

# LUISS



Department of Business and Management

**Chair of Markets, Regulations and Law**

## Big Data: Antitrust Law and Data Protection Rules

Giuseppe Colangelo  
SUPERVISOR

Luca Arnaudo  
CO-SUPERVISOR

Marika Di Massa 713651  
CANDIDATE

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*“The World’s most valuable resource is no longer oil, but data”*

(The Economist)

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## Introduction

With the term digital platforms, we refer to those entities that use new technologies in order to allow the interaction between users of a service or a product with its suppliers. Digital platforms represent the technological response to the need to coordinate supply and demand in the market. In traditional markets, this coordination is ensured by the physical coexistence of buyers and suppliers - as in the case of fairs. Whereas, in the context of digital platforms, the coexistence of the two parties is virtually ensured by the use of technological tools. It is undoubted that today digital platforms have such an impact that they affect all aspects of human personal and economic relations, thus making some of them real giants of our society through which billions of people daily relate, electing social networks as digital meeting places, e-commerce platforms as new markets and search engines as doors to human knowledge.

Such digital platforms represent, in most cases, data-driven innovations (DDI), namely platforms that collect, store and analyze huge volumes of digital data. The massiveness of those data, due to the increasing digitalization of every kind of socio-economic activity and the decline in the cost of data harvesting, has led this new economic paradigm to be defined as “Big Data”. Data are currently considered as the world most valuable resource, the engine of the digital economy and the oil of the new Century. The innovative features of data are generally summarized in four Vs: “volume” of the data created year over year, “velocity” of its analyzation; “variety” in the types of data; and “value” of the data as new factors of production. For this reason, we talk about a real “data revolution” or a new Schumpeterian wave, fostering the rise of new products, processes and industries, while replacing the old ones.

However, the flip of the coin is that when such disruptive innovations occur within an economy, there are also challenges to be addressed. In such a case, the capability by firms to collect and analyze this huge array of personal data has determined a great deal of policy issues, with specific reference to data protection, consumer and competition law. In such a context, governments are burdened by the need to protect individuals from the disruptive effects of Big Data on the overall economy. Therefore, a debate has arisen about the need for a unitary regulation over digital platforms. Indeed, the suspicion that the unstoppable development of the latter is due to the lack of a regulatory framework has been growing in recent years as many raised that it was, in fact, determined by their possibility to freely adopt opportunistic behaviors. On such basis, the purpose of this discussion will be to analyze the competitive situation that characterizes those markets animated by digital platforms in order to verify if the instruments and schemes of the antitrust law are able to respond to the competitive challenges posed by digital platforms or if, vice versa, it is necessary to prepare an *ad hoc* regulatory framework.

Therefore, in order to achieve this goal, the thesis has been divided into three sections. In the first chapter of the discussion (Taxonomy of Platforms and Big Data Usage) we will try to frame the concept of digital platforms, in order to define the outlines of this apparently clear notion and illustrate the difficulties encountered by authorities when attempting to foresee an *ex ante* regulation of the digital platform phenomenon. Difficulties that appear to begin with the very initial identification of a univocal definition of online platform and to continue with the delineation of the uses and needs that those may satisfy. Furthermore, we will assume that the difficulties just ascribed to those platforms would, indeed, seem to reflect the extremely subjective nature of the definitional exercises carried out toward the subject and exacerbated by the variegated degree of technological complexity characterizing the existing digital ecosystems, as well as the mutability of their business models.

In addition, in this same chapter, we will go in depth through some of the key aspects that characterize those digital ecosystems, with a particular focus on Big Data, to which they tend to heavily rely on. Big Data will be scrutinized in their most intrinsic characteristics through numbers, trends and statistics from the global data economy as well as in their legal implications and social impact. Finally, in the last section of this first chapter, the peculiarities of the business models used by digital platforms that pose new questions both in terms of antitrust and regulation are highlighted. In particular, the fact that these platforms operate on multi-sided markets, often offering their services to users at zero price, requires that the methodological approach and the tools used by the competition and regulation authorities must be adjusted to fit a market that is far from being traditional.

