup>

Margrethe Vestager stated: *"The question here is about the data. If you as Amazon get the data from smaller merchants that you host ... do you then also use this data to do your own calculations, as to what is the new big thing, what is it that people want, what kind of offers do they like to receive, what makes them buy things?"*<sup>1187</sup> The Commission stresses that by providing a marketplace for third-party retailers, Amazon has all available data for their use regarding the marketplace, which its rivals cannot have.<sup>1188</sup> The Commission identified that

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<sup>1183</sup> European Commission, Press Release, 'Antitrust: Commission opens investigation into possible anti-competitive conduct of Amazon' (Brussels, 17 July 2019), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_19\\_4291](https://ec.europa.eu/commission/presscorner/detail/en/IP_19_4291) accessed 1 September 2021

<sup>1184</sup> Thomas Höppner and Philipp Westerhoff, 'The EU's competition investigation into Amazon Marketplace' *Kluwer Competition Law Blog* (30 November 2018), Available at: [http://competitionlawblog.kluwercompetitionlaw.com/2018/11/30/the-eus-competition-investigation-into-amazon-marketplace/?doing\\_wp\\_cron=1591716526.0472819805145263671875](http://competitionlawblog.kluwercompetitionlaw.com/2018/11/30/the-eus-competition-investigation-into-amazon-marketplace/?doing_wp_cron=1591716526.0472819805145263671875) accessed 1 September 2021.

<sup>1185</sup> *Ibid.*

<sup>1186</sup> European Commission Press Release, 'Antitrust: Commission opens investigation into possible anti-competitive conduct of Amazon' (Brussels, 17 July 2019), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_19\\_4291](https://ec.europa.eu/commission/presscorner/detail/en/IP_19_4291) accessed 1 September 2021.

<sup>1187</sup> Natasha Bernal and James Titcomb, 'EU opens formal competition investigation into Amazon over use of merchant data' *The Telegraph* (San Francisco, 16 July 2019), Available at: <https://www.telegraph.co.uk/technology/2019/07/16/eu-open-formal-competition-investigation-amazon-within-days/> accessed 1 September 2021.

<sup>1188</sup> European Commission Press Release, 'Antitrust: Commission opens investigation into possible anti-competitive conduct of Amazon' (Brussels, 17 July 2019), Available at:

Amazon uses sensitive information regarding retailers, sales, products, and transaction information competitively and possibly leverage market power in the preliminary findings.<sup>1189</sup>

Accordingly, the *Bundeskartellamt* raised concerns about abuse through self-referencing in 2018 towards the Amazon marketplace. The President of the German Competition Authority, Andreas Mundt, expressed that: “*Amazon is the largest online retailer and operates by far the largest online marketplace in Germany. Many retailers and manufacturers depend on the reach of Amazon’s marketplace for their online sales. Amazon functions as a kind of “gatekeeper” for customers.*”<sup>1190</sup> There are many concerns that Amazon could behave in an abusive way in its own marketplace. As just mentioned above, Amazon has a dual role as a dominant undertaking in its own platform where it has access to all available data but at the same time as a rival to other online sellers.<sup>1191</sup> Not only the dual role as a business but also the risk when Amazon cooperates with manufacturers to offer the same products cheaper and faster than smaller businesses; these independent businesses may find themselves in a disadvantaged, unfavoured position in the market or even squeezed out.<sup>1192</sup> The *Bundeskartellamt* evaluated most of the concerns regarding the dual role and power of Amazon, and a year later, the *Bundeskartellamt* ended its investigation against Amazon after Amazon agreed to improve business terms for independent sellers in the marketplace.<sup>1193</sup> In response to the concerns raised by the Authority,

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[https://ec.europa.eu/commission/presscorner/detail/en/IP\\_19\\_4291](https://ec.europa.eu/commission/presscorner/detail/en/IP_19_4291) accessed 1 September 2021.

<sup>1189</sup> Ibid.

<sup>1190</sup> Bundeskartellamt, News, ‘Bundeskartellamt initiates abuse proceeding against Amazon’ (29 November 2018) Available at:

[https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/29\\_11\\_2018\\_Verfahrenseinleitung\\_Amazon.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/29_11_2018_Verfahrenseinleitung_Amazon.html) accessed 1 September 2021.

<sup>1191</sup> Damien Geradin and Dimitrios Katsifis, ‘An EU competition law analysis of online display advertising in the programmatic age’ (2018) 15 *European Competition Journal*, 55-96, 90.

<sup>1192</sup> Bundeskartellamt, ‘Competition restraints in online sales after Coty and Asics - what’s next?’ (2018) Series of papers on “Competition and Consumer Protection in the Digital Economy, 4, Available at:

[https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Schriftenreihe\\_Digitales\\_IV.pdf?\\_\\_blob=publicationFile&v=2](https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Schriftenreihe_Digitales_IV.pdf?__blob=publicationFile&v=2) accessed 1 September 2021.

<sup>1193</sup> Bundeskartellamt, News, ‘Bundeskartellamt obtains far-reaching improvements in the terms of business for sellers on Amazon’s online marketplaces’ (17 July 2019) Available at:

[https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/17\\_07\\_2019\\_Amazon.html;jsessionid=98F173CFCF40CBB4E3AA149FF088832E.1\\_cid362](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/17_07_2019_Amazon.html;jsessionid=98F173CFCF40CBB4E3AA149FF088832E.1_cid362) accessed 1 September 2021; Silke Heinz, ‘Bundeskartellamt ends abuse probe after Amazon agrees to changing business terms for dealers’ *Kluwer Competition Law Blog* (30 July 2019), Available at: <http://competitionlawblog.kluwercompetitionlaw.com/2019/07/30/bundeskartellamt-ends-abuse-probe-after-amazon-agrees-to-changing-business-terms-for->

Amazon agreed to amend the liability, termination and blocking of accounts, returns and reimbursements, product information and rights of use, confidentiality, transparency, product reviews and sellers rating provisions of its terms for business sellers.<sup>1194</sup>

Thomas Höppner explains the possible anti-competitive conduct related to Amazon and its use of sensitive data. The overarching theory of harm is related to leveraging market power and consequently self-preferencing.<sup>1195</sup> As regards dominance, Amazon as a platform owner definitely has a dominant position in the e-commerce market. Therefore, collecting and utilising all merchant data creates an edge for Amazon as a retailer itself. Moreover, this advantage seems to be a quite important concern since Amazon extracts data directly from its competitors.<sup>1196</sup> None of the independent retailers is in a similar position, and Amazon can easily outperform and outcompete its rivals. Amazon's data policy, terms of service is somewhat similar to the investigation against Facebook,<sup>1197</sup> where extracted data provides an inherent advantageous position when used as a competitive tool. The use of commercially sensitive data exceeding competition on merits would create a situation where Amazon uses the data for exclusionary and exploitative purposes.

Like the *Google Search* case, Amazon favoured its own services in the marketplace as the abuse. The same products are commonly sold by many merchants, including Amazon itself on the marketplace. Consequently, a conflict of interest stems from Amazon's dual role in e-commerce and its downstream market, online retail services.<sup>1198</sup> Google was also found to be in a similar position being an intermediary as the search engine and a competitor in the online shopping services. The investigation has revealed one of the most important abuses related to data and the online world. The investigation against Amazon

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dealers/?doing\_wp\_cron=1590500147.1006309986114501953125 accessed 1 September 2021.

<sup>1194</sup> Bundeskartellamt, B2-88/18, 'Case summary from 17 July 2019: Amazon amends its terms of business worldwide for sellers on its marketplaces – Bundeskartellamt closes abuse proceedings' (17 July 2019) Available at: [https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Fallberichte/Missbrauchsaufsicht/2019/B2-88-18.html?jsessionid=6F46AFC4DECD4268BD11E5D792299FD1.1\\_cid362?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Fallberichte/Missbrauchsaufsicht/2019/B2-88-18.html?jsessionid=6F46AFC4DECD4268BD11E5D792299FD1.1_cid362?nn=3600108) accessed 1 September 2021.

<sup>1195</sup> Höppner and Westerhoff (n 1184).

<sup>1196</sup> Ibid.

<sup>1197</sup> See Chapter 5.6.2 for more detail.

<sup>1198</sup> Höppner and Westerhoff (n 1184).

could also reveal an abuse regarding Amazon favouring its online retailer in the marketplace and exclusionary effects on third-party sellers on the platform. This case would contribute to establishing a case law against data-driven abuses on online ecosystems.

#### 5.2.4 Google's Abuse and Theory of Harms

Specifically, the *Google Shopping* case has led to a wide debate in academia regarding the theory of harm and self-preferencing. As mentioned above, The European Commission based its decision on the theory of leveraging market power. Not only abusing dominant position in the same relevant market but also the conduct of a dominant undertaking that aims to extend its dominance into neighbouring markets is also found to be anti-competitive in competition law theory.<sup>1199</sup> In the *Google* case, the Commission added that the conduct of a dominant undertaking to extend its dominant position in a market to another one is not novel and is a well-established form of abuse in EU competition law.<sup>1200</sup> According to the Commission, Google abused its dominant position by favouring its own services in one market by abusing its power on another, in other words diverting traffic from rivals services and decreasing their traffic in order to increase the traffic of its own comparison-shopping service. Google's conduct has anti-competitive effects on comparison-shopping services through self-preferencing. Self-preferencing could well be regarded as abusive if the conduct falls outside competition on merits, lacks justification, has exclusionary effects on the market, and detrimental effects on consumers ultimately.<sup>1201</sup>

However, during and after the investigation, commentators widely examined the conduct of Google and the Commission's ruling in terms of existing case law and existing types of abusive behaviour.<sup>1202</sup> Article 102 TFEU provides a non-

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<sup>1199</sup> Case No COMP/AT.39740, *Google Search (Shopping)* [2017] 4444 Final, para 334.

<sup>1200</sup> *Ibid*, para 649.

<sup>1201</sup> European Commission, *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings*, C (2009) 864 Final Brussels, paras 19-22.

<sup>1202</sup> Pinar Akman, 'A Preliminary Assessment of the European Commission's Google Search Decision' (2017) 3 *CPI Antitrust Chronicle* 7; Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301; Ioannis Kokkoris, 'The Google Saga: Episode I' (2018) 14 *European Competition Journal* No. 2-3, 462-490; Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 *Yale Journal on Regulation* 2; Bo Vesterdorf, 'Theories of Self-preferencing and Duty to Deal – Two Sides of the Same Coin' (2015) 1 *Competition Law and Policy Debate*, 5; Renato Nazzini, 'Google and the (Ever-Stretching) Boundaries of Article 102' (2015) 6 *Journal of European Competition Law and Practice* 5, 301; Ioannis Lianos and Evgenia Motchenkova, 'Market Dominance and Search Quality in the

exhaustive list of abusive conduct.<sup>1203</sup> Similarly, the Guidance on the Commission's enforcement priorities in applying Article 102 TFEU mentions specific abusive behaviour, namely exclusive dealing, tying and bundling, predation and refusal to supply and margin squeeze.<sup>1204</sup> However, these lists are not exhaustive, and if their criteria are met, novel abuses are also considered anti-competitive in EU competition law. However, Pinar Akman conducted a positive and normative law assessment for the alleged abuse in the *Google Search* Case. She found no specific abuse for the application of EU competition law.<sup>1205</sup> The positive assessment is based on the three types of abusive behaviour; refusal to supply, tying and discrimination.<sup>1206</sup> According to the study, alleged abusive behaviour does not fit any of these three types of abuse based on case law. Likewise, the normative assessment found that abuse does not fit into the framework of Article 102 at all.<sup>1207</sup> Akman argues that exploitative and exclusionary effects are non-existent in the *Google Search* case, along with possible decreases in efficiency.

The discussion clearly demonstrates that assessing novel abuses through existing abuse types and assessment criteria for abuse of a dominant position is inefficient. Existing abuse types and criteria for anti-competitive conduct is not suited well for data-driven markets. As discussed in Chapter 4, even criteria to assess dominance and market definition are problematic in data-driven markets. These markets are multi-sided, and they form online ecosystems where dominant undertakings are the actual decision-makers for everything in their ecosystems. For instance, Google is the dominant undertaking in the search engine market where many segments such as vertical search engines, video sharing, online shopping, navigation, and email services fight over consumers' attention. In such

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Search Engine Market' (2013) 9 *Journal of Competition Law and Economics*, 419; Nicolas Petit, 'Theories of Self-Preferencing under Article 102 TFEU: A Reply to Bo Vesterdorf' (2015) SSRN Electronic Journal, Available at: [https://plu.mx/ssrn/a/?ssrn\\_id=2592253](https://plu.mx/ssrn/a/?ssrn_id=2592253) accessed 1 September 2021.

<sup>1203</sup> Article 102 of the TFEU.

<sup>1204</sup> European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, C (2009) 864 Final Brussels.

<sup>1205</sup> Pinar Akman, 'A Preliminary Assessment of the European Commission's Google Search Decision' (2017) 3 *CPI Antitrust Chronicle* 7; Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301.

<sup>1206</sup> Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301, 307-355.

<sup>1207</sup> *Ibid.*, 355-370.

a circumstance, undertakings such as Google or Amazon (for the e-commerce platforms) have the power to act as regulators and enforce their own rules in that platform. The Commission has underlined on several occasions that Google leveraged its dominance on the platform (Google Search) into another segment of it (comparison-shopping services) which resulted in market foreclosure and a decrease in the relevancy of search results.<sup>1208</sup> In such a situation, examining the conduct of Google through specific abuse types and traditional methods is irrational. The characteristics and structures of online ecosystems make it difficult to assess dominance to define a relevant market, assess and determine the type of anti-competitive conduct, and establish a theory of harm for competition authorities.<sup>1209</sup>

Ioannis Kokkoris stresses that alleged abuse is a novel type not found in the existing case law regarding Google's abuse.<sup>1210</sup> In other words, the Commission added a new type of abuse to EU case law. Kokkoris underlines the importance of a clear analysis and legal certainty regarding alleged abuse while investigating whether a new abuse should be added to the menu.<sup>1211</sup> In the study, the criticism gathers around possible consumer harms, which are found non-existent in the *Google Search* case, according to Kokkoris. Although the Commission argues that Google has diverted traffic from rivals into its own service, and Google might have foreclosed a market from rivals where users do not see the most relevant results in search queries, the conduct might not constitute abuse under Article 102.<sup>1212</sup> The study claims that Google's search service relying on innovation and development creates consumer benefits where consumers are able to conduct much higher quality searches than in the past.<sup>1213</sup> In such a situation, Kokkoris expresses that claiming competition is distorted becomes a question mark.<sup>1214</sup> Therefore, claims directed at consumer harm must be examined to demonstrate the difference in consumer experience when the

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<sup>1208</sup> Lesser relevant search results mean decreased product/service quality for consumers.

<sup>1209</sup> Ebru Gökçe, 'Competition Issues in the Digital Economy' (2019) UNCTAD Background Note, 9, Available at: [https://unctad.org/system/files/official-document/ciclpd54\\_en.pdf](https://unctad.org/system/files/official-document/ciclpd54_en.pdf) accessed 1 September 2021..

<sup>1210</sup> Ioannis Kokkoris, 'The Google Saga: Episode I' (2018) 14 European Competition Journal No. 2–3, 462–490, 469.

<sup>1211</sup> *Ibid*, 470.

<sup>1212</sup> *Ibid*, 472.

<sup>1213</sup> *Ibid*, 475.

<sup>1214</sup> *Ibid*, 475.

alleged abuse is non-existent.<sup>1215</sup> The study claims that the same analogy must be applied to competitors where merchant harm must be demonstrated through causality for the alleged abuse. Thus, the exclusion of rivals is not necessarily linked to abuse, and exclusion could result from an outdated business strategy in these kinds of innovative markets.<sup>1216</sup> In other words, to conduct a clear analysis, the Commission must ensure that market foreclosure is a result of the actual effects of Google's abusive behaviour and not a result of Google's successful innovation investments to which rivals cannot compete or respond.<sup>1217</sup>

As mentioned before, dominant undertakings that control ecosystems in the online world have executive powers, including *de facto* regulatory powers. Therefore, competition in any segment of an ecosystem is under danger of abusive behaviour from the dominant undertaking if that undertaking also competes in one or more platform segments. This seems to be a broad anti-competitive concern in competition law. For instance, Foundem and other parties accused Google of making them disappear from the organic search results page for a long time when the investigation started against Google.<sup>1218</sup> The business strategy of undertakings in data-driven markets such as Google's or Amazon's is somewhat unique. Unlike other industries, they can collect and analyse all available data in the platform to compete with their rivals. Moreover, they create a "single-user data profile" system across the ecosystem where they use the same collected data for numerous services and products.<sup>1219</sup> This provides an unprecedented competitive edge to dominant undertakings. Excessive data collection also contributes to abusive self-preferencing behaviour where dominant undertakings benefit from data processing. Their ability to offer higher quality products increases, and they exclude rivals in the platform.

Bork and Sidak argue that using datasets to gain revenue from favoured services such as vertical search engine advertising significantly decreases the undertaking's income in general search engine advertising services.<sup>1220</sup> The

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<sup>1215</sup> Ibid, 477.

<sup>1216</sup> Ibid, 483.

<sup>1217</sup> Ibid, 489

<sup>1218</sup> Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 *Yale Journal on Regulation* 2, 432.

<sup>1219</sup> Ibid.

<sup>1220</sup> Robert H. Bork and J. Gregory Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?' (2012) 8(4) *Journal of Competition Law and Economics* 663–700, 675.



reasoning behind it is the “single-monopoly-profit theorem”. According to this Chicago School theorem,<sup>1221</sup> in a vertically integrated market, monopolists cannot profit from both markets; they only profit from one market, upstream or downstream.<sup>1222</sup> Bork and Sidak explain the reasoning behind it: “*When the upstream supplier begins producing the downstream product, it will increase its joint profits by lowering the price of the downstream product... Total profits cannot exceed the monopoly profits from any one stage.*”<sup>1223</sup> Therefore, it can be deduced that when Google try to maximise its profits in comparison-shopping services, its revenue from the general search engine should decrease significantly. However, the Chicago School theory is insufficient when applied to markets where Big Data is a core competition component. Nathan Newman points out that the Chicago School model ignores the platform owners' ability to collect sensitive data directly from competitors' transactions.<sup>1224</sup> Unlike the theory suggests, dominant undertakings revenue would not drop since the collected data from general search services and comparison-shopping services significantly reinforce each other and increase the revenue of both services at the cost of distorting competition on the segments of the online platform. The added value of using datasets for both services exponentially increases when the dominant undertaking favours its own services. Google's or Amazon's ability to process information available on their ecosystems create a barrier, and their rivals cannot overcome and respond with their competitive services. Ultimately, the fate of rivals and competition remain solely in the dominant undertakings' hands in such circumstances.

In light of the above situation, consumer harm becomes detectable: decrease in quality and decrease in the relevance of search results. As the Commission highlighted, foreclosing rival shopping services and favouring own services will lead to higher fees for merchants.<sup>1225</sup> Google can raise participation

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<sup>1221</sup> Robert H. Bork, *The Antitrust Paradox: A Policy At War With Itself* (2<sup>nd</sup> edn, Basic Books, 1993), 229; Phillip E. Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* (2<sup>nd</sup> edn, Wolter Kluwer International, 2002), 30; Aaron Director and Edward H. Levi, ‘Law and the Future: Trade Regulation’ (1956) 51 *Northwestern University Law Review* 281, 290; Richard A. Posner, ‘The Chicago School of Antitrust Analysis’ (1979) 127 *University of Pennsylvania Law Review* 925, 926-27.

<sup>1222</sup> Robert H. Bork and J. Gregory Sidak, ‘What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?’ (2012) 8(4) *Journal of Competition Law & Economics* 663–700, 675.

<sup>1223</sup> *Ibid*, 676.

<sup>1224</sup> Newman (n 1218) 434.

<sup>1225</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final, para 594.

costs for its rivals, or rivals need to invest more to get consumers' attention, resulting in higher product prices for consumers, especially the products of rival companies. In the second phase, incentives for innovation are expected to decrease in comparison shopping services or similar services. Rival companies will not invest in their services if they cannot attract a reasonable number of consumers and make transactions.<sup>1226</sup> In a situation where Google diverts traffic from rival services, a decrease in innovation investment will likely occur. At the same time, Google's incentives to improve its own services will also decrease since Google does not face any serious competition in the market.<sup>1227</sup> Consequently, the quality of Google's service will also be reduced. In addition to decreased quality when innovation investments fall, lesser relevant search results become another consumer harm. Google's conduct is likely to reduce choices for the consumer by limiting search results in favour of its own services, which must be deemed anti-competitive.<sup>1228</sup>

The Commission's decision and theories on leveraging market power and self-preferencing play a key role in the following investigations of *Google Android* and *Google AdSense*.<sup>1229</sup> The Commission opened an investigation concerning Google's alleged abuse in the Android ecosystem in 2015. Related to a previous investigation of Google Search, Commissioner Vestager reported: "*I have also launched a formal antitrust investigation of Google's conduct concerning mobile operating systems... Smartphones, tablets and similar devices play an increasing role in many people's daily lives, and I want to make sure the markets in this area can flourish without anticompetitive constraints imposed by any company.*"<sup>1230</sup> Like the search engine market, Google holds worldwide dominance in the mobile operating systems market via Android. Google acquired the original Android Inc. back in 2005, and the first commercial Android phones were released in 2008.<sup>1231</sup>

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<sup>1226</sup> Ibid, para 595.

<sup>1227</sup> Ibid, para 596.

<sup>1228</sup> Ibid, para 597.

<sup>1229</sup> Ariel Ezrachi and Maurice Stucke, 'Emerging Antitrust Threats and Enforcement Actions in The Online World' (2017) 13 Competition Law International 2, 8.

<sup>1230</sup> European Commission, Press Release, 'Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android' (Brussels, 15 April 2015), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_15\\_4780](https://ec.europa.eu/commission/presscorner/detail/en/IP_15_4780) accessed 1 September 2021..

<sup>1231</sup> Case No COMP/AT.40099, Google Android Commission Decision of 18 July 2018, [2018] 4761 Final, para 123.

The Android system is based on Linux, and the source code of Android is freely available through the Android Open-Source Project (AOSP). As a result, developers and companies can freely use the system theoretically. In the world, the majority of mobile device manufacturers use Google's mobile operating system in their tablets and smartphones, which indicates the dominance of Google in the market.<sup>1232</sup> In the market of mobile operating systems, Google and Apple have their own ecosystems consisting of a wide array of applications and libraries.<sup>1233</sup> Although using the Android OS is free of charge, the Commission found that Google controls its operating system through various licensing agreements with device manufacturers. Through the AOSP licences, Google gives the Google Play Store and Google Play Service licences to device manufacturers.<sup>1234</sup> According to these contractual conditions, Google incentivises and requires device manufacturers to exclusively pre-install the Google Search application and Google Chrome browser as a result of licensing the Google Play Store to manufacturers. Moreover, Google shares revenue with certain manufacturers that do not pre-install rival applications.

The requirements imposed by Google on manufacturers are ultimately found to be anti-competitive since the conduct significantly distorts competition by disincentivising manufacturers to pre-install other search and web browser applications. The conduct also reduces consumers' incentives to download third-party applications.<sup>1235</sup> According to Vestager, people who buy Android smartphones do not change default applications of search and browsers in their phones.<sup>1236</sup> Therefore, a 'choice evasion' problem arises since the abusive practice reduces consumers' choices.<sup>1237</sup> Since most consumers do not change default applications on their phones, Google sees the opportunity to require

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<sup>1232</sup> European Commission Press Release, 'Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android' (Brussels, 15 April 2015), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_15\\_4780](https://ec.europa.eu/commission/presscorner/detail/en/IP_15_4780) accessed 1 September 2021..

<sup>1233</sup> Web browser, Email, Alarm, Media Player, SMS/MMS service, Photo service, Games, OpenGL/ES, SSL, WEBKIT and many others.

<sup>1234</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final, para 155-156.

<sup>1235</sup> Ariel Ezrachi and Maurice Stucke, 'Emerging Antitrust Threats and Enforcement Actions in The Online World' (2017) 13 *Competition Law International* 2, 8.

<sup>1236</sup> Only 1 percent of consumers change their search apps and only 10 percent of them change their mobile web browser. Matthew Cole, 'Does the EU Commission really hate the US? Understanding the Google decision through competition theory' (2019) 44 *European Law Review* 4, 487.

<sup>1237</sup> Matthew Cole, 'Does the EU Commission really hate the US? Understanding the Google decision through competition theory' (2019) 44 *European Law Review* 4, 487.

device manufacturers to pre-install Google apps and not install rival applications; thus, Google leverages its market power by tying practices.<sup>1238</sup>

In addition to tying its services to the Google Play Store licences, the *Google Android* case also draws attention to conditions where device manufacturers who want to install their own services or Google's rival services will not get a licence for Google Play Store where the dominance of Google characterises the market.<sup>1239</sup> Even Microsoft's and BlackBerry's own stores could not compete with Android and Apple, which led them to use Android OS by acquiring various licences from Google. In such a situation where Google dominates the market of mobile operating systems, Google can leverage its market power into integrated markets in the ecosystem and exclude rivals' services both in the upstream operating system and downstream integrated markets. In other words, concerns are not only about Google tying its mobile applications to the Android OS but also includes a competition problem that device manufacturers face if they want to pre-install third-party applications and want access to the Google Play Store.<sup>1240</sup> In all reason, Google was imposed a 4.3 billion euros fine by the Commission a year after the *Google Search* decision. This case is specifically important since both decisions demonstrate a special responsibility and legal obligation where dominant undertakings in the online world such as Google, Amazon, Apple or Microsoft should not exclude rival services from their ecosystems by leveraging their market power as platform owners through tying or self-preferencing practices.

Regarding the *Google Search* investigation, Frank Pasquale focuses on claims made by Foundem (Infederation Ltd.), a UK based vertical search advertising company that filed a complaint against Google in 2010. According to claims, Foundem does not have a mass user base and critical data to be able to compete with Google; thus, they are excluded from the market by Google. Only after six months Foundem has launched, it was claimed that Google blocked Foundem from appearing on the first page of organic search results (Google Search) regarding price comparison services.<sup>1241</sup> Google defended itself by

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<sup>1238</sup> Ibid, 488.

<sup>1239</sup> Inge Graef, 'Rethinking the essential facilities doctrine for the EU digital economy', (2019) 53 *Revue juridique Thémis de l'Université de Montréal*, no. 1, 33-72, 49.

<sup>1240</sup> Ibid.

<sup>1241</sup> Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (1<sup>st</sup> edn, Harvard University Press, 2015), 67.

claiming Foundem has a lower-quality, inferior service; thus, Google's algorithms distinguish better services before they create organic results and show them to consumers.<sup>1242</sup> In addition, the main role of a search engine should serve the best possible search results to consumers on the top of the results page. However, by this means, smaller rivals are excluded from the top of the results page, which is necessary for them to be present in the market. In addition to this, Google seems to divert traffic from smaller companies to discourage them from succeeding as online advertisement providers. In other words, Google controls the market and limits access for its rivals to the end-consumers, where Google's own service is always prevalent and is seen on the top of the page in every search query. Therefore, feedback loops feed Google with more data which, in turn, is used for better quality services. At the same time, rivals such as Foundem are downranked, and their visibility is reduced on the organic search results page.<sup>1243</sup> Regarding paid results section of the search page, Google seems to cut off the ability of rival companies to reach end-consumers also.<sup>1244</sup>

On the contrary, Bork and Sidak argue that allegations about Google depriving its competitors of achieving scale are actually not true. One of the base arguments in the study is the necessity of scale. Google was not the first mover undertaking in the search engine market. It actually started its business after AltaVista, Yahoo and many others.<sup>1245</sup> However, Google has still managed to surpass its rivals. In a manner, newcomers could well surpass Google also. The study underlines the emphasis on the difference between 'necessary to compete' and 'necessary to succeed' would not change competition law assessment since competition does not impose a duty on dominant undertakings to ensure the profitability of its smaller rivals.<sup>1246</sup> In other words, the study stresses that achieving an 'efficient scale' cannot be a benchmark for the analysis.

The first reason is that actual needed user data to be competitive or serve quality products is not that much. They give the example of Google from 2003, where Google only had 42.9 million users but had a market dominance.<sup>1247</sup> On

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<sup>1242</sup> Ibid.

<sup>1243</sup> Ibid.

<sup>1244</sup> Ibid.

<sup>1245</sup> Robert H. Bork and J. Gregory Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?' (2012) 8(4) *Journal of Competition Law & Economics* 663–700, 666.

<sup>1246</sup> Ibid, 687.

<sup>1247</sup> Ibid, 690.

the other hand, Google's biggest rival, Bing, had 122 million users in 2012.<sup>1248</sup> However, the numbers do not support the argument. The opposite way around, numbers demonstrate how the accumulation of user data was important during the early 2000s, creating a huge barrier for Google's rivals in time. In other words, data of 40 million and more users accumulated each year and contributed to the creation of enormous competitive advantage for Google, also thanks to improvements in data collection and processing methods. Later in *the Microsoft/Yahoo* merger, the Commission correctly identified that Yahoo and Microsoft lacked the scale to compete with Google.<sup>1249</sup>

Bork and Sidak stress the necessity of advertising revenues for innovation in the online search advertising market. They argue that scale is unnecessary to gain advertising revenues, and thus these revenues cannot be decisive in funding product improvements and innovation.<sup>1250</sup> In addition to this, indirect network effects in the market do not create any barriers for newcomers.<sup>1251</sup> In a sense, funding for improvements and innovation can be substituted when advertising revenues significantly lacks. However, it is already proved wrong in Chapter 4 that indirect network effects are barriers to entry in data-driven markets.<sup>1252</sup> Moreover, the indirect network effect structure is the predominant structure and one of the unique characteristics of data-driven markets. Therefore, the claim that search engines do not benefit from indirect network externalities is wrong.<sup>1253</sup> All the above information suggests that the structures of the search engine and online advertising markets are shaped by the indirect network effects. Multi-sidedness requires market players to achieve an "efficient scale" to compete in the online world. Therefore, without achieving the necessary scale, smaller rivals cannot attract consumers to their services, cannot gain revenues through online advertising, and in turn, cannot fund their services for improvements. Although advertisement revenues are not the only source, they are needed for almost all newcomers who have no significant capital or funds.

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<sup>1248</sup> Ibid.

<sup>1249</sup> Case No COMP/M.5727, *Microsoft/Yahoo! Search Business C* [2010] 1077 Final, para 136-149.

<sup>1250</sup> Bork and Sidak (n 1245) 692.

<sup>1251</sup> Ibid.

<sup>1252</sup> See Chapter 4 for more detail.

<sup>1253</sup> Bork and Sidak (n 1245) 692.

### 5.2.5 'Frenemy' Situation in Multi-Sided Markets

Companies such as Google and Apple own and control vast online ecosystems where hundreds and thousands of independent companies compete against each other in the mobile device application markets.<sup>1254</sup> Moreover, both companies rely on advertisement revenues. Especially, Google's almost all revenue flows through 'targeted advertisements' where the company relies on data collection and processing methods to maintain the competitive advantage.<sup>1255</sup> With an inherent competitive advantage due to the data collection and processing techniques, platform owners have many good opportunities to introduce and serve their own products in their ecosystems that foreclose rival third-party suppliers.<sup>1256</sup> A platform owner can exclude or destroy the rival applications inside its platform.<sup>1257</sup> In other words, the fates of third-party providers is in the hands of platform owners. In addition, the introduction of additional applications and services provides more sources of fresh data for collection purposes to platform owners, which ultimately strengthens the positions of the companies.

The situation indicates a 'frenemy' situation.<sup>1258</sup> Ariel Ezrachi and Maurice Stucke proposed the word in order to capture the 'dual role' of platforms owners since horizontal, vertical, or conglomerate phrases are not flexible enough to capture the dynamics of the new economy.<sup>1259</sup> The rise of ecosystems and platform-based competition indicates an increasing 'friend' and 'enemy' situation in data-driven markets. On one side of the coin, the platform owners and independent content providers/sellers have a friendly relationship where third parties benefit from being on the platform. As a result, the traffic increases. As discussed in detail in Chapter 4, indirect network externalities are present in these ecosystems. On the other side of the coin, the 'enemy' relationship refers to rivalry against platform owners and independent sellers/providers. Platform

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<sup>1254</sup> OECD, 'Exploring the Economics of Personal Data: A Survey of Methodologies for Measuring Monetary Value' [2013] *OECD Digital Economy Papers*, No. 220, OECD Publishing, Paris Available at: [https://www.oecd-ilibrary.org/science-and-technology/exploring-the-economics-of-personal-data\\_5k486qtxldmq-en](https://www.oecd-ilibrary.org/science-and-technology/exploring-the-economics-of-personal-data_5k486qtxldmq-en), accessed 1 September 2021, 15.

<sup>1255</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 293.

<sup>1256</sup> *Ibid.*

<sup>1257</sup> Keith Hylton, 'Digital Platforms and Antitrust Law' (2019) Boston Univ. School of Law, Law and Economics Research Paper No. 19-8, 7.

<sup>1258</sup> Ariel Ezrachi and Maurice Stucke, *Virtual Competition: The promise and perils of the algorithm-driven economy* (1<sup>st</sup> edn, Harvard University Press, 2016), Part IV.

<sup>1259</sup> *Ibid.*, 147.

owners are direct rivals for third parties on platforms where competition occurs multi-dimensionally.<sup>1260</sup> For instance, within these ecosystems, web browser application creators compete on the platform (on an app market such as Apple Store). These applications do not only compete in that platform but also compete with other applications on other ecosystems (on the other app market such as Google Play). On top of that, both these ecosystems also compete against each other.<sup>1261</sup> Commentators argue that the future of online ecosystems lies in digital personal assistants, advanced artificial intelligence products.<sup>1262</sup> Personal assistants such as Siri (Apple), Cortana (Microsoft), Alexa (Amazon), M (Facebook) and Google Assistant will become gatekeepers for humans to reach the online world for communication, news, restaurant search, hotels, shopping and basically for everything.<sup>1263</sup> Transformation is happening, and each of them is ultimately the “mouth” of the ecosystem where almost all digital competition occurs.

One of the first examples of frenemy abuse in data-driven markets is Microsoft’s browser strategy on desktop computers in the 1990s. Microsoft had the monopoly position in the “intel” based computer operating systems market through its platform, Windows OS. In its platform, many third-party software creators designed applications for Windows. That being said, Netscape was a successful web browser designed for Windows in the 90s. However, Microsoft saw the opportunity and introduced a free browser, Internet Explorer, which also operates as a part of the Windows OS. According to Microsoft, the move was a successful innovation that improved the quality of services by integrating the two services, and consumers eventually benefitted from it.<sup>1264</sup> However, as an inevitable end, Microsoft’s rivals, such as Netscape and Opera, were excluded from the market, and Microsoft restricted access to the market due to Internet Explorers. Consequently, the conduct to integrate the web browser into the operating system was found to be abusive by the US Court.<sup>1265</sup>

In the 2000s, companies such as Google and Apple follow the same route. Either by introducing new applications or data-driven acquisitions, these

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<sup>1260</sup> Ibid, 147.

<sup>1261</sup> Ibid, 149.

<sup>1262</sup> Ibid, 191.

<sup>1263</sup> Ibid, 191.

<sup>1264</sup> Hylton (n 1257) 7.

<sup>1265</sup> Case *United States v. Microsoft Corporation*, 253 F.3d 34 (D.C. Cir. 2001).



companies integrated many services into their platform. For instance, an independent developer (former PayPal employee) innovated a vertical search engine called Yelp, where a consumer can search for nearby restaurants with integrated reviews.<sup>1266</sup> Soon after, Google, as the ultimate platform owner of search engines, integrated service to the horizontal search engine where consumers can search for nearby restaurants introduced with Google reviews. Due to Google's competitive advantage (scale, data, and the gateway to the internet and the main horizontal search engine), the traffic was diverted from independent applications to Google. In other words, Google also took advantage of successful innovation and expanded its business to that market segment. This is a clear indication that any innovation and any sub-platform is under Google's *kill zone*.<sup>1267</sup>

Ecosystem owners have the luxury of sitting and waiting for a productive innovation that may occur in their ecosystems.<sup>1268</sup> When the innovation starts to monetise, the platform owner moves in and integrates the service to its platform via its applications. Due to the network effects, efficient scale, and Big Data abilities, none of the independent developers would have a competitive advantage against platform owners. Alternatively, as in the case of YouTube and Google, the platform owner acquires the most successful service and integrates it into their ecosystem. In a word, platform owners such as Google have the market power to discriminate and exclude rival service providers from their platforms. In the US, as a dissenting opinion, Commissioner Thomas Rosch from Federal Trade Commission of the US expressed that: "*Vertical search engines—including the alleged "victims" of Google's scraping—have continued to thrive and expand...*"<sup>1269</sup> Obviously, there is always a chance for healthy competition in these ecosystems, even if there is no explicit mitigation for the unhealthy structure and the possible discriminatory and exclusionary conduct.

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<sup>1266</sup> Hylton (n 1257) 7.

<sup>1267</sup> Ibid.

<sup>1268</sup> Ibid, 8.

<sup>1269</sup> Federal Trade Commission, Concurring and Dissenting Statement of Commissioner J. Thomas Rosch Regarding Google's Search Practices, In the Matter of Google Inc., FTC File No. 111-0163 (2012) Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/concurring-and-dissenting-statement-commissioner-j.thomas-rosch-regarding-googles-search-practices/130103googlesearchstmt.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/concurring-and-dissenting-statement-commissioner-j.thomas-rosch-regarding-googles-search-practices/130103googlesearchstmt.pdf) accessed 1 September 2021.

In the absence of special responsibilities for the intermediaries -platforms owners- with a dual role, possible discriminatory practices occur against independent product or service suppliers that rely on the platform of technology giants. As mentioned above, dominant undertakings acting as sellers and intermediaries for other sellers have an inherent competitive advantage over rivals by collecting and using data only available to them on the platform. The competition authorities in Europe try to unveil the systematic abuse of dominant undertakings involving the data collection-processing methods and favouring practices (self-preferencing). As a result, a need for possible regulatory action for data-driven markets is revealed. Possible novel abuses and theories of harm were widely discussed in the Commission's Google investigation. Also, both the European Commission and the *Bundeskartellamt* investigated Amazon's conduct in the e-commerce market. Having a dual role just like Google, Amazon's role in e-commerce and its rivals' dependence on Amazon is alarming for healthy competition in the online world. Both companies self-favouring practices in ecosystems where their rivals depend on them are found discriminatory.

In this sense, Pinar Akman examines Google's conduct in light of the current legal framework in order to reveal the relevance of self-preferencing conduct with discrimination. As a non-exhaustive list, Article 102 indicates that "applying dissimilar conditions to equivalent transactions with other trading parties thereby placing them at a competitive disadvantage" may be abusive.<sup>1270</sup> As the Commission found Google's favouring abusive and remedied the abuse also by equal treatment of comparison shopping services by Google, Akman suggests discussing several factors concerning the applicability of this rule to the relevant case.<sup>1271</sup> According to the study, conditions of 'transaction with other parties', 'competitive disadvantage', 'applying dissimilar conditions' and 'relevance of vertical integration' do not apply to the case, and discrimination is non-existent in Google's conduct.

First of all, the study suggests that transactions with other parties are non-existent since there are no identifiable transactions between Google and other

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<sup>1270</sup> Article 102 of the TFEU.

<sup>1271</sup> Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301, 327.

comparison-shopping services.<sup>1272</sup> However, there is a clear commercial link and transaction where Google provides space in its search results page to the suppliers of advertisement (from third-party advertisers), recognised as comparison shopping services just like Google. On top of that, there are no plausible alternatives for the “provided space” since 90% of the EU uses the service for online search and shopping. The absence of a contract or a fee between the parties does not reverse the situation since nearly all online shopping traffic flows from Google’s search engine, and Google is also a trading party as well as other comparison-shopping services. As a result, a clear competitive advantage occurs when Google favours its own services in the ecosystem, unlike the study suggests. However, due to the competition regulation being inherently lacking in identifying dual roles of ecosystem owners and also free of charge transactions in the online world, it can be deduced that the main problem stems from the current legal framework.

Additionally, applying dissimilar conditions to equivalent transactions in a vertically integrated market clause is the reason why Google’s conduct does not fit into the case law under Article 102, according to the study.<sup>1273</sup> Akman suggests that discrimination theory can only be relevant if Google is vertically integrated on more than one level of services.<sup>1274</sup> In other words, Google comparison shopping services and Google search engine must be separate markets first, and then they must also be vertically integrated.<sup>1275</sup> Akman also questions the vertical relationship between Google’s services. The problem here is also related to regulatory shortcomings. First, the definition of the relevant market itself is problematic for these types of online ecosystems. Second, searching for a horizontal or vertical relationship in a platform where the whole platform could be just one relevant market or segments function as a single market is also problematic. For this reason, the Commission underlines that: “...Google's conduct would also have potential anti-competitive effects even if comparison shopping services did not constitute a distinct relevant product market, *but rather a segment of a possible broader relevant product market* comprising both

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<sup>1272</sup> Ibid, 329-330.

<sup>1273</sup> Ibid, 339.

<sup>1274</sup> Ibid.

<sup>1275</sup> Ibid.

comparison shopping services and merchant platforms.<sup>1276</sup> On the contrary to the argument which suggests self-preferencing cannot be deemed abusive if there is no upstream or downstream relation between Google's services, the problem clearly shows that 'the theory of discrimination' in the current legal framework is not effective enough.

The most recent investigation involving the dual role of an intermediary can be found in the complaint of Spotify filed against the Apple music streaming with the European Commission, followed by another complaint regarding Apple audiobooks and e-books in June 2020.<sup>1277</sup> Both investigations are about the possible abuse of Apple in its ecosystem. In Margrethe Vestager's own words: *"Mobile applications have fundamentally changed the way we access content. Apple sets the rules for the distribution of apps to users of iPhones and iPads. It appears that Apple obtained a "gatekeeper" role when it comes to the distribution of apps and content to users of Apple's popular devices. We need to ensure that Apple's rules do not distort competition in markets where Apple is competing with other app developers, for example with its music streaming service Apple Music or with Apple Books."*<sup>1278</sup> CEO of Spotify expresses that since Apple is both a competitor and an intermediary, Apple continuously gives itself an unfair advantage such as excessively taxing its rivals which puts its rivals in a disadvantageous position.<sup>1279</sup> In the long run, this exclusionary and discriminatory conduct limits choices for consumers while also stifling innovation.<sup>1280</sup>

In this sense, the *Google AdSense* case is another important competition investigation Google faced in the EU in addition to the *Search* and *Android* cases. In the *AdSense* investigation, Google was found to be conducting abusive behaviour by preventing rivals from competing in the search advertising

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<sup>1276</sup> Summary of Commission decision of 27 June 2017, relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement (Case AT.39740 — Google Search (Shopping)), para 25 (*emphasis added*).

<sup>1277</sup> European Commission, Press Release, 'Antitrust: Commission opens investigations into Apple's App Store rules' (Brussels, 16 June 2020), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1073](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1073) accessed 1 September 2021

<sup>1278</sup> *Ibid.*

<sup>1279</sup> Daniel Ek, 'A Level Playing Field, Consumers and Innovators win on a level playing field' *Newsroom Spotify* (13 March 2019), Available at: <https://newsroom.spotify.com/2019-03-13/consumers-and-innovators-win-on-a-level-playing-field/> accessed 1 September 2021.

<sup>1280</sup> *Ibid.*

intermediation market and imposing contractual restrictions on third-party websites.<sup>1281</sup> 'AdSense for Search' is an intermediary platform of Google that operates in online search advertising. In the EEA, both Google and AdSense held market shares over 75% at the time of the investigation. This indicates how much power Google has over the ad intermediation market in Europe. In online search advertising intermediation services, Google individually negotiates and agrees with third-party publishers. The Commission has found hundreds of agreements that include exclusivity clauses on third-party publishers in its investigation.<sup>1282</sup>

The ruling has revealed that Google started to prohibit publishers from placing any advertisements from Google's competitors in the Google ecosystem starting in 2006.<sup>1283</sup> Three years later, Google introduced the 'Premium Placement' clause in its contracts with publishers, which requires publishers to actually promote Google related advertisements and put Google advertisements to the best possible places on the Google search results page. Therefore, almost all first-seen advertisements belonging to Google and rivals were prevented from being in a visible spot on the search results page. Additionally, new contracts for third-party advertisement providers also include clauses that require these publishers to attain Google's authorisation before making any changes about promoting Google's rivals' advertisements. Overall, Google has taken control over the online search advertising intermediation market due to its super dominance in the search engine and online advertising markets and has shielded its dominance from competition through exclusivity contracts imposing contractual restrictions to third-party advertisements provided online.<sup>1284</sup> The abusive conduct lasted at least a decade and had detrimental effects on healthy competition and innovation. As a result, Google was fined by the Commission €1.49 billion for abusing its dominance by vertically integrating its search services and online advertising intermediation services and creating exclusivity contracts with advertisement publishers in its ecosystem.

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<sup>1281</sup> European Commission, Press Release, 'Antitrust: Commission fines Google €1.49 billion for abusive practices in online advertising' (Brussels, 20 March 2019), Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_19\\_1770](https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1770) accessed 1 September 2021.

<sup>1282</sup> Ibid.

<sup>1283</sup> Ibid

<sup>1284</sup> Ibid.

Overall, these cases show that competition law assessment must be engaged with extreme caution regarding online ecosystems by considering the multi-sided nature of the markets and the ecosystem structures, as stressed in Chapter 4.<sup>1285</sup> To draw an analogy, a soccer team cannot compete with its rival if the other team also regulates the rules of the match, holds all data which is not available for them regarding wind, stadium, players, and other instruments and even becomes the referee as well as being a soccer team. The investigations against Google, Apple and Amazon and the given decisions hopefully set a precedent for the dual role abuses and leveraging market power theories in data-driven markets which ultimately opens the way for possible regulatory action in the future.

### **5.3 Abuse through Access to Data**

The discussion above demonstrates how data-rich undertakings take advantage of their datasets and leverage their market power in various ways. Data-driven markets are multi-sided, and data-rich undertakings form online ecosystems where dominant undertakings become the actual decision-makers for the ecosystem. Thus, assessing these abuses through the current tools such as existing abuse types and assessment criteria for abuse of dominant position is found to be inefficient. That means the existing abuse types and criteria for anti-competitive conduct is not suited well for data-driven markets. In addition to the findings in Chapter 4, which are the economic tools' ineffectiveness in assessing dominance and defining relevant product markets in data-driven markets, the identification of data-related abuse is also highly challenging. In other words, data is not only used for leveraging market power strategies as discussed above. Refusal to supply critical data might also become an abusive behaviour of data-rich undertakings.

#### **5.3.1 Refusal to Access and Discriminatory Access**

As Chapter 3 identifies Big Data as the most important component for creating new value chains in the online world, data exploitation may become a huge risk for the market economy and competition. The starting point should be the understanding of the core structure and strategies of data-driven

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<sup>1285</sup> See Chapter 4.5.4 and 4.5.5 for more information.

businesses.<sup>1286</sup> Commentators argue that undertakings such as Google aim to deprive their rivals of utilising data that fuels A.I.driven algorithms.<sup>1287</sup> The emphasis here should be on how much competitive advantage does the data provide to these companies.<sup>1288</sup>

As examined in the previous sections of this chapter, data was mostly a tool for the abuse scenarios. Moreover, data can be the subject of the abuse itself. The possession of huge amounts of datasets which is unavailable for rivals or entrants leads to market dominance.<sup>1289</sup> However, the dominance based on data possession is related to data's substitutability, utilisability and effects on scale economies.<sup>1290</sup> As generally considered that data collection has diminishing returns to scale where benefits of having extra data do not give additional value depending on the volume of personal information,<sup>1291</sup> it is argued that if the

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<sup>1286</sup> Vikas Kathuria and Jure Globocnik, 'Exclusionary Conduct in Data-Driven Markets: Limitations of Data Sharing Remedy' (2019) Max Planck Institute for Innovation and Competition Research Paper No. 19-04, 3.

<sup>1287</sup> Ibid.

<sup>1288</sup> David S. Evans, 'Antitrust Issues Raised by the Emerging Global Internet Economy' (2008) 102 Northwestern University Law Review; Inge Graef, 'Market Definition and Market Power in Data: The Case of Online Platforms' (2105) 38 World Competition 2015 4, 479-480 and 483-489; Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 Yale Journal on Regulation 2; Andres V. Lerner, 'The Role of "Big Data" in Online Platform Competition' (2014) SSRN Working Paper August 2014, Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2482780](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780) accessed 1 September 2021; Darren S. Tucker and Hill B. Wellford, 'Big Mistakes Regarding Big Data' [2014] 14 Antitrust Source 1; Maurice E. Stucke and Allen P. Grunes, 'No Mistake about It: The Important Role of Antitrust in the Era of Big Data' (2015) The Antitrust Source April, University of Tennessee Legal Studies Research Paper No.269 Available at SSRN: <https://ssrn.com/abstract=2600051> accessed 1 September 2021; Daniel D. Sokol and Roisin E. Comerford, 'Does Antitrust Have A Role to Play in Regulating Big Data?' in Roger D. Blair And Daniel D. Sokol (eds.), *Cambridge Handbook of Antitrust, Intellectual Property and High Technology*, (Cambridge University Press) Available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2723693](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2723693) accessed 1 September 2021; and David A. Balto and Matthew Lane, 'Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data' (2016), SSRN Working Paper March 2016, Available at SSRN: <https://ssrn.com/abstract=2753249> accessed 1 September 2021.

<sup>1289</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition Policy for the Digital Era : Final Report (Publications Office of the European Union 2019), 49, Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html) accessed 1 September 2021; Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' (2019), 33, Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel> accessed 1 September 2021; Pinar Akman, 'Competition Policy In A Globalized, Digitalized Economy' White Paper Series (World Economic Forum 2019) Available at: <https://www.weforum.org/whitepapers/competition-policy-in-a-globalized-digitalized-economy>, accessed 1 September 2021, 10.

<sup>1290</sup> Ibid.

<sup>1291</sup> Elena Argentesi, Paolo Buccirossi, Emilio Calvano, Tomaso Duso, Alessia Marrazzo, and Salvatore Nava, 'Ex-post Assessment of Merger Control Decisions in Digital Markets' LEAR Final Report (2019), Available at: <https://www.learlab.com/publication/ex-post-assessment-of-merger-control-decisions-in-digital-markets/>, accessed 1 September 2021, 139; Andres V. Lerner, 'The Role of Big Data in Online Platform Competition' (2014) SSRN Working Paper August 2014, 41-44, Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2482780](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780)

additional value only starts to diminish at astronomical levels, then a competitive advantage can easily be observed for the dominant players.<sup>1292</sup> In addition to the volume of data, the variety and velocity of data also contribute to the market power in this sense.<sup>1293</sup> Regarding the variety of data, the European Commission expresses that: “Competition based on the quality of collected data ... is not only decided by virtue of the sheer size of the respective databases, but also determined by the different types of data the competitors have access to....”<sup>1294</sup>

The Furman Report focuses on possible competitive advantages provided by the possession of exclusive data.<sup>1295</sup> For instance, the study mentions the competitive scene in the search engine market. A potential rival to Google, which has fewer search queries to process, has fewer data for its algorithms and organic results as a result. This, in turn, results in less accurate search results for consumers.<sup>1296</sup> As a matter of course, consumers who choose to use Google fuel the problem in the market in terms of excessive data collection and processing.<sup>1297</sup> However, the Furman Report also expresses that the available evidence for having exclusive data or huge levels of data advantage for competition and barriers to entry is actually mixed.<sup>1298</sup> For instance, in the cases of Netflix,<sup>1299</sup> Uber, Airbnb,<sup>1300</sup> Facebook, Snapchat and Tinder,<sup>1301</sup> the returns to scale of data in their markets seemed to diminish rapidly as time has revealed.

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accessed 1 September 2021; Howard A. Shelanski, ‘Information, Innovation, and Competition Policy for the Internet’ (2013) 161 *University of Pennsylvania Law Review* 6, 1681.

<sup>1292</sup> Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 247.

<sup>1293</sup> Jason Furman, ‘Unlocking digital competition: Report of the Digital Competition Expert Panel’ (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 34; Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 247.

<sup>1294</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 273.

<sup>1295</sup> Jason Furman, ‘Unlocking digital competition: Report of the Digital Competition Expert Panel’ (2019), 34, Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel> accessed 1 September 2021.

<sup>1296</sup> *Ibid.*; also Marc Bourreau, Alexandre de Steel, Inge Graef, ‘Big Data and Competition Policy: Market power, personalised pricing and advertising’ (2017) Centre on Regulation in Europe Project Report.

<sup>1297</sup> *Ibid.*

<sup>1298</sup> *Ibid.*

<sup>1299</sup> Xavier Amatriain, ‘10 lessons learned from building machine learning systems’ (2014) MLconf 2014 San Francisco, Available at: <https://mlconf.com/sessions/10-lessons-learned-from-building-real-life-large-s/> accessed 1 September 2021.

<sup>1300</sup> Pinar Akman, ‘Competition Policy In A Globalized, Digitalized Economy’ White Paper Series (World Economic Forum 2019) Available at: <https://www.weforum.org/whitepapers/competition-policy-in-a-globalized-digitalized-economy>, accessed 1 September 2021 10.

<sup>1301</sup> Maren Tamke, ‘Big Data and Competition Law’ (2017) *Zeitschrift für Wettbewerbsrecht* 4, 366.



Ultimately, these mentioned companies have managed to disrupt incumbents and even acquired market dominance for themselves due to the fact that their fewer data sets did not hinder their growth in the online world.<sup>1302</sup> The inclusion of indirect network effects and ecosystem structures in the equation supports the idea that large datasets provide incumbents with a competitive advantage. Therefore, Akman et al. argue that further empirical research is necessary in engaging market power and abuse of dominant position in the online world to understand the characteristics of Big Data that could easily lead to barriers to entry and dominance.<sup>1303</sup>

In a case where a dominant company holds exclusive data or huge datasets that are incomparable to its rivals, which includes information on consumers, shopping habits or for the market itself, there might be certain liabilities for the dominant player. In the previous chapters, the prominent role of Big Data in the operation of online businesses have been discussed. In light of this, refusal to supply crucial and necessary data to competitors may become a huge concern since dominant undertakings can take control of how much personal information their rivals can access inside an ecosystem. In EU competition law, exclusive supply liability is not a new phenomenon.<sup>1304</sup> Monopolies or dominant players deprive their rivals through exclusive dealing and refusal to supply critical outputs. In its guidelines for Article 102 cases, the Commission expresses that the dominant players may try to foreclose the market by hindering the ability of their rivals to enter into commercial transactions.<sup>1305</sup> Exclusive supply obligations are a part of exclusive dealings, and the Commission considers that these anti-competitive actions both have the same foreclosure effects.<sup>1306</sup> In these scenarios where refusal to supply engaged by dominant players, rivals might not find alternative sources for crucial input supply. Therefore, production or sales

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<sup>1302</sup> Daniel D. Sokol and Roisin E. Comerford, 'Does Antitrust Have A Role to Play in Regulating Big Data?' in Roger D. Blair And Daniel D. Sokol (eds.), *Cambridge Handbook of Antitrust, Intellectual Property and High Technology*, (Cambridge University Press, 2017), 5.

<sup>1303</sup> Pinar Akman, 'Competition Policy In A Globalized, Digitalized Economy' White Paper Series (World Economic Forum 2019) Available at: <https://www.weforum.org/whitepapers/competition-policy-in-a-globalized-digitalized-economy>, accessed 1 September 2021, 10.

<sup>1304</sup> Damien Geradin, 'Limiting the Scope of Article 82 of the EC Treaty: What can the EU learn from the U.S. Supreme Court's Judgment in Trinko in the wake of Microsoft, IMS, and Deutsche Telekom' (2004) 41 *Common Market Law Review*, 1519.

<sup>1305</sup> Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9, para 32.

<sup>1306</sup> *Ibid*, para 32 footnote 4.

become impossible for competitors. At this point, the conduct of the dominant undertaking becomes anti-competitive due to the foreclosure effects.

As discussed in Chapter 3, the accumulation of Big Data is a real concern for data-driven markets. Thus, the results of having vast amounts of datasets are not limited to leveraging market power theories. Competitive concerns may arise for refusal to access or discriminatory access to data situations. As Commissioner Pamela Jones Harbour expresses: “*Google aims to merge not only the two leading technology companies but also aims to combine their data for advertising purposes in its ecosystem*”.<sup>1307</sup> Then, how could Google make use of this data? Could they limit access to this data and foreclose the market? Guidelines of the European Commission in applying Article 102 TFEU to abusive conduct states that several circumstances need to be present for a refusal to supply, which could be considered an enforcement priority. According to paragraph 81, the refusal of a product or service must be objectively necessary for the transactions on a downstream market; thus, the refusal must lead to the elimination of competition there, and there must be consumer harm.<sup>1308</sup> Therefore, if a dominant player does not allow its current and potential competitors to access critical data in a downstream market inside an ecosystem, then there might be special obligations for dominant players.

Regarding refusal to deal cases, even though many academics from Chicago School advocate a non-interventionist approach since competition law is flawed in nature and markets tend to correct themselves;<sup>1309</sup> Professor Dennis Carlton from Chicago School expresses that competition law has a legitimate role in refusal to deal type of anti-competitive conduct, especially in the new technology markets.<sup>1310</sup> According to Carlton, the competition law intervention is plausible for dynamic industries since scale economies and network effects are

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<sup>1307</sup> Dissenting Statement of Commissioner Pamela Jones Harbour, In the matter of Google/DoubleClick F.T.C. File No. 071-0170 (2007), Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf) accessed 1 September 2021.

<sup>1308</sup> Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9, para 81.

<sup>1309</sup> Richard A. Posner, *Antitrust Law* (2<sup>nd</sup> edn, University of Chicago Press, 2001); Richard A. Posner, *Economic Analysis of Law* (7<sup>th</sup> edn, Wolters Kluwer, 2007); Robert H. Bork, *The Antitrust Paradox: A Policy At War With Itself* (2<sup>nd</sup> edn, Basic Books, 1993); Frank H. Easterbrook, 'Limits of Antitrust' (1984) 63 Texas Law Review 1.

<sup>1310</sup> Dennis W. Carlton, 'A General Analysis of Exclusionary Conduct and Refusal to Deal: Why Aspen and Kodak are Misguided' (2001) 68 Antitrust Law Journal 3, 659-683.

key points there.<sup>1311</sup> In these markets, small strategies designed to discriminate or to prevent rivals from growing can create huge competitive advantages for dominant players like a snowball effect.<sup>1312</sup>

In data-driven markets, the question of whether personal information is a critical input occurs for supply obligations. The main point is the necessity of data. If data is objectively indispensable for competition and the continuation of commercial transactions, then refusal to access data cases can be considered competition law infringements. Suppose data is an indispensable part of online businesses. In that case, denial to provide necessary data, refuse giving access to critical data, or give discriminatory access to critical data constitute an abuse of a dominant position in terms of Article 102. At this point, the applicability of the 'essential facilities doctrine' becomes an inseparable discussion for access to the data issue.<sup>1313</sup> In the following subsections, the ideas on remedies such as enforcing the essential facilities doctrine, mandatory data sharing or data portability as remedies are discussed in detail.

In addition to the refusal to supply cases, discriminatory access to critical data may also lead to anti-competitive conduct as well. In their joint report, the *Bundeskartellamt* and the *Autorité de la Concurrence* state that discriminatory access to data is a type of abusive conduct which involves the exploitation of Big Data, just like refusal to supply and leveraging data advantage cases.<sup>1314</sup> The report mentions the French case, *Cegedim* as an example.<sup>1315</sup> *Cegedim* was challenged by the *Autorité de la Concurrence* back in 2014 for refusing to provide(sell) information from its own medical database, which is called 'One Key' to its competitors. *Cegedim* was the leading provider of medical information datasets in France. However, customers for medical databases of *Cegedim* was using a customer relationship management software by a company called *Euris*,

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<sup>1311</sup> Ibid, 668.

<sup>1312</sup> Ibid, 668.

<sup>1313</sup> Inge Graef, Sih Yuliana Wahyuningtyas and Peggy Vackle, 'Assessing Data Access Issues in Online Platforms' (2015) 39 *Telecommunications Policy* 5, 383; Damian Geradin and Monika Kuschewsky, 'Competition law and personal data: Preliminary thoughts on a complex issue' (2013) 2 *Concurrences*; Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (1<sup>st</sup> edn, Kluwer Law International, 2016).

<sup>1314</sup> *Bundeskartellamt* and *Autorité de la Concurrence*, *Competition Law and Data* (2016)

Available at:

[https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1\\_cid378?nn=3600108](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html;jsessionid=FCE1A15B6F85CD160925E13F58EE7524.1_cid378?nn=3600108) accessed 29 May 2021, 18-19.

<sup>1315</sup> French Competition Authority, Decision No: 14-D-06 *Cegedim*, 8 July 2014.

which is also a rival of Cegedim.<sup>1316</sup> To be clear, there are two levels of competition: one is for the software for customer relationship management in the health sector (between Cegedim and Euris), and the other is for providing healthcare solutions based on medical information, which is also a different market in the health sector. As the dominant player, Cegedim refused to sell medical information to undertakings that use the rival service of Euris. By this means, Cegedim aimed to foreclose the software market. As a consequence, the discriminatory access to medical data hampered the development of Euris and distorted competition in the market between 2008-2012.<sup>1317</sup>

For the discriminatory access to data abuses, a vertical relationship does not necessarily to be present in the market.<sup>1318</sup> The intention of providing an unduly competitive advantage to an undertaking over its rivals such as a platform owner or an intermediary which is a direct competitor of other retailers in the market may obtain data advantage, discriminate access to that data and foreclose the market.<sup>1319</sup> The previous section already mentioned that a dominant player and an intermediary such as Amazon or Google have access to sensitive information that other competitors do not have since they have no control over the ecosystem. These dominant players can use the information about the transactions and consumer behaviour in favour of themselves to identify the market tendencies and trends better and efficiently adjust their products based on that data where independent retailers cannot use these data. In theory, a similar outcome can also be achieved through discriminatory access to the same datasets.

### **5.3.2 Applicability of Essential Facilities Doctrine**

In their joint report, the *Bundeskartellamt* and the *Autorité de la Concurrence* express that if dominant players restrict access to such necessary data for the functioning of an online platform where their rivals are also operating, then possible limitations to required data might have distorting effects on competition.<sup>1320</sup> In other words, abusive behaviour can deprive competitors of access to data and lead to the exclusion of competitors. In this situation, the joint

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<sup>1316</sup> Ibid.

<sup>1317</sup> Bundeskartellamt and Autorité de la Concurrence (n 1314) 19.

<sup>1318</sup> OECD, Ania Thiemann and Pedro Gonzaga, 'Big Data: Bringing Competition Policy to the Digital Era' (2016) DAF/COMP (2016)14, 21, para 67.

<sup>1319</sup> Ibid.

<sup>1320</sup> Bundeskartellamt and Autorité de la Concurrence (n 1314) 19.

report of German and French Competition Authorities expresses that refusal to access data becomes anti-competitive if data is an 'essential facility' to the business activity.<sup>1321</sup> Hence, the questions are: Is data an essential input for businesses? If yes, is applying essential facilities doctrine suitable for data-driven markets?

In the recent past, some commentators argued that the collected personal information, or to be exact, Big Data, does not have qualifications to become an essential facility in terms of competition law. For instance, Andres Lerner stresses the non-exclusivity of user data and claims that all businesses can collect the same data that the incumbent already holds onto in the online world.<sup>1322</sup> According to Lerner, the evidence can be found in "multi-homing" practices where users share the same data to various platforms in the online world.<sup>1323</sup> Thus, data becomes a non-rivalrous good for businesses. Balto and Lane also advocate that personal data is not, or at least should not be, essential for businesses, and the exclusivity of data is not possible for undertakings for acquisition purposes.<sup>1324</sup> However, the *Facebook/WhatsApp* merger is a clear example of a *data acquisition* where WhatsApp has exclusive information which Facebook intended to monetise through online advertising. Today, the datasets of specific undertakings such as super dominant platform owners should be regarded as exclusive to some extent. As mentioned several times before, entrants or even smaller rivals (independent sellers on a platform, for example) cannot collect the same data as ecosystem owners.

Secondly, Lerner argues that no one business could hold onto a mass amount of data, potentially creating a bottleneck. As an example, the Bing example was given that Bing has vast datasets which could enable them to compete with Google.<sup>1325</sup> To note, it is already discussed in the previous chapter

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<sup>1321</sup> Ibid, 17.

<sup>1322</sup> Andres V. Lerner, 'The Role of "Big Data" in Online Platform Competition' (2014) SSRN Working Paper August 2014, Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2482780](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780), accessed 1 September 2021, 20-21.

<sup>1323</sup> Ibid, 21.

<sup>1324</sup> David A. Balto and Matthew Lane, 'Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data' (2016), SSRN Working Paper March 2016, Available at SSRN: <https://ssrn.com/abstract=2753249> accessed 1 September 2021, 3.

<sup>1325</sup> Andres V. Lerner, 'The Role of "Big Data" in Online Platform Competition' (2014) SSRN Working Paper August 2014, Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2482780](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780) accessed 1 September 2021, 23-24.

that the European Commission acknowledges Bing was lacking scale and also network externalities to compete with Google. This was one of the main reasons why the Commission gave the green light to the *Microsoft/Yahoo* merger. Supporting Lerner's idea, Tucker, Wellford, Sokol and Comerford advocate the non-rivalrous nature of data, express data is a critical input, and state that even companies without any sizeable amount of data could have expanded in the online world and have become dominant players.<sup>1326</sup> Sokol and Comerford mention companies such as Facebook, Snapchat, Tinder and Slack, which all accomplished rapid success while lacking a clear data advantage and without any already established network effects.<sup>1327</sup> Additionally, Lambrecht and Tucker argue that Big Data is a substitutable input for undertakings. They relate the success of online service providers such as Facebook and Tinder to the ability to understand and meet consumers' needs successfully.<sup>1328</sup> According to them, there is just a little evidence that indicates the success of digital businesses in providing better products or services that stem from the possession of Big Data.

Although new entrants mentioned above had managed to succeed in the online world, arguments based around data that actually downplay Big Data's role is an outcome of the newness of the phenomenon itself. OECD underlines that business strategies based on Big Data and other technological developments such as machine learning and algorithms are fairly new, and the market structures are quite different now from when companies like Facebook, Google, Snapchat or Tinder first entered the market.<sup>1329</sup> Therefore, it is quite possible that data-driven markets have already reached a point where new entrants cannot exert competitive pressure over incumbents. Due to ecosystem characteristics, it even becomes harder for companies to dethrone established ones.<sup>1330</sup> Nevertheless, it is necessary to discuss the essential facilities doctrine as a

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<sup>1326</sup> Darren S. Tucker and Hill B. Wellford, 'Big Mistakes Regarding Big Data' (2014) 14 *Antitrust Source* 1, 7-8; D. Daniel Sokol and Roisin Comerford, 'Antitrust and Regulating Big Data' (2016) 23 *George Mason Law Review* 5 1129, 1136.

<sup>1327</sup> Sokol and Comerford (n 1326) 1136.

<sup>1328</sup> Anja Lambrecht and Catherine E. Tucker, 'Can Big Data Protect a Firm from Competition?' (2015) SSRN Paper, Available at: <https://ssrn.com/abstract=2705530> or <http://dx.doi.org/10.2139/ssrn.2705530>, accessed 1 September 2021, 15.

<sup>1329</sup> OECD, Ania Thiemann and Pedro Gonzaga, 'Big Data: Bringing Competition Policy to the Digital Era' (2016) DAF/COMP (2016)14, 22.

<sup>1330</sup> *Ibid.*

remedy if Big Data is an indispensable input as commentators claim.<sup>1331</sup> On top of that, indispensability is not enough for the essential facilities doctrine to be applied in data-driven markets. Established case law must be studied in the first place.

Although the essential facilities doctrine has never been formally recognised by the CJEU in their judgments,<sup>1332</sup> it is applied narrowly only in situations where there is no alternate way for competitors to operate in the market due to the lack of input.<sup>1333</sup> In the EU, the first case related to the essential facilities doctrine was the *Commercial Solvents* case.<sup>1334</sup> The case was about the abuse of dominant position and liabilities due to having a dominant position in the market. Commercial Solvents produces a chemical material used to produce ethambutol, a medication for tuberculosis disease. At that time, the rival of Commercial Solvents, Zoja, was dependent on the raw chemical of Commercial Solvents to produce ethambutol. However, Commercial Solvents refused to supply the material to Zoja. The Court of Justice ruled that Commercial Solvents, as the dominant player abused its dominant position by declining to supply the chemical substance to Zoja and tried to eliminate them from the pharmaceutical market of ethambutol. The Court expressed that: “...an undertaking being in a dominant position as regards the production of raw material and therefore able to control the supply to manufacturers of derivatives, cannot, ... act in such a way as to eliminate their competition which ... amount to eliminating one of the principal manufacturers of ethambutol in the Common Market.”<sup>1335</sup> This was the first case related to abuse through an essential input used by rivals in the market. Although many cases followed similar reasoning in the *Commercial Solvents* case,<sup>1336</sup> the

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<sup>1331</sup> Inge Graef, Sih Yuliana Wahyuningtyas and Peggy Vackle, ‘Assessing Data Access Issues in Online Platforms’ (2015) 39 Telecommunications Policy 5, 375-387.

<sup>1332</sup> Inge Graef, ‘Rethinking the essential facilities doctrine for the EU digital economy’, (2019) 53 *Revue juridique Thémis de l’Université de Montréal*, no. 1, 33-72, 34.

<sup>1333</sup> Vikas Kathuria and Jure Globocnik, ‘Exclusionary Conduct in Data-Driven Markets: Limitations of Data Sharing Remedy’ (2019) Max Planck Institute for Innovation and Competition Research Paper No. 19-04, 6; for more information: Damien Geradin, ‘Limiting the Scope of Article 82 of the EC Treaty: What can the EU learn from the U.S. Supreme Court’s Judgment in *Trinko* in the wake of *Microsoft*, *IMS*, and *Deutsche Telekom*’ (2004) 41 *Common Market Law Review*, 1519-1553.

<sup>1334</sup> Cases 6 and 7/73 *Istituto Chemioterapico Italiano and Commercial Solvents v. Commission* [1974] ECLI:EU:C:1974:18.

<sup>1335</sup> *Ibid*, para 25.

<sup>1336</sup> Case C - 311/84 *CBEM v. CLT & IPB (Télémarketing)* [1985] ECLI:EU:C:1985:394; Case C - 53/87 *Renault v. Maxicar*, [1988] ECLI:EU:C:1988:472; Case C - 238/87 *Volvo v. Eric Veng* [1988] ECLI:EU:C:1988:477; Joined cases C-241/91 and C-242/91 *Telefis Eireann and*

fundamental conditions in applying essential facilities doctrine were established by the CJEU in the *Bronner*,<sup>1337</sup> *Microsoft*,<sup>1338</sup> and *IMS Health*<sup>1339</sup> cases.

The CJEU set conditions more clearly for the claims where dominant undertakings refuse to share or refuse access to an essential input for products or services in the *Bronner* case.<sup>1340</sup> Most importantly, the indispensability requirement was brought to the application of the doctrine in the *Bronner* Case.<sup>1341</sup> The case was about a publisher of a couple of newspapers, Mediaprint, and its rival in the newspaper market, a local newspaper company, Bronner, which was refused by Mediaprint to have access to its national delivery scheme.<sup>1342</sup> In its ruling, the CJEU repeated the already established requirements; (1) the elimination of competition in the downstream or the secondary market and (2) the lack of objective justification.<sup>1343</sup> On top of that, as the third requirement, the CJEU ruled that; (3) access to necessary input must be indispensable where there are no economically viable actual or potential substitutes that could be chosen alternatively.<sup>1344</sup>

In this sense, the indispensability requirement has an objective character where refusal to access an essential input must put rivals into a situation in which replicating the facility or producing the product is not economically viable. Consequently, replication or substitution cannot be expected from them.<sup>1345</sup> Later, in the *IMS Health* case, these three conditions were repeated. According to the CJEU:

“It is clear from that case-law that, in order for the refusal by an undertaking which owns a copyright to give access to a product or service

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*Independent Television Publications Ltd v. Commission of the European Communities (Magill)* [1995] ECLI:EU:C:1995:98.

<sup>1337</sup> Case C - 7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG and others* [1998] ECLI:EU:C:1998:569.

<sup>1338</sup> Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289.

<sup>1339</sup> Case C – 418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG.* [2004] ECLI:EU:C: 2004:257.

<sup>1340</sup> Paul Lugard and Lee Roach, ‘The Era of “Big Data” and EU/U.S. Divergence for Refusals to Deal’ (2017) 31 *Antitrust No. 2*, 60.

<sup>1341</sup> Graef (n 1332); Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016), 170.

<sup>1342</sup> Case C - 7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG and others* [1998] ECLI:EU:C:1998:569, para 8.

<sup>1343</sup> *Ibid*, para 41.

<sup>1344</sup> *Ibid*, para 46.

<sup>1345</sup> Lugard and Roach (n 1340) 60.



indispensable for carrying on a particular business to be treated as abusive, it is sufficient that three cumulative conditions be satisfied, namely, that that refusal is preventing the emergence of a new product for which there is a potential consumer demand, that it is unjustified and such as to exclude any competition on a secondary market.”<sup>1346</sup>

More recently, the *Microsoft* case before the General Court demonstrates that the view of the Court is to apply essential facilities doctrine only under exceptional circumstances.<sup>1347</sup> According to the ruling in *Microsoft*, the General Court held that the following circumstances must be considered exceptional and potential infringements could only be present when there are no objective justifications.<sup>1348</sup> These are; “(1) *the refusal relates to a product or service indispensable to the exercise of a particular activity on a neighbouring market;* (2) *the refusal is of such a kind as to exclude any effective competition on that neighbouring market;*(3) *the refusal prevents the appearance of a new product for which there is potential consumer demand.*”<sup>1349</sup>

In light of the above information regarding the refusal to deal in case law and its application in the EU law, it can be deduced that the duty to deal obligations for the refusal to access cases in the online world or so-called the essential facilities doctrine should be applied cautiously especially for the Big Data related competition law infringements. The main problem here is whether Big Data is subject to a duty to deal obligation. In other words, could Big Data be regarded as an essential facility in the new economy?

Paul Lugard and Lee Roach emphasise the unique characteristics of Big Data. Through the direct and indirect network effects and the impact of Big Data, consumer and business relationships changed significantly in the online world. According to them, the emergence of Big Data has brought a diverse treatment of the essential facilities doctrine in the EU law.<sup>1350</sup> It is clear that the collected data constitutes a source of competitive advantage since some companies

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<sup>1346</sup> Case C – 418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG*. [2004] ECLI:EU:C: 2004:257, para 38.

<sup>1347</sup> Kathuria and Globocnik (n 1333) 7.

<sup>1348</sup> Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289, para 332-333.

<sup>1349</sup> *Ibid.*

<sup>1350</sup> Lugard and Roach (n 1340) 62.

amass such data and leverage their data power over rivals and consumers.<sup>1351</sup> On a case-by-case basis, a necessary analysis should be conducted, and appropriate remedies are needed to be revealed. Otherwise, several problems might occur, such as forced data sharing in situations where data is ubiquitous. In such cases, data sharing as a remedy could become a tool for collusion or could grant unfair advantage to rivals.

Accordingly, Vikas Kathuria and Jure Globocnik advocate the ubiquitous and non-rivalrous nature of Big Data. The idea is as follows; since Big Data is not unique and several market players can also collect the same kind of data, Big Data cannot be regarded as indispensable, which is one of the three main requirements<sup>1352</sup> for the application of the essential facilities doctrine in the EU law.<sup>1353</sup> According to the claim, users provide the same kind of data to various service providers, such as personal information or geographical location. For instance, regarding Google's abuse of dominant position case, in a climate where Google does not deny any access to data, rivals should be able to collect similar data. As a consequence, data becomes a non-rivalrous input and cannot be the subject matter for the application of the essential facilities doctrine in the *Google Search Case*.<sup>1354</sup>

Ioannis Kokkoris also underlines that none of Google's rivals has been denied access to any data. However, he expresses that the refusal to deal and essential facilities doctrine is not applicable for the *Google Search Case*.<sup>1355</sup> He focuses on the "necessity" of the Google search engine itself while moving away from Big Data and the characteristics of data-driven markets. He argues that rivals of Google are free to invest in the search engine market to create vertical or horizontal search engines. According to Kokkoris, numerous active search engines in the market are the primary proof.<sup>1356</sup> Referring to the requirement of indispensability of an input, claims were made as: "*Search engines are not*

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<sup>1351</sup> Ibid.

<sup>1352</sup> Case C - 7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG and others* [1998] ECLI:EU:C:1998:569; Case C – 418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG*. [2004] ECLI:EU:C: 2004:257; Case T – 201/4 *Microsoft Corp. v Commission of the European Communities* [2007] ECLI:EU:T:2007:289.

<sup>1353</sup> Kathuria and Globocnik (n 1333) 7.

<sup>1354</sup> Ibid.

<sup>1355</sup> Ioannis Kokkoris, 'The Google Saga: Episode I' (2018) 14 *European Competition Journal* No. 2–3, 462–490,466.

<sup>1356</sup> Ibid, 467.

*essential portals from the perspective of any side in the multi-sided search engine platform. Thus, a search engine is a replicable asset and the criteria for the essential facilities doctrine are not met.*"<sup>1357</sup>

The same method can be seen in Pinar Akman's reasoning. Akman also underlines that data and refusal to deal are not subject matters in the relevant case.<sup>1358</sup> Instead, the case deals with a situation where Google denies its rival from its search page. In a sense, the key discussion should be the indispensability of the Google Search Engine since the rival comparison shopping services need a proportion of display on the search engine's results page.<sup>1359</sup> As mentioned before, the duty to deal and application of the essential facilities doctrine can only be justified when the dominant player has an essential input that cannot be replicated or substituted by rivals.<sup>1360</sup> In light of this, some commentators advocate that the Google Search Engine could be regarded as an indispensable input for comparison shopping services; thus, it can become an essential facility to which rivals also should have access.<sup>1361</sup> However, the *Monopolkommission* (German Monopolies Commission) claims that search engines should not meet indispensability requirements and become an essential facility.<sup>1362</sup> Although Google Search's market presence is huge, a search engine should not be regarded as an essential facility regardless of its market share.<sup>1363</sup> There are still many alternative search engines for comparison shopping services. It is arguable to call a single search engine indispensable to apply the essential facilities doctrine.

Additionally, Bork and Sidak focus on the problems regarding the application of essential facilities doctrine in the EU. They introduce the essential

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<sup>1357</sup> Ibid, 467.

<sup>1358</sup> Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301, 311-327.

<sup>1359</sup> Ibid, 316.

<sup>1360</sup> Renato Nazzini, 'Google and the (Ever-Stretching) Boundaries of Article 102' (2015) 6 *Journal of European Competition Law and Practice* 5, 309.

<sup>1361</sup> Ioannis Lianos and Evgenia Motchenkova, 'Market Dominance and Search Quality in the Search Engine Market' (2013) 9 *Journal of Competition Law and Economics*, 434; Lisa Mays, 'The Consequences of Search Bias: How Application of the Essential Facilities Doctrine Remedies Google's Unrestricted Monopoly on Search in the United States and Europe' (2015) 83 *The George Washington Law Review* 2, 721-760, 751.

<sup>1362</sup> German Monopolies Commission (*Monopolkommission*), 'Competition policy: The Challenge of Digital Markets' (2015) Special Report No 68, 58.

<sup>1363</sup> Ibid.

facilities doctrine as the unicorn of competition law.<sup>1364</sup> In this sense, everyone knows about the doctrine, but even the CJEU does not corroborate the doctrine itself.<sup>1365</sup> As a consequence, the application of the doctrine in the correct way becomes a huge problem. Regarding Google's abuse of dominant position, Bork and Sidak express that none of the requirements of the essential facilities doctrine are met for a competition intervention and duty to deal.<sup>1366</sup> First of all, shopping advertisement placements on the Google search page should be discussed as an 'essential facility' in the relevant case. Therefore, in terms of indispensability, the question is whether rivals of Google could duplicate or substitute the facility. The Google Search Engine is not the only search engine; thus, it cannot be regarded as an indispensable facility.<sup>1367</sup> In the presumption of Google search results page is the essential facility, it is not clear how the essential facilities doctrine could be applied to the relevant case since the facility is not a product that could be provided simultaneously to all providers like data or something else. Only one link can be shown in the best spot for consumers, and then only one another link can be placed in the second-best place on the results page. According to Bork and Sidak, providing the top of a result page to every company as a result of applying the essential facilities doctrine is technologically impossible due to the fact that not every comparison shopping link can earn the highest spot on the results page.<sup>1368</sup>

As can be seen above, ideas around applying the essential facilities doctrine are centred around the so-called ubiquitous, non-rivalrous nature of Big Data or the Google Search engine itself, which cannot be regarded as an indispensable facility. However, Giuseppe Colangelo and Mariateresa Maggolino bring another crucial point to the discussion. They analyse the impact of Big Data rather than the data itself on the characterisation of data as an essential facility in the EU law. Thus, Big Data as an essential facility does not seem relevant for the application of the doctrine since the importance of data derives not from its

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<sup>1364</sup> Robert H. Bork and J. Gregory Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?' (2012) 8 *Journal of Competition Law and Economics* 4, 663–700, 679.

<sup>1365</sup> *Ibid.*

<sup>1366</sup> *Ibid.*, 678.

<sup>1367</sup> *Ibid.*, 682.

<sup>1368</sup> *Ibid.*, 683.

pure volume or variety but instead its value.<sup>1369</sup> The idea is that online intermediaries succeed because they develop higher quality and better products or services when they derive value from Big Data using particular analytical tools to extract information from consumer data.<sup>1370</sup> In other words, not Big Data itself but the value extracted from that data is useful for companies. Therefore, instead of Big Data, the “valued” data should be the focus regarding the application of the essential facilities doctrine.<sup>1371</sup> The differentiation of Big Data and the 4Vs<sup>1372</sup> becomes important at this point. Big Data must be examined through its distinctive features. Thus, whether Big Data or the information extracted from this data is actually essential should be revealed on a case-by-case basis. Colangelo and Maggiolino emphasise that if the competitive advantage derives from the value of data, then controlling a mass amount of data might not hold much importance as anticipated.<sup>1373</sup>

For instance, it is impossible to assess whether Big Data is an essential facility by just looking at its sheer volume; ignoring what pieces of information waiting to be extracted could be the main reason for the imbalanced competitive advantage in the online world. If this is the reason, then the discussion comes to the point where specific “characteristics” of Big Data could have the final word on the essential facility problem. In that case, some steps of the Big Data value chain might be less important than others, such as data collection having a minor effect compared to data processing.<sup>1374</sup> Additionally, the differentiation on data processing techniques by different companies may create a situation where similar datasets might be equally useful for all rivals. In this regard, Tim Cowen comments on the Commission’s inadequate examination of the *Facebook/WhatsApp* merger regarding the importance of Big Data and data collection. He expresses:

“In perhaps the weakest part of its decision, it referred to the generic collection of data and took no account of the unique nature of user data held by WhatsApp on its users. The Commission pointed to user data as

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<sup>1369</sup> Giuseppe Colangelo and Mariateresa Maggiolino, ‘Big Data as Misleading Facilities’ (2017) 13 European Competition Journal 2-3, 249-281.

<sup>1370</sup> Ibid, 272-273.

<sup>1371</sup> Ibid.

<sup>1372</sup> See Chapter 2.2.1 for more detail.

<sup>1373</sup> Colangelo and Maggiolino (n 1369) 272-273.

<sup>1374</sup> Ibid.

a type of undifferentiated raw material ("internet data") ... The Commission provided an overview of the estimated share of data collection across the web by those different companies. This shows that the Commission probably failed to appreciate that data about one consumer preference collected by one company in one situation is not much use as a substitute for data about something else collected by another. In addition, data from different sources may ... give rise to different knowledge, and if so, the fact that an alternative raw material is available will be of no significance in the market for the intermediate knowledge products."<sup>1375</sup>

The *velocity* of Big Data must also be discussed at this point. In other words, up-to-date information is the most important component for data-driven companies, which use valuable data as fast as possible. In other words, the newness or freshness<sup>1376</sup> of data is the most crucial attribute for companies in the data-driven online world.<sup>1377</sup> Not only the volume or variety but also real information and the valuable data extraction at fast speeds enable better quality products and services.<sup>1378</sup> Furthermore, relatively old datasets might lose their fundamental importance quite fast and become obsolete since the old information regarding the past might not be sufficient. For instance, if a search engine company had bought Google's complete 2019 data, in theory, they would not have gained the ability to serve the same quality of service like Google. Therefore, it becomes a crucial task to analyse the initial structure of Big Data and its way of utilisation before mandating duty to deal based on the essential facilities doctrine. As the OECD study suggests: "... *It may not be the collection of the data, as much as the ability to timely and swiftly extract useful information from a large volume and variety of data that leads to a competitive advantage being gained.*"<sup>1379</sup>

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<sup>1375</sup> Tim Cowen, 'Big Data as a Competition Issue: Should the EU Commission's Approach Be More Careful' (2016) 4 European Networks Law and Regulation Quarterly 14, 22.

<sup>1376</sup> Daniel L. Rubinfeld and Michal S. Gal, 'Access Barriers to Big Data' (2017) 59 Arizona Law Review 339, 346.

<sup>1377</sup> See Chapter 2.

<sup>1378</sup> Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 19; OECD, Data-Driven Innovation, Big Data for Growth and Well-Being, OECD Publishing Paris [2015], 4, Available at: [https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation\\_9789264229358-en](https://www.oecd-ilibrary.org/science-and-technology/data-driven-innovation_9789264229358-en) accessed 1 September 2021.

<sup>1379</sup> OECD, Ania Thiemann and Pedro Gonzaga, 'Big Data: Bringing Competition Policy to the Digital Era' [2016] DAF/COMP (2016)14, 22.

To sum up, applying the essential facilities doctrine to Big Data related infringements follows several mandatory steps. First, the refusal must relate to a product or service which is indispensable. In this case, Big Data must be regarded as an indispensable facility. In order to claim that necessity or essentiality is not sufficient, it is also necessary to prove that it cannot be reasonably duplicated or replicated.<sup>1380</sup> Even if the creation of new data (duplication or replication) is possible, yet only if it is not economically viable, then indispensability could be possible.<sup>1381</sup> In terms of data-driven markets, it must be demonstrated that Big Data is truly unique, and competitors do not have any other opportunities to access this data for the operation of their online services.<sup>1382</sup> When all requirements are met, including the elimination of competition, and the lack of objective justification, then remedies such as mandatory data sharing could be applied to competition infringements. However, access to data might create several problems, including privacy, which can cause problems if the consumers' information is shared with third parties without consumers consent or disincentivising rivals to collect data, which hinders innovation from developing better methods and products for data collection, data processing, algorithms and even machine learning.

### 5.3.3 Mandatory Data Sharing as a Remedy

If the essential facilities doctrine is found to be relevant for Article 102 infringements in data-driven markets, mandatory data sharing comes to mind as a potential remedy. Nevertheless, it is arguable to approve mandatory sharing as a competition law “sanction” since it aims to end the infringement itself, and it is not like imposing a fine on the dominant company.<sup>1383</sup> As an example, Google has already received almost 9 billion euros of fine from the European Commission regarding its *Search(Shopping)*,<sup>1384</sup> *Android*,<sup>1385</sup> and *AdSense*<sup>1386</sup> cases; and it

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<sup>1380</sup> J. Gregory Sidak and Abbott B. Lipsky, 'Essential Facilities' (1999) 51 Stanford Law Review 5, 1187-1249, 1203.

<sup>1381</sup> Case C - 7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG and others* [1998] ECLI:EU:C:1998:569, para 46.

<sup>1382</sup> Gönenç Gürkaynak, Ali Kağan Uçar and Zeynep Buharali, 'Data-Related Abuses in Competition Law' in Nicolas Charbit and Sonia Ahmad (eds), *Frédéric Jenny Liber Amicorum, Standing Up for Convergence and Relevance in Antitrust* (Concurrences, 2019), 301; Bundeskartellamt and Autorité de la Concurrence, *Competition Law and Data* [2016], 18.

<sup>1383</sup> Article 7 of the Regulation 1/2003; Vikas Kathuria and Jure Globocnik, 'Exclusionary Conduct in Data-Driven Markets: Limitations of Data Sharing Remedy' (2019) Max Planck Institute for Innovation and Competition Research Paper No. 19-04, 5.

<sup>1384</sup> €2.5 billion.

<sup>1385</sup> €4.3 billion.

<sup>1386</sup> €1.5 billion.

seems that even astronomical fines are not effective sanctions as a remedy for competition matters, especially regarding the data-rich technology giants. In this sense, companies such as Google could pay the fine and might continue with their behaviour. There could be circumstances where dominant companies keep reaping the benefits of their abusive behaviour and continue engaging in similar abusive behaviour after paying the fines.<sup>1387</sup> To stop the violation, authorities should engage in necessary steps to stop infringements entirely. In this regard, the European Council imposes:

“This Regulation should make explicit provision for the Commission's power to impose any remedy, whether behavioural or structural, which is necessary to bring the infringement effectively to an end, having regard to the principle of proportionality. Structural remedies should only be imposed either where there is no equally effective behavioural remedy or where any equally effective behavioural remedy would be more burdensome for the undertaking concerned than the structural remedy. Changes to the structure of an undertaking as it existed before the infringement was committed would only be proportionate where there is a substantial risk of a lasting or repeated infringement that derives from the very structure of the undertaking.”<sup>1388</sup>

That being said, mandating a data sharing remedy could lead to different conclusions, including restoring competition in data-driven markets or disincentivising companies to innovate. In recent history, the national competition authorities in Europe mandated data sharing remedies to Big Data related competition infringements. Although not mentioning the essential facilities doctrine, both the French Competition Authority and the Belgian Competition Authority imposed dominant companies to share their data with rivals in the *GDF-Suez* and *Belgian National Lottery* cases.<sup>1389</sup>

GDF Suez was a former legal monopoly in the energy market as well as the Belgian National Lottery in the market of organising nationwide public lotteries.

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<sup>1387</sup> Kathuria and Globocnik (n 1333) 8.

<sup>1388</sup> Article 12 of the Regulation 1/2003.

<sup>1389</sup> French Competition Authority, Decision No. 14-MC-02 (*GDF-Suez Decision*) 9 September 2014. Belgian Competition Authority, Beslissing nr. BMA-2015-P/K-27-AUD (van 22 September 2015, Zaken nr. MEDE-P/K-13/0012 en CONC-P/K-13/0013, Stanleybet Belgium NV/Stanley International Betting Ltd en Sagevas S.A./World Football Association S.P.R.L./Samenwerkende Nevenmaatschappij Belgische PMU S.C.R.L.t. Nationale Loterij NV).



Both undertakings had control over a mass amount of personal data regarding their services due to their monopoly positions. After the liberalisation of the energy supply market in France, GDF Suez was found to be abusing its dominant position by utilising an established database.<sup>1390</sup> As a remedy, French Competition Authority mandated GDF Suez to share its database with rivals under objective and transparent terms.<sup>1391</sup> In a similar vein, the Belgian Competition Authority ruled Belgian National Lottery to share its database and imposed a fine for an Article 102 infringement where the Belgian Lottery used contact information of its consumers to promote its new betting product, Scoore!.<sup>1392</sup> However, the Belgian Competition Authority revoked the data sharing remedy due to the fact that National Lottery just used the data once for promotion purposes, and the infringement was found to be a one-off.<sup>1393</sup> It is also important to note that both the *GDF Suez* and *Belgian National Lottery* cases were related to legal monopolies. In these cases, the “necessary” facility does not much fit the essential facility doctrine.

Although there are possible positive outcomes in terms of maintaining a healthy competition after liberalising a former monopoly market; mandating a data sharing remedy by the courts or the Commission as a kind of intervention relevant to the infringement through the application of the essential facilities doctrine might bring various problems including stifling innovation, the irrelevance of the data sharing remedy to the situation and privacy concerns in some data-driven markets. The first concern, innovation, is definitely a result of data sharing remedy in data-driven markets. As a result of mandatory sharing, rivals of dominant undertakings would easily use huge datasets without actually collecting and improving their algorithms. This would disincentivise new entrants to invest in methods that may lead to technological developments since they can enjoy this advantage through competition law intervention. Not only smaller rivals but also dominant undertakings may also abandon their practices on Big Data if they

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<sup>1390</sup> French Competition Authority, Decision No. 14-MC-02 (GDF-Suez Decision) 9 September 2014, para 147-172.

<sup>1391</sup> *Ibid*, para 292.

<sup>1392</sup> Belgian Competition Authority, Beslissing nr. BMA-2015-P/K-27-AUD.

<sup>1393</sup> Vikas Kathuria and Jure Globocnik, ‘Exclusionary Conduct in Data-Driven Markets: Limitations of Data Sharing Remedy’ (2019) Max Planck Institute for Innovation and Competition Research Paper No. 19-04, 15; Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (1<sup>st</sup> edn, Kluwer Law International, 2016), 273.

cannot enjoy their innovation and success in terms of being innovative and competitive.

Especially in data-driven markets where rapid innovation occurs and data is the most important input, mandating to share data collected through commercial activities will bring less investment in data-related technologies. Since the data collection and analysis require a serious investment before even being profitable, huge investment costs would not be desirable for companies to undertake. In addition to this, data-rich undertakings such as Google may stifle innovation in order not to bestow competitive advantage to its rivals in the search engine market.<sup>1394</sup> Ultimately, less innovation leads to lesser quality products and services; thus, it leads to consumer harm.<sup>1395</sup>

The second concern is the irrelevance of data sharing remedies in data-driven markets. Even in the scenario where dominant undertakings still compete under mandatory data sharing remedies of the competition authorities and courts, rivals could make use of shared data to leverage data power into adjacent markets. In other words, shared data could be used by third-party undertakings in other online ecosystems. For example, in the case of *Google Shopping*, if the defendant is forced to share its data with other comparison-shopping services, these companies could make use of Google's huge search databases to create market power in adjacent markets. According to Kathuria and Globocnik's example regarding leveraging data power, rivals of Google in the search engine market such as Bing could acquire Google's data and use it through different algorithms in other data-driven markets, like the social network market.<sup>1396</sup> Google's social media product, Google+, was unsuccessful against Facebook. However, this does not mean that Bing (Microsoft) will also suffer the same problems if they use different algorithmic methods to create a market presence and competitiveness in the social network market. Therefore, the data sharing remedy will not be useful in ceasing the infringement but could also distort competition in other data-driven markets and other online ecosystems.<sup>1397</sup>

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<sup>1394</sup> Kathuria and Globocnik (n 1333) 15.

<sup>1395</sup> John E. Lopatka and William H. Page, 'Devising a Microsoft Remedy that Serves Consumers' (2001) 9 *George Mason Law Review* 3, 691-726, 700.

<sup>1396</sup> Kathuria and Globocnik (n 1333) 18.

<sup>1397</sup> *Ibid.*

Regarding the irrelevance of mandatory data sharing remedy, the *velocity* of Big Data must be mentioned here again as a contradictory situation where shared data becomes quite useful for rivals. As explained above, old datasets might not be as useful as predicted. As the OECD stresses, not the volume of the data but the ability to timely extract relevant information from huge datasets is why undertakings gain great competitive advantage.<sup>1398</sup> To put it another way, not Big Data itself, but the utilisation methods and the freshness of data are far more important for gaining market power and abusing a dominant position. Consequently, rivals acquiring huge but obsolete datasets through data sharing remedies may not utilise this data successfully. For instance, Google's rivals which acquire past data from Google, might not gain the ability to serve better products due to the lack of superior data analysis methods with fresh data, the *velocity* of data. In this circumstance, the data sharing remedy becomes an inferior method and a tool to stop the actual abuse other than providing consumer information to third parties without consumers' consent. This brings another concern, privacy.

The third concern is privacy.<sup>1399</sup> The 2016 report of the *Bundeskartellamt* and the *Autorité de la Concurrence* state that: "... Access to a company's data may raise privacy concerns as forced sharing of user data could violate privacy laws if companies exchange data without asking for consumer's consent before sharing their personal information with third companies with whom the consumer has no relationship."<sup>1400</sup> Although the subject of the abuse is data, data sharing must comply with the GDPR provisions in the EU. However, it is also crucial to implement any necessary data sharing remedies under competition law instead of privacy or consumer protection law provisions, even though data sharing remedies involve transferring and processing personal information. The reason for this is the irrelevance of privacy agencies in mergers and abuse of dominant position cases. Privacy agencies normally do not enjoin or even be notified before a merger.<sup>1401</sup> Also, remedies provided by privacy and consumer protection laws are often behavioural, which have lesser effects on the market when compared

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<sup>1398</sup> Thiemann and Gonzaga (n 1379) 22.

<sup>1399</sup> Bundeskartellamt and Autorité de la Concurrence, Competition Law and Data [2016], 18.

<sup>1400</sup> Ibid; also mentioned in Darren S. Tucker and Hill B. Wellford, 'Big Mistakes Regarding Big Data' [2014] 14 Antitrust Source 1, 11.

<sup>1401</sup> Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (1<sup>st</sup> edn, Oxford University Press, 2016), 254.

to competition remedies.<sup>1402</sup> Intrinsically, moves from privacy authorities do lack structural remedies.<sup>1403</sup> Most commonly, a fine will likely be the sanction and remedy for a privacy violation. As mentioned above, even as a competition remedy, receiving huge fines is not enough to stop a competition law infringement where strong direct and indirect effects are present. Therefore, competition authorities must step in and provide accurate remedies for the data-related infringements. Would mandatory data sharing as a competition remedy harm consumers from a privacy point of view?

Article 6(1)(c) of the GDPR expresses that data processing (processing includes data collection, analytics, use, share, and storage according to Article 4<sup>1404</sup>) must comply with a legal obligation to which the controller is subject.<sup>1405</sup> In this case, a remedy imposed by competition authorities or courts in the EU regarding data sharing should be regarded as a legal obligation. Thus, Article 6(1)(f) states that data processing, or data sharing as a competition remedy, must include a legitimate interest of the controller or third parties.<sup>1406</sup> In terms of mandatory data sharing remedy, it is unarguable to say rivals have legitimate interests if there is a competition violation. However, the same article mentions exceptions where interests or fundamental rights of sensitive consumer groups such as children might have been violated. In this case, data sharing with third parties will endanger the fundamental rights of specific consumer groups. This brings another compliance issue, the consent of consumers. Articles 7 and 8 GDPR explicitly state that data subject consent<sup>1407</sup> is obligatory for any type of data processing, including data sharing.<sup>1408</sup> The legal obligation mandated by competition authorities to share data with rivals must also comply with these provisions. Moreover, any consent given to the controller during the initial data collection would not be enough to share data with the third parties. Thus, another

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<sup>1402</sup> Ibid.

<sup>1403</sup> Ibid, 255.

<sup>1404</sup> Article 4 of the GDPR.

<sup>1405</sup> Article 6(1)(c) of the GDPR.

<sup>1406</sup> Article 6(1)(f) of the GDPR.

<sup>1407</sup> Data subjects are defined by the GDPR as: “an identified or identifiable natural person” and “an identifiable person is one who can be identified... in particular by reference to an identifier such as a name, an identification number, location data, online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.” Article 4(1) of the GDPR.

<sup>1408</sup> Article 7 and 8 of the GDPR.

consent should be situated in order to comply with the GDPR rules at the time of the ruling.

These difficulties show that mandatory data sharing as a remedy through the essential facilities seems quite inaccurate. To sum up, even in the hypothetical situation where the essential facilities doctrine can be applied to Big Data in competition cases, there are no explicit norms or regulations on how mandatory data sharing remedy can be applied through the GDPR. This seems to be a legal gap that occurred during the creation of new data protection regulations in the EU. Therefore, extensive research must be conducted by both privacy and competition authorities on how personal and sensitive data (especially de-anonymised data) can be subject to the essential facilities doctrine remedies in Europe if the doctrine is found to be fit for data-driven abuses. As a side note, in 2018, the leader of the *SDP* (Social Democrat Party of Germany) called for legislation mandating dominant technology companies to share a certain part of their Big Data with the public.<sup>1409</sup> According to her, this type of obligation would ensure healthy competition while reducing inequalities between companies.<sup>1410</sup>

#### **5.3.4 Data Portability as an Alternate Remedy**

Data portability, also regulated in the GDPR, could be less harmful than data sharing obligation through the essential facilities doctrine as a remedy.<sup>1411</sup> Data portability mainly refers to a right for the consumers to obtain a copy of their data from the data controller and transfer it to another provider.<sup>1412</sup> Article 20 of the GDPR gives this right to the data subjects<sup>1413</sup> to transfer their data from one

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<sup>1409</sup> Claudia Biancotti and Paolo Ciocca, 'Opening Internet Monopolies to Competition with Data Sharing Mandates' (2019) Policy Brief 19-3, Peterson Institute for International Economics, 6, citing: <https://www.handelsblatt.com/meinung/gastbeitraege/gastkommentar-die-tech-riesen-des-silicon-valleys-gefaehrden-den-fairen-wettbewerb/22900656.html> accessed 1 September 2021.

<sup>1410</sup> Ibid, 6.

<sup>1411</sup> Barbara Engels, 'Data portability among online platforms' (2016) 5 Internet Policy Review 2; Peter Swire and Yianni Lagos, 'Why the Right to Data Portability Likely Reduces Consumer Welfare: Antitrust and Privacy Critique' (2013) 72 Maryland Law Review 2, 335-380; Inge Graef, Jeroen Verschakele and Peggy Valcke, 'Putting the right to data portability into a competition law perspective' (2013) The Journal of the Higher School of Economics, Annual Review 2013, 53 - 63; Ayşem Diker Vanberg, Mehmet Bilal Ünver, 'The right to data portability in the GDPR and EU Competition law: odd couple or dynamic duo?' (2017) 8 European Journal of Law and Technology 1.

<sup>1412</sup> Vanberg and Ünver (n 1411) 2.

<sup>1413</sup> Data subjects are defined by the GDPR as: "an identified or identifiable natural person" and "an identifiable person is one who can be identified... in particular by reference to an identifier such as a name, an identification number, location data, online identifier or to one or more factors

online platform to another.<sup>1414</sup> It also mentions that the data subject to portability is either based on the data processed by means of Article 6(1) of the GDPR or the processed data by automated means.<sup>1415</sup> It is possible that the right to data portability can be an obligation to online service providers in data-driven markets where anti-competitive conduct is present or potential risks of competition harm is suspectable.

In 2012, in his speech, Competition Commissioner Joaquín Almunia stressed the importance of the right to data portability. He believes that the right to portability in the GDPR goes to the heart of competition policy, and healthy competition can be established if consumers have the ability to transfer their own data easily and cheaply between service providers.<sup>1416</sup> He expressed: “*In those markets that build on users uploading their personal data or their personal content, retention of these data should not serve as barriers to switching*” and “*customers should not be locked in to a particular company just because they once trusted them with their content.*”<sup>1417</sup>

Similarly, in their 2014 report on the interplay between data protection, competition law and consumer protection in the Digital Economy, the European Data Protection Supervisor (EDPS) suggested an implementation of the right to data portability promoting competition in data-driven markets and also empowering individuals in terms of relieving the possible switching costs that might be created by the dominant player.<sup>1418</sup> The EDPS suggests that the right to portability can bring synergies to competition and data protection laws due to the interplay between these laws.<sup>1419</sup> According to the EDPS’s study, data portability can be used as a tool to bring an end and to prevent abusive behaviour

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specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.” Article 4(1) of the GDPR.

<sup>1414</sup> Article 20 of the GDPR.

<sup>1415</sup> Article 20 of the GDPR.

<sup>1416</sup> Joaquín Almunia, Competition and personal data protection, SPEECH 12/860 of 26 November 2012, Available at: [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_12\\_860](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_12_860) accessed 1 September 2021.

<sup>1417</sup> Ibid.

<sup>1418</sup> Preliminary Opinion of the European Data Protection Supervisor, ‘Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy’ (March 2014), Available at: [https://edps.europa.eu/sites/edp/files/publication/14-03-26\\_competition\\_law\\_big\\_data\\_en.pdf](https://edps.europa.eu/sites/edp/files/publication/14-03-26_competition_law_big_data_en.pdf), accessed 1 September 2021, paras 72 and 82.

<sup>1419</sup> Ibid, para 83.

(both exclusionary and exploitative) in data-driven markets.<sup>1420</sup> Consumers would not be locked into specific online providers, and rivals would be less prone to exclusionary and exploitative conduct of dominant undertakings. At the same time, consumers gain power over their own data in the online world in terms of data privacy and can take advantage of third-party services while facilitating access to rival services in a market.<sup>1421</sup>

In a similar vein, Barbara Engels advocates the accuracy of data portability as mitigation in data-driven markets. In her study, Engels analysed various platform-data model simulations regarding data portability in the online world. Simulations demonstrate that in markets where anticompetitive conduct is present, data portability mitigates problems or at least not harmful for the competition and the rival companies.<sup>1422</sup> Therefore, an obligation of data portability in platform markets such as the search engine, online marketplace or social network is easily recommendable as an alternative remedy to ensure healthy competition.<sup>1423</sup> However, Engels advocates for stricter remedies in the search engine market compared to other data-driven markets such as social networks and online marketplaces.<sup>1424</sup> The reason behind it is the concentration level of the search engine market. In markets where concentration is much higher such as the search engine market, the harms of anti-competitive conduct will be much higher. Therefore, as the remedy, the study suggests a data portability regulation for the search engine market and a lighter obligation to provide data portability for social networks, online marketplaces, and others.<sup>1425</sup>

Although the abovementioned study claims that there is no direct correlation between innovation and data portability remedy in terms of promoting or hampering innovation,<sup>1426</sup> Peter Swire and Yianni Lagos express concerns over data portability or sharing obligations that could hamper innovation in data-driven markets.<sup>1427</sup> According to the idea, first-movers or the main data collectors that

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<sup>1420</sup> Ibid.

<sup>1421</sup> Ibid.

<sup>1422</sup> Barbara Engels, 'Data portability among online platforms' (2016) 5 Internet Policy Review 2, 9.

<sup>1423</sup> Ibid.

<sup>1424</sup> Ibid, 13.

<sup>1425</sup> Ibid.

<sup>1426</sup> Ibid.

<sup>1427</sup> Peter Swire and Yianni Lagos, 'Why the Right to Data Portability Likely Reduces Consumer Welfare: Antitrust and Privacy Critique' (2013) 72 Maryland Law Review 2, 335-380, 357-358.

became dominant over time would have lower expected profits if they started sharing their collected data, even a smaller portion of it, with competitors.<sup>1428</sup> Besides, data portability remedy means lower consumer loyalty to any online platform. Thus, due to the loss of network effects, companies will not be able to gain expected profits from their investments. Therefore, companies might be disincentivised from investing and collecting data.

On the contrary to the abovementioned supportive ideas, Ayşem Diker Vanberg does not find data portability of Article 20 of the GDPR as an appropriate remedy for Article 102 TFEU related situations.<sup>1429</sup> The study suggests that the right to data portability regulated in the GDPR has inherent limitations for the competition law applications, such as the rights and freedoms of the data subjects.<sup>1430</sup> For instance, the right to data portability mentioned in the GDPR concerns only consumers, in other words, natural persons and not legal persons.<sup>1431</sup> There are no governing rules for legal persons in the GDPR; therefore, Article 20 is inapplicable and legal persons do not have the right to data portability. However, online service providers such as Google or other companies also collect data from both natural and legal entities in massive amounts.<sup>1432</sup> In this sense, there would be two “types” of data, portable data of natural persons and unportable data of legal persons. Accordingly, the data source is irrelevant for competition law purposes when there is abuse, and lack of wider application of Article 20 of the GDPR seems to be an intrinsic limitation for competition law-related applications.<sup>1433</sup>

Second, the consent of data subjects makes the applicability of data portability becomes even lower since consumers must be aware of data portability options and give consent at it in the first place in order for a competition authority to enforce the obligation to dominant undertakings. In other words, the right to data portability can be the solution at the request of the data subject and

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<sup>1428</sup> Ibid.

<sup>1429</sup> Vanberg and Ünver (n 1411) 10.

<sup>1430</sup> Ibid.

<sup>1431</sup> Stefano Lucchini, Jacques Moscianese, Irene de Angelis, and Fabrizio Di Benedetto, ‘Online Digital Services and Competition Law: Why Competition Authorities Should be More Concerned About Portability Rather than About Privacy’ (2018) 9 *Journal of European Competition Law and Practice* 9, 565.

<sup>1432</sup> Ibid.

<sup>1433</sup> Ibid.



not data controllers or third parties such as rivals.<sup>1434</sup> The third shortcoming can be found in Recital 68 of the GDPR. Recital 68 of the GDPR expresses that this right does not require data controllers to adopt “technically compatible” processing systems into their systems.<sup>1435</sup> This means, collected data might not be transferable; thus, data portability cannot be possible in every scenario.

It is also important to underline the difference between the competition rules and the general application of the GDPR. Although the GDPR rules are applicable at all times for all service providers, including the smallest ones without looking at their size or market presence, data portability as a competition remedy can only be applied through Article 102 TFEU when there is an explicit market power of dominant undertakings and a risk of harm on competition and consumers.<sup>1436</sup> Therefore, the applicability of data portability as a competition remedy is quite low, especially as a substitute for the essential facilities doctrine. Although there are almost no risks of leveraging market power in the application of data portability, authorities will face the same abovementioned problems of mandatory data sharing through the essential facilities doctrine such as relevancy, the velocity of data, and the consent of data subjects. A better option would be imposing an obligation on all online providers even in the absence of an Article 102 violation. However, this cannot be considered a remedy for Article 102 violations by competition authorities. It needs a cooperative and comprehensive study that must be conducted by both privacy and competition authorities together.

Additionally, data portability should not be confused with data interoperability which is stricter than data portability.<sup>1437</sup> Although there are no risks regarding leveraging data power in the right of data portability, data interoperability inherently consists of this risk if it becomes a competition remedy. When data interoperability is used in the social network market, for example, users would be able to access their profiles and their message histories from Facebook, Google+ or any other network irrespective of the original contents service provider.<sup>1438</sup> By this means, users of various social networks can be

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<sup>1434</sup> Ibid.

<sup>1435</sup> Recital 68 of the GDPR.

<sup>1436</sup> Vanberg and Ünver (n 1411) 10; Swire and Lagos (n 1427) 351.

<sup>1437</sup> Engels (n 1422) 4.

<sup>1438</sup> Ibid.

connected without even creating a new account in the rival platforms. For example, Facebook users could share posts or write messages to Google+ users. The situation where all companies have access to the same user data will lead to problems where third-party social network providers would enter the market to take advantage of users' data in adjacent markets. Therefore, data interoperability contains higher risks, such as mandatory data sharing in terms of competitive effects compared to data portability.

#### **5.4 Abuse through Data Privacy**

Big Data related anti-competitive conduct is not limited to abuses mentioned above, such as leveraging market power, vertical integration, or abuse through access to data in data-driven markets. The common characteristic of the mentioned abuses is predictability. They can all be anticipated by competition authorities, courts, or market players since most are regulated and well-known abuse types in the case law. The most challenging part is to assess the role of Big Data as a source of market power and as a tool to distort competition in the online world. However, there might be more abuse types in data-driven markets in the age of Big Data and algorithms. As a novel abuse in data-driven markets, abuse through data privacy must be discussed.

##### **5.4.1 A Novel Abuse**

Data privacy is already a grey zone between privacy, consumer protection and competition laws. Data privacy as a competition concern was first raised during *Google/DoubleClick* merger in 2007. Commissioner Pamela Jones Harbour of the Federal Trade Commission (FTC) expressed her belief that undertakings in data-driven markets also compete on privacy protection and other non-price dimensions.<sup>1439</sup> Citing Peter Swire's testimony, Harbour underlined in her dissenting opinion in the *Google/DoubleClick* merger that privacy can be a non-price dimension of competition in the search engine market.<sup>1440</sup> Since nobody knows the limits on what Google can achieve with its trove of information regarding consumer preferences after the *DoubleClick* merger, consumer preferences and consumers' privacy could be well at stake.

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<sup>1439</sup> Dissenting Statement of Commissioner Pamela Jones Harbour, In the matter of *Google/DoubleClick* F.T.C. File No. 071-0170 (2007), 9-10, Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf) accessed 1 September 2021.

<sup>1440</sup> *Ibid*, citing: Testimony of Peter J. Swire, Submission to the Federal Trade Commission, Town Hall on "Behavioural Advertising: Tracking, Targeting, and Technology" (Oct. 18, 2007).

Harbour states that privacy disclosure is not limited to identifiable information such as name or age. However, all types of data that Google collected is also included in consumer preferences such as behavioural information (web browsing through Google search), contacts (Gmail), location (Google Maps), shopping behaviours and others.<sup>1441</sup>

Although it is still highly debated whether data privacy should be evaluated as a non-price competition parameter, abuse related to data privacy might actually be present in data-driven markets. Suppose privacy violations are used to gain or abuse market power through exclusionary and exploitative conduct in markets where indirect network effects are prominent. In that case, competition authorities need to step in.<sup>1442</sup> For example, the OECD report on Big Data and competition policy mentions a situation where consumers' private data could be extracted and utilised to foreclose rivals and raise entry barriers into a market.<sup>1443</sup> In this scenario, exclusionary abuse could amount to a privacy violation at the same time.

The most important example of privacy violation as an abuse type is the investigation of Facebook by the *Bundeskartellamt* (the German Federal Cartel Office). The *Bundeskartellamt* has opened an abuse of a dominant position investigation against Facebook. According to the preliminary assessment of the *Bundeskartellamt*, Facebook abused its dominant position in the social network market by transferring and utilising data from its other services such as Instagram, WhatsApp, websites, embedded games, and application programming interfaces (APIs) to its main service Facebook for behavioural advertising purposes.<sup>1444</sup> Therefore, it is argued that Facebook breached competition law by violating its consumers' privacy.<sup>1445</sup>

Andreas Mundt, the president of the German Competition Authority, stressed the need to examine Facebook's behaviour in the social network market. He expressed that there might be a violation of Article 102 TFEU by violating

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<sup>1441</sup> Harbour (n 1439) 10, footnote 24.

<sup>1442</sup> Thiemann and Gonzaga (n 1379) 21.

<sup>1443</sup> Ibid.

<sup>1444</sup> Bundeskartellamt (FCO) Press Release, 'Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive' (19 December 2017) Available at:

[https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19\\_12\\_20\\_17\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_20_17_Facebook.html) accessed 29 May 2021.

<sup>1445</sup> Ibid.

consumers' privacy.<sup>1446</sup> Similarly, Margrethe Vestager mentioned the German investigation against Facebook on Bloomberg TV. She described Facebook's market presence as "a very dominant" undertaking in the social network market and mentioned the investigation's stance as a "gray zone between competition and privacy".<sup>1447</sup> Vestager added: "*Data as such is one of the more important things because that is the new line of business ... both knowledge and data are another kind of currency, another asset than just the turnover of the company.*"<sup>1448</sup> Also, Maximilian Volmar and Katharina Helmdach underlined the importance of the investigation in terms of tightening the relationship between competition law and data protection law and even this novel abuse type might lead to a rethinking of abuse of dominant position cases and Article 102 of the TFEU in the age of Big Data.<sup>1449</sup> It is necessary to discuss the Facebook probe of the German Competition Authority in detail.

#### **5.4.2 The *Bundeskartellamt's* Facebook Investigation**

The German Competition Authority opened an investigation against Facebook in March 2016 based on the suspicion that Facebook is abusing its market power in the social network market. The Authority also launched a sector inquiry into the online advertising sector and its market conditions.<sup>1450</sup> Facebook was alleged using the personal information collected from its other online services such as 'WhatsApp', 'Instagram', 'Masquerade', 'Oculus', 'Onavo', 'Crowd Tangle' and 'Moves' in order to utilise the information for advertising services under the 'Facebook.com' umbrella.<sup>1451</sup> Facebook had 1.5 billion daily and 2.3 billion monthly active users globally in December 2018, 23 million daily active users and 32 million monthly active users in Germany in November 2018.<sup>1452</sup>

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<sup>1446</sup> Thiemann and Gonzaga (n 1379) 21, para 69.

<sup>1447</sup> Aoife White and Francine Lacqua, 'Facebook Probe Is in Antitrust, Privacy Gray Zone, EU Says' *Bloomberg Tech*. (14 September 2016), Available at: <https://www.bloomberg.com/news/articles/2016-09-14/facebook-probe-in-antitrust-and-privacy-gray-zone-vestager-says> accessed 1 September 2021.

<sup>1448</sup> *Ibid.*

<sup>1449</sup> Maximilian N. Volmar and Katharina O. Helmdach, 'Protecting consumers and their data through competition law? Rethinking abuse of dominance in light of the Federal Cartel Office's Facebook investigation' (2018) 14 *European Competition Journal* 2, 200-201.

<sup>1450</sup> Bundeskartellamt, Press Release, 'Bundeskartellamt launches sector inquiry into market conditions in online advertising sector' (1 February 2018) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/01\\_02\\_20\\_18\\_SU\\_Online\\_Werbung.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/01_02_20_18_SU_Online_Werbung.html) accessed 1 September 2021.

<sup>1451</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019), para 1-12.

<sup>1452</sup> *Ibid.*, para 17.

Daily active users indicate the market power and dominant position of Facebook in the market for social networks both in Germany and in the world.<sup>1453</sup> According to the investigation, Facebook’s user-based market share in Germany:

	Facebook	Google+	Stayfriends	StudioVZ	Jappy	Wize.life
Q1 2012	>90%	0-5%	0-5%		0-5%	0-5%
Q1 2013	>95%	0-5%	0-5%		0-5%	0-5%
Q1 2014	>95%	0-5%	0-5%	0-5%	0-5%	0-5%
Q1 2015	>95%	0-5%	0-5%	0-5%	0-5%	0-5%
Q1 2016	>95%	0-5%	0-5%	0-5%	0-5%	0-5%
Q1 2017	>95%	0-5%	0-5%		0-5%	0-5%
Q1 2018	>95%	0-5%	0-5%		0-5%	0-5%

Table 5: The calculation of market shares based on daily active users<sup>1454</sup>

Also, the investigation revealed that 98% of the total turnover of Facebook is generated through advertising (in 2018).<sup>1455</sup> Thus, online advertising is the main source to fund Facebook and other Facebook-owned applications. These online advertisements are published on Facebook.com, Facebook Messenger, Instagram or on third-party websites which are part of Facebook’s advertising network.<sup>1456</sup> The direct and indirect network effects Facebook has already

<sup>1453</sup> Ibid, para 374-389.

<sup>1454</sup> Table taken from: B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019), para 392.

<sup>1455</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019), para 13.

<sup>1456</sup> Ibid, para 37.

established fuel online advertising with data and create a huge advantage over rivals.<sup>1457</sup> The investigation claims:

“... via indirect network effects, the increasing installed base, and the ensuing amount of data have an impact on the advertisers’ side of the market. If ... users spend much time on the Facebook website, this improves targeting options which in turn attracts a large number of advertisers who contribute their own data sources, generate further data by means of the Facebook measurement tool and make these available to Facebook.”<sup>1458</sup>

Therefore, Facebook was allegedly abusing its dominant position pursuant to Section 19(1) GWB,<sup>1459</sup> which is the equivalent of Article 102 TFEU, by gathering the users personal, behavioural and device-related data from its online services such as WhatsApp, Facebook, Instagram and other and combining these datasets without the users’ consent for advertising purposes.<sup>1460</sup> In other words, implementing the data policy of Facebook allows Facebook to gather personal and behavioural data from sources other than Facebook and merge it with Facebook’s dataset (data collected on Facebook).<sup>1461</sup> The data policy of Facebook was found to be exploitative and constitutes an abuse of a dominant position under the Section 19(1) GWB on the social network market. Facebook abused its dominant position by using and implementing its online ‘terms of service (TOS)’.

In addition to this, the investigation reveals that these TOSs also violate the data protection rules pursuant to the GDPR by imposing terms that are detrimental to consumers and their privacy.<sup>1462</sup> Ultimately, violation of the data protection rules becomes an abusive practice at the same time. The *Bundeskartellamt* examined the relationship between the harmonised consumer protection laws of the EU (the GDPR) and the competition law provisions

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<sup>1457</sup> Ibid, para 492.

<sup>1458</sup> Ibid, para 497.

<sup>1459</sup> Section 19(1) GWB.

<sup>1460</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019), para 522.

<sup>1461</sup> Case Summary B6-22/16, Facebook, Exploitative business terms pursuant to Section 19(1) GWB for inadequate data processing (15 February 2019) Available at: <https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Fallberichte/Missbrauchsaufsicht/2019/B6-22-16.html>, accessed 1 September 2021, p 7.

<sup>1462</sup> Ibid.

regarding abuse of a dominant position and concluded that when there is a data privacy violation through data collection and processing methods which resembles market power of dominant undertakings and is also detrimental for the competition in the market, then the conduct becomes relevant for the competition intervention.<sup>1463</sup> Therefore, the *Bundeskartellamt* holds the view to assess the data protection rules and competition rules together in case of a data-related abuse. It adds that the abuse of dominant position rules of the GWB is fully applicable to data protection violations if the conduct has an abusive nature and cause consumer harm.<sup>1464</sup> Regarding the application of competition law to data privacy violation, Hamburg's Commissioner for Data Protection and Freedom of Information stresses:

“Abusive market behaviour which violates data protection rules and leads to a situation where fair competition is no longer possible in digital markets must be stopped. In this respect, data protection and competition law are two sides of the same coin. The activities of the *Bundeskartellamt* strive to ensure that it will no longer pay off to violate data protection rules in order to gain market power.”<sup>1465</sup>

In light of these findings, data processing policies and abusive TOSs of Facebook are prohibited by the *Bundeskartellamt*, and the Authority ordered the termination of the abusive conduct in February 2019.<sup>1466</sup> According to the Authority, the consumer data collected through different online services constitutes a huge competitive risk on the market and creates market barriers as well as creating high switching costs.<sup>1467</sup> The prohibition ruled by the Authority refers to TOS, including data and the cookie policy of Facebook, as the infringement itself since the abusive conduct consists in the implementation of this term of service and data policy.<sup>1468</sup> The *Bundeskartellamt* also prohibited the application of these terms of service and data policy in actual data processing procedures performed by Facebook based on its own data and cookie

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<sup>1463</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* *Bundeskartellamt* 6th Decision Division (6 February 2019), para 525- 558.

<sup>1464</sup> *Ibid.*

<sup>1465</sup> *Ibid.*, para 548.

<sup>1466</sup> *Ibid.*, para 741-754, 916-949.

<sup>1467</sup> *Ibid.*, para 749.

<sup>1468</sup> *Ibid.*, para 918.

policies.<sup>1469</sup> Facebook has processed (collected, utilised and used) consumers' personal data from sources outside Facebook and has violated consumers' privacy and hindered competition by exploiting consumer data. The *Bundeskartellamt* covered two types of data; one from Facebook-owned services like WhatsApp and Instagram, which can only be processed after the users' voluntary consent. However, data processing must remain with the respective service and cannot be utilised or moved in any combination with Facebook's own collected data.<sup>1470</sup> The second type of data covered in the investigation is collected from other services but assigned to a Facebook user account.<sup>1471</sup> For instance, consumer data from WhatsApp or Instagram are directly linked to the Facebook database by an application called Family Device ID that WhatsApp and Instagram install on the users' devices.<sup>1472</sup> According to the Authority, when there is no consent, Facebook will not be able to process and combine these data. Eventually, Facebook has appealed against the decision.

In its appeal decision, the Düsseldorf Higher Regional Court ruled that there was no actual abusive behaviour stemming from data and cookie policies of Facebook or Facebook-owned other online services.<sup>1473</sup> The High Court's decision is arguable. The court found no causal link between the violation of data privacy and market power where a breach of data protection rights may constitute an abuse of a dominant position.<sup>1474</sup> According to the European and German competition laws, behavioural causality must be established, and a link between the market power of the dominant undertaking and its abusive conduct must be visible, or at least the anti-competitive effects of Facebook's conduct can be

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<sup>1469</sup> Ibid, para 940; Case Summary B6-22/16, Facebook, Exploitative business terms pursuant to Section 19(1) GWB for inadequate data processing (15 February 2019) Available at: <https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Fallberichte/Missbrauchsaufsicht/2019/B6-22-16.html>, accessed 1 September 2021, p 12.

<sup>1470</sup> Bundeskartellamt, News, 'Bundeskartellamt prohibits Facebook from combining user data from different sources (07 February 2019) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07\\_02\\_2019\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07_02_2019_Facebook.html) accessed 1 September 2021.

<sup>1471</sup> Ibid.

<sup>1472</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e. V.* Bundeskartellamt 6th Decision Division (6 February 2019), para 942-944.

<sup>1473</sup> Case VI-Kart 1/19 (V) *Facebook/Bundeskartellamt*, The Decision of the Higher Regional Court of Düsseldorf (26 August 2019), Available at: <https://www.d-kart.de/wp-content/uploads/2019/08/OLG-D%C3%BCsseldorf-Facebook-2019-English.pdf> accessed 1 September 2021.

<sup>1474</sup> Case VI-Kart 1/19 (V) *Facebook/Bundeskartellamt*, 15-16.



traced back to dominance.<sup>1475</sup> The high court ruled that it is not the market power that enabled Facebook to impose terms of service to its consumers in this case; thus, exploitative abuse cannot be linked to terms of service of Facebook or any other Facebook-owned online services. Moreover, all consumers of Facebook were well aware of the data processing conduct of Facebook, and they consented while registering to Facebook for any processing and combining of data by Facebook.<sup>1476</sup> The court also expressed: “*There is no point in Facebook obtaining the user’s consent through coercion, pressure, exploitation of a weakness of will or other unfair means or the company using the additional data contrary to the agreement beyond the agreed scope. The fact that the use of the Facebook network is linked to the consent to the use of additional data does not imply any compulsion and does not constitute a predicament for the user.*”<sup>1477</sup> Therefore, judges argued that users of Facebook are not dependent on Facebook by any means at the time of the registration, and they can accept or leave Facebook without undue influence.<sup>1478</sup> The appeal decision is quite important since it cripples the efforts of the *Bundeskartellamt* in breaking new grounds regarding competition and data privacy laws.<sup>1479</sup> However, this investigation and reasoning should be welcomed as a true step in identifying Big Data-related abuses.

Nevertheless, the investigation against Facebook clearly demonstrates a need to interpret competition rules from a different point of view in the age of Big Data since there might be critical abusive conduct that is novel for the competition law assessment. As discussed before, the interaction between competition and data protection laws in data-driven markets is an ongoing debate many scholars have studied.<sup>1480</sup> In order to achieve competition-data protection cooperation,

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<sup>1475</sup> Case VI-Kart 1/19 (V) *Facebook/Bundeskartellamt*, 16.

<sup>1476</sup> Case VI-Kart 1/19 (V) *Facebook/Bundeskartellamt*, 22.

<sup>1477</sup> Case VI-Kart 1/19 (V) *Facebook/Bundeskartellamt*, 22.

<sup>1478</sup> Denis Schlimpert, ‘Victory for Facebook as Düsseldorf court suspends the Bundeskartellamt’s decision’ *CMS Law Now* (30 August 2019) Available at: [https://www.cms-lawnow.com/ealerts/2019/08/victory-for-facebook-as-duesseldorf-court-suspends-the-bundeskartellamts-decision?cc\\_lang=en](https://www.cms-lawnow.com/ealerts/2019/08/victory-for-facebook-as-duesseldorf-court-suspends-the-bundeskartellamts-decision?cc_lang=en) accessed 1 September 2021.

<sup>1479</sup> *Ibid.*

<sup>1480</sup> Giulia Schneider, ‘Testing Art. 102 TFEU in the Digital Marketplace: Insights from the Bundeskartellamt’s investigation against Facebook’ (2018) 9 *Journal of European Competition Law and Practice* 4, 213; Maureen K. Ohlhausen Alexander P. Okuliar, ‘Competition, consumer protection and the right (approach) to privacy’ (2015) 80 *Antitrust Law Journal* 1; Marco Botta and Klaus Wiedemann, ‘The Interaction of EU Competition, Consumer, and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook Odyssey’ (2019) 64 *The Antitrust Bulletin* 3, 428-446; Lisa Kimmel and Janis Kestenbaum, ‘What’s up with WhatsApp? A Transatlantic view on Privacy and Merger Enforcement in Digital Markets’ (2014) 29 *Antitrust*

which could be much more effective for data-related abuses in the new economy, the German Competition Authority utilised European data protection provisions to examine exploitative abuses in data-driven markets, and they also closely cooperated with data protection authorities thereof.<sup>1481</sup> To be more precise, the *Bundeskartellamt* linked abusive conduct to data privacy violations and concluded that violation of data protection laws could be an abusive practice.

In the same vein, the UNCTAD Secretariat's study of competition issues in the digital economy also stresses the need for a more flexible approach to abuse of dominance assessments in data-driven markets.<sup>1482</sup> Thus, the study underlines the two important points that the Facebook investigation of the *Bundeskartellamt* has revealed; first, a need for integration between the competition law, consumer protection and data protection laws since they all have become intertwined due to Big Data, the Big Data-driven market power and data privacy related abuse of dominant position cases.<sup>1483</sup> Second is the need to ensure particularities of online ecosystems and data-driven businesses are reflected in competition law assessment and enforcement without any errors.<sup>1484</sup>

However, according to many scholars, *Bundeskartellamt's* method was peculiar in assessing Facebook's terms of service through competition law instead of consumer or data protection laws.<sup>1485</sup> According to this contrary idea,

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48; Geoffrey A. Manne and Joshua D. Wright, 'Google and the Limits of Antitrust: The Case against the Antitrust Case against Google' (2011) 34 *Harvard Journal of Law and Public Policy* 171, 212; Daniel Sokol and Roisin Comerford, 'Does Antitrust have a role to play in Regulating Big Data?', in Roger D. Blair and Daniel Sokol, *The Cambridge Handbook of Antitrust, Intellectual Property and High Tech* (Cambridge University Press, 2017) 271, 277; Damien Geradin and Monika Kuschewsky, 'Data protection in the context of competition law investigations: An overview of the challenges' (2014) 37 *World Competition* 69; Francisco Costa-Cabral and Orla Lynske, 'Family ties: the intersection between data protection and competition EU Law' (2017) 54 *Common Market Law Review* 11, 17; Joaquin Almunia, 'Competition and privacy in markets of data', Speech at Privacy Platform event: Competition and Privacy in Markets of Data, Brussels, 26 November 2012 Available at: [http://europa.eu/rapid/press-releaseSPEECH-12-860\\_en.htm](http://europa.eu/rapid/press-releaseSPEECH-12-860_en.htm) accessed 1 September 2021.; David S. Evans and Richard Schmalensee, 'The Antitrust Analysis of Multi-Sided Platform Businesses', in R. Blair and D. Sokol (eds), *Oxford Handbook on International Antitrust Economics* (Vol. 1, Oxford University Press, 2015), 404.

<sup>1481</sup> *Bundeskartellamt*, News, 'Bundeskartellamt prohibits Facebook from combining user data from different sources (07 February 2019) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07\\_02\\_2019\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07_02_2019_Facebook.html) accessed 1 September 2021..

<sup>1482</sup> Ebru Gökçe, 'Competition Issues in the Digital Economy' (2019) UNCTAD Background Note, para 23, available at: [https://unctad.org/system/files/official-document/ciclpd54\\_en.pdf](https://unctad.org/system/files/official-document/ciclpd54_en.pdf), accessed 1 September 2021.

<sup>1483</sup> *Ibid.*

<sup>1484</sup> *Ibid.*

<sup>1485</sup> Marco Botta and Klaus Wiedemann, 'The Interaction of EU Competition, Consumer, and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook

as a policy choice, data protection law would fit better to the investigation of Facebook before the civil courts.<sup>1486</sup> Some scholars also reject that data protection concerns can be addressable under competition law.<sup>1487</sup> In this sense, Facebook is already under scrutiny in Europe by the data protection authorities.<sup>1488</sup> Many data protection authorities throughout Europe, such as Belgium, Germany, Italy, Netherlands and Spain have opened investigations against Facebook due to the data processing methods of Facebook and Facebook-owned online services.<sup>1489</sup> However, if the conduct of dominant Facebook is abusive, and Facebook abuse this position through its data power, competition law needs to step in.

The key point is the relevancy of competition law involvement to the data violations of dominant undertakings in data-driven markets. As examined above, the EU Commission cleared the *Facebook/WhatsApp* merger back in 2014. In the investigation, almost all dangers and risks of data merging and processing were on the table. Still, erroneously, the Commission cleared the merger, and the Commission ruled that data protection concerns are not related to competition law, and privacy concerns must be addressed outside competition law.<sup>1490</sup> As a result, Facebook has changed its privacy policies just after the merger, and an exploitative abuse followed. Intrinsically, the abuse triggered the attention of competition authorities.

More importantly, the *Bundeskartellamt* took a novel approach in its investigation. Rather than analysing the alleged abuse by focusing on the existing case-law and regulation established exclusionary conduct, the authority took a challenging task to analyse competition infringement by also involving data protection concerns into consideration. The *Bundeskartellamt's* way of approaching the issue demonstrates how competition is evolving in the age of

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Odyssey' (2019) 64 *The Antitrust Bulletin* 3, 428-446, 440; Giuseppe Colangelo and Mariateresa Maggiolino, 'Data Protection in Attention Markets: Protecting Privacy through Competition?' (2017) 8 *Journal of European Competition Law and Practice* 363.

<sup>1486</sup> Botta and Wiedemann (n 1485) 440.

<sup>1487</sup> Geoffrey A. Manne and Joshua D. Wright, 'Google and the Limits of Antitrust: The Case against the Antitrust Case against Google' (2011) 34 *Harvard Journal of Law and Public Policy* 250, 258; Wolfgang Kerber, 'Digital Markets, Data, and Privacy: Competition Law, Consumer Law, and Data Protection' (2016) 11 *Journal of Intellectual Property Law and Practice*, 856.

<sup>1488</sup> Jordan Ellison, Alexander Chad, Rebecca Cousin and Cindy Knott, 'A new frontier for privacy and competition' *Slaughter and May Report* (March 2018), 3.

<sup>1489</sup> *Ibid.*

<sup>1490</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 164.

Big Data and how the authorities should shift their assessments for the upcoming abuses in data-driven markets.

To sum up, the possibility of abuse through the violation of data protection rules in data-driven markets reveals the need for a more flexible approach in the assessment of abuse cases and merger control. Today, more companies successfully utilise Big Data for their services throughout the online world, and data provides market power for these undertakings. Where the processing of data (collecting, analysing, utilising) becomes a part of gaining market power, for anti-competitive conduct (which are abuse through exclusionary and discriminatory practices, abuse through to access to data, and other novel abuses such as abuse through data privacy) or subject to a merger; then competition law must be applied to these situations. Moreover, competition authorities must closely monitor data collection, analytics, and utilisation activities of dominant technology giants since many competition risks arise from the data power of technology giants. Data privacy or consumer protection authorities cannot conduct this task since they do not have the sufficiency in cases of potential abuses. However, competition authorities should cooperate with consumer protection and data protection officials if there is a need to assess the Big Data issue from the privacy point of view. Moreover, privacy policies can also be an internal part of competition law if privacy becomes a parameter of competition law as a non-price dimension of the market power assessment.

#### **5.4.3 Discussion on Privacy Policies under Article 102 of the TFEU**

The possible application of privacy as a non-price dimension of market power assessment is discussed in Chapter 4 in detail. The reason behind it is clear, the protection of privacy is becoming more of a concern in data-driven markets due to anti-competitive practices such as Facebook's abuse. Not only in abuses, but privacy protection becomes more of a concern in data-driven markets in general. According to the study of ECORYS, less incentive to protect consumers and violation of consumer privacy is the theory of harm of competition law in the highly concentrated data-driven markets.<sup>1491</sup> In other words, undertakings do not protect the privacy of their consumers while processing

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<sup>1491</sup> Harry van Til, Nicolai van Gorp and Katelyn Price, 'Big Data and Competition' (2017) ECORYS Report Paper, p 36-37, Available at: <https://zoek.officielebekendmakingen.nl/blg-813928.pdf> accessed 1 September 2021.

(collecting and utilising) data. Marco Botta and Klaus Wiedemann specified a problem on the users' side of markets: the privacy paradox.<sup>1492</sup> The privacy paradox creates several problems. First, although users care about their privacy, they do not protect their own data and often give their personal and behavioural information in order to use online services without even reading the terms of services by clicking consent ticks right away.<sup>1493</sup> A European Commission survey indicates that 31% of the consumers do not read online privacy policies, while 49% just partially read these policies.<sup>1494</sup> Not only the users, but the online service providers often provide quite long and smallest font possible terms of services which are basically unreadable by users. Even if consumers read them, they probably do not understand them. The second problem that the 'privacy paradox' creates is the lack of transparency. In the scenario where users give consent comprehendingly or imperceptively, they probably do not know what undertakings will or could achieve with their data.<sup>1495</sup> In other words, consumers cannot know how their data is used, utilised, or transferred to somewhere else, just like Facebook's conduct.

As a behavioural remedy, without any competition intervention in terms of privacy concerns, undertakings in data-driven markets may introduce new methods for their products and services less harmful to consumer privacy. For instance, undertakings may offer more transparent business models and privacy policies, such as the DuckDuckGo search engine, which offers a search engine experience without collecting any consumer data and still competes with Google.<sup>1496</sup> However, the power of data utilisation and unique characteristics of data-driven markets such as indirect network effects and ecosystem structure bring costs to companies like DuckDuckGo. Hence, companies that do not collect and utilise data fall short in offering better quality and more personalised products, ultimately failing in competition in total.<sup>1497</sup> Like other non-price

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<sup>1492</sup> Privacy Paradox refers to the situation where majority of online service users 'care' for their privacy in the online world and ask for more protection, but do not act accordingly to it. Wolfgang Kerber, 'Digital Markets, Data, and Privacy: Competition Law, Consumer Law, and Data Protection' (2016) 11 *Journal of Intellectual Property Law and Practice*, 860-866.

<sup>1493</sup> Botta and Wiedeman (n 1485) 432.

<sup>1494</sup> European Commission, Data Protection—Report 84 (Special Eurobarometer 431, 2015), [https://ec.europa.eu/comfrontoffice/publicopinion/archives/ebs/ebs\\_431\\_en.pdf](https://ec.europa.eu/comfrontoffice/publicopinion/archives/ebs/ebs_431_en.pdf) accessed 1 September 2021.

<sup>1495</sup> Botta and Wiedeman (n 1485) 433.

<sup>1496</sup> Van Til et al (n 1491) 37.

<sup>1497</sup> Ibid.

competition parameters such as innovation or quality, privacy-competition relation does not seem linear.<sup>1498</sup> Although dominant players do not care about privacy protection in highly-concentrated markets, it would be hard to make any claims on privacy protection that protection would be much higher in competitive markets.

As a result, more use of data in the online world leads to privacy and data protection breaches every day.<sup>1499</sup> Although the data protection and privacy breaches affect many consumers individually, competition is affected as well. If the data protection violations in data-driven markets are based on Big Data which is a fundamental source of market power, data violations should become a part of competition assessment eventually. Although both consumer protection, data protection, and competition laws aim to ensure that consumers' welfare is protected, consumer protection and data privacy are more concerned with individuals' welfare.<sup>1500</sup> However, competition law aims to ensure the total welfare of everyone. In other words, data privacy, consumer protection and competition may be interested in similar goals, but their main objective is distinct. EU Competition law is the main safeguard against distorted competition in the EU. Also, the legality of an intervention under another legal regime will not prevent any intervention or enforcement of competition law, as the CJEU case law confirmed.<sup>1501</sup> In other words, competition law intervention will still be legal, relevant, and necessary even if the abusive conduct occurs in grey zones between data privacy, consumer protection and competition; the competition authorities should intervene to market failures.<sup>1502</sup> Moreover, scholars argue that the effects of breaches of privacy and data protection are even beyond competition on the market, and they compromise the democratic process and choices of people.<sup>1503</sup>

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<sup>1498</sup> Ibid.

<sup>1499</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 28.

<sup>1500</sup> Giulia Schneider, 'Testing Art. 102 TFEU in the Digital Marketplace: Insights from the Bundeskartellamt's investigation against Facebook' (2018) 9 *Journal of European Competition Law and Practice* 4, 215.

<sup>1501</sup> Botta and Wiedemann (n 1485) 437.

<sup>1502</sup> Ibid.

<sup>1503</sup> Ariel Ezrachi and Maurice E. Stucke, 'The fight over Antitrust's soul' (2018) 9 *Journal of European Competition Law and Practice* 1; Lianos (n 1499) 28; Josef Drexl, 'Economic Efficiency versus Democracy: On the Potential Role of Competition Policy in Regulating Digital Markets in Times of Post-Truth Politics' in Damien Gerard and Ioannis Lianos (eds),

When there is a competition law breach through data violations, competition authorities should have the power to intervene.<sup>1504</sup> Just like the Facebook investigation of the *Bundeskartellamt*, authorities must assess the conduct, and if they find abuse that is also a violation of data privacy law or other legal regimes, the violation will give the theory of abuse an additional weight.<sup>1505</sup> Accordingly, the competition authorities must focus more on Big Data-related issues when dealing with the abusive conduct of dominant undertakings in the new economy. In this sense, even scholars such as Ohlhausen and Okuliar argue privacy concerns can be reflected better in consumer protection and data privacy laws rather than competition law;<sup>1506</sup> they express that privacy protection can also be considered a parameter of the non-price competition assessment as well.<sup>1507</sup> In the EU, the European Commission repeatedly considered privacy-related concerns out of competition law and concluded that data related-privacy issues do not fall within the scope of the EU competition rules.<sup>1508</sup>

Nevertheless, privacy as a non-price dimension of competition law should at least be tested in competition law analysis, just like the *Bundeskartellamt* has committed in the Facebook investigation. Privacy can be considered a non-price parameter such as innovation and quality. Harbour and Koslov mention that undertakings in data-driven markets adapt their terms of services and additional privacy policies as a reaction to rivals or in response to consumers.<sup>1509</sup> This is a piece of evidence that data policies can be part of the competition in the market. Also, if data policies become a part of achieving market power and abusing a

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*Competition Policy: Between Equity and Efficiency* (Cambridge, Cambridge University Press, 2017).

<sup>1504</sup> Maximilian N. Volmar and Katharina O. Helmdach, 'Protecting consumers and their data through competition law? Rethinking abuse of dominance in light of the Federal Cartel Office's Facebook investigation' (2018) 14 *European Competition Journal* 2, 203.

<sup>1505</sup> *Ibid.*

<sup>1506</sup> Maureen K. Ohlhausen and Alexander P. Okuliar, 'Competition, consumer protection and the right (approach) to privacy' (2015) 80 *Antitrust Law Journal* 1; Geoffrey A. Manne and R. Ben Sperry, 'The Problems and Perils of Bootstrapping Privacy and Data into an Antitrust Framework' (2012) 2 *CPI Antitrust Chronicle* 1; Giuseppe Colangelo and Mariateresa Maggolino, 'Data Protection in Attention Markets: Protecting Privacy through Competition?' (2017) 8 *Journal of European Competition Law and Practice* 363.

<sup>1507</sup> Ohlhausen and Okuliar (n 1506) 156.

<sup>1508</sup> Case C-238/05 *Asnef-Equifax* [2006] ECLI:EU:C:2006:734, para 63; Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 368; Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final, para 164; Case No COMP/M.8124 *Microsoft/LinkedIn* C [2016] 8404 final, para 177–78; Case No COMP/M.7813 *Sanofi/Google/DMI JV* [2016] 1223 final, para 69-70.

<sup>1509</sup> Pamela Jones Harbour and Tara Isa Koslov, 'Section 2 in a Web 2.0: An expanded Vision of Relevant Product Markers' (2010), 76 *Antitrust Law Journal*, 794.

dominant position, it becomes a duty for competition authorities to dig deep into the issue. Therefore, how does privacy play a role in competition, and can it be an objective parameter? Thus, how could a violation of data policy be anti-competitive?

In a situation where most scholars argue that degradation in privacy is nearly impossible to detect, Samson Esayas argues that the benchmark of 'privacy' for measuring competition can be objective and measurable.<sup>1510</sup> Evidence of this can be found in the European Commission's assessment of the *Microsoft/LinkedIn* merger. The Commission considered the possibility of consumer harm where consumers' choice is reduced through promoting LinkedIn on the Windows OS and Microsoft Office. Therefore, about privacy degradation, paragraph 350 of the investigation phrases: "... *These foreclosure effects would lead to the marginalisation of an existing competitor which offers a greater degree of privacy protection to users than LinkedIn ... the transaction would also restrict consumer choice in relation to this important parameter of competition when choosing a PSN (professional social network).*"<sup>1511</sup> In other words, the Commission expressed that a decrease in the level of privacy or loosening privacy policies of dominant undertakings can be a result of abusive behaviour such as promoting LinkedIn on Windows.<sup>1512</sup> In this sense, privacy can be used as an assessment tool for competition law purposes.

Since competition law welcomes different benchmarks to assess potential anti-competitive conducts, privacy can also serve as a benchmark for assessing the non-price dimension of competition in a market. If the data collection and processing methods constitute abuse in the online world, just like in the *GDF-Suez* and *Belgian National Lottery* cases, then the data privacy violations and data protection law infringements can also be considered abuses when conduct is not competition on merits. Thus, unfair trading conditions imposed through the data privacy policies by dominant undertakings that aim to distort competition, exclusionary or exploitative, should be regarded as Article 102 infringements.

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<sup>1510</sup> Samson Y. Esayas, 'Privacy as a quality parameter of competition: Some reflections on the scepticism surrounding it' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 164.

<sup>1511</sup> Case No COMP/M.8124 *Microsoft/LinkedIn* C [2016] 8404 final, para 350.

<sup>1512</sup> Esayas (n 1510) 164.



For this very reason, the exclusionary and exploitative effects of data privacy breaches must be intervened by competition law when there is a link between market power, abusive behaviour, and data violations. Starting from this point of view, the *Bundeskartellamt* ruled Facebook's data privacy policies to be abusive and prohibited the use of terms of service and ordered to terminate the conduct.<sup>1513</sup> Facebook's terms of service was imposing unfair conditions on consumers, and Andreas Mundt expressed: "*Today data are a decisive factor in competition. In the case of Facebook, they are the essential factor for establishing the company's dominant position. On the one hand, there is a service provided to users free of charge. On the other hand, the attractiveness and value of the advertising spaces increase with the amount and detail of user data. It is therefore precisely in the area of data collection and data use where Facebook, as a dominant company, must comply with the rules and laws applicable in Germany and Europe.*"<sup>1514</sup>

The investigation put privacy at the centre of the competition law assessment. Also, privacy has become a parameter to assess the level of competition in that particular data-driven market. These were proper steps of a new understanding of the competition law assessment, and more will come to competition law in the future. To sum up, privacy considerations should bring data protection and competition laws together and tighten the connection between them. Therefore, abuse of a dominant position in EU Law should be redefined to reflect the market conditions better and capture possible novel abuses when necessary.

#### **5.4.4 Italian Competition Authority's Facebook Investigation**

A regulatory and enforcement dilemma is existent in Facebook's alleged abuse. Unlike the *Bundeskartellamt*, which found a breach of GWB Section 19 (Article 102 TFEU), the *Autorita` Garante della Concorrenza e del Mercato* (AGCM, the Italian Competition Authority) adopted a decision due to a breach of

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<sup>1513</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019).

<sup>1514</sup> Bundeskartellamt, News, 'Bundeskartellamt prohibits Facebook from combining user data from different sources (07 February 2019) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07\\_02\\_2019\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07_02_2019_Facebook.html) accessed 1 September 2021.

the Italian consumer law instead of competition law in November 2018.<sup>1515</sup> The Authority ruled that Facebook has violated Articles 21 and 22 of the Italian Consumer Code (*Codice del Consumo*) by misleading consumers about its data collection and processing methods and by carrying out aggressive commercial practices in order to exert undue influence on its consumers by transferring their data between Facebook and Facebook-owned other online services.<sup>1516</sup>

Article 21 of the Italian Consumer Code deals with “unfair commercial practices”, which induces false information to consumers or is capable of misleading the consumers.<sup>1517</sup> Also, according to Article 22 of the Code, commercial practices are considered as misleading, which in the specific case, taking into account all circumstances of the case, as well as the limits of the means of communication used, omits relevant information that the average consumer needs in this context to make an informed decision to of a commercial nature and thus induces or is capable of inducing the average consumer to make a commercial decision which he would not otherwise have taken.<sup>1518</sup> Article 5(2) of the Unfair Commercial Practices Directive, which the Italian Consumer Code had implemented, also expresses: “*A commercial practice shall be unfair if it is contrary to the requirements of professional diligence, and it materially distorts or is likely to materially distort the economic behaviour with regard to the product of the average consumer whom it reaches or to whom it is addressed, or of the average member of the group when a commercial practice is directed to a particular group of consumers.*”<sup>1519</sup>

In its decision, the Italian Competition Authority ruled that Facebook’s conduct is an aggressive and unfair commercial practice for consumers, which

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<sup>1515</sup> Decision of the AGCM adopted on November 29, 2018, in relation to Facebook Inc. and Facebook Ireland Ltd. The (Italian) text of the decision [hereinafter AGCM Decision] and the corresponding press release are available at: <https://www.agcm.it/media/comunicati-stampa/2018/12/Uso-dei-dati-degli-utenti-a-fini-commerciali-sanzioni-per-10-milioni-di-euro-a-Facebook> accessed 1 September 2021. An English version of the press release is available at: <https://en.agcm.it/en/media/press-releases/2018/12/Facebook-fined-10-million-Euros-by-the-ICA-for-unfair-commercial-practices-for-using-its-subscribers%E2%80%99-data-for-commercial-purposes> accessed 1 September 2021..

<sup>1516</sup> The AGCM Decision, English version of the press release is available at: <https://en.agcm.it/en/media/press-releases/2018/12/Facebook-fined-10-million-Euros-by-the-ICA-for-unfair-commercial-practices-for-using-its-subscribers%E2%80%99-data-for-commercial-purposes> accessed 1 September 2021..

<sup>1517</sup> Italian Consumer Code, Decreto Legislativo 6 Settembre 2005, n. 206 - Codice del consume.

<sup>1518</sup> Article 22 of Italian Consumer Code, Decreto Legislativo 6 Settembre 2005, n. 206 - Codice del consume.

<sup>1519</sup> Article 5(2) of the Unfair Commercial Practices Directive.

actually misled consumers about their data collection and privacy.<sup>1520</sup> Therefore, the Authority imposed the maximum applicable fine under the Italian consumer law, 5 million Euros each for two unfair commercial practices, 10 million Euros in total.<sup>1521</sup> The fine seems to be quite low and possibly ineffective compared to the competition law sanctions and remedies. Although both investigations by the German and Italian Competition Authorities dealt with the same conduct (data collection, transferring and processing methods of Facebook and Facebook-owned online services), the co-existence of two relevant regulatory regimes created a potential future conflict in the EU law. In light of many discussions and disputes regarding data-related abusive behaviour in the online world regarding competition law, consumer law, and data privacy law, the problem is finding the most accurate and appropriate remedy for the data related abuses. In this sense, thinking competition law as a whole, including its welfare objectives, remedies for market failures, case-law on abuse of dominant position and heavier sanctions, and most importantly, having exclusive competence conferred upon it by the Treaties of the EU, in which the EU alone can legislate and adopt binding competition acts throughout EU;<sup>1522</sup> competition law seems to be an appropriate legal regime to deal with the related market failures and abuses.

### **5.5 Applying Article 102 of the TFEU to Big Data related Abuses**

In light of the recent abuse cases in Europe and the US, scholars gathered around two camps regarding the abusive behaviour in data-driven markets. One camp argues that competition intervention aimed at fighting the technology giants impedes innovation; thus, it must be avoided. For instance, Daniel Crane expresses: “*Antitrust law should never seek to destroy dominance by prohibiting dominant firms from innovating to keep up with their customers’ changing demands.*”<sup>1523</sup> Comparably, Bork and Sidak, Manne and Rinehart stress that consumer-welfare-enhancing innovation would be impeded if competition intervenes to the virtuous cycle of dynamic competition and would create costly

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<sup>1520</sup> The AGCM Decision.

<sup>1521</sup> Marco Botta and Klaus Wiedemann, ‘The Interaction of EU Competition, Consumer, and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook Odyssey’ (2019) 64 *The Antitrust Bulletin* 3, 428-446, 444; Under Art. 27(9) *Codice del Consumo*, the AGCM can impose a fine between €5000 and €5 million.

<sup>1522</sup> Article 3 of the TFEU.

<sup>1523</sup> Daniel Crane, ‘Search Neutrality and Referral Dominance’ (2012) 8 (3) *Journal of Competition Law & Economics*, 459–68, 468.

errors.<sup>1524</sup> In other words, the European Commission and the NCAs should approach issues in data-driven markets in a non-interventionist, more passive way. By doing this, the market can change itself to mitigate problems in the cycle of dynamic competition.

On the other hand, there is an argument for intervention in data-driven markets. As analysed previously, data-driven markets have unique characteristics which cannot be reflected by the traditional methods of competition. As a result, a non-interventionist approach will be not successful due to a specific reason: the *accumulative value of Big Data*. There is no doubt that the dominant technology companies have achieved success thanks to their innovations in data collection, analysis, and processing skills; consumers hugely benefited from these technological advances.<sup>1525</sup> However, it is evidence that the dominance of technology giants was created through the accumulation and utilisation of Big Data. In a word, Big Data is the main source for their market powers. Peter Norvig, the chief scientist of Google, emphasised: “*We do not have better algorithms than anyone else. We just have more data.*”<sup>1526</sup>

Therefore, undertakings that have already accumulated vast amounts of data, established network effects, and created ecosystems for consumers will continue to rise in the online world. This would bring anti-competitive conduct to the online world as well. However, competition intervention could help to prevent abuses and consumer harm in data-driven markets. For instance, when restrictions are placed on the behavioural data collection of undertakings, studies found that the effectiveness of advertising dropped hugely, and the importance of data for online advertising dropped likewise.<sup>1527</sup>

As discussed in this Chapter, applying Article 102 of the TFEU is problematic in assessing market power and abusive behaviour. The need to

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<sup>1524</sup> Robert H. Bork and J. Gregory Sidak, ‘What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?’ (2012) 8 (4) *Journal of Competition Law & Economics* 663–700, 3.; Geoffrey A. Manne and William Rinehart, ‘The Market Realities that Undermined the FTC’s Antitrust Case Against Google’ (2013) *Harvard Journal of Law & Technology Occasional Paper Series* 12.

<sup>1525</sup> Nathan Newman, ‘Search, Antitrust, and the Economics of the Control of User Data’ (2014) 31 *Yale Journal on Regulation* 2, 421.

<sup>1526</sup> Matt Asay and Tim O’Reilly, ‘“Whole Web” is the OS of the Future’, *CNET* (18 March 2010), <http://www.cnet.com/news/tim-oreilly-whole-web-is-the-os-of-the-future> accessed 1 September 2021.

<sup>1527</sup> Newman (n 1525) citing: Avi Goldfarb and Catherine E. Tucker, ‘Privacy Regulation and Online Advertising’ (2011) 57 *Management Science*, 57.

move away from the traditional market definition and market power assessment initially addresses abusive behaviour. Online ecosystems and non-horizontal links between adjacent markets in the online world are completely overlooked in the competition law analysis. As a result, many crucial points are missed in merger and abuse of dominant position investigations, starting from the market definition assessment until the enforcement point. Thus, an urgent need is to implement a more precise assessment method for abuse cases in data-driven markets. At the same time, all challenges related to the data processing issues should also be addressed. As seen in abuse through exclusionary and exploitive practices related to data, including access to data issues and data privacy violations, competition law assessment needs to embrace new market characteristics. There could be room for novel abuse types in data-driven markets. Concordantly, the *Bundeskartellamt* investigation is a welcomed step in order to identify the Big Data related novel abuses in data-driven markets.

Ultimately, the competition intervention in data-driven markets through Article 102 TFEU might not be enough. Technology giants such as Google, Apple, Facebook, Amazon, and Microsoft (GAFAM) have already reached a point where they move into new markets, leverage their data power, and easily tip markets. These linked markets create a conglomerate structure and constitute online ecosystems. It is called the 'intermediation' power.<sup>1528</sup> In online ecosystems, intermediaries that are also creators and owners have pivotal roles as competitors and regulators. To be more precise, due to their vast data power and unbalanced data processing skills, technology giants such as GAFAM have become *de facto* competition regulators in their respective ecosystems. They control every single price and non-price related transaction, and they impose their own terms to rivals and consumers, even they can adjust how dynamic will be competition in that respective ecosystem and in comprising markets in the ecosystem. In such a situation where a super-dominant undertaking has control over everything in a market, healthy competition cannot find a place for itself. In the next chapter, the newly emerged unwanted regulatory problem in online ecosystems is discussed in detail to reveal the need for an intervention in data-driven markets.

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<sup>1528</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 125.

## 6 THE WAY FORWARD

### 6.1 Introduction

In the wake of the information age and Industry 4.0, it is natural for competition law to tackle novel issues since the competition game itself is changing with technological developments.<sup>1529</sup> Thus, revisiting competition rules should not be seen as a burden or a way to disincentivize innovation. This chapter moves the discussion onto possible regulatory intervention in data-driven markets. In order to do so, the effectiveness of competition law and policy is enunciated by summarising the threefold issue: high-concentration and undertakings that have *de facto* regulatory powers, ill-equipped tools to assess market power, and inadequacy of identifying abusive behaviour in data-driven markets.

After summarising the main identified issues, the analysis moves onto the main research question: “Is there a case for reform in the approach of EU competition law to data-driven markets?” if so, “How should market power be defined for competition law purposes?” As discussed in the previous chapters, the accumulation of data became a source of market power in new economy markets and led to the existing issues. Therefore, the second discussion in this chapter is the ineffectiveness of EU competition law and policy and possible different methods to approach these challenges. First, the effectiveness of a non-interventionist approach is discussed. This is followed by an analysis on introducing new *ex-ante* mechanisms, broadening competition law’s goals, and improving the current legal framework in the EU. After that, the proposed remedies of competition authorities and academics are discussed to set the benchmarks for intervention and create a vision on how competition law would probably evolve in the near future.

In the end, a new roadmap for the EU competition law and policy is revealed, and by this means, the need for reform through a lawmaking process is also stressed. EU competition law needs to set an approach to novel problems occurring in data-driven markets. In order to do so, new legal tests to be applied are mentioned as for the possible reforms of EU competition law as an immediate response. In other words, the analysis focuses on what should be done right

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<sup>1529</sup> Ioannis Lianos, ‘Competition Law for the Digital Era: A Complex Systems’ Perspective’ (2019) CLES Research Paper Series 6/2019, 7.

away. However, the long-term conduct should also be set for data-driven markets as soon as possible. Therefore, the necessity for a more modernised approach to competition and stronger competition enforcement is crucial. Long-term thinking must also be conducted to ensure efficient competition in the new digital era. In the global world, the only method to ensure healthy competition for the globalised markets is a single and coherent application of competition law as an actual global response to Big Data related issues. Ultimately, this chapter provides recommendations for EU competition law and policy regarding the current situation and contributes to further regulatory developments and the modernisation of EU competition law.

## **6.2 Identified Challenges Related to Big Data**

### **6.2.1 How Does Big Data Contribute to the New Economy?**

The main research question of the thesis is: “Is there a case for reform in the approach of EU competition law to data-driven markets?” In order to discuss and answer this question, a couple of sub-questions are needed to be answered. In this sense, the starting point, the first research question of the thesis is: “How does Big Data contribute to the market structures of the new economy?”. Therefore, the ultimate aim of Chapters 2 and 3 is to reveal the relevance of Big Data to new economy markets, which are called data-driven markets. Although the terms ‘data-driven markets’, ‘technology markets’ and ‘digitalised markets’ have been used interchangeably through the research, it is important to point out that the term ‘data-driven markets’ should be the relevant identification for new economy markets.<sup>1530</sup> As discussed repeatedly, the word ‘digitalised’ is not a criterion or distinctive feature for markets under scrutiny in this thesis. Actual distinctiveness is given by the utilisation of Big Data technology in these markets. Therefore, ‘technology markets’ might be a more justifiable term since Big Data, data analytics, and algorithms are the most important technologies regarding the new market economy. However, the term ‘data-driven market’ is the most suitable phrase for new economy markets since Big Data gives the identity to these markets.

In the second chapter, Big Data is found to be a value creation mechanism that leads to a new type of business management, a new competition game, and

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<sup>1530</sup> See Chapter 2.5 for more information.

new market structures.<sup>1531</sup> The collected, acquired data and computer algorithms have increasing roles in the business management, decisions, and behaviour of undertakings. Unlike the regular data, four distinctive features, the *volume*, *velocity*, *variety* and ultimately the *value* of Big Data, were identified in Chapter 2.<sup>1532</sup> According to the findings, those features of Big Data give ample competitive advantage to the utilisers of Big Data through artificial intelligence and algorithms. In this sense, Big Data utilised by a few technology giants is found to be a major source of market power in data-driven markets. In other words, Big Data is not only a market-defining value creation mechanism but also a significant tool for gaining market power. By this means, the study identifies those undertakings utilising the Big Data technology create great efficiencies in data-driven markets. In addition to various efficiencies as part of successful business strategies, those undertakings can also gain ample competitive advantage over competitors using the value derived from Big Data. In this sense, Big Data is not only a tool to create efficiencies, produce better products, or enhance quality. Those undertakings utilise data in order to distort competition. In data-driven markets where competitive advantage deriving from Big Data is visible, any kind of abuse driven by the data power of undertakings occurs commonly.

Big Data is found to be a value creation mechanism and a source of market power through analysis, and data-driven markets are the new economy markets created by the commercialisation of the internet and by the utilisation of Big Data through algorithms and artificial intelligence. Thus, the analysis moves onto the third chapter to identify the characteristics of data-driven markets and the role of innovation in these markets. In terms of the role of innovation, it is found to be a major characteristic of data-driven markets. Most undertakings in data-driven markets compete *for* the market and try to out-innovate rivals.<sup>1533</sup> As the result of competition *for* the market, fast innovation cycles appear, and the creation of new products along with the new market segments results in data accumulation by the innovators. It is revealed in Chapter 3 that, the accumulation of Big Data creates barriers by strong indirect network effects and creates irreversible damage on markets regarding the competition. Moreover, Big Data user undertakings

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<sup>1531</sup> See Chapter 2.2.3 for more information.

<sup>1532</sup> See Chapter 2.2.1 for more information.

<sup>1533</sup> See Chapter 3.2.2 for more information.



achieve efficient scales and then tip markets in favour of them. Ultimately, high concentration and monopolisation are norms in data-driven markets today.

To be more clear, Big Data and the utilisation of valued data affect competition in markets and change the markets' structures. Therefore, data-driven markets differentiate from traditional markets considerably. In data-driven markets, a few technology giants accumulate vast amounts of datasets. Most of these companies, such as Google or Facebook, have millions and even billions of consumers across their online services. Thus, they enjoy indirect network externalities and efficient scale to serve better products and huge online advertising revenues. Due to the achieving of returns to scale and strong indirect network effects, only a few companies are able to compete with their rivals effectively in data-driven markets.<sup>1534</sup> Ultimately, high-concentration and near-monopolies are established today in the online world. However, high concentration is not transient in data-driven markets. There are huge advantages given by the data utilisation to technology giants, and the three-dimensional competition<sup>1535</sup> between super-dominant undertakings in data-driven markets creates tipping in data-driven markets. Therefore, new entrants cannot compete with incumbents, and the self-corrective nature of markets does not appear. When an undertaking establishes super dominance, and once the dominant player has tipped the market, rivals would not be able to have market access and sufficient scale to offer competitive products.

In the example of the *Microsoft/Yahoo!* merger, it is argued that the strongest rivals of Google, Bing and Yahoo, did not have sufficient scale to compete with Google.<sup>1536</sup> At the time of Microsoft (Bing) and Yahoo merger, Google had control over 90% of all search queries in the search engine market. Bing and Yahoo only had below 5% combined.<sup>1537</sup> In addition to the number of search queries, the services' quality was also considerably different from each other. Lower quality search results initially lead to fewer consumers. Therefore, Bing or Yahoo's algorithms cannot create better quality search results than their

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<sup>1534</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, 'Competition Policy for the Digital Era: Final Report' (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html) accessed 1 September 2021, 36.

<sup>1535</sup> See Chapter 3.4.3.2 for more information.

<sup>1536</sup> Case No COMP/M.5727, *Microsoft/Yahoo! Search Business C* [2010] 1077 Final, para 159.

<sup>1537</sup> Search Engine Market Share Europe 2019, Available at: <https://gs.statcounter.com/search-engine-market-share/all/europe/2019> accessed 1 September 2021.

rivals since their algorithms work with much less data in order to predict relevant search results. Therefore, the Commission ruled that: “The merger transaction will allow the merging parties to provide greater relevance through greater scale... Also... through innovation and access to a larger index (the merged entity), it will be able to provide personalised search results better aligned to users' preferences”.<sup>1538</sup> As seen from the decision, near-monopolies in data-driven markets are problems for healthy competition since they are much more persistent than traditional monopolies due to indirect network externalities and the accumulation of Big Data.

In conclusion, analysis in the third chapter reveals that data-driven markets have unique characteristics such as strong indirect network externalities, tipping effects, accumulation of data to create barriers to entry, super-persistent-dominance (data-opolies), and three-dimensional competition in addition to the horizontal and vertical competition. The findings show that the structures of data-driven markets contribute to creating an irreversible market position where competition is distorted and consumers are harmed. Tipped markets, monopolisation, data-driven acquisitions (so-called R&D mergers), and the sophisticated oligopoly-rivalry relationship between technology giants and their smaller rivals demonstrate that the current problems in data-driven markets will likely escalate further since there is no empirical evidence has been found at all regarding the “self-corrective nature” of data-driven markets. Although super dominance, high-concentration and monopolisation are long-term concerns for competition in data-driven markets, the dominant undertakings' behaviour also creates more immediate problems that need to be addressed by the competition authorities. In order to engage with the anticompetitive activity, the discussion asks the question to identify anti-competitive conduct and reveal regulatory problems in data-driven markets. Therefore, the second research question is shaped as: “How could Big Data be used by dominant undertakings to undermine the process of competition?”

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<sup>1538</sup> Case No COMP/M.5727, Microsoft/Yahoo! Search Business C [2010] 1077 Final, para 225.

## 6.2.2 How Could Dominant Undertakings Use Big Data to Undermine the Process of Competition?

The fourth chapter is then dedicated to demonstrating the problems regarding the assessment of market power in data-driven markets. The main focus in the fourth chapter is on the definition of relevant markets and assessment of market power problems in the data-driven acquisition investigations and abuse of dominant position cases in the EU. The source of emergent problems related to market power is the ineffective neoclassical economic price-centric competition tools such as the Hypothetical Monopolist test (specifically SSNIP test), primarily designed for products with price tags to identify seller and buyer powers. The Hypothetical Monopolist and SSNIP tests are based on price as the main parameter of competition law; thus, free products or services are 'red flags' for the traditional competition models.<sup>1539</sup> These models cannot be applied to free products or services in the online world without erroneous conclusions. The main reason behind it is the multi-sided character of data-driven markets. In data-driven markets, price is not a parameter, at least on one side of the market. Therefore, the application of neoclassical economic tools to competition analysis for the assessment of market power in the new economy is irrelevant today.

The analysis in the fourth chapter reveals that in data-driven markets, the market share analysis is also insignificant. Thus, retrospective analysis on recent data-driven merger investigations in the EU demonstrates that it is almost impossible to identify a narrow relevant product market. In the traditional market power assessment method, defining a relevant product and geographical market is the first step and an essential part of the assessment. It is then followed by the market share analysis in order to identify the real market power in a given relevant market. However, in most abuse cases and merger investigations in data-driven markets, the competition authorities had great difficulty applying the traditional method to define a relevant market first by narrowing products through their substitutability. However, erroneous conclusions were reached by the authorities, such as deciding WhatsApp and Facebook messenger are not rivals/substitutes.<sup>1540</sup> In data-driven markets, relevant markets/market segments are not narrow, and the competition analysis should include digital ecosystems

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<sup>1539</sup> See Chapter 4.4.1 for more information.

<sup>1540</sup> Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final.

as a whole. In short, the method to define a relevant product market followed by the market share analysis to reveal market power is not a useful tool for Big Data related issues.

As the utilisation of Big Data and algorithms change the way of competition, the legal basis of competition enforcement weakens while addressing data-related issues. Therefore, the absence of an appropriate analysis method is revealed. The importance of Big Data as a source of market power also reveals a need to develop an appropriate and up-to-date method to measure market power. The great competitive advantage provided by Big Data and network effects occurs as a remarkable parameter in accurately addressing market power as an alternative. This proves the urgent need to develop a new legal test to assess market power for abusive behaviour and data-driven mergers. As discussed in detail below, an assessment through the data accumulation and Big Data possession might be a better method, including a more relevant benchmark for the market power assessment test than the price-centric tools of neoclassical methods.<sup>1541</sup> Data possession and Big Data capabilities of big tech companies in data-driven markets could reveal a better-framed market structure than the market share analysis.

Also, as the second research question suggests, there could be abusive behaviour stemming from the utilisation of Big Data. The reason behind it is the problematic application of Article 102 TFEU in assessing abusive behaviour. The new market characteristics such as multi-sidedness and online ecosystems and other non-horizontal links between market segments in these ecosystems reveal the need to move away from traditional concepts regarding abusive behaviour. Accordingly, Chapter 5 explores the conduct of dominant undertakings to identify the current and possible abusive behaviour and consumer harms in data-driven markets. Exclusionary abuse related to data, including access to data and privacy violations and leveraging data power, give clues regarding novel abusive behaviour in data-driven markets. In this regard, exclusionary and discriminatory practices such as leveraging market power are discussed. After that, a major problem that emerged in the new economy is analysed: access to data. The findings show that forms of abusive behaviour are slightly different from those in

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<sup>1541</sup> See Chapter 6.5.2 for more information.

traditional markets, thus identifying consumer harm becomes a fundamental problem for competition law. On top of that, as the recent investigations of Facebook and Amazon have demonstrated, there are new types of abuses such as abuse through violating consumers' data privacy, which does not have any analysis, precedent, or understanding in case law in the EU at all. Also, the novel abuses related to data seem to stand in a grey zone between competition law and consumer protection and data protection laws.

Chapter 5 argues that the application of Article 102 of the TFEU is problematic when applied to data-related abuses in addition to the problems on the assessment of market power side. As the technology giants such as Google, Facebook, Amazon, and Apple have already created their online ecosystems and formed huge conglomerates in data-driven markets; they could have been distorting competition by abusive behaviour not addressed by Article 102 TFEU and supporting regulations. These companies have already reached super-dominance in various markets linked to each other and formed ecosystems. The main problem identified in this ecosystem structure is the way of competition and the dual role of these companies; in other words, their 'intermediation' power.<sup>1542</sup> In most digital ecosystems, owners of ecosystems are also players in the market. To put it differently, intermediaries such as Amazon or Google, which bring consumers, advertisers, and sellers together, are both players and intermediaries in their ecosystems. For instance, Google, the owner of a search engine, is the biggest online advertising player and the rival of other advertising services operating in Google's ecosystem. Amazon as a seller itself in the Amazon marketplace has the same dual role. Moreover, these companies have become *de facto* regulators in their ecosystems due to their vast data power, data processing skills. Intermediaries such as Google or Amazon can control every price and non-price related transaction, limit access to data for the rivals, impose their own terms to rivals and consumers, exclude rivals, and self-favour their own services or products. Also, intermediaries such as Facebook abuse their super-dominance by violating the privacy of their consumers.

However, self-preferencing as a form of leveraging market power or violating consumer privacy as abuse through data are neither reflected

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<sup>1542</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 125.

appropriately in the regulation nor the case law in the EU. In other words, technology giants have found a way to spread their dominance into adjacent markets by non-detected abusive behaviour and by ‘competition friendly’ deemed R&D mergers in the near past. The quasi-new and novel abuse of dominant position cases discussed in Chapter 5 provide evidence, create a legal basis for intervention, and reveal the need for a more precise method to assess market power and to identify abusive behaviour in the online world. The main reason behind the intervention is that those dangers are not mitigated sophisticatedly through the current regulation. Therefore, the discussion comes to a point where the main research question is discussed, a need for reform in the approach of EU competition law.

### **6.2.3 Is There a Case for Reform in the Approach of EU Competition Law?**

Ultimately, this chapter seeks a solution for the main research question: “Is there a case for reform in the approach of EU competition law to data-driven markets?” The analysis of the first couple of research questions has revealed a threefold issue for immediate remedial action. These three crucial issues extracted from the above analysis are the monopolisation problem where strong platform owners become regulators, the ineffective neoclassical economic tools to assess market power, and third, the identification of novel abusive behaviour in the new economy are discussed below.<sup>1543</sup> A need for reform for these issues is undisputed at this point, yet what should be the appropriate approach for these novel issues?

### **6.3 Ways to Approach the Big Data Issue from a Competition Law Perspective**

The identification of the threefold issue enables analysis to open a discussion on finding an immediate response for data-driven markets. However, the remedial action could be a regulatory action or a broader one that delves into competition law theory. Thus, an appropriate approach must be set to resolve current and potential competition law issues in this newly emerged market economy. In a word, after summarising the current state and identifying problems needing remedial action, the second step of the analysis should be to address

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<sup>1543</sup> See Chapter 6.5.1-4 for more information.

the approach to be considered and engaged for the addressed problems. Therefore, this subsection is dedicated to justifying the limits of potential competition law intervention to data-driven markets.

### 6.3.1 Non-interventionist Approach

The discussion here is rather a political one as opposed to the normative competition law analysis throughout the research. Still, it is necessary to determine an approach, either interventionist or a passive one. For instance, the *laissez-faire* ideology<sup>1544</sup> of neoclassical economics suggests that market players should set the level of competition in time, and intervention outside the market would not benefit consumers. In other words, markets will correct themselves in time, and the best approach is not to intervene in more or less competitive markets. Academics who argue that markets self-correct also tend to argue that competition law is flexible enough for the application of Article 102 in data-driven markets since it is well-equipped enough.<sup>1545</sup>

The application of *laissez-faire* economics (and consumer welfare approach) has become more evident in the EU Law due to a more economical approach to the competition policy, especially after the 1980s. However, long before its rise in European law, the progress of consumer welfare can be traced in US conduct as far as a century ago. First, Harvard and then Chicago Schools of competition set the framework for the consumer welfare approach to competition. According to the ideology, competition law specifically concerns consumers and their interests. As Richard Posner indicates, [at that time] Chicago School of competition do not contain an all-rounded philosophy of competition.<sup>1546</sup> Instead, it is more of a response to the specific problems encountered in several competition cases.<sup>1547</sup>

A different point of view, Robert Bork,<sup>1548</sup> a prominent scholar of the Chicago School, argues that competition law should not determine who controls the

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<sup>1544</sup> Although *laissez-faire* ideology dates back to 18<sup>th</sup> century France, John Stuart Mill and Adam Smith developed the understanding and this led to creation of modern economics which advocates that government intervention to markets must be low and authorities should focus on public order and safety of citizens.

<sup>1545</sup> Evelin Hlina, 'Dominant Undertakings in the Digital Era: A Call for Evolution of the Competition Policy Towards Article 102 TFEU?' (2016) 9 ICC Global Antitrust Review.

<sup>1546</sup> Richard A. Posner, 'The Chicago School of Antitrust Analysis' (1979) 127 University of Pennsylvania Law Review 925, 926.

<sup>1547</sup> Ibid.

<sup>1548</sup> Robert Bork, a professor in Yale Law School, is one of the leading competition scholars of the Chicago School of antitrust.

wealth, in other words, to determine who should be rich or poor; or should not be dealing with expenditures on environmental issues such as pollution.<sup>1549</sup> Instead, the role of competition law and policy should solely focus on ensuring conditions in which it would be the most favourable to consumers.<sup>1550</sup> Thus, competition law should take efficiencies<sup>1551</sup> into account and then assess the consumers' welfare which must be the main concern of competition policy.<sup>1552</sup> Since then, the consumer welfare approach accepted to be the main application of competition law in the US antitrust law. Even the court decisions of that era have interpreted Sherman Act's (of 1890) real intention, referring to Robert Bork's 1978 dated work, to prescribe the consumer welfare approach for the federal antitrust law.<sup>1553</sup>

In the US, strict *laissez-faire* ideas have also influenced enforcement in data-driven markets. In the wake of the new economy, many competition proceedings (abusive behaviour cases and mergers investigations) were held before the United States courts and the FTC. Microsoft's<sup>1554</sup> abuse of a dominant position case is a good example of concerns raised regarding possible intervention by competition authorities to the new economy markets.<sup>1555</sup> Due to its dynamic and fast-moving character, a passive approach was found to be more appropriate in order not to stifle innovation. Later, in the *Google Search* case, similar ideas were also discussed.<sup>1556</sup> The non-interventionist approach relies on the idea that many more start-ups will be ready to challenge incumbent technology giants since innovation is favoured by allowing 'self-regulation'.<sup>1557</sup> However, the passive approach definitely created monopolies or at least high concentration in data-driven markets, and incumbents became more and more

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<sup>1549</sup> Robert Bork, *The Antitrust Paradox: A Policy at War with Itself* (1<sup>st</sup> edn, Basic Books New York Free Press, 1978), 90-91.

<sup>1550</sup> *Ibid.*

<sup>1551</sup> 'Efficiencies' here is used in the context of allocative and productive efficiency gains. Except that, terms 'consumer welfare' and 'efficiency' were used as synonyms by Robert Bork in his book *The Antitrust Paradox*, 72-89.

<sup>1552</sup> Bork (n 1594), 405.

<sup>1553</sup> *Case Reiter v. Sonotone Corp.*, 442 U.S. 330 [1979], 343.

<sup>1554</sup> US Supreme Court *United States v Microsoft Corporation* 253 F.3d 34 (D.C. Circuit 2001).

<sup>1555</sup> Evelin Hlina, 'Dominant Undertakings in the Digital Era: A Call for Evolution of the Competition Policy Towards Article 102 TFEU?' (2016) 9 ICC Global Antitrust Review, 127.

<sup>1556</sup> European Commission, 'Antitrust: Commission sends Statement of Objections to Google on comparison shopping service' Press release of 15 April 2015 (MEMO/15/4781) Available at: [http://europa.eu/rapid/press-release\\_IP-15-4780\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4780_en.htm) accessed 1 September 2021.

<sup>1557</sup> Nathan Newman, 'Search, Antitrust, and the Economics of the Control of User Data' (2014) 31 *Yale Journal on Regulation* 2, 454.



dominant.<sup>1558</sup> Moreover, through ‘killer acquisitions’, even a few remaining start-ups and innovations are already being swallowed or thrown away by incumbent technology giants.

To sum up, it has been well over two decades since the emergence of data-driven markets, and all findings in this thesis demonstrate that the dominance of incumbents is getting stronger and markets tipping due to the data power of a few strong dominant undertakings, as new markets also being created in the online world. Even though the Chicago School of competition has a loud voice on the other side of the Atlantic, the approach to technology giants and data-driven markets are starting to change. On 29 July 2020, the US House of Representatives’ antitrust subcommittee held a hearing regarding the anti-competitive behaviour of Big Data user technology giants.<sup>1559</sup> Apple’s CEO Tim Cook, Google’s CEO Sundar Pichai, Facebook’s CEO Mark Zuckerberg and Amazon’s CEO Jeff Bezos were summoned to the hearing. Democratic members of the House Judiciary subcommittee, including David Cicilline (Chair), Pramilla Jayapal, Val Demings and others, pressured CEOs to reveal how the technology giants channel their data into market power and abuse their powers after ‘killer acquisitions’. Jeff Bezos, Mark Zuckerberg and Sundar Pichai struggled to convince the committee that their business strategies have been for innovation and better products for consumers, rather than creating a digital empire to rule the online world.<sup>1560</sup> Although Apple’s Tim Cook positioned its company differently from others, there are strong concerns about whether Apple is also engaging in abusive behaviour through its App Store in iOS, macOS and Apple Music.

In October 2020, staff of the Democratic members of the Committee signed a 400-page report on how technology giants abuse their Big Data power, impede

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<sup>1558</sup> Ibid.

<sup>1559</sup> Roger McNamee, ‘A Historic Antitrust Hearing in Congress has put Big Tech on Notice’ *The Guardian* (31 July 2020) Available at: <https://www.theguardian.com/commentisfree/2020/jul/31/big-tech-house-historic-antitrust-hearing-times-have-changed> accessed 1 September 2021.

<sup>1560</sup> Adam Satariano, ‘This Is a New Phase: Europe Shifts Tactics to Limit Tech’s Power’ *NY Times* (30 July 2020) Available at: <https://www.nytimes.com/2020/07/30/technology/europe-new-phase-tech-amazon-apple-facebook-google.html> accessed 1 September 2021; For the video: [https://www.youtube.com/watch?v=PvLtwV7DFwg&list=WL&index=4&ab\\_channel=Engadget](https://www.youtube.com/watch?v=PvLtwV7DFwg&list=WL&index=4&ab_channel=Engadget) accessed 1 September 2021.

competition and stifle innovation.<sup>1561</sup> According to the study, technology giants engage in anti-competitive conduct, and they become “internet gatekeepers” by controlling online markets that are crucial for consumers. By this means, they entrench their market power, pursue start-up acquisitions, and eventually monopolise. The study suggests potential regulatory *ex-ante* interventions to data-driven markets by breaking up technology giants into smaller companies and such. Likewise, Joe Biden, the elected President of the US from the Democrat Party, stresses that he would consider company breakups in the near future.<sup>1562</sup> The approach of US lawmakers and politicians are changing due to the power shift between Republicans and Democrats. Apart from the political movements, the judiciary and authorities also seem to be concerned regarding data controllers violating antitrust laws and exercising monopolistic powers in the online world. This can be traced in the FTC’s newest investigations in data-driven markets against Google, Amazon, and Facebook.<sup>1563</sup> Thus, even in the US, calls for intervention are getting even more serious than in the past.

Another argument against the competition law intervention in data-driven markets is the data protection and privacy argument discussed widely in Chapter 5. To nuance it briefly, data violations are found to be a grey zone between data privacy, competition law and consumer protection. Therefore, the increasing use of consumer data and Big Data utilisation will likely cause competition and privacy concerns in the future. As there is an interplay between different areas of law, cooperation is definitely needed while approaching these kinds of competition violations. Therefore, ideas such as creating a reliable and effective system for data protection, like the new GDPR, to deal with data-related issues and enable innovation and competition should not be on the table are also discussed widely. However, as mentioned before, when a data violation constitutes an abusive behaviour related to market power, data protection issues become an internal

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<sup>1561</sup> Five Things to Know about the Big Tech Antitrust Report, *Associated Press* (7 October 2020) Available at: <https://apnews.com/article/politics-ac3cce04e38c0bf584cfb9ec04557874> accessed 1 September 2021.

<sup>1562</sup> *Ibid.*

<sup>1563</sup> U.S. Federal Trade Commission, Press Release, ‘FTC to Examine Past Acquisitions by Large Technology Companies’ (11 February 2020) Available at: <https://www.ftc.gov/news-events/press-releases/2020/02/ftc-examine-past-acquisitions-large-technology-companies> accessed 1 September 2021; Kari Paul, ‘US orders Google, Facebook and others to reveal details of years of acquisitions’ *The Guardian* (11 February 2020) Available at: <https://www.theguardian.com/technology/2020/feb/11/google-facebook-amazon-us-antitrust-investigations> accessed 1 September 2021.

issue for competition law.<sup>1564</sup> Thus, it becomes even more important while addressing potential novel abuse types in the new economy.

The recent *Bundeskartellamt* decision addressing data privacy violation as a competition issue has revealed the potential impact of data power on consumers, online markets, and undertakings. Therefore, there is a need for competition authorities to examine better how data is collected, utilised, and used in the online world in terms of competition law.<sup>1565</sup> As the decision has also revealed the importance of data privacy in the competition law assessment as a potential parameter, competition law should not be left outside the discussion. In other words, competition and data protection authorities should handle privacy and data protection considerations together. The connection between the lawmakers and enforcers must be strong as the *Bundeskartellamt* recent decision has successfully identified the need and addressed it during the investigation by cooperating with the German data protection institutions.

To sum up, a non-interventionist approach does not seem to be the right approach for competition law issues in the related markets. As can be seen from the recent merger investigations in the EU and the US,<sup>1566</sup> the competition

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<sup>1564</sup> For more information, see Chapter 5.

<sup>1565</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, 124.

<sup>1566</sup> Case No COMP/M.4731, *Google/DoubleClick* C [2008] 927 Final, Commission Decision of 11/03/2008 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement; Case No COMP/M.5727, *Microsoft/Yahoo! Search Business* C [2010] 1077 Final, Commission Decision of 18/02/2010 declaring a concentration to be compatible with the common market according to Council Regulation (EC) No 139/2004; Case No COMP/M.6314, *Telefónica UK/Vodafone UK/Everything Everywhere/JV* C [2012] 6063 Final, Commission Decision of 4/9/2012 declaring a concentration to be compatible with the internal market and the functioning of the EEA Agreement; Case No COMP/M.6281, *Microsoft/Skype* C [2011] 7239 Final, Commission Decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004; Case No COMP/M.7217, *Facebook/WhatsApp* C [2014] 7239 Final, Commission Decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004; Case No COMP/M.8124, *Microsoft/LinkedIn* C [2016] 8404 Final, Commission decision pursuant to Article 6(1)(b) in conjunction with Article 6(2) of Council Regulation No 139/2004 and Article 57 of the Agreement on the European Economic Area; Case No COMP/M.8228, *Facebook/WhatsApp* C [2017] 3192 Final, imposing fines under Article 14(1) of Council Regulation (EC) No. 139/2004 for the supply by an undertaking of incorrect or misleading information; Federal Trade Commission, 'Statement of Federal Trade Commission concerning *Google/DoubleClick*', FTC File No. 071-0170. [https://www.ftc.gov/system/files/documents/public\\_statements/418081/071220googledc-commstmt.pdf](https://www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf) accessed 1 September 2021; Federal Trade Commission, Dissenting Statement of Commissioner Pamela Jones Harbour, In the matter of *Google/DoubleClick* F.T.C. File No. 071-0170 (2007), Available at: [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf) accessed 1 September 2021.

authorities were reluctant to intervene in digital ecosystems, and they deduced the idea that competition between technology companies would become more stable. The *laissez-faire* ideas have influenced enforcement, and in many competition proceedings, a passive approach was found to be appropriate for data-driven markets. As discussed throughout the thesis, the non-interventionist approach resulted in highly concentrated markets and ultimately monopolising digital ecosystems. More recently, both the EU Commission and the Federal Trade Commission have started post-merger investigations and sector inquiries to identify the problematic approach of competition law and intervene in data-driven markets, and the lack of current regulation in addressing problems in data-driven markets has been revealed. Therefore, academics argue the need to broaden competition law goals for Big Data related issues.

### 6.3.2 Broadening Competition Law's Goals

As having many objectives such as *market access*,<sup>1567</sup> *market integration*<sup>1568</sup> and *ordoliberal objectives*,<sup>1569</sup> the application of the consumer welfare approach in the EU has gained prominence through an economic analysis of the market since consumer welfare is measured basically by the economic efficiencies.<sup>1570</sup> Jones and Sufrin address that the consumer welfare

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<sup>1567</sup> Communication from the Commission, Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings. [2009] OJ C45/02, para 6; Case C – 6/72 *Europemballage Corporation and Continental Can Company Inc. v Commission of the European Communities* [1973] ECLI:EU:C:1973:22; Case C – 85/76 *Hoffman-La Roche & Co. AG v Commission of the European Communities* [1979] ECLI:EU:C:1979:36, para 91; C – 62/86 *AKZO Chemie BV v Commission of the European Communities* [1991] ECLI:EU:C:1991:286, para 69.

<sup>1568</sup> Richard Whish and David Bailey, *Competition Law* (8<sup>th</sup> edn, Oxford University Press, 2015), 24; Consolidated Version of the Treaty on European Union art. [3], 2010 O.J. C 83/01; Case T – 368/00 *General Motors Nederland BV and Opel Nederland BV v Commission of the European Communities* [2003] ECLI:EU:T:2003:275; Case T – 67/01 *JCB Service v Commission of the European Communities* [2004] ECLI:EU:T:2004:3; Case C – 53/03 *Synetairismos Farmakopoiou Aitolias & Akarnanias (Syfait) and Others v GlaxoSmithKline plc and GlaxoSmithKline AVEE* [2005] ECLI:EU:C:2005:333; Case C – 501/06 P *GlaxoSmithKline Services and Others v Commission and Others* [2009] ECLI:EU:C:2009:610.

<sup>1569</sup> Christian Ahlborn and Carsten Grave, 'Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective' (2006) 2 *Competition Policy International* 2, 198; Liza Lovdahl Gormsen, 'Article 82 EC: Where are we coming from and where are we going to?' (2006) 2 *Competition Law Review* 2. Ordoliberal objectives are found conflicting with the other objectives of competition law such as consumer welfare by some scholars in the EU: Pinar Akman, 'Searching for the Long-Lost Soul of Article 82EC' (2009) 29 *Oxford Journal of Legal Studies* 2, 269.

<sup>1570</sup> Alison Jones and Brenda Sufrin, *EU Competition Law* (5<sup>th</sup> edn, Oxford University Press, 2014), 12; Richard Whish and David Bailey, *Competition Law* (8<sup>th</sup> edn, Oxford University Press, 2015), 19; European Commission Notice, Guideline on Vertical Restraints [2000] OJ C291/01, para 7; Neelie Kroes, European Competition Policy – Delivering Better Markets and Better Choices, SPEECH 05/512 of 15 September 2005, Available at: [http://europa.eu/rapid/press-release\\_SPEECH-05-512\\_en.htm?locale=en](http://europa.eu/rapid/press-release_SPEECH-05-512_en.htm?locale=en) accessed 1 September 2021; Neelie Kroes,

approach of competition law should stay in the main framework of preventing anti-competitive agreements, abusive conduct and mergers; and should not provide mechanisms to promote and enhance competitiveness or other socio-political goals in the first place.<sup>1571</sup> Therefore, as the consumer welfare approach has gained huge prominence in competition law today, analysing how new markets function and why competition policy is ineffective is intrinsically associated with the consumer welfare objective of competition law. As a result, commentators voice alternatives to ‘mathematical’ methods to assess competition, such as consumer choice, fairness, and privacy.<sup>1572</sup>

In the traditional (economic) competition analysis, the price parameter is the predominant tool to assess the competition. That is the main reason why academia argues the ineffectiveness of traditional tools for the type of competition in data-driven markets, as discussed in detail above. The criticism here is on the *de facto* hierarchy of the objectives of competition law in which the price-centric assessment for consumer’s welfare seems to be a preferential method over privacy, fairness, or consumer choice.<sup>1573</sup> However, in most data-driven markets,

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Preliminary Thoughts on Policy Review of Article 82, SPEECH 05/537 23 September 2005, Available at: [http://europa.eu/rapid/press-release\\_SPEECH-05-537\\_en.htm?locale=en](http://europa.eu/rapid/press-release_SPEECH-05-537_en.htm?locale=en) accessed 1 September 2021; Communication From The Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements [2011] OJ C11/1, para 269; European Commission, Guidelines on Vertical Restraints [2010] OJ C130/01, para 7; European Commission, Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2004] OJ C31/03, para 8; European Commission, Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2008] OJ C265/7, para 10.

<sup>1571</sup> Jones and Sufrin (n 1570) 51.

<sup>1572</sup> For more information: Nathan Newman, ‘Search, Antitrust, and the Economics of the Control of User Data’ (2014) 31 *Yale Journal on Regulation* 2, 401–454; Frank Pasquale, ‘Privacy, antitrust and power’ (2013) 20 *George Mason Law Review* 4, 1009–1024; Ariel Ezrachi and Maurice Stucke, ‘Emerging Antitrust Threats and Enforcement Actions in The Online World’ (2017) 13 *Competition Law International* 2, 10; Giulia Schneider, ‘Testing Art. 102 TFEU in the Digital Marketplace: Insights from the Bundeskartellamt’s investigation against Facebook’ (2018) 9 *Journal of European Competition Law and Practice* 4, 219; Christopher Townley, Eric Morrison and Karen Yeung, ‘Big Data and Personalised Price Discrimination in EU Competition Law’ (2017) 36 *Yearbook of European Law*, 43-45; Ioannis Kokkoris and Ioannis Lianos, *The reform of EC Competition law: New Challenges* (Kluwer Law International, 2009), 57; Neil Averitt, Robert H. Lande and Paul Nihoul, “‘Consumer choice’ is where we are all going- so let’s go together” (2011) 2 *Concurrences-Revue des droits de la concurrence* 1, 3; Robert H. Lande, ‘Consumer Choice as the Ultimate Goal of Antitrust’ (2001) 62 *University of Pittsburgh Law Review* 3, 503. For an import of this concept in EU competition law, see Paul Nihoul, Nicholas Charbit and Elisa Ramundo (eds.), *Choice – A New Standard for Competition Law Analysis?* (Concurrences, 2016).

<sup>1573</sup> Christopher Townley, Eric Morrison and Karen Yeung, ‘Big Data and Personalised Price Discrimination in EU Competition Law’ (2017) 36 *Yearbook of European Law*, 45; Giulia Schneider, ‘Testing Art. 102 TFEU in the Digital Marketplace: Insights from the

price is *zero*, and it is impossible to assess consumer surplus, deadweight losses, or consumers' willingness to pay through *price*. Consequently, the demand or supply-side substitutability analysis become ineffective as well as the relevant product market analysis. To note, price is not non-existent, and consumer information is the actual price in data-driven markets. Monetary price is usually non-existent in the online world apart from premium membership schemes, which are not prerequisites for using these platforms in most circumstances.

Instead of price-centric tools, some commentators propose giving weight on non-price assessments more, arguing that it would provide a better understanding of competition on merits in the new economy. For instance, a privacy assessment based on quality has gained strong grounds after the *Google Search* case<sup>1574</sup> and the Bundeskartellamt's *Facebook* investigation.<sup>1575</sup> If privacy can be measured objectively, for instance, the degradation in privacy reflects the quality of the product or service; then there will be no problems regarding privacy being a benchmark and parameter for competition law. In this manner, Samson Esayas advocates the objective measurability of privacy in data-driven markets for competition law purposes.<sup>1576</sup> Also, the European Commission expresses in the *Microsoft/LinkedIn* investigation that changes in privacy protection degree can significantly affect the level of competition and restrict consumer choice, which is also a parameter of competition.<sup>1577</sup>

Similar to privacy, consumer choice is also found to be an alternative method to assess the level of competition in data-driven markets. Commentators argue that consumer choice can become an objective benchmark which competition authorities aim to preserve a specific level of choice of products and services for consumers.<sup>1578</sup> As the consumer choice benchmark can provide a

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Bundeskartellamt's investigation against Facebook' (2018) 9 Journal of European Competition Law and Practice 4, 219.

<sup>1574</sup> Case No COMP/AT.39740, Google Search (Shopping) [2017] 4444 Final.

<sup>1575</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019).

<sup>1576</sup> Samson Y. Esayas, 'Privacy as a quality parameter of competition: Some reflections on the scepticism surrounding it' in Björn Lundqvist and Michal S. Gal (eds), *Competition Law for the Digital Economy* (1<sup>st</sup> edn, Edward Elgar Publishing, 2019), 164.

<sup>1577</sup> Case No COMP/M.8124 *Microsoft/LinkedIn* C [2016] 8404 final, para 350.

<sup>1578</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 17; Robert H. Lande, 'Consumer Choice as the Ultimate Goal of Antitrust' (2001) 62 University of Pittsburgh Law Review 3, 503; Paul Nihoul, Nicholas Charbit and Elisa Ramundo (eds.), *Choice – A New Standard for Competition Law Analysis?* (Concurrences, 2016); Neil W. Averitt and Robert H. Lande, 'Consumer Sovereignty:

wider selection of parameters rather than *price*, it can become a broader concept compared to consumer welfare.<sup>1579</sup> In this sense, a decrease in consumer choice can indicate consumer harm for competition law purposes. Also, not a decrease in numbers itself, but the manipulation of consumers' choices is also quite possible in data-driven markets. Through the screen of a pc or a smartphone, companies can decide what users see, especially on the targeted and behavioural advertisements, recommendations, or any type of search results.<sup>1580</sup> In other words, consumer choice is limited to specific content by technology giants and choices of consumers can be controlled for manipulation easily by them.

Another recommendation and alternative for the consumer welfare approach is '*fairness and justice*'. Christopher Townley et al. argue that the fairness and justice objectives of the EU competition law found in the Preamble to the TFEU,<sup>1581</sup> Article 102 TFEU<sup>1582</sup> and Article 3(3) TEU<sup>1583</sup> can be used in harmony with the consumer welfare objective.<sup>1584</sup> Although there might be conflicts between these objectives, consumer welfare will be the primary focus in applying Article 102 to abuse cases. At the same time, the fairness and justice objectives will also play significant but a secondary role.<sup>1585</sup>

To apply these above-mentioned 'objectives', there is no need to abandon the consumer welfare approach. The price analysis might not be sufficient, and consumer surplus and market power might be hard to detect, but properly written and enforced up-to-date tools to assess competition can serve competition law and policy without isolating the consumer welfare objective. In fact, the EU competition law embodies many different objectives. Throughout history, many

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A Unified Theory of Antitrust and Consumer Protection Law' (1997) 65 Antitrust Law Journal 713, 715; Peter Behrens, 'The Ordoliberal Concept of 'Abuse' of a Dominant Position and its Impact on Article 102 TFEU' (2015) Nihoul/Takahashi, Abuse Regulation in Competition Law, Proceedings of the 10th ASCOLA Conference Tokyo 2015, Available at: <https://ssrn.com/abstract=2658045> accessed 1 September 2021.

<sup>1579</sup> Lianos (n 1578) 17; Paul Nihoul, Nicholas Charbit and Elisa Ramundo (eds.), *Choice – A New Standard for Competition Law Analysis?* (Concurrences, 2016).

<sup>1580</sup> Lianos (n 1578) 108.

<sup>1581</sup> Preamble to the TFEU: "...that the removal of existing obstacles calls for concerted action in order to guarantee steady expansion, balanced trade and fair competition...".

<sup>1582</sup> Article 102 TFEU: "...directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions...".

<sup>1583</sup> Article 3(3) TEU: "...It shall combat social exclusion and discrimination, and shall promote social justice and protection...".

<sup>1584</sup> Townley et al (n 1573) 43-45.

<sup>1585</sup> Ibid.

different political ideas have also affected competition law. Moreover, it is important to point out that the objectives of competition law are constantly changing by the use of different institutional and political ideas, especially in terms of the social goals affecting the interpretation of EU competition law.<sup>1586</sup> This is quite important since markets also undergo changes in time, and competition law and policy must reflect market realities. As a result, the interpretation of main principles of competition law such as Article 102 may become diversified through the comments of competition authorities, the decisions of courts, and other political decisions.<sup>1587</sup> EU Competition law has been proved to successfully incorporate many different and conflicting objectives such as market integration and consumer welfare.<sup>1588</sup>

A novel approach is proposed by some scholars, called New Brandeisians,<sup>1589</sup> in the US. This new approach suggests abandoning the consumer welfare approach of competition law and instead focusing on data-driven market structures more to protect markets, the process of competition, and smaller competitors from technology giants' abusive behaviour.<sup>1590</sup> This new movement has its roots back to Louis Brandeis, Justice of the Supreme Court of the United States, from 1916 to 1939.<sup>1591</sup> Back in the 1890s, Louis Brandeis began to question the "cut-throat competition" and expressed concerns around giant undertakings dominating whole industries back then in the US. In this era, the first competition regulations emerged in the US, such as the Sherman Act of 1890, the Clayton Act of 1914, and the Federal Trade Commission Act of 1914. This era also faced one of the first monopolisation/abusive behaviour cases in history, such as *Northern Securities*,<sup>1592</sup> *Standard Oil*<sup>1593</sup> and *American*

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<sup>1586</sup> Ioannis Lianos, 'Some Reflections on the Question of the Goals of EU Competition Law' (2013) CLES Working Paper Series 3 January, 3.

<sup>1587</sup> Ibid.

<sup>1588</sup> Renato Nazzini, *The Foundations of European Union Competition Law* (1<sup>st</sup> edn, Oxford University Press, 2011), 27.

<sup>1589</sup> The movement also called Hipster Antitrust: see the Antitrust Chronicle April 2018 vol 1.

<sup>1590</sup> Ariel Ezrachi and Maurice Stucke, 'The Fight Over Antitrust's Soul' (2018) 9 *Journal of European Competition Law and Practice* 1; Ebru Gökçe, 'Competition Issues in the Digital Economy' (2019) UNCTAD Background Note, 5, Pinar Akman, 'An Agenda for Competition Law and Policy in the Digital Economy' (2019) *Journal of European Competition Law and Practice*, Editorial 1, 2.

<sup>1591</sup> See: <https://www.fjc.gov/history/judges/brandeis-louis-dembitz>.

<sup>1592</sup> *Northern Securities Co. v. United States*, 193 U.S. 197 (1904)

<sup>1593</sup> *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1 (1911)



*Tobacco*<sup>1594</sup> which focused on dismantling giant companies that held control over the whole industries and monopolised trade inside the US.

Louis Brandeis was a proponent of the Madisonian traditions and advocated for intervening in the economic system favouring consumers and democratic contribution of power.<sup>1595</sup> In one of his speeches in 1912, he expressed: “It is less than eighteen months since the decisions in the Standard Oil and Tobacco cases made Americans realize the importance and the urgency of the trust problem... A large part of the American people realize today that competition is in no sense inconsistent with large-scale production and distribution... We learned long ago that liberty could be preserved only by limiting in some way the freedom of action of individuals; that otherwise liberty would necessarily yield to absolutism; and in the same way we have learned that unless there be regulation of competition, its excesses will lead to the destruction of competition, and monopoly will take its place.”<sup>1596</sup>

The ideas and philosophy of Louis Brandeis had lived until the 1970s when the Chicago School and the *laissez-faire* ideology gained prominence in competition law.<sup>1597</sup> However, lately, an updated anti-monopoly agenda is emerging in the US under New Brandeis School. In October 2020, the House Judiciary Committee of the US published a report on an investigation of competition in digital markets regarding the rise and use of market power related to data and the adequacy of existing laws and enforcement in that area.<sup>1598</sup> The report comprises many New Brandeisian ideas, such as “reasserting the anti-monopoly goals of competition law and their centrality to ensure democracy.”<sup>1599</sup> The report also recommends strengthening the Clayton and Sherman acts by introducing new prohibitions on abuse of dominant position, monopoly

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<sup>1594</sup> United States v. American Tobacco Company, 221 U.S. 106 (1911)

<sup>1595</sup> Lina Khan, ‘The New Brandeis Movement: America’s Antimonopoly Debate’ (2018) 9 Journal of European Competition Law and Practice 3, 131.

<sup>1596</sup> Louis D. Brandeis, ‘The Regulation of Competition Versus the Regulation of Monopoly’, An address to the Economic Club of New York on November 1, 1912, Available at: <http://louisville.edu/law/library/special-collections/the-louis-d.-brandeis-collection/the-regulation-of-competition-versus-the-regulation-of-monopoly-by-louis-d.-brandeis> accessed 1 September 2021.

<sup>1597</sup> Khan (n 1595) 131.

<sup>1598</sup> United States Congress, House of Representatives, Committee on the Judiciary, ‘Investigation Of Competition in Digital Markets: Majority Staff Report and Recommendations’ (June 2019) Available at: [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf) accessed 1 September 2021.

<sup>1599</sup> Ibid, 20

leveraging, updating laws on vertical mergers, overriding the current precedent in the case law and many more in order to fight with the technology giants, namely: Google, Amazon, Facebook and Apple.<sup>1600</sup>

Lina Khan, one of the foremost defenders of the movement, explains the core tenets of the anti-monopoly idea, the New Brandeis School of competition. According to the idea, anti-monopoly is a wide toolbox that consists of antitrust as a tool.<sup>1601</sup> Furthermore, anti-monopoly should be regarded as a fundamental philosophy that structures society on a democratic basis.<sup>1602</sup> In other words, monopolisation does not have pure economic outcomes but political ones, which means the concentration of market participants can also lead to political power in time. Therefore, the high-concentration and monopolisation can undermine democratic values in addition to competition in a market. Dominant undertakings can leverage their powers through influence over governments, lobbying, financing, staffing, and funding.<sup>1603</sup> This is the reason why anti-monopoly is wider than antitrust. However, this also does not mean that *big is bad* in every scenario.<sup>1604</sup> There may be valuable and contributing monopolies to society and consumers more specifically. Overall, the anti-monopoly idea focuses on market structures and competitive processes more than the consumer welfare approach.<sup>1605</sup> In the anti-monopoly idea, outcomes do not have higher importance just as market structures.

The findings of New Brandeisians are actually quite similar to the findings of this thesis; that the high-concentration, indirect network externalities and accumulation of Big Data in data-driven markets lead to the rise of “internet gatekeepers”. Therefore, in an age where people access entertainment, shopping, news, and many other important services online, a decrease in competition can lead to wider consequences than in the past.<sup>1606</sup> For instance, traditional product or service monopolies may lead to poorer quality products and higher prices. However, online monopolies, ‘the Data-Opolies’, can affect not only

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<sup>1600</sup> Ibid, 21.

<sup>1601</sup> Khan (n 1595) 131.

<sup>1602</sup> Ibid.

<sup>1603</sup> Ibid.

<sup>1604</sup> Ibid, 132.

<sup>1605</sup> Ibid, 132.

<sup>1606</sup> Ariel Ezrachi and Maurice Stucke, ‘The Fight Over Antitrust’s Soul’ (2018) 9 Journal of European Competition Law and Practice 1, 1.

consumers' wallets but also their privacy, well-being, and even democracy.<sup>1607</sup> Therefore, according to the New Brandeis School, competition policy needs to move forward to embrace wider problems regarding consumers and markets.

Lina Khan argues that the consumer welfare approach has failed to detect and deter anti-competitive behaviour; thus, it must be replaced by an approach more oriented around the market structures and the 'process' of competition than consumer welfare.<sup>1608</sup> In this approach, undertakings and market structures must be assessed for exclusionary and discriminatory conduct by focusing on entry barriers, cross-leverage market advantages, competitive bottlenecks and intermediary powers.<sup>1609</sup> In this sense, a proper analysis of the economics of data-driven markets can identify most of the anti-competitive benefits related to Big Data utilisation. However, additional tools are needed. For instance, new regulatory principles are needed in order to tackle anti-competitive behaviour, such as banning vertical integration for specific markets and undertakings or applying the essential facilities doctrine to Big Data-rich undertakings or limiting the ability of dominant online intermediaries to abuse their data power by imposing neutrality.<sup>1610</sup>

However, there is no need to leave the consumer welfare approach in favour of something else or broaden the scope of the goals of competition by incorporating *fairness and justice* as the primary objective since it already contains these objectives as well as many others together. The approach of the New Brandeis movement is not superior to the *laissez-faire* approach and does not seem feasible at all. The main claim of the movement and Lina Khan is to interpret social and political ideas into competition law in order to 'fight' with big tech companies. Thus, banning vertical integration in such markets to limit the ability of technology giants does not have a rightful place in competition law theory. If this approach had been utilised in *Facebook/WhatsApp* or *Google/DoubleClick*, it would have had serious consequences regarding innovation and growth in data-driven markets. Limiting integration through regulation would have consequences on innovation, and unlawful barriers would be imposed on companies such as Google or Facebook. Therefore, protecting

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<sup>1607</sup> Ibid.

<sup>1608</sup> Lina Khan, 'Amazon's Antitrust Paradox' (2016) 126 Yale Law Journal 3, 803.

<sup>1609</sup> Ibid.

<sup>1610</sup> Ibid.

competition by crippling technology giants through socio-political intentions and fear of big tech companies is not the right way of intervention by competition authorities. In order to create appropriate rules and tools for the application of competition law, authorities and courts should not adjudicate through political theories, and the *raison d'être* of intervention should be the 'healthy competition' by promoting innovation and growth as discussed in Chapter 4.<sup>1611</sup> Therefore, the last resort for broadening competition law's objectives is to create a sector-specific regulation for the Big Data sector and data-driven markets.

### 6.3.3 Sector-Specific Regulation

In 2019, the European Commission adopted a new regulation called the 'Platform to Business Regulation', aiming to promote fairness and transparency in the online world.<sup>1612</sup> In this sense, all online platforms are obliged to not discriminate against other businesses inside an ecosystem irrespective of having market power.<sup>1613</sup> However, this regulation does not offer anything substantial for immediate concerns. As a result, on 15 December 2020, the European Commission published a set of proposals for the regulation regarding data-rich undertakings, data-driven markets and the use of Big Data. As part of the wider Digital Single Market Strategy and the P2B Regulation,<sup>1614</sup> which aimed to promote transparency for online intermediation services, the European Commission revealed the Digital Services Act<sup>1615</sup> (DSA) and Digital Markets Act<sup>1616</sup> (DMA) package for the EU. According to the Commission, both regulations have two main goals to achieve: creating a safe online space where all fundamental rights of consumers are protected and creating a level playing field

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<sup>1611</sup> See Chapter 4.5.2 for more information.

<sup>1612</sup> 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 (Text with EEA relevance) PE/56/2019/REV/1 OJ L 186, 11.7.2019 (P2B Regulation).

<sup>1613</sup> On February 13th, 2019, the European Parliament, the Council of the European Union and the European Commission reached a political deal on a Proposal for an EU Regulation on promoting fairness and transparency for business users of online intermediation services (April 2018), Available at: <https://ec.europa.eu/digital-single-market/en/news/regulation-promoting-fairness-and-transparency-business-users-online-intermediation-services> accessed 1 September 2021.

<sup>1614</sup> The P2B Regulation.

<sup>1615</sup> Proposal for a Regulation of The European Parliament and of The Council on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31/EC COM/2020/825 final, Available at: <https://eur-lex.europa.eu/legal-content/en/TXT/?qid=1608117147218&uri=COM%3A2020%3A825%3AFIN> accessed 1 September 2021.

<sup>1616</sup> Ibid.

for competitors in order to foster competitiveness and innovation.<sup>1617</sup> The new Brandeisian ideas can also be found in the foundation of these regulations as Thierry Breton, the Commissioner for the Internal Market, expressed that:

“Many online platforms have come to play a central role in the lives of our citizens and businesses, *and even our society and democracy at large...* With harmonised rules, ex-ante obligations, better oversight, speedy enforcement, and deterrent sanctions, we will ensure that anyone offering and using digital services in Europe benefits from security, trust, innovation and business opportunities.”<sup>1618</sup>

This package is the biggest reconsideration of the digital world in the EU since the eCommerce Directive<sup>1619</sup> back in 2000 and the first comprehensive analysis of digital markets from a competition law perspective. Although the main focus will be on the DMA for the issues addressed in this research, the DSA is worth mentioning since it addresses the data protection standards and how online undertakings can operate in the EU. In addition to the existing GDPR, the DSA brings additional rules for the removal of illegal online content, new obligations for data-rich undertakings including on online advertising and on the use of algorithms for the recommendation of content to users, new rules on traceability of business of users in order to tackle with illegal content, products, and services, and additional measures to protect users and their information available on the platforms.<sup>1620</sup> Therefore, the DSA will bring EU-wide obligations for the protection of users’ fundamental rights in the online world.<sup>1621</sup> By this means, the new regulation mains to rebalance the rights and responsibilities of online

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<sup>1617</sup> Shaping Europe’s Digital Future, The Digital Services Act Package, Available at: <https://ec.europa.eu/digital-single-market/en/digital-services-act-package> accessed 1 September 2021.

<sup>1618</sup> European Commission, Press Release, ‘Europe fit for the Digital Age: Commission Proposes New Rules for Digital Platforms’ (Brussels, 15 December 2020) Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_2347](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2347) accessed 1 September 2021 (emphasis added).

<sup>1619</sup> Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (‘Directive on electronic commerce’) OJ L 178, 17.7.2000.

<sup>1620</sup> European Commission, Press Release, ‘Europe fit for the Digital Age: Commission Proposes New Rules for Digital Platforms’ (Brussels, 15 December 2020) Available at: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_2347](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2347) accessed 1 September 2021.

<sup>1621</sup> Ibid.

intermediaries, public authorities and consumers based on human rights, democracy, the rule of law and the other fundamental European values.<sup>1622</sup>

On the other hand, the second *ex-ante* regulation, DMA,<sup>1623</sup> introduces new rules for 'specific' undertakings operating in the online world. The proposal identifies intermediary platforms like GAFAM as the 'internet gatekeepers' between business users and end-users, thus imposing special responsibilities and bans. Article 1(1) of the proposed regulation lists online search engines, social networks, online marketplaces, communication services, application stores, operating systems, video-sharing platforms, online advertising services and cloud computing services as the 'core platform services' which the regulation will apply to.<sup>1624</sup> In addition, not every core or intermediary platform is under scrutiny. According to Article 3(1) of the DMA, platform services are considered as 'gatekeepers' if their services have a significant impact on the Internal Market, operate as important gateways for business users to reach end-users and enjoy an entrenched and durable position in their operations or will likely enjoy in the near future.<sup>1625</sup> These are the qualitative thresholds for the applicability of the DMA for data-driven markets.

Therefore, the Regulation also brings certain additional quantitative thresholds. For having a significant impact on the internal market, the Commission expresses that significant impact means at least €6.5 billion for annual turnover or €65 billion for market capitalisation.<sup>1626</sup> For being a gateway, the Commission requires at least 45 million monthly active end-users in the EU and more than 10.000 yearly active business users on a given platform/intermediation service.<sup>1627</sup> On top of that, the third requirement, entrenched and durable position, is presumed to be existent if the company meets the above thresholds for the past three consecutive financial years.<sup>1628</sup> Undertakings must notify the European Commission if they meet these criteria and comply with the DMA's obligations laid down in Articles 5 and 6.

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<sup>1622</sup> Ibid.

<sup>1623</sup> European Commission, Proposal for a Regulation of The European Parliament and of The Council on contestable and fair markets in the digital sector (Digital Markets Act) COM/2020/842 final.

<sup>1624</sup> Article 1(1) of the DMA.

<sup>1625</sup> Article 3(1) of the DMA.

<sup>1626</sup> Article 3(2) of the DMA.

<sup>1627</sup> Article 3(2) of the DMA.

<sup>1628</sup> Article 3(2) of the DMA.

There are many do and do not type of obligations which include data merging and utilisation bans, not blocking users to uninstall software or apps, providing undertakings necessary information for advertising purposes (both to publishers and advertisers), allowing their business users to promote their own offers and conclude their own contracts within platforms, and many other obligations.<sup>1629</sup> For the enforcement of the regulation, the European Commission has the power for imposing penalties and extensive investigative powers for platforms. When identified 'gatekeepers' do not comply with the DMA, the Commission then may impose fines on a gatekeeper not exceeding 10% of its total annual turnover<sup>1630</sup> or periodic penalty payments not exceeding 5% of its average daily turnover for a period of time.<sup>1631</sup>

This new regulation seems problematic in several ways. First, by regulating and enforcing this type of *ex-ante* regulation, the Commission avoids dealing with problems in the applicability of EU competition law to data-driven markets. There are specific problems that are identified by this research in the market power assessment tools for abuses or merger control. However, instead of fitting competition law for data-driven markets, the DMA aims to create a framework in order to capture *big fish* and penalise them. By this means, the relevance and importance of competition law assessment are being vanished, and a static regulation takes the place of competition in highly innovative and dynamic online markets. The problem of the regulation is its quantitative and qualitative thresholds. All thresholds are static, which may reflect the market structures of today. However, intervention to data-driven markets must be future proof in order not to impede competition in a decade or two. In this sense, it can be assumed that the DMA is not future proof.

The second is the problem about the far-reaching consequences of obligations listed in Articles 5 and 6 of the DMA.<sup>1632</sup> Damien Geradin touches on important concerns like a potential obligation to have data silos found in Article 5(a), or installation of third-party app stores to mobile operating systems found in

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<sup>1629</sup> Article 5 and 6 of the DMA.

<sup>1630</sup> Article 26 of the DMA.

<sup>1631</sup> Article 27 of the DMA.

<sup>1632</sup> Damien Geradin, 'The EU Digital Markets Act in 10 points' *The Platform Law Blog* (16 December 2020) Available at: <https://theplatformlaw.blog/2020/12/16/the-eu-digital-markets-act-in-10-points/> accessed 1 September 2021.

Article 6(1)(c)<sup>1633</sup> or prohibiting the utilisation of non-public data from business users in an online market found in Article 6(1)(d), and many others.<sup>1634</sup> A thorough impact analysis must be engaged before enforcing such obligations. However, the impact assessment was engaged for the only current situation of data-driven markets. The Commission stresses that the regulation will increase the contestability of the digital sector, which helps the smaller rivals of gatekeepers (GAFAM) in the sector by blocking technology giants' unfair practices.<sup>1635</sup> According to the study, the regulation will contribute to new platforms that provide higher quality products at competitive prices through innovation.<sup>1636</sup> The Commission overlooks that these online platforms did not come into existence by the hand of God or nature. Thus, there are not any barriers to the emergence of new platforms at all. The way the Commission assesses these online platforms is like technology giants 'secured' and then 'abused' these ecosystems that are found to exist before Big Data or the Internet. This is a mistake. Technology giants such as Amazon or Google 'created' their own platforms. There is no evidence that new platforms 'will emerge' if such obligations are imposed on Google and others.

Also, Geradin underlines that there could be far-reaching obligations regarding data portability and data interoperability according to Article 6(1)(h).<sup>1637</sup> In Chapter 5, it is already identified that the application of the essential facilities doctrine, mandatory data sharing or similar obligations might have serious consequences on data privacy or the functioning of data-driven markets.<sup>1638</sup> The success of super-dominant tech companies lies in the ability to derive value from huge datasets in order to develop better, higher quality products and services. Data itself is not useful for companies. Thus, data sharing would not be an effective remedy for data-related competition issues. Instead, the *valued* data should be under the radar of competition authorities and the essential facilities doctrine. However, in this case, it would be impossible to assess data objectively by looking at the sheer *volume* of data held by undertakings or impossible to

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<sup>1633</sup> This will have major implications for Apple which have a 'closed' mobile ecosystem.

<sup>1634</sup> Geradin (n 1632).

<sup>1635</sup> European Commission, Proposal for a Regulation of The European Parliament and of The Council on contestable and fair markets in the digital sector (Digital Markets Act) COM/2020/842 final, 11.

<sup>1636</sup> Ibid.

<sup>1637</sup> Geradin (n 1632).

<sup>1638</sup> See Chapter 5.3.2 for more information.



assess which datasets could be the relevant ones to become an essential facility. The main reason behind the ample competitive advantage between undertakings is the difference between data and pieces of information extracted to become relevant for higher quality services and products.

In addition, imposing mandatory data sharing methods would create problems regarding consumers' privacy since the shared data would end in the hands of new entrant third parties without consent in data-driven markets.<sup>1639</sup> Also, the application of the essential facilities doctrine would disincentivise technology companies to collect data, and ultimately it would hinder innovation on data collection, processing and analytics methods. For instance, if data interoperability becomes a competition law remedy, end-users will be able to access all their information on a platform, say Facebook, from another app, like Google+. In the end, companies will take advantage of third-party data by obtaining and utilising this data which cannot be obtained otherwise in adjacent markets. Data sharing remedies contain serious potential consumer harms, and they can become tools for novel anti-competitive behaviour in the age of algorithms. In brief, the proposed regulation, DMA, is not a future proof regulation for dynamic data-driven markets and does not seem to be the appropriate method to intervene in online ecosystems. Therefore, the appropriate approach should be to optimise the current regulatory framework of the EU Competition law.

#### **6.3.4 Optimising the Current Legal Framework**

A non-interventionist approach or a new anti-monopoly agenda of Lina Khan, which ostracises the consumer welfare objective of EU Competition law, might not be the relevant agenda for immediate remedial action for data-driven markets in Europe. Also, the EU's proposed regulation, the DMA, seems to be far from ideal in terms of competition law assessment. Intervention by regulatory means should be kept at a minimum for the fast-evolving markets of the new economy.<sup>1640</sup> However, another option which is also an active one can be easily conceivable. Without the need to rewrite the core principles of EU competition law or a completely new regulation that leaves competition aside and forces static rules in data-driven markets, such as the DMA, new tests can be applied for a better and relevant assessment of the competition in data-driven markets. In this

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<sup>1639</sup> See Chapter 5.3.2 for more information.

<sup>1640</sup> Hlina (n 1555) 131.

approach, enforcers (courts and competition authorities) can encourage and ensure more competition in the online world while not distorting innovation and the dynamic structure of these markets.

Although the ideal way for EU Competition law is to identify emergent challenges through case law one by one and to create a solid precedent for data violations or self-preferencing as abuse, or market power assessment and relevant market definitions, this seems not possible for the time being. However, sector-specific regulation and completely new rules for dynamic markets are not desirable at all. This period, the wake of the Big Data age, must be seen as a transition period for commercial life and economic activities. Many more innovations are about to come alive; thus, there should not be a hard law that will need additional regulatory measures to stay valid in the near future. Therefore, a soft law needs to assist this period while markets are still evolving by new technological developments on the data front, such as the Internet of Things and more advanced algorithms fitted with deep-self learning mechanisms. Otherwise, none of the criteria set in the proposed regulations of the EU will be relevant to identify the 'real' power of undertakings that utilise consumer data. As Article 288 of the TFEU establishes, the EU can exercise its competence on competition law (in the Internal Market) by adopting a soft law as well.<sup>1641</sup> Although this kind of EU measure will not have a binding legal force on competition authorities or courts, soft law is a decent alternative for data-driven markets since it opposes hard law and not being too heavy-handed.<sup>1642</sup> In this sense, a guideline on applying Article 102 to data-driven markets, including new assessment methods filled with reconfigured terminology, will help competition enforcers adopt a singular approach and contribute to creating a decent precedent by generating a European response to data-driven markets ultimately.

There are some examples of proposed non-binding, soft laws in Europe. For instance, for the UK competition policy, the Furman Report (2019) introduces 'data mobility' and 'data openness' in addition to a code of conduct for online platforms based on a set of core principles.<sup>1643</sup> On the one hand, the proposed code of conduct aims to identify specific undertakings that have a strategic status

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<sup>1641</sup> Article 288 of the TFEU.

<sup>1642</sup> Alina Kaczorowska-Ireland, *European Union Law* (4<sup>th</sup> edn, Routledge, 2016), 151-152

<sup>1643</sup> Furman (n 1565) 59.

to reveal the real power of these platforms. Consequently, the special principles are targeted towards undertakings to safeguard competition and prevent consumer harm and anti-competitive behaviour.<sup>1644</sup> The Furman Report exemplifies such behaviour that is considered unwanted. For instance, self-preferencing (intermediaries giving an unfair advantage to their own products) or exclusionary behaviour (intermediaries which exclude rival products in their platforms) are mentioned in the Report.<sup>1645</sup> Although the Code of Conduct is intended to govern anti-competitive conduct to some extent, complementing data mobility and data openness tools for competition assessment might not be as effective as intended.

The Furman Report proposes applying a ‘sandbox’ mechanism to create widely available open data for data-driven markets. The idea comes from the Transport for London’s (TfL) provision of free, available data regarding public transport.<sup>1646</sup> In 2009, the TfL released all available real-time data with third parties (and rivals) such as Citymapper, which also offers ‘journey planner’ services.<sup>1647</sup> This seems to be a successful experiment. However, the same concerns are applied to the application of the essential facilities doctrine also apply to data openness. The Furman Report argues that access to Big Data is a key barrier to entry in data-driven markets and the accumulation of Big Data entrenches dominance of some platform owners. The report sees that the ‘access to data’ become ‘essential in some situations and expresses the need for intervention if its benefits outweigh the costs.<sup>1648</sup> Although it is argued to be a pro-competitive tool, the negatives and potential damage to innovation and market structures are far-reaching, as explained before. Although it can be regulated as a “soft law”, it may become far more interventionist and detrimental for the businesses operating in data-driven markets. Therefore, it is not feasible to create an “open data” structure for markets where all data float between all market participants.

For an alternative, a guideline on the market power assessment and application of Article 102 TFEU to data-driven markets can be the initial move. In

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<sup>1644</sup> Ibid, 60.

<sup>1645</sup> Ibid, 61

<sup>1646</sup> Ibid, 75.

<sup>1647</sup> Ibid.

<sup>1648</sup> Ibid, 76.

this kind of soft law, optimising the current regulatory framework should be the top priority for data-driven markets. In this sense, the application of appropriate tools and notions of competition law should be revisited without trying to reshape markets by interventions like the Digital Markets Act. Since data-driven markets have unique characteristics such as the multi-sidedness and indirect network externalities linked to multi-sidedness, or ‘free’ products, or ecosystems which are not relevant for many other traditional markets for the purposes of competition law, revisiting the competition law notions such as ‘dominance’ or ‘abusive behaviour’ seems to be important for the enforcement of competition law *ex-post*. As Akman underlines, the new business operation in data-driven markets intrinsically challenges the traditional competition law tools such as the market definition or market power assessment.<sup>1649</sup> Moreover, the existing types of abusive behaviour are also challenged by the new business strategies of online undertakings.<sup>1650</sup> According to Akman, the main challenge is finding the most appropriate way to apply the competition rules to data-driven markets while addressing the least developed aspects of the competition law assessment for the new economy.<sup>1651</sup>

Therefore, the need for an intervention is undeniable. However, as an alternative to the DMA, a code of conduct type of intervention, or data openness mechanisms for technology giants, a guideline on the market power assessment and application of Article 102 TFEU to data-driven markets seems to be a plausible action that will initially support case law in order to create more efficient competition enforcement in data-driven markets without impeding the innovative character of data-driven markets. Since there are many diverse types of data-driven markets where innovation cycles are quite short and structurally too complicated for a static set of rules, market failures must be addressed without undermining innovation and economic growth in the digital sector. Thus, the next step should be to determine benchmarks for a guideline type regulatory intervention to data-driven markets.

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<sup>1649</sup> Pinar Akman, ‘An Agenda for Competition Law and Policy in the Digital Economy’ (2019) *Journal of European Competition Law and Practice*, Editorial 1, 1.

<sup>1650</sup> *Ibid.*

<sup>1651</sup> *Ibid.*

## 6.4 Benchmarks for Intervention

### 6.4.1 Necessity

Regulating data-driven markets through the Digital Services Act and Digital Markets Act as proposed by the EU Commission,<sup>1652</sup> or through a New Brandeisian led regulatory and enforcement move as outlined by the Subcommittee on Antitrust and Committee on the Judiciary in the US,<sup>1653</sup> are quite arguable in terms of necessity. As can be seen from the Regulation proposal and the Report, the targets are Google, Amazon, Facebook, and Apple specifically. Thus, both papers suggest creating checklists and other legal frameworks that capture and put these undertakings on a blacklist to control and penalise their conduct and break their corporate structures apart. Therefore, the question is: Is there a real need for a sector-specific regulation (EU Law) for data-driven markets? This must be identified before drawing a roadmap.

An *ex-ante*, sector-specific regulation means that policymakers do not trust and rely on competition law instruments to regulate and enforce data-driven markets. To be more exact, lawmakers somehow control and impose specific and *static* market structures for the competition assessment and enforcement. However, these static market structures will feel artificial and obsolete sooner due to the dynamic nature of data-driven markets. In other words, by-passing the implementation of improved competition tools and instead imposing a static checklist could backlash and become detrimental for all participants in dynamic markets, including businesses and consumers alike. These checklists will apply to every situation where Google, Amazon, or Facebook is a part of it, even when there are no competition problems due to the nature of the DMA or the Code of Conduct. There, the application of the same rules to every single situation would not be the desired outcome from a competition law perspective. It may be feasible only when political reasons overwhelm the competition concerns.

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<sup>1652</sup> European Commission, Proposal for a Regulation of The European Parliament and of The Council on contestable and fair markets in the digital sector (Digital Markets Act) COM/2020/842 final; European Commission, Proposal for a Regulation of The European Parliament and of The Council on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31/EC COM/2020/825 final.

<sup>1653</sup> United States Congress, House of Representatives, Committee on the Judiciary, 'Investigation Of Competition in Digital Markets: Majority Staff Report and Recommendations' (June 2019) Available at: [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf) accessed 1 September 2021.

In addition, all proposed methods in the Digital Markets Act to combat the anti-competitive behaviour of the ‘internet gatekeepers’ can be addressed, and enforcement with the current competition law and policy, if necessary legal improvements are undertaken properly. As seen from the European Commission’s and NCAs competition investigations in the EU, such as the *Bundeskartellamt’s* Facebook investigation, current competition tools are not completely useless. For Google, Amazon and Facebook, there have been relatively successful investigations which were at least able to address the concerns about “self-preferencing”, “abuse through data privacy violations”, or the “dual role of internet intermediaries” through an assessment on the accumulation of data, network externalities, quality assessment and possible conglomerate effects. These concerns are real and apply to the dominant undertakings of data-driven markets. However, the definition of market power and dominance needs a re-evaluation for competition law purposes through a legal test.

In simple and clear terms, drafting a regulation and enforcing it as a part of EU law means leaving all competition parameters aside. In a regulated data-driven sector, effects of data on the economies of scale and scope, indirect network externalities or Big Data collection and utilisation will not be assessed properly since they lose their importance for the enforcement of competition law. Instead, different benchmarks proposed in the DMA, such as certain annual turnovers or monthly active users, will be assessed.<sup>1654</sup> Also, a need for a regulation discloses that there would be no need for investigation on market definitions and market power on a case-by-case basis. To be more precise, the ineffectiveness of the product market definition or market shares are tried to be abandoned in the new method of regulation. However, instead of putting the current competition tools aside completely in data-driven markets, the necessary improvements for the competition tools such as a new market definition or a new definition for dominance can be exercised by the Commission for assessment and enforcement purposes. To note, the case law is and has been the most important part of EU Competition law, which contributed to the evolution of

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<sup>1654</sup> Article 3 of the DMA.

competition law, not in the EU but also in the world; thus, it should not be alienated from competition law's lawmaking process.

Therefore, a guideline on the market power assessment and application of Article 102 TFEU to data-driven markets seems to be the most convenient and appropriate way to approach concerns in data-driven markets for at least now. It actually seems to be the only viable option for dynamic and constantly evolving data-driven markets without impeding competition or leaving the goals of competition law. In this sense, new and updated legal tests should apply by the competition authorities and courts in the EU under the guidance of the European Commission.<sup>1655</sup>

#### **6.4.2 Proportionality**

If there is going to be a regulatory action, either a regulation, a directive, or a guideline, the second benchmark should be proportionality. The proportionality principle is essential in order to ensure the pro-competitiveness of the intervention. In the absence of proportionality, the benefits of action may not outweigh the detrimental effects, especially in dynamic industries like data-driven markets. Therefore, the application of new legal tests must be determined precisely.

When it comes to the applicability of new tests, a framework must be drawn. At this point, it is crucial to differentiate online sectors from each other. Not every digitalised market is the same. As mentioned in Chapter 3, there are specific data-driven markets where the accumulation of data and other unique characteristics are in the foreground. Thus, remedial regulatory actions need to address issues in these specific markets. For instance, there are some markets where data has a primary role in the functioning of the market, such as the search engine, social networking, online advertising, mobile application markets or e-commerce platforms. In these markets, Big Data and data utilisation are the main source of market power along with the network externalities. All problems identified in this thesis, such as the intermediation power, big data power and novel abusive behaviour, are linked to data-driven markets. Therefore, necessary actions must take place in and for these markets.

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<sup>1655</sup> See Chapter 6.5 for more detail.

On the other hand, there are also some other digitalised, data-driven markets where data has no prominent role. In other words, Big Data is also collected, utilised, and used in these markets but only has a secondary role for competition and the functioning of the markets. These markets can be exemplified as the online supermarket and cooked food delivery sector (Deliveroo, Uber Eats, Tesco online, and others), online taxi booking systems (Uber, Cabubble), or online hotel booking sector (Booking.com, Trivago, Expedia). Although network effects are quite strong in these markets, there are direct network effects more specifically. In these vertical search markets, the indirect network externalities belong to Google (mainly) and its smaller rivals via the online advertising sector. Secondly, although Big Data may also be important for these sectors, consumer data only has a secondary role there. Thus, any data necessary for the functioning of the markets such as the information of taxi drivers, hotels, or restaurants can easily be catalogued from providers on request, and in this case, the information asymmetry will not be an issue.

Consequently, any remedial action must be proportional and must aim to address issues in the former group of data-driven markets since the competition problems are unique to these bigger platforms. In the downstream, specialised, and vertical markets, such as the vertical search engines, the competition is fierce, and entry is rather easy. The only concern would be the technology giants trying to swallow up or integrate these markets into their ecosystems. However, this issue belongs to the regulatory-intermediation powers of technology giants and their possible abusive conduct. In other words, regulatory actions should address the concerns arising from “online ecosystems”. Therefore, regulatory actions should prioritise addressing the Big Data related concerns and aim to address the Big Data related power properly in this regard.

#### **6.4.3 Fostering Innovation**

The other benchmark for intervention should be ‘innovation’. As the characteristics of data-driven markets reveal, innovation is an important aspect of developing higher quality products and a predominant characteristic of the online competition itself.<sup>1656</sup> Due to the emergence of data-driven markets, most incumbents and new entrants experience fierce competition on the innovation

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<sup>1656</sup> See Chapter 3.2.3 for more detail.



level nowadays. Undoubtedly, innovation is the main pillar of competition assessment in data-driven markets since innovation is considered the main engine of growth.<sup>1657</sup> In this sense, competition authorities and enforcers must sustain an innovation-friendly market environment through the competition law enforcement.<sup>1658</sup> In promoting innovation, the role of the competitive process is widely accepted.<sup>1659</sup> Thus, the competition regulation and enforcement need to carefully address innovation and innovative incentives in each case or investigation for mergers or abuse of a dominant position.<sup>1660</sup>

The digital sector is growing swiftly. Accordingly, many companies are also growing in this sector, much like a new universe with galaxies expanding inside. Apple hit 1 trillion dollar market capitalisation in September 2018.<sup>1661</sup> The trend is followed by Amazon, Microsoft, and Google (Alphabet); in 2018, 2019, and 2020 respectively.<sup>1662</sup> However, all these numbers are irrelevant for the assessment and application of competition law. Competition law should not be a tool to destroy or break the powers of some specific companies. Big does not mean bad. It is irrelevant for the competition law how big a sector or any business can be. Competition law must ensure that innovation is not impeded by any anti-competitive means or a regulation to achieve important goals such as ensuring healthy competition (competitive process) and consumer (also total) welfare.

Without a question, innovation in the digital world requires a serious upfront investment.<sup>1663</sup> Moreover, it is often for uncertain rewards. Often, it is quite hard for new entrants to race incumbents on the investment and research and development fronts. Technology giants are amongst the biggest companies engaged with research and development. According to the PwC 2018 Global

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<sup>1657</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 17.

<sup>1658</sup> Ibid, 18.

<sup>1659</sup> Ibid, 18.

<sup>1660</sup> See Chapter 3.2.3 for more detail.

<sup>1661</sup> Rob Davies, 'Apple becomes world's first trillion-dollar company' *The Guardian* (2 August 2018) Available at: <https://www.theguardian.com/technology/2018/aug/02/apple-becomes-worlds-first-trillion-dollar-company> accessed 1 September 2021.

<sup>1662</sup> Lydia DePillis, 'Amazon is now worth \$1,000,000,000,000' *CNN Business* (4 September 2018) Available at: <https://money.cnn.com/2018/09/04/technology/amazon-1-trillion/index.html> accessed 1 September 2021; Sergei Klebnikov, 'Google Parent Alphabet Passes \$1 Trillion in Market Value' *Forbes* (13 January 2020) Available at: <https://www.forbes.com/sites/sergeiklebnikov/2020/01/13/google-parent-alphabet-set-to-hit-1-trillion-in-market-value/?sh=7fd27bb54dcf> accessed 1 September 2021.

<sup>1663</sup> Ioannis Lianos, 'Competition Law for the Digital Era: A Complex Systems' Perspective' (2019) CLES Research Paper Series 6/2019, 18.

Innovation 1000 study,<sup>1664</sup> Amazon and Google (Alphabet) are the two biggest companies globally that spend money on research and development. Apple and Microsoft are in the top 10, and Facebook is in the top 15. Numbers show that GAFAM spent 70.5 billion dollars on research and development between 2012-2018. As a matter of course, these numbers on investments and innovation deliver many benefits for the consumers and society.<sup>1665</sup>

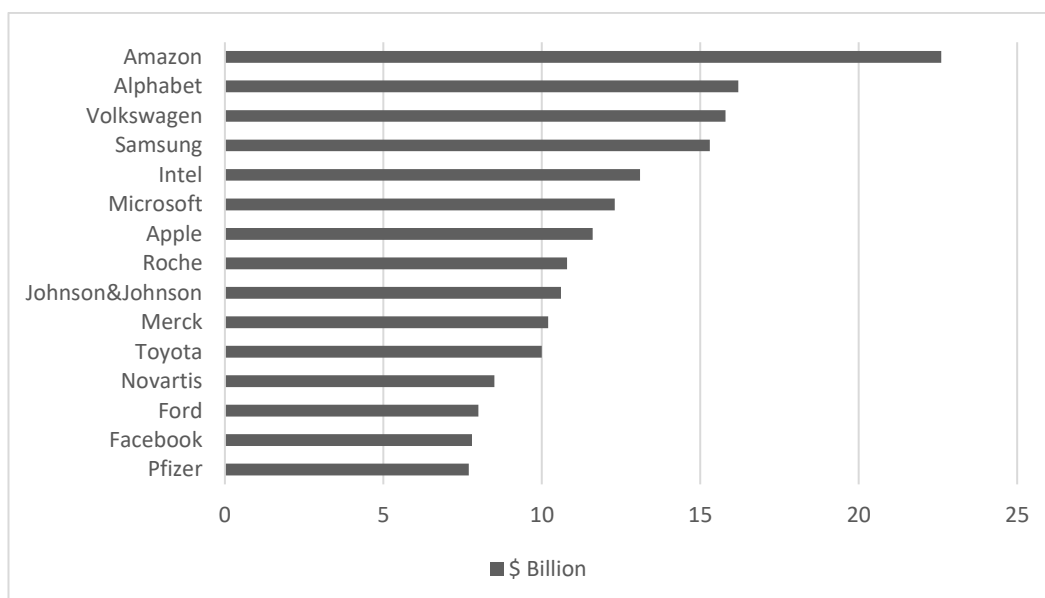


Table 6: Top 15 Companies for global spending on research and development<sup>1666</sup>

As the situation reveals, innovation by the technology giants is huge. Therefore, while tackling anti-competitive behaviour, preserving innovation becomes much important. After all, all these spendings contribute to further technological developments, life-changing innovations in favour of consumers and society as a whole. In this sense, a pro-competitive tool is needed in order to sustain an innovation-friendly market environment while addressing anti-competitive conduct. The sector-specific regulations that aim to fight and break technology giants would have serious risks impeding competition in data-driven markets by ultimately limiting innovation and investments. Therefore, for any kind

<sup>1664</sup> PwC 2018 Global Innovation 1000 study: Values are R&D Expense of public companies during the last fiscal year, as of June 30, 2018.

<sup>1665</sup> Jason Furman, 'Unlocking digital competition: Report of the Digital Competition Expert Panel' HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, 20.

<sup>1666</sup> Table taken from: Furman (n 1665) 20.

of intervention, it is necessary to promote competition while also fostering innovation.

The age of Big Data, data-driven markets and algorithms are identifiers of a transition period in a sense. As Yuval Noah Harari underlines in his book called “21 lessons for 21<sup>st</sup> century”, the age of Big Data is definitely a start of a new age.<sup>1667</sup> In his opinion, as there are two major revolutions throughout human history, the cognitive revolution and the agricultural revolution, the scientific revolution and data on the forefront has the power to create their own history.<sup>1668</sup> In this regard, a huge revolution on law should be expected since most modern laws are based on the concepts of agricultural revolution (property, land, crime related to land and others). The new laws based on data might even undermine the core principles of the modern law of today. Therefore, creating a competition law resisting the data revolution, the changing world, market structures, and most importantly, innovation would not be fruitful for consumers, businesses, and society.

### **6.5 New Legal Tests to Apply**

The benchmarks are set. The next step is to provide remedies for a possible EU soft law for the application of competition law to data-driven markets. As the discussion above revealed, there is a threefold issue related to Big Data in terms of competition law and policy. These are the monopolisation problem where strong platform owners become regulators, the ineffective neoclassical economic tools to assess market power, and the identification of novel abusive behaviour in the new economy.

All of these issues are uncovered along with the strengths and weaknesses of the current competition policy in the main chapters of the thesis. In this section, these issues are not going to be addressed together since there cannot be a single rule of law that covers all problems simultaneously. One size does not fit all, and an independent understanding of each is necessary for the appropriate prescription.<sup>1669</sup> In other words, although all problems related to Big Data and data utilisation, the findings regarding the structures of data-driven markets,

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<sup>1667</sup> Yuval Noah Harari, *21 Lessons for the 21<sup>st</sup> Century* (1<sup>st</sup> edn, Random House, 2018).

<sup>1668</sup> Ibid.

<sup>1669</sup> Pinar Akman, 'Competition Policy In A Globalized, Digitalized Economy' White Paper Series (World Economic Forum 2019) Available at: <https://www.weforum.org/whitepapers/competition-policy-in-a-globalized-digitalized-economy>, accessed 1 September 2021, 4.

regulatory gaps, and the inadequate tools have made it necessary for a toolkit approach rather than a single approach as the remedy. Therefore, the basis of a guideline on the market power assessment and application of Article 102 TFEU to data-driven markets should appear after this final analysis. In this part, all three findings are enunciated individually to ensure clarity.

### 6.5.1 Intermediation-Regulatory Powers

In the third chapter, the characteristics of data-driven markets and the role of innovation in these markets are extensively dealt with. As a result, the relationship between competition law challenges and the market characteristics such as indirect network externalities and multi-sided nature is established. Then, in light of the tendencies of online platforms, the monopolisation problem is mentioned. The monopolisation and high-concentration problems are sourced by the accumulation of Big Data and data-driven acquisitions in the online world. Nicolas Petit puts forward the term “moligopolists” for platform owners such as Google, Facebook, Amazon, Microsoft or Apple.<sup>1670</sup> By this means, vertical and horizontal competition is tried to be explained.<sup>1671</sup> The well-known technology giants have established super dominant positions in specific markets and compete in third markets with each other. This is called the “three-dimensional competition”.<sup>1672</sup> However, As Ioannis Lianos suggests, it is still unclear what constitutes a potential or existing competitor in the data-driven industry since undertakings in the online world tend to outstretch to market segments (vertical, horizontal or conglomerate) where competitive pressure is not present.<sup>1673</sup> As mentioned in Chapter 3.2.3, undertakings innovate to escape competition, and by this means, they shape competition *for* the market.<sup>1674</sup>

In addition to the “escape competition”, the accumulation of data and indirect network externalities lead to “winner takes all” competition in the new economy.<sup>1675</sup> As a result, specific undertakings gain unprecedented market power in respective markets by having control over an online platform where high

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<sup>1670</sup> Nicholas Petit, ‘Technology Giants, the Moligopoly Hypothesis and Holistic Competition: A Primer’ (2016). Available at SSRN: <https://ssrn.com/abstract=2856502> or <http://dx.doi.org/10.2139/ssrn.2856502> accessed 1 September 2021.

<sup>1671</sup> See Chapter 3.5.2 for more detail.

<sup>1672</sup> See Chapter 3.5.2 for more detail.

<sup>1673</sup> Lianos (n 1663) 57.

<sup>1674</sup> See Chapter 3.2.3 for more detail.

<sup>1675</sup> Lianos (n 1663) 57.

concentration is present. Eventually, horizontal competition weakens significantly in these highly concentrated markets since even the second and third biggest players may not be able to offer a competitive product or service as identified in the *Microsoft/Yahoo* merger investigation.<sup>1676</sup> At the same time, the platform owner dominant players also dominate a wider value chain (main market and adjacent markets) by linking them through the creation of online ecosystems, which also weakens vertical competition.<sup>1677</sup>

The main platforms of online ecosystems generally form a competitive bottleneck.<sup>1678</sup> They accumulate significant profits by aggressively signing up users to their various online services and locking them into the ecosystem while restricting intra-platform competition. The competition inside online ecosystems is too weak since platform owners compete with smaller rivals in their own ecosystems. At this point, the importance of being an intermediary becomes visible and the “intermediation power” emerges. In many online platforms, platform owners act like *regulators* by setting up rules for consumers and their rivals, designing the market for themselves and even setting the level of competition they desire.<sup>1679</sup> The rule-setting role could occur in different ways.<sup>1680</sup> For instance, search engine platforms can *regulate* how search results are shown to consumers, such as organic results and paid results. Moreover, the coding of online algorithms which is used to generate search results can be adjusted accordingly. Another *regulatory* role example would be the conduct of e-commerce platforms. An E-commerce platform can set rules regarding the access to products/sellers, the way that offers are presented, data collection and sharing, grading and feedback systems, return policies, delivery services, search result algorithms in the marketplace, and many others in order to “design” a marketplace. In that way, they also set the rules of competition for that marketplace.

When the platform owner/intermediary gains regulatory powers as exemplified above, special responsibilities, a higher degree of responsibility,

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<sup>1676</sup> Lianos (n 1663) 57; Case No COMP/M.5727, *Microsoft/Yahoo! Search Business C* [2010] 1077 Final.

<sup>1677</sup> Lianos (n 1663) 57.

<sup>1678</sup> Mark Armstrong and Julian Wright, ‘Two-sided markets, competitive bottlenecks and exclusive contracts’ (2007) 32 *Economic Theory* 2, 353-380.

<sup>1679</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, ‘Competition Policy for the Digital Era: Final Report’ (Publications Office of the European Union 2019) 60.

<sup>1680</sup> *Ibid.*

should be applicable.<sup>1681</sup> As being a dominant undertaking is not seen as anti-competitive *per se* and may not require special attention by authorities in traditional markets, the situation in the new economy is obviously dissimilar. Due to the nature of ‘three-dimensional’ competition where some players create a marketplace for buyers and sellers and become a buyer and a seller, abusive behaviour and market power can hardly be identified by competition officials. As mentioned in the EU Commission report, special principles can be utilised in data-driven markets to resolve issues regarding data accumulation and indirect network externalities.<sup>1682</sup> If the platform is driven by indirect networks externalities and the accumulation of data which results in information asymmetries between rivals, the intermediary role of some players become quite important. In this case, the platform owner should be regarded as the regulator of the platform since it cannot be expected from owners to abandon the control of the ecosystem/marketplace.

However, platform owners must have obligations to ensure access for their competitors (third party sellers), create a level playing field for them, and not discriminate and not impose dissimilar terms for the participants and not engage in abusive behaviour.<sup>1683</sup> Although this may seem to be an overreaction, regulators must be reasonable, fair and apply non-discriminatory conduct.<sup>1684</sup> If the intermediaries have *regulatory* powers, these ideas must be established. The commentary also argues that these special obligations should be well applied to non-dominant intermediaries as well.<sup>1685</sup> The reason behind it is that the *regulatory* power may exist in platforms where there are strong network effects are current when the intermediaries are not dominant, in other words, when the market shares are below 40%.<sup>1686</sup> However, this will lead to erroneous judgments. If there is no dominance established in terms of market shares, this does not mean that there is no dominance. Rather, it means that market share analysis does not apply to data-driven platforms and a change in how the competition law defines dominance is needed for the new economy markets.

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<sup>1681</sup> Björn Lundqvist, ‘Regulating competition in the digital economy with a special focus on platforms’ in Björn Lundqvist and Michal Gal (eds), *Competition Law for the Digital Economy* (Edward Elgar Publishing, 2019), 28.

<sup>1682</sup> Crémer et al (n 1679) 69-70.

<sup>1683</sup> Björn Lundqvist (n 1681) 28.

<sup>1684</sup> Ibid.

<sup>1685</sup> Crémer et al (n 1679) 70; Lianos (n 1663) 126.

<sup>1686</sup> Crémer et al (n 1679) 70.

Thus, a new definition of market power and dominance should be made for EU competition law.<sup>1687</sup>

Instead of creating special obligations for technology giants through regulation, like the DMA, the bottleneck market power should be addressed properly for competition law purposes in the online world. Through their data capabilities and *de facto* regulatory powers, some technology giants exercise their market power to exclude competitors rather than control price.<sup>1688</sup> Krattenmaker et al. make a distinction between the 'power to control price' and 'power to exclude competitors'.<sup>1689</sup> According to the authors, proposed exclusionary market power is achieved by denying inputs to its rivals to raise its rivals' costs and causing them to restrain their output.<sup>1690</sup> Thus, market power or dominance becomes identifiable without price indicators. According to Lianos, this can lead to a different approach from the neoclassical analysis of market power, which focuses on the 'power to control price'.<sup>1691</sup> In data-driven markets, the exclusionary market power concept can estimate dominance by identifying exclusionary conduct first and then determining a level of market power.<sup>1692</sup> In the concept of 'exclusionary market power', indirect network externalities, the dual role for platform owners, and controlling a bottleneck in the online world all become highly relevant and may become parameters for exclusionary market power assessment.<sup>1693</sup>

When a business has control over a strategic bottleneck, gateway, or intermediary role, competition law needs to leave analysis based on relevant product market definition and market shares to address dominance adequately. The legal concept of relevant markets bears legal and practical problems in estimating dominance.<sup>1694</sup> Therefore, the competition authorities and courts

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<sup>1687</sup> See Chapter 6.6 for more information.

<sup>1688</sup> Thomas G. Krattenmaker, Robert H. Lande and Steven C. Salop, 'Monopoly Power and Market Power in Antitrust Law' (1987) 76 *The Georgetown Law Journal* 241, 248.

<sup>1689</sup> *Ibid.*, 248.

<sup>1690</sup> *Ibid.*, 249-253.

<sup>1691</sup> Lianos (n 1663) 124.

<sup>1692</sup> *Ibid.*

<sup>1693</sup> Henry Farrell and Abraham L. Newman, 'Weaponized Interdependence: How Global Economic Networks Shape State Coercion' (2019) 44 *International Security* 1, 42, 46.

<sup>1694</sup> Jan Krämer and Michael Wohlfarth, 'Market power, regulatory convergence, and the role of data in digital markets' (2108) 42 *Telecommunications Policy* 2, 154-171; Jan Krämer and Daniel Schnurr, 'Competition Policy in Platform and Data-driven Markets: Long-term Efficiency and Exploitative Conducts' 'Contribution to the Call: Shaping competition policy in the era of digitization' (2018) Available at:

should develop and adopt a test based on these attributes to address dominance adequately.<sup>1695</sup> In data-driven markets, companies that are not in a dominant position according to the traditional assessment methods can be dominant and exercise huge market power. As a result, a new market power definition should be identified for the competition law assessment and enforcement in data-driven markets.

Therefore, two new cumulative tests must be exercised to identify the market power of undertakings operating in the online world. These specific market power analysis parameters are the ‘intermediation’ power and the ‘data utilisation’<sup>1696</sup> power tests. Therefore, as explained above, the ‘intermediation’ power test would identify undertakings active on one or more linked segments of an online ecosystem that can connect businesses to end-users, such as online advertising, or networking purposes, leading to controlling of platforms and online ecosystems. In place of a neoclassical mechanism to identify market power, competition authorities and courts should apply these tests to better identify market power by reflecting the unique characteristics of data-driven markets in a correct way. Although these cumulative tests aim to capture the ‘new’ dominance and replace the current economic market power analysis, it should not become a hard law. Instead, the authorities should be encouraged to exercise these new tests to competition issues in data-driven markets.

As discussed, the intermediation power test can identify the ‘exclusionary market power’ of undertakings operating in the online world. However, the intermediary and *regulatory* capabilities would not be enough alone for the identification of market power. Therefore, the ‘data utilisation’ test must also be exercised for abuse of dominant position cases and relevant merger investigations since all data-driven mergers have conglomerate structures today in addition to the ‘intermediation power’ test.

### **6.5.2 Big Data as a Source of Market Power**

In data-driven markets, establishing dominance by identifying a relevant product market for determining market shares is almost impossible. Even if it is

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[https://ec.europa.eu/competition/information/digitisation\\_2018/contributions/daniel\\_schnurr\\_jan\\_kraemer.pdf](https://ec.europa.eu/competition/information/digitisation_2018/contributions/daniel_schnurr_jan_kraemer.pdf), accessed 1 September 2021, 4.

<sup>1695</sup> Furman (n 1665) 81.

<sup>1696</sup> See Section 6.5.2 for more information.



not, product markets are not relevant, as seen and explained in the *Facebook/WhatsApp* merger. In other words, the current regulatory framework is out of date.<sup>1697</sup> Moreover, self-regulation in the online world is also not working since some market participants actually regulate data-driven markets. In the absence of an intervention, technology giants gain more market power by extracting more data from consumers and entrenching their positions.<sup>1698</sup> Therefore, in order to address problems in the R&D mergers -killer acquisitions- and abusive behaviour, an additional parameter to the exclusionary market power assessment should be added for a new dominance definition.

As the neoclassical competition law tools are not fit for the digital business models,<sup>1699</sup> the link between market power and Big Data must be established for the competition law analysis. In addition to intermediary powers, the personal data collected by undertakings also becomes a major source of market power in the digital sector. That is the reason why these digital markets are characterised now as “data-driven markets”. Personal data holds a strategic significance as an input for many online services.<sup>1700</sup> As discussed previously, in recent merger decisions and abuse of dominant position cases, data collection and utilisation were integrated into the competition law analysis to some extent. It is clear today that data is highly relevant for competition in the online world and not a mediocre, non-rivalrous, or ubiquitous input for businesses, as argued before.<sup>1701</sup> Although the collected personal data, Big Data, is a valuable asset and a value creation mechanism for online businesses, it is not a relevant market itself.<sup>1702</sup>

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<sup>1697</sup> Ebru Gökçe, ‘Competition Issues in the Digital Economy’ (2019) UNCTAD Background Note, 12.

<sup>1698</sup> Gökçe (n 1697) 12; House of Lords, ‘Select Committee on Communications Regulating in a digital world’ 2nd Report of Session 2017-19 HL Paper 299 (9 March 2019) Available at: <https://publications.parliament.uk/pa/ld201719/ldselect/ldcomuni/299/29902.htm> accessed 1 September 2021.

<sup>1699</sup> Pinar Akman, ‘Competition Policy in A Globalized, Digitalized Economy’ White Paper Series (World Economic Forum 2019), 4; Ioannis Lianos (n 1663) 116.

<sup>1700</sup> See Chapter 2 for more information; Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leuven Faculty of Law, 2016); David Evans, ‘Attention Rivalry among Online Platforms’, (2013) 9 *Journal of Competition Law and Economics* 31, 36.

<sup>1701</sup> Daniel Sokol and Roisin Comerford, ‘Antitrust and Regulating Big Data’ (2016) 23 *George Mason Law Review* 5 1129; Andres Lerner, ‘The role of Big Data in online platform competition’ (2014) SSRN Working Paper; Darren S. Tucker and Hill B. Wellford, ‘Big Mistakes Regarding Big Data’ (2014) 14 *Antitrust Source* 1.

<sup>1702</sup> Inge Graef, ‘Market Definition and Market Power in Data: The Case of Online Platforms’ (2015) 38 *World Competition* 4; Jan Kupcik and Stanislav Mikes, ‘Discussion on Big Data, Online Advertising and Competition Policy’ (2018) 39 *European Competition Law Review* 9, 393-402, 396.

Speaking of value creation mechanisms, large technology giants which utilise data for various purposes form conglomerate structures in the online world.<sup>1703</sup> Through the conglomerate links, technology giants are able to exploit their data advantage by the cross-market collection and utilisation of data.<sup>1704</sup> This exploitation risk is particularly dangerous for the “access to data” types of remedies, such as applying the essential facilities doctrine<sup>1705</sup> or obligations listed in the Digital Markets Act of EU.<sup>1706</sup> As Crémer et al. argue, the mandatory access to data type of obligations can feed technology companies and their conglomerate strategies for anti-competitive means.<sup>1707</sup> On some occasions, combining third-party data coming through obligations with their own data may entrench dominant positions. As the example given above, Facebook can receive Google’s search data if they create a new search engine and exploit data access obligations targeted to Google. Possible expansions and conglomerate risks are quite high in access to data remedies of Article 102.

As a consequence, data becomes a problematical issue to deal with for two reasons: a valuable asset and a value creation mechanism that brings conglomerate links. For both the merger control (to deal with conglomerate structures) and abusive behaviour (to deal with data analytics capability) decisions, the authorities and courts must include the data-related theories of harm in their analysis. Although there were discussions on data and conglomerate effects on market power analysis in recent decisions, a reliable test

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<sup>1703</sup> Ben Holles de Peyer, ‘EU Merger Control and Big Data’ (2017) 13 *Journal of Competition Law and Economics* 4, 767–790, 775; Furman (n 1665); Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, ‘Modernising the Law on Abuse of Market Power: Report for the Federal Ministry for Economic Affairs and Energy (Germany)’ (2018) Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3250742](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3250742), accessed 1 September 2021; Inge Graef, ‘Rethinking the essential facilities doctrine for the EU digital economy’, (2019) 53 *Revue juridique Thémis de l’Université de Montréal*, no. 1; Massimiliano Kadar and Mateusz Bogdan, ‘Big Data’ and EU Merger Control – A Case Review (2017) 8 *Journal of European Competition Law and Practice* 8 486; Case No COMP/M.9660, Google/Fitbit [2020] Prior Notification of a Concentration OJ 2020/C 210/09; Dafydd Nelson, ‘Microsoft, LinkedIn should heed Vestager’s warning about ‘unique’ data’ *MLex Market Insight* (9 September 2016) Available at: <https://mlexmarketinsight.com/insights-center/editors-picks/mergers/europe/microsoft-linkedin-should-heed-vestagers-warning-about-unique-data> accessed 29 May 2021; See also: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1446](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1446) and <https://techcrunch.com/2014/10/28/whatsapp-revenue/> accessed 1 September 2021.

<sup>1704</sup> Schweitzer et al (n 1703) 4.

<sup>1705</sup> Graef (n 1703) 33-72.

<sup>1706</sup> Article 5 and 6 of the DMA.

<sup>1707</sup> Jacques Crémer, Yves-Alexandre de Montjoye and Heike Schweitzer, ‘Competition Policy for the Digital Era: Final Report’ (Publications Office of the European Union 2019) Available at: [http://ec.europa.eu/competition/information/digitisation\\_2018/report\\_en.html](http://ec.europa.eu/competition/information/digitisation_2018/report_en.html), accessed 1 September 2021, 108.

should be introduced.<sup>1708</sup> For this very reason, a solution that addresses both aspects in a decision is needed. Therefore, a ‘data utilisation’ test that takes the place of the neoclassical economic tools gathered around price analysis must be undertaken as data possession and data capabilities of undertakings become specifically important when they also have ‘intermediary/regulatory’ roles, which initially leads to information asymmetry in data-driven markets.

The information asymmetry gives a competitive edge to some undertakings. In this sense, data utilisation is the middle ring of a bigger value chain of “data collection – data combining and analytics – better services and targeted advertisements – more consumers through network effects – more data utilisation – the creation of ecosystems – tipping markets – and finally, monopolisation”.<sup>1709</sup> Thereby the new test takes shape: Undertakings that have extensive capabilities on collected or acquired data through algorithms for the conglomerate and vertical means are on the radar of dominance. In addition to applying the ‘intermediation’ power test, determining cross-market data utilisation capabilities that create information asymmetry for rivals should be considered as “dominance”.

Therefore, the competition authorities and courts must monitor and examine the 4Vs of data in light of a company’s conduct and how actually these data strategies of bigger players affect the business strategies of smaller rivals. In this sense, the *volume* and *variety* of data must be monitored in order to reveal the value created by businesses, such as targeted advertisements and tailored services.<sup>1710</sup> However, another issue then comes to mind: How can legal authorities assess data and data analytics? There are various algorithms and deep learning systems that are far from legal experts' reach scientifically.

The only solution to this problem would be the inclusion of Big Data management and data science into the competition law assessment. As economics plays a huge role in competition analysis and has always been, data science becomes particularly important for competition law assessments for the near future. Competition authorities, governments, and other regulatory and

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<sup>1708</sup> Chapter 4.6 for a detailed analysis.

<sup>1709</sup> Chapter 3.4.3 for more information.

<sup>1710</sup> Jan Kupcik and Stanislav Mikes, ‘Discussion on Big Data, Online Advertising and Competition Policy’ (2018) 39 *European Competition Law Review* 9, 393-402, 396.

enforcement bodies are at an enormous disadvantage compared to the technology giants regarding data utilisation.<sup>1711</sup> This disadvantage creates a situation where lawmakers and enforcers come under the influence of the technology giants while trying to establish rules or decisions for data-driven markets. In order to ensure stability regarding the data related decision-making, more input from data scientists and market participants is expected. In order to avoid suboptimal decisions or regulations, decision-makers must improve expertise in data analytics and the Big Data area.<sup>1712</sup> Also, enforcers might need to mimic data analytic methods and capabilities of data-driven businesses by developing tools to monitor data activities and even markets as a whole.

To sum up, the assessment of Big Data capabilities or data possession itself will serve as a better test for the market power assessment in the online world. Without data, no business can reach a point where it dictates its own rules to other participants or gain grounds in adjacent markets. Big Data is a new magical tool for undertakings, and 'data power' strongly implies 'market power'. Even without a deeper and further understanding of Big Data in the absence of data science applied as a part of the proposed parameter of competition law, namely the 'data utilisation test', a pure analysis on the possession of data analysing the sheer volume and variety that companies have, will be much more relevant for assessing the market power of undertakings of the online world compared to the traditional market share analysis.<sup>1713</sup>

Additionally, a 'data utilisation test' will also contribute to the wider goals of the competition law in the EU. The well-identified capabilities on data will have implications for the online advertisement market and privacy of consumers and provide more transparency for competition and the market itself. Competition law can address any privacy-related concern such as data collection, data violations, or data merging more accurately if the 'data utilisation' test takes place in the investigations. By its nature, the 'data utilisation test' is a competitive effects test rather than a static market definition test based on the price and output effects of an undertaking's strategy for a specific product and its substitutes within a relevant geographical area.

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<sup>1711</sup> Akman (n 1699) 16.

<sup>1712</sup> Ibid, 14.

<sup>1713</sup> Kupcik and Mikes (n 1710) 396.

### 6.5.3 Novel Abusive Behaviour Related to Big Data

Data-related problems do not pertain to the market power assessment and definition of dominance. The problems also occur on the identification of abuses and the enforcement of obligations and penalties. In data-driven markets, the identification of anti-competitive conduct poses risks since courts or authorities can give erroneous conclusions on whether the conduct of an undertaking is abusive.<sup>1714</sup> As Chapter 5 revealed, there are two main problems at the moment in terms of identifying abusive behaviour. First is the leveraging market power, but specifically defensive leveraging in the form of self-preferencing or self-favouring.<sup>1715</sup> The second is the abuse through data violations.<sup>1716</sup> Although the access to data and the possible mandatory data sharing remedies are discussed extensively, the findings show that Big Data should not be regarded as an essential facility.<sup>1717</sup> Instead, it can be said that it is a core component and a valuable asset for businesses in data-driven markets. Nevertheless, not being an essential facility also does not imply that there cannot be novel abusive behaviour related to data accumulation and access to data.

Although the EU Competition law rules and guidelines identify specific abusive behaviour, such as exclusive dealing, tying-bundling, predation, refusal to supply, or margin squeeze,<sup>1718</sup> abuse of dominant position types are not limited to them exclusively. The wording of Article 102 TFEU allows a wider analysis and helps the law to keep up with the changing market structures and business strategies.<sup>1719</sup> Therefore, technological developments may shape new markets, and new types of abusive behaviour can emerge subsequently.<sup>1720</sup> It is also a mistake to engage data related, quite possibly novel abuses, with the existing types of abusive behaviour. As Pinar Akman argues, Google's abusive behaviour (in Google Shopping Case) does not fit any established categories of Article 102

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<sup>1714</sup> Geoffrey A. Manne and Joshua D. Wright, 'Google and the Limits of Antitrust: The Case against the Antitrust Case against Google' (2011) 34 *Harvard Journal of Law and Public Policy* 171, 181.

<sup>1715</sup> See Chapter 5.4.1 for more information.

<sup>1716</sup> See Chapter 5.6 for more information.

<sup>1717</sup> See Chapter 5.5 for more information.

<sup>1718</sup> European Commission, Communication from the European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (Text with EEA relevance) [2009] OJ C45/9.

<sup>1719</sup> Magali Eben, 'Fining Google: a missed opportunity for legal certainty?' (2018) 14 *European Competition Journal*, 5.

<sup>1720</sup> *Ibid.*

TFEU cases of abuse: refusal to deal, discrimination and tying.<sup>1721</sup> Akman's positive and normative assessment on the abuse of Google demonstrate difficulties with fitting Google's abuse into the existing framework of this specific abusive behaviour.<sup>1722</sup> Many other commentators also followed similar steps in order to identify the abuse of Google.<sup>1723</sup>

Although the law aims to create a guideline for both undertakings and enforcers in order to protect market participants and provide legal certainty and predictability, this does not mean that novel abusive behaviour will never be conducted by dominant undertakings, especially in the new economy. Moreover, the established abuse of dominant types results from a developing competition law through decades, and the NCAs, the European Commission, national courts, and the CJEU had quite important roles in identifying abusive behaviour throughout the history of the EU. In other words, typing of abusive behaviour is a result of abuses and precedent; and abuses are not a result of or limited to typing of them. Therefore, the competition authorities and enforcers have a vital role in the new economy in identifying novel abuses, especially related to Big Data. As can be seen in the *Google Shopping* decision of the Commission<sup>1724</sup> and the *Facebook* decision of the *Bundeskartellamt*,<sup>1725</sup> new types of abuses are present, and the role of the lawmakers is to contribute to the creation of established precedent, thus developing guidance for the NCAs in the identification of abuses in data-driven markets.

The ineffective market definitions made the application of article 102 TFEU harder for data-related abuses. Nevertheless, the Commission found that Google gives more favourable positioning and display to its own services and products, in addition to favouring its own comparison shopping services while discriminating against competing comparison shopping services.<sup>1726</sup> As the

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<sup>1721</sup> Pinar Akman, 'The Theory of Abuse in Google Search: A Positive and Normative Assessment under EU Competition Law' (2017) 2 *Journal of Law, Technology and Policy* 301, 307-350.

<sup>1722</sup> *Ibid*, 355.

<sup>1723</sup> Benjamin Edelman, 'Does Google Leverage Market Power through Tying and Bundling?' (2015) 11 *Journal of Competition Law and Economics* 2, 365; Bo Vesterdorf, 'Theories of Self-Preferencing and Duty to Deal – Two Sides of the Same Coin?' (2015) 1 *Competition Law and Policy Debate* 4.

<sup>1724</sup> Case No COMP/AT.39740, *Google Search (Shopping)* [2017] 4444 Final.

<sup>1725</sup> B6-22/16, *Facebook Inc., Facebook Ireland Ltd., Facebook Deutschland GmbH, Verbraucherzentrale Bundesverband e.V.* Bundeskartellamt 6th Decision Division (6 February 2019).

<sup>1726</sup> Case No COMP/AT.39740, *Google Search (Shopping)* [2017] 4444 Final, p 76-197.

remedy, the Commission stated that: “Google treats competing comparison shopping services no less favourably than its own comparison shopping service within its general search results pages”<sup>1727</sup> and any measure taken by Google must “subject Google's own comparison shopping service to the same underlying processes and methods for the positioning and display in Google's general search results pages as those used for competing comparison shopping services.”<sup>1728</sup> However, the Commission also stated that: “it is not novel to find that conduct consisting in the use of a dominant position on one market to extend that dominant position to one or more adjacent markets can constitute an abuse (leveraging). Such a form of conduct constitutes a well-established, independent form of abuse....”<sup>1729</sup>

Although the Commission put the abuse as a form of leveraging market power, which is true, it also avoided contradicting the established law that self-preferencing is not an abuse of dominant position situation, *per se*. The reason is that Article 102 TFEU does not prohibit dominant undertakings to favour their own products. There is an exception, however. According to the essential facilities doctrine, undertakings have a special responsibility not to engage with defensive leveraging such as self-preferencing.<sup>1730</sup> Since data should not be regarded as an essential facility, the second exception should be for the platform owners that are intermediaries in online ecosystems.<sup>1731</sup> As explained above, a thorough analysis conducting new tests of the ‘intermediation power’ and ‘data utilisation’, the dominant platform owners such as Google can be identified without errors. In this sense, the definition of dominance will also be changed, and consequently, novel abuses such as self-referencing can be addressed as anti-competitive *per se*. Decision-makers and regulators must refer to and build on the undertakings of this abuse type in the future. That being said, further investigations against Google, Apple, and Amazon and the already given decisions hopefully set a precedent for dual role/intermediary abuses and market power related to data in data-driven markets, which ultimately opens the way for identifying novel abuse types correctly.

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<sup>1727</sup> Ibid, para 699.

<sup>1728</sup> Ibid, para 700.

<sup>1729</sup> Ibid, para 649.

<sup>1730</sup> See Chapter 5.4.1 for more information.

<sup>1731</sup> See Chapter 5.4.1.3 for more information.

Similarly, the report of the United States House Judiciary Subcommittee on Antitrust, Commercial and Administrative Law also identified the conduct of favouritism and self-preferencing as anti-competitive.<sup>1732</sup> The findings show that the dominant platform owners are the only viable paths to specific markets; thus, the favouritism of their own products and services has led to a discriminatory effect: the ability to pick winners and losers (business users) in that platform.<sup>1733</sup> In addition to Google's conduct in the search engine market, the study expresses that: "... over the course of the investigation, numerous third parties also told the Subcommittee that self-preferencing and discriminatory treatment by the dominant platforms forced businesses to lay off employees and divert resources away from developing new products ... some of the harmful business practices of the platforms discouraged investors from supporting their business and made it challenging to grow and sustain a business even with highly popular products. Without the opportunity to compete fairly, businesses and entrepreneurs are dissuaded from investing and, over the long term, innovation suffers".<sup>1734</sup>

The second novel abuse already addressed by a competition authority is Facebook's data violating abusive behaviour. The decision of the *Bundeskartellamt* introduces a quite novel approach for identifying abusive behaviour. The German Competition Authority took a different conception instead of a traditional analysis and considered the collected data as the source of its market power.<sup>1735</sup> Thus, in this case, the origin of the alleged abuse would be the unlawful utilisation of data by Facebook.<sup>1736</sup> Instead of focusing on the existing case-law and established rules of anti-competitive conduct, the *Bundeskartellamt* focused its investigation on data collection and adding data privacy violations into the consideration as a part of it. The novel approach interpreted the data

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<sup>1732</sup> United States Congress, House of Representatives, Committee on the Judiciary, 'Investigation Of Competition in Digital Markets: Majority Staff Report and Recommendations' (June 2019) Available at: [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf), accessed 1 September 2021, 383.

<sup>1733</sup> Ibid.

<sup>1734</sup> Ibid.

<sup>1735</sup> Bundeskartellamt, News, 'Bundeskartellamt initiates proceeding against Facebook on suspicion of having abused its market power by infringing data protection rules' (2 March 2016) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02\\_03\\_20\\_16\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_20_16_Facebook.html) accessed 1 September 2021.

<sup>1736</sup> Giulia Schneider, 'Testing Art. 102 TFEU in the Digital Marketplace: Insights from the Bundeskartellamt's investigation against Facebook' (2018) 9 *Journal of European Competition Law and Practice* 4, 217.



protection provisions as a part of market power and abuse assessments while cooperating with the German data protection authority.<sup>1737</sup> This is a landmark decision for the years to come.

The most important point regarding the alleged abuse was the link between abusive behaviour and data privacy violation. Although there has been an extensive discussion on the interaction between data privacy, consumer protection and competition laws regarding the data issue,<sup>1738</sup> the decision identified data violations as a way to abuse Facebook's dominance. The link between abusive behaviour and data violation is an indication that data privacy issues can be a part of competition law in data-driven markets. Interestingly enough, the data privacy violations of data-rich undertakings have implications regarding data privacy and are relevant for competition law. Therefore, in these kinds of abusive behaviour, allegations regarding the irrelevance of competition law cannot be argued. In this sense, privacy law cannot be used as a shield against competition law assessment and enforcement. To sum up, competition authorities must be careful in identifying novel abuse types related to Big Data. As in the example of *Bundeskartellamt*, authorities must intervene if privacy is used as a tool for anti-competitive conduct.

To sum up, the approach of *Bundeskartellamt* clearly demonstrates how competition law assessment should evolve for the changing market structures in the new economy. Focusing on the dual role of platforms and their intermediation power and the data power will bring a better understanding of the competition in

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<sup>1737</sup> Bundeskartellamt, News, 'Bundeskartellamt prohibits Facebook from combining user data from different sources (07 February 2019) Available at: [https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07\\_02\\_2019\\_Facebook.html](https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07_02_2019_Facebook.html) accessed 1 September 2021.

<sup>1738</sup> Maureen K. Ohlhausen Alexander P. Okuliar, 'Competition, consumer protection and the right (approach) to privacy' (2015) 80 *Antitrust Law Journal* 1; Marco Botta and Klaus Wiedemann, 'The Interaction of EU Competition, Consumer, and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook Odyssey' (2019) 64 *The Antitrust Bulletin* 3, 428-446; Lisa Kimmel and Janis Kestenbaum, 'What's up with WhatsApp? A Transatlantic view on Privacy and Merger Enforcement in Digital Markets' (2014) 29 *Antitrust* 48; Geoffrey A. Manne and Joshua D. Wright, 'Google and the Limits of Antitrust: The Case against the Antitrust Case against Google' (2011) 34 *Harvard Journal of Law and Public Policy* 171, 212; Daniel Sokol and Roisin Comerford, 'Does Antitrust have a role to play in Regulating Big Data?', in Roger D. Blair and Daniel Sokol, *The Cambridge Handbook of Antitrust, Intellectual Property and High Tech* (Cambridge University Press, 2017) 271, 277; Damien Geradin and Monika Kuschewsky, 'Data protection in the context of competition law investigations: An overview of the challenges' (2014) 37 *World Competition* 69; Francisco Costa-Cabral and Orla Lynske 'Family ties: the intersection between data protection and competition EU Law' (2017) 54 *Common Market Law Review*, 11, 17.

data-driven markets. The application of newly proposed tests to market power assessment and abuse of dominant position will open up new analysis such as *Bundeskartellamt*'s, in identifying novel abuse types which are now a reality for the new economy. The decision also marks another crucial point: when necessary, strong cooperation with other regulatory bodies is highly needed to identify novel abuses. As the prime example, this is the way how should competition authorities shift their analysis methods for abuses and market power in the age of Big Data. Such analysis will contribute to the creation of a strong precedent for novel abuses.

#### 6.5.4 Application

Therefore, the final step is to demonstrate how these new tests can be applied to abusive behaviour cases and merger investigations in the EU and demonstrate how these recent decisions could have been different in applying competition law to data-driven markets. Therefore, these tests are applied to the *Google/DoubleClick* acquisition on a theoretical basis since it was the most important decision which has led to erroneous precedent in the EU regarding merger investigations and also to the *Google Shopping* abuse case, which is the only landmark abusive behaviour case discussed thoroughly by academia in the recent past.

As identified in Chapter 4, the *Google/DoubleClick* merger was cleared by the European Commission.<sup>1739</sup> The Commission ruled that Google and DoubleClick were not competitors since the Commission segmented online advertising into separate markets in order to define a relevant market.<sup>1740</sup> Thus, Google was found to be dominant in the ad intermediary segment of the online advertising sector, whereas Yahoo and Microsoft were found to be rivals.<sup>1741</sup> However, DoubleClick was found to be dominant in the display ad servicing segment of the online advertising sector where aQuantive/Atlas, Real Media/OpenAdStream and ADTECH/AOL was found to be the rivals.<sup>1742</sup> The idea of defining a relevant product market by narrowing the online advertising market was clearly a problematic ruling. After the acquisition of DoubleClick, as an intermediary that was the dominant player in ad intermediation globally, Google

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<sup>1739</sup> See Chapter 4.3.1 for more information.

<sup>1740</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, para 74-81.

<sup>1741</sup> *Ibid*, para 92.

<sup>1742</sup> *Ibid*, para 113.

has gained super dominance in the online advertising sector worldwide by creating a value chain and an ecosystem through technological experience and access to huge datasets, and availability and relevance of user data.<sup>1743</sup>

Additionally, the European Commission clearly overlooked the possible foreclosure effects of data merging between Google and DoubleClick.<sup>1744</sup> It was ruled that Google would not be able to use DoubleClick's datasets to foreclose the market. On the contrary, such data merging would not have detrimental effects on the competition in the online advertising sector due to rival's data utilisation techniques. According to the ruling, rivals of Google such as Yahoo! and Microsoft both offer search engine services along with ad services and ad intermediation. As a result, it is ruled that potential data merging between Google and DoubleClick would not affect competition in the online advertising sector due to the available data of rivals.<sup>1745</sup>

In the absence of 'intermediation power' and 'data utilisation' tests, it was almost impossible to identify the non-horizontal relationship and the value chain created by the Big Data utilisation. As mentioned in Chapter 4, Google operates on both ad intermediation and ad serving services in the online advertising sector.<sup>1746</sup> Moreover, although rivals of Google such as Microsoft or Yahoo! offer ad serving services through search engines, they were never as active on ad intermediation segment as Google was. Through its intermediary role, Google has created a value chain by utilising data and algorithm-based methods to derive value from data collected by its online ad services' display and search advertising segments.<sup>1747</sup> In the end, Google effectively used valued data throughout its whole ecosystem, gained ample competitive advantage by generating pieces of information from all available data and used this data for all its services and products. Without the 'intermediation power' and 'data utilisation' tests, it cannot be expected from the competition authorities to identify the 'real' market power of undertakings by narrowing down markets to simple product/geographic markets.

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<sup>1743</sup> French Competition Authority, Opinion 18-A-03 on data processing in the online advertising sector, (6 March 2018), paras 218 and 240.

<sup>1744</sup> Case No COMP/M.4731 *Google/DoubleClick* C[2008] 927 final, paras 356-366.

<sup>1745</sup> *Ibid*, paras 364-365.

<sup>1746</sup> French Competition Authority, Opinion 18-A-03 on data processing in the online advertising sector, (6 March 2018) Available at:

[https://www.autoritedelaconurrence.fr/sites/default/files/integral\\_texts/2019-10/avis18a03\\_en\\_.pdf](https://www.autoritedelaconurrence.fr/sites/default/files/integral_texts/2019-10/avis18a03_en_.pdf), accessed 1 September 2021. para 144.

<sup>1747</sup> *Ibid*, para 145.

Thus, the 'intermediation power' and 'data utilisation' tests should have been cumulatively applied to the *Google/DoubleClick* merger investigation. As discussed above, the 'intermediation power' test would identify the position of an undertaking in a market.<sup>1748</sup> If an undertaking is found to be active on one or more segments of an ecosystem such as online advertising in the *Google/DoubleClick* investigation and has a unique role compared to its rivals to connect its rivals to end-users while also having control of the online platform or ecosystem, such as Google in the online advertising sector; then the intermediation power can be identified. Instead of the neoclassical mechanism to identify market power, the relevant market analysis, the possible intermediation power must be identified in data-driven markets. By doing this, wider effects in a sector can be adequately identified. In this sense, the application of 'intermediation power' will enable competition authorities to identify the market power of dominant undertakings since the analysis in this test reflects the unique characteristics such as dynamic, data-driven, multi-sided, and ecosystem nature of data-driven markets by identifying all of them in order to find the possible intermediary role.

However, the 'intermediation power' test itself will not enable the identification of market power. An intermediary which does not collect, store or utilise data, but provides services just like its rivals on its own platform, might not have market power in the absence of a market share test. For instance, in theory, if Google did not collect data from search queries like the DuckDuckGo search engine, the *DoubleClick* merger would not have any foreclosure effects due to the data accumulation and utilisation. Therefore, the second test should be included in the competition law analysis: the 'data utilisation' test. As Big Data plays a huge, irreplaceable role in business strategies and commercial transactions, data science should become a part of competition law analysis just like economics did in the past. Data science will become an internal part of competition law. However, none of the competition authorities or other regulatory bodies are aware of data science and are at a huge disadvantage compared to big tech companies.<sup>1749</sup> Thus, due to the information asymmetry and the lack of data science knowledge, competition authorities have difficulties assessing the market power of undertakings. In many instances, authorities came under the

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<sup>1748</sup> See Section 6.5.1.

<sup>1749</sup> Akman (n 1699) 16.

influence of big tech companies since they notified authorities that they would not merge/utilise data after the proposed merger.<sup>1750</sup> Therefore, decision-making processes lost accuracy in addressing market power.

As identified in Chapter 4, Big Data is a source of market power, thus having ‘data power’ is a strong implication of having a ‘market power’. As a result, the ‘data utilisation’ test, which assesses the Big Data capabilities and data possession of undertakings, will be a better fit test for competition law analysis. In order to achieve a proper data utilisation test, input and expertise from data scientists are expected for decision-making processes in competition law. Moreover, decision-makers themselves need to improve their knowledge of Big Data, data analytics and the related area.<sup>1751</sup> The data utilisation test should be exercised as a theoretical method where data possession, control over access to data, analytics, and data utilisation capabilities of technology companies are monitored for a time period. In order to achieve this goal, data monitoring tools must be used by competition authorities, and the authorities must simulate data analytics methods of undertakings. Even in the absence of a deeper understanding of data science applied in competition law, the aid of monitoring tools and huge data possession of undertakings in terms of *volume*, *variety*, and *velocity*, would contribute to the market power analysis. If these tests were applied, data utilisation capabilities, data possession and data merging availability of Google would have been interpreted differently in *Google/DoubleClick*.

Additionally, a similar idea to the ‘data utilisation’ test can be found in the draft act on the Digitalisation of German Competition law, and the report of the study by Schweitzer et al.<sup>1752</sup> According to the German study, control over access to data and its importance for competition assessment makes it necessary for competition authorities to integrate data access dimension into the analysis, thus

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<sup>1750</sup> Case No COMP/M.4731 *Google/DoubleClick* C [2008] 927 final; Case No COMP/M.7217 *Facebook/WhatsApp* C [2014] 7239 final.

<sup>1751</sup> Akman (n 1699) 14.

<sup>1752</sup> Bundesministerium für Wirtschaft und Energie, Modernisierung der Missbrauchsaufsicht für marktmächtige Unternehmen (4 September 2018) Available at: <https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/modernisierung-der-missbrauchsaufsicht-fuer-marktmaechtige-unternehmen.html> accessed 1 September 2021, (hereinafter *Modernisierung* Study). Schweitzer Report summary, Available at: <https://www.bmwi.de/Redaktion/DE/Downloads/Studien/modernisierung-der-missbrauchsaufsicht-fuer-marktmaechtige-unternehmen-zusammenfassung-englisch.html> accessed 1 September 2021.

re-conceptualises the understanding of market power. Accordingly, the German Ministry of Economics and Energy recently studied a case on data possession and utilisation.<sup>1753</sup> The study indicates that the control over a vast amount of data becomes more and more important for the market power assessment in finding dominance.<sup>1754</sup> Moreover, the study reveals that data can provide both the superior (horizontal) market power and relational (vertical and conglomerate) market power.<sup>1755</sup> The implication from the analysis would be that the data possession, control over access to data, and data utilisation capabilities should become criteria for the market power assessment instead of the price-output and market share analysis in both abuse of dominant position cases and merger investigations.

Also, the ‘intermediation power’ and ‘data utilisation’ tests will be applied theoretically to the *Google Search (Shopping)* case. Similar to the market power assessment in the *Google/DoubleClick* investigation, the Commission has narrowed down markets in the *Google Search (Shopping)* case to identify a relevant product market and has ruled that the online comparison shopping service and the online search advertising service were separate markets where Google operates distinctly.<sup>1756</sup> The decision stresses that there is limited substitutability between the comparison shopping and online advertising services.<sup>1757</sup> However, as discussed in Chapter 5, the traditional method to assess market power is not accurate.<sup>1758</sup> Online (search) advertising and online comparison shopping are actually in the same ecosystem like Google’s; thus, they should be regarded as one market from consumers’ and advertisers’ perspectives.<sup>1759</sup> If the intermediary power test were undertaken, the intermediary role of Google in online comparison shopping services would have been revealed. Google is the dominant undertaking in the online advertising market, and through this business (Google Search), Google has become an intermediary in online comparison shopping services. However, this service is exclusively

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<sup>1753</sup> The *Modernisierung* Study.

<sup>1754</sup> Ioannis Lianos, ‘Competition Law for the Digital Era: A Complex Systems’ Perspective’ (2019) CLES Research Paper Series 6/2019, 116, taken from The *Modernisierung* Study.

<sup>1755</sup> *Ibid.*

<sup>1756</sup> Case No COMP/AT.39740, *Google Search (Shopping)* C[2017] 4444 Final, para 193.

<sup>1757</sup> *Ibid.*, para 196-197.

<sup>1758</sup> See Chapter 5.4.2 for more information.

<sup>1759</sup> Detailed analysis can be found in Chapter 5.4.2; Sébastien Broos and Jorge Marcos Ramos, ‘Google, Google Shopping and Amazon: The Importance of Competing Business Models and Two-Sided Intermediaries in Defining Relevant Markets’ (2017) 62 *The Antitrust Bulletin* 2, 11.

available through the Google Search engine, which is as widespread as the internet itself and the most used service. Thus, comparison shopping and online advertising services are also an integral part of the search engine. In other words, Google has a dual role. The tech giant has a rivalry with the other comparison shopping and online advertising services inside its ecosystem, where it acts as a regulator, an intermediary. Inherently, Google has the ability to exercise 'exclusionary abuse' due to its dual role and the 'intermediation power' test enables to identify *de facto* regulatory capabilities and the market power of the company in the online advertising sector.

However, the 'data utilisation' test should also be exercised together with the 'intermediation power' test. The identification of an intermediary role alone would not be enough for the indication of true market power. As discussed above, the Big Data capabilities and data possession of Google must also be identified since it is how the company abuses its dominant position through data utilisation. Moreover, the data utilisation test will also contribute to the wider objectives of EU competition law by addressing consumers' data usage, privacy, and transparency. If this test is utilised, it can be possible for the competition law enforcers to identify and address any privacy-related concerns regarding data collection, data violations, or data merging. As mentioned before, since the 'data utilisation test' is a competitive effects test rather than a static market definition test, the consumer-centred other relevant concerns such as privacy can also be addressed accurately within the competition law and policy.

In addition to the application of the abovementioned legal tests, the approach to abusive behaviour should also evolve. As the prime example, the approach of *Bundeskartellamt* is a demonstration of how competition should be assessed and abusive behaviour should be addressed.<sup>1760</sup> Big Data power, intermediation power, multi-sidedness, and the dual role of online platforms must be addressed to understand better and better apply competition rules to data-related competition law issues. Legal tests such as 'intermediation power' and 'data utilisation' tests will provide accurate data for the market power assessment and ultimately for the identification of novel abusive behaviour as novel abuse

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<sup>1760</sup> See Section 6.5.3 for more information.

types are going to be common in the new economy. The Facebook decision of *Bundeskartellamt* must be regarded as a landmark case in this sense.

### 6.5.5 A Global Response

This section further deals with another issue as important as the points mentioned above: a global response. This research exclusively deals with the Big Data related issues in data-driven markets from the starting point that Big Data is a source of market power and a part of a value chain. Therefore, the ultimate aim of this thesis is to identify how the EU competition law rules fail to identify market power or abusive behaviour related to data in online ecosystems. In this sense, the scope of this research is limited to the application of the EU competition law rules; thus, a discussion of a global roadmap is purposely excluded from the scope of this research. Truthfully, this discussion could well be a subject of another PhD research. Nevertheless, due to its importance, it is mentioned below.

Although there are immediate responses that can be given to the changing market structures such as new legal tests to apply, or a sector-specific regulation like the DMA, or other measures such as changing the notification thresholds in merger control, there is one, and a deeper problem persists for the issue of Big Data and data-driven markets. No matter what the European Commission, the Parliament and other regulatory bodies and enforcers decide to do for the data-related competition law issues in the EU, unfortunately, it will remain 'local'. As Margrethe Vestager states: "very soon, there will be no such thing as digital markets, just a digital world."<sup>1761</sup> Undeniably, the digital economy and data-driven markets are global; as a result, the competition law agenda must also be global, consisting of close international cooperation among competition policy-makers and enforcers and coordination between competition and other authorities.<sup>1762</sup> In other words, only cross-border cooperation from competition authorities, international bodies and governments can bring effective remedies for the problems linked to data-driven markets.

The OECD study expresses: "...competition frameworks designed for traditional products may not be suitable for a global digital economy.

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<sup>1761</sup> Margrethe Vestager, 'Defending competition in a digitised world, Speech delivered at the European Consumer and Competition Day, Bucharest, 4 April 2019.

<sup>1762</sup> Pinar Akman, 'Competition Policy In A Globalized, Digitalized Economy' White Paper Series (World Economic Forum 2019) Available at: <https://www.weforum.org/whitepapers/competition-policy-in-a-globalized-digitalized-economy>, accessed 1 September 2021, 4.



Governments may also need to enhance co-operation across national competition agencies to address competition issues that are increasingly transnational in scope or involve global firms.”<sup>1763</sup> Thus, a global response is a must considering the global scope of data-driven markets and the cross-border flow of consumer data.<sup>1764</sup> In this sense, cross-border coordination across jurisdictions is essential for the protection of consumers. The regulatory and enforcement capabilities of NCAs, developing countries or even the EU are quite limited, and sanctions inside the EU may not protect consumers. For instance, Google is fined by the Commission almost 9 billion euros in the *Search (Shopping)*,<sup>1765</sup> *Android*<sup>1766</sup> and *AdSense*<sup>1767</sup> cases. However, the cases took so long to finish and could not be effective since Google had already secured its dominance in internet search, online advertising, and smartphone software sectors.<sup>1768</sup> Moreover, for a company with over 130 billion euros of annual revenue, even the all-time record fines that remain tied up in appeals are not effective sanctions for a company that big globally.<sup>1769</sup>

Although the analysis on data-driven markets and issues related to data in the EU through the thesis has demonstrated that most technology companies act globally, and their markets are global. Commentators tend to neglect the fact that there are huge populations that are part of the digital world and data-driven markets, such as the search engine and social network, but at the same time quite far from the enforcement capabilities of the Commission or any other regulatory bodies. This means any kind of remedy from the EU will be limited to the EU and will affect neither technology giants nor their business strategies. On top of that, most NCAs worldwide are incapable of dealing with competition issues in the digital world. There are many young and small competition authorities in

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<sup>1763</sup> OECD, ‘Going Digital in a Multilateral World: An Interim Report to Ministers’ Executive Summary Meeting of the Council at Ministerial Level (30-31 May 2018) Available at: <https://www.oecd.org/going-digital/project/going-digital-interim-overview.pdf> accessed 1 September 2021.

<sup>1764</sup> Jason Furman, ‘Unlocking digital competition: Report of the Digital Competition Expert Panel’ HM Treasury (2019), Available at: <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>, accessed 1 September 2021, 122.

<sup>1765</sup> €2.5 billion.

<sup>1766</sup> €4.3 billion.

<sup>1767</sup> €1.5 billion.

<sup>1768</sup> Adam Satariano, ‘This Is a New Phase: Europe Shifts Tactics to Limit Tech’s Power’ *NY Times* (30 July 2020) Available at: <https://www.nytimes.com/2020/07/30/technology/europe-new-phase-tech-amazon-apple-facebook-google.html> accessed 1 September 2021.

<sup>1769</sup> Ibid.

developing and developed countries trying to tackle global technology giants and their abuses with their limited resources.<sup>1770</sup> Therefore, a need for cross-border cooperation deepens considering the situation in developing countries since the efforts at the national or regional level cannot catch the scale of global technology giants. However, exchanging experiences and common actions between experienced and younger competition agencies can bear fruit for competition problems in the digital world.<sup>1771</sup>

There will be mutual benefits of this cooperation.<sup>1772</sup> For instance, the cooperation between competition authorities will create a consensus on how to assess the competition and data-related issues in the online world and contribute to the development of shared tools for competition law assessment.<sup>1773</sup> Second, the smaller and younger competition authorities will be ready to respond to competition concerns in fast-developing data-driven markets. For instance, if the appropriate rules and policies for data-driven markets are also put in place in countries such as India, Russia, Brazil, Indonesia or Nigeria, where hundreds of millions of people live, healthy competition can be ensured, and new opportunities for small digital businesses can be established, local start-ups will have a better chance to grow in the online world.<sup>1774</sup> Not only the developing countries but also the EU will also benefit from cooperation since benefits can be derived for the consumers in the EU. As the roadmap; cooperation between national, regional (Africa, Southeast Asia, Latin America, the EU, and others), and international organisations such as the OECD, ICN or UNCTAD for developing common conduct for data-related issues and for implementing this similar conduct could be quite beneficial. This opportunity will likely promote a globally streamlined approach for the application of market power and abuse of dominance position rules by aligning different jurisdictions across the globe.<sup>1775</sup>

To sum up, data-driven markets are truly global. Foreign digital companies offer services and products and also create jobs in different countries.<sup>1776</sup> At the same time, these companies deliver and spread technology and new business

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<sup>1770</sup> Ebru Gökçe, 'Competition Issues in the Digital Economy' (2019) UNCTAD Background Note, Available at: [https://unctad.org/system/files/official-document/ciclpd54\\_en.pdf](https://unctad.org/system/files/official-document/ciclpd54_en.pdf), 13.

<sup>1771</sup> Ibid, 14.

<sup>1772</sup> Jason Furman (n 1764) 118.

<sup>1773</sup> Ibid, 120.

<sup>1774</sup> Gökçe (n 1770) 13.

<sup>1775</sup> Furman (n 1764) 126.

<sup>1776</sup> Ibid.

methods all over the globe. The new business life links countries and people to each other digitally; thus, creating one big community. Consequently, huge global markets are created thanks to these technological developments. When a problem occurs, the problem is that the problem is also on a global scale. There are various global concerns such as climate change, immigration, or pandemics. A government or a regional player does not have the power to cope with climate change or the coronavirus pandemic itself. International, cross-border cooperation is the only efficient way to achieve rewarding results. Similarly, the competition in data-driven markets should also be seen as a global issue, a concern. In this sense, the exchange of experiences, increased harmonisation, and even common rules for data-driven competition will benefit consumers and healthy competition the most.

## **6.6 Concluding Remarks**

The main research question discussed in this chapter is: “Is there a case for reform in the approach of EU competition law to data-driven markets?” if so, “How should market power be defined for competition law purposes?” The problems stemming from data collection and utilisation, network effects, data as a source of market power and online market structures are utterly new. Thus, the current competition tools are found to be ineffective against the problems mentioned. Therefore, different methods to approach these challenges are discussed in this chapter as the first step. The first discussion was the effectiveness of a non-interventionist approach. This is followed by the approach of broadening competition law’s goals. The analysis then moved on to introducing new *ex-ante* mechanisms, sector-specific regulation for data-driven markets. Lastly, optimising, improving the current legal framework is discussed. As the analysis has revealed that the competition law rules do not need to be reset, the most appropriate remedy is to update the competition law tools for the new era to increase the effectiveness of competition law assessment and enforcement for the problems unique to data-driven markets.

The remedies must be necessary, proportional, and pro-competitive. Thus, the best approach would be to make reforms on specific competition tools in the form of soft law. For instance, a guideline on the market power assessment and application of Article 102 TFEU to data-driven markets for competition authorities and courts will support and harmonise the decisions in the EU. Regarding the soft

law mechanisms, the main aim should be to keep competition working efficiently through case law and investigations in the EU. The new assessment methods proposed in this guideline will eventually support the case law in creating efficient competition enforcement in data-driven markets without impeding the innovative character of the new economy. There are currently a new series of investigations against Apple (app store), Google, Facebook, and Amazon (self-preferencing). There will be landmark decisions for the EU law and hopefully contribute to creating a solid precedent.

The challenges that competition law and policy face in terms of Big Data are quite similar to another area of EU law: biotechnology patents. Rapid technological developments in medical treatments created a huge topic in terms of the patentability of human embryonic stem cells.<sup>1777</sup> Very briefly, technological studies on human embryos and stem cell treatments led to a critical question, can human embryonic stem cells be regarded as humans? If so, is it moral to patent human beings? The discussion is quite deep; however, one thing is certain: there is no way that patent law and policy in the EU can fully understand and draw a framework on where human cells start being human. Although decision-makers tried to define human embryos in terms of patent law through the EPO (European Patent Organisation) and the CJEU case law, technological developments made all assessment methods obsolete. In 2014, International Stem Cell Corporation applied for a patent of human stem cells that can divide and develop into many human cells without any kind of fertilisation, which means it will be unable to develop into a “full” human being.<sup>1778</sup> The CJEU ruled that the current case law and the Biotechnology Directive are insufficient; thus, human stem cells should be an autonomous concept interpreted uniformly in the EU.<sup>1779</sup> In sum, inefficiency in regulating biotechnology patents due to the lack of understanding of the high-technology of law-makers made it necessary for the area to develop through the case law instead. This means even the CJEU should reverse all its previous rulings when necessary. Regarding the Big Data issue, the best option for competition law and policy is not to strictly regulate the area of law since it is

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<sup>1777</sup> Case G-0002/06 *Use of Embryos/Wisconsin Alumni Research Foundation* [2008] ECLI:EP:BA:2008:G000206.20081125; Case C-34/10 *Oliver Brüstle v Greenpeace* [2011] ECLI:EU:C:2011:669; Case C-364/13 *International Stem Cell Corporation v Comptroller General of Patents, Designs and Trade Marks* [2014] ECLI:EU:C:2014:2451.

<sup>1778</sup> Case C-364/13 *International Stem Cell Corporation v Comptroller General of Patents, Designs and Trade Marks* [2014] ECLI:EU:C:2014:2451.

<sup>1779</sup> *Ibid*, para 23-24.

impossible for the regulatory bodies and authorities to understand Big Data technology and its boundaries in full.

In conclusion, the chapter proposed two new tests to apply in data-driven markets in the form of soft law: the 'intermediation power' and 'data utilisation' tests. Both tests aim to determine the true market power of undertakings by evaluating the multi-sided market structures, the dual roles of undertakings, data collection and utilisation capabilities, which indicate market power appropriately. Moreover, the application of Article 102 TFEU in data-driven markets must be more responsive since there are new types of abusive behaviour in data-driven markets. The authorities and courts should not limit their assessments around specific abuse types or align an abuse to an established abuse. EU competition law must set a unified approach to novel problems occurring due to Big Data in the new economy. In order to do so, these new legal tests can be seen as the first step of a wider action for data-driven markets. In other words, a modernised and unified approach to data-driven markets along with stronger competition enforcement is needed in the EU; however, a long-term plan must also be discussed for data-driven competition. A single, harmonised, and coherent application of competition law to data-driven markets from all over the world is the only relevant option for a strong and effective response to these global markets. Although the thesis focused on the methods of EU competition law specifically, a need for a modernised application of competition law on a global scale and a need for cross-border cooperation is also nuanced.

## 7 CONCLUSION

This research has sought the answer for, “Is current competition regulation effectively dealing with Big Data related issues in the EU? Is there a case for reform in the approach of EU competition law?” The main gap identified for this analysis is the application of competition law to Big Data related issues in the digital economy. The application of current tools and the method of applying these rules are problematic in many ways. Therefore, to engage a systematic analysis, a few points are addressed through a step-by-step approach. At first, major findings related to Big Data are identified as follows: the rapid monopolisation problem in data-driven markets, issues in assessing market power of undertakings in abuse cases and merger investigations, and the identification of abusive behaviour in online ecosystems.<sup>1780</sup>

After that, the problematic application of competition law rules in assessing market power and abusive behaviour are discussed.<sup>1781</sup> The main argument is that Big Data is a source of market power due to indirect network externalities and the accumulation of data. It is identified by this study that undertakings in the online world accumulate and acquire data to gain market power and create global value chains through data utilisation. Ultimately, high concentration occurs, and the creation of digital platforms (online ecosystems) leads to abusive practices. As a result of the analysis conducted in Chapters 3 to 5, the assessment of market power through relevant market definitions and market share analysis is found problematic. Moreover, abuse through leveraging market power is identified as a major problem in data-driven markets. Also, this thesis determines that novel abuse behaviour such as violation of data privacy or abuse through access to data is common in data-driven markets.

All the abovementioned points lead to the contribution: filling the gap by providing an adequate solution for the competition law analysis. Although it is argued that Big Data is a source of market power today, in the absence of established case law or a regulation *in force*, a roadmap for the short term action is proposed. For the action to be taken, soft law is found to fit the purposes of competition law. Since the failures arise from the ineffective tools used to address market power and abusive behaviour, an intervention seemed to be necessary to

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<sup>1780</sup> See Chapter 2.

<sup>1781</sup> See Chapters 3 to 5.

the area of law. Therefore, this research evaluated weaknesses and strengths of EU competition law and the effectiveness of the EU competition law and its assessment tools applied to competition issues in digital markets. Thus, a critical assessment of how the European competition authorities should react to the Big Data issue and newly emerging data-driven markets is conducted. As a result, the need for reform is finally identified in Chapter 6.<sup>1782</sup>

Without intervention, it would not be possible for competition authorities to assess market power, detect abusive behaviour, or identify consumer harm. In line with the idea of necessary intervention, recommendations for remedies to mitigate the current and future conflicts concerning the effectiveness of the competition law regulation is made. Thus, the study proposes new legal tests for the market power assessment in the data-driven sector as the immediate response. The remedy consists of two new legal tests to be applied cumulatively and on a case-by-case basis in data-driven markets in the form of soft law: the 'intermediation power' and 'data utilisation' tests. These new legal tests should be applied to data related abuses/merger control assessment instead of an *ex-ante* sector-specific regulation.

Competition law needs to abandon the analysis based on product market definitions in issues related to the online worlds since the legal concept of relevant markets bears problems in the data-driven sector. Instead, the 'intermediation power' test can be developed and adopted. The 'intermediation power' test brings the exclusionary market power concept to the competition law analysis. This test aims to detect undertakings active on one or more linked segments of an online ecosystem that can connect businesses to end-users, such as online advertising or networking purposes, and then aims to identify the 'market position' of undertakings by evaluating the multi-sided structures of platforms, the dual role of platform owners and their capabilities. In a scenario where a business has control over a strategic bottleneck, gateway, or a dual role, the 'intermediation power' test becomes relevant. In the concept of 'exclusionary market power', indirect network externalities and the dual role of platform owners are the parameters for market power assessment. In this sense, the test first identifies the market position and possible exclusionary conduct and then determines a

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<sup>1782</sup> See Chapter 6.

level of market power to identify dominance in place of a neoclassical mechanism to identify market power.

Although the intermediation power test can identify the ‘exclusionary market power’ of undertakings in the online world, the intermediary and *regulatory* capabilities would not be enough to determine market power. The ‘data utilisation’ test must also be exercised cumulatively. Undertakings create a Big Data value chain and gain a competitive advantage due to the information asymmetry provided by the value chain. Data utilisation is the most important part of the value chain of data collection, data analytics, data utilisation, better services, network effects, more data, more data utilisation, lock-in effects, creation of ecosystems, tipping markets, and finally, monopolisation”.<sup>1783</sup> Thus, the ‘data utilisation test aims to identify the capabilities of undertakings regarding the utilisation of collected or acquired data through algorithms for the conglomerate and vertical means. In addition to identifying the dual role and the intermediary powers of undertakings, the determination of cross-market data utilisation capabilities that create information asymmetry should be a part of the new dominance analysis. Identification of the data possession and the assessment of Big Data capabilities seems inevitable for the competition law issues in data-driven markets. Without Big Data, no one business can obtain *de facto* regulatory powers in the free market economy and reach a point where it dictates its own rules to other participants or gain grounds in adjacent markets. Big Data is a magical tool for undertakings, and ‘Big Data power’ strongly implies ‘market power’.

In total, the ‘intermediation power’ and ‘data utilisation’ tests aim to identify the market power of technology giants by evaluating the multi-sided market structures, dual roles of these undertakings, data collection and utilisation capabilities. Competition authorities and courts should apply these tests to better identify market power by reflecting the unique characteristics of data-driven markets instead of the current tools. Although these cumulative tests aim to detect dominance and replace the current market power analysis, it should not become a hard law. Instead, the authorities should be encouraged to exercise these new tests to competition issues in cases and investigations. The data-driven sector is under constant change and this is a transition period in the age

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<sup>1783</sup> Chapter 6.5.2 for more information.



of Big Data. In a decade or two there could be a completely different online scape. Therefore, the best approach would be to make reforms on specific competition tools in the form of soft law. In this sense, the main aim should be to keep competition working efficiently through case law and investigations in the EU. The new assessment methods will eventually support the case law in creating efficient competition enforcement in data-driven markets without impeding the innovative character of the new economy. Gradually, a case law can be established. There are currently a new series of investigations against Apple (app store), Google, Facebook, and Amazon and the application of proposed tests would hopefully contribute to creating a solid precedent.

In conclusion, it is advised that the dynamics of new economy markets are considerably different from the traditional ones; thus, unique characteristics must be reflected in competition law assessment in the EU. By this means, competition authorities need to extend the competition law assessment beyond the traditional tools and specific abusive behaviour types. Although it is a transition period and the soft law is the most appropriate approach as the immediate response, a long term action must also be conducted. However, data-driven markets are truly global and undertakings active in the sector deliver and spread technology and new business methods all over the globe establishing new links and creating one big community. Consequently, when a problem occurs, the problem is also on a global scale. Thus, a long-term roadmap should also be studied in the near future for a harmonised and coherent application of competition law rules to the data-driven sector on a global scale. In other words, cross-border cooperation between national and regional competition authorities is needed in the future. In other words, the exchange of experiences, increased harmonisation, and even common rules for data-driven competition will benefit consumers and healthy competition the most. In this sense, the proposed new legal tests would even contribute to this approach, and they can become a part of a wider action by the European Commission, NCAs in the EU, and other competition authorities and officials around the world for stronger and more effective competition enforcement.

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