In the second chapter (Antitrust and Data Protection: Rethinking Regulation), we will narrow the focus of our analysis to Europe, in order to address the challenges that new data-driven markets pose to privacy and antitrust, keeping a particular focus both on the current privacy law in Europe, and the new Directive, the General Data Protection Regulation (GDPR) issued in May 2018, as well as on competition and its relative harms to the data economy, and the challenges that competition authorities must overcome in order to regulate those industries arisen from the data revolution. With reference to the latter, we will talk about ad-driven two-sided business models which tend to offer zero monetary prices to their users, in order to attract the most attention on the platform and resell both this attention and the data collected about users' purchasing behaviors - both on the platform and sometimes on third parties' platforms - to firms who use them for advertising purposes as well as for the production of new products. While the outcomes of the employment of user data by firms may be controversial - as on one side, consumers prefer being targeted with the right product choice, and to the other, they find the intrusion in their privacy disturbing, especially if the latter is run extensively - the concerns by legislation authorities over the abuse of user privacy are rather a widespread reality and

legislators have been questioning themselves whether the current regulatory framework is sufficient to tackle at such problems of over-intrusiveness into user privacy. Some have suggested that the current regulatory framework is no more sufficient to tackle at such problems and a more up to date legislation would be required. Among the proponents of an *ad hoc* legislation, some have argued that a commingling of data protection regulation, consumer law and competition law would be necessary to deal with these new privacy issues. Nonetheless, opponents have argued that a mixture of those three branches of regulation, regardless of their family ties, may only lead to further confusion.

Through and in-depth analysis of four cases, namely *Google/DoubleClick* merger, *Facebook/Whatsapp* merger, *Qihoo 360 v. Tencent*, and *Facebook*, we will realize that the latter position seems to be the one supported by the EU Commission in its decisions as, up to date, privacy questions have never been introduced within the antitrust discourse. Nevertheless, efforts to recognize the importance of such an argument are always more frequent, and the role that privacy plays in driving consumers' choices, and as a parameter of competition between digital platforms, is starting to be taken into consideration.

In the third chapter (The German *Facebook* Case) we will delineate the contours of the Facebook company, with its product offers and market features. At the same time, we shrink our attention to the German market in order to specifically delineate the elements that determine its market position, as well as the criteria that define its market dominance. The last two elements are, indeed, typically functional to a competitive assessment, and to those two elements, the German Competition Authority (GCA) has added up three further findings: the first of which being the fact that Facebook combines personal data from third parties with those that it generates on the platform. A thing which notably occurs when users visit a website which has embedded Facebook Application Programming Interfaces (APIs), namely the "Like" or "Share" buttons, and when users register or log in to other websites using their Facebook credentials. In this way Facebook was able to track users' behavior to and from several different sites, although we are not fully aware of the extent of such monitoring; the second finding by the GCA was that this practice allegedly violated the European GDPR. Indeed, Article 6 of the GDPR defines a limited number of cases upon which companies may lawfully process data. According to the GCA, Facebook failed to obtain one of them, namely users' consent, as its terms of service did not provide this option, rather employing "take it or leave it" offers, which could not be defined, according to the authority, as an equate form of consent; the third finding by the GCA, was that Facebook's behavior is a manifestation of market power. This condition is critical for the competition law assessment to be considered as relevant, because otherwise it would fall exclusively under data protection law competence. However, here lies one of the case's most controversial aspects which is linked to the actual legitimacy by the GCA to enforce



the antitrust law in such a context. Mixed opinions about the topic have been risen, and we will present some of the most interesting in a completely dedicated chapter, followed by the suspensive decision by the Düsseldorf Higher Regional Court. However, the case is not over yet, and an appeal has been lodged with the Federal Supreme Court.

In the fourth chapter (General Data Protection Regulation and Web Technology) it was highlighted the importance of the introduction of the GDPR for consumers' welfare as well as the criticalities to which the employment of such norms led. In particular, it was evidenced that, since the introduction of the GDPR, market concentration within web technologies markets has stifled, ultimately favoring large players like Google and Facebook. In particular, it was investigated in which ways Google managed to exploit the relative norms embedded within the GDPR to increase its market power to the detriment of consumers, advertisers and publishers. Furthermore, a close analysis of the criticalities faced by small and medium ad tech companies, especially zero to three years old AI startups and venture capital companies, have been brought up in order to compare them against the benefits obtained by large players. To conclude, in the last section, we have explored the remedies adopted by the GDPR to face the drawbacks at issue, the main of which were individuated within the adoption of the data portability rule and within the implementation of technological tools which lead to an anonymization by design, again, not without significant concerns.

Finally, in the last chapter (Survey Analysis of the Impact of the GDPR), we draw on the assumptions set in chapter four to empirically assess the extent of the effects of the GDPR on both large and small and medium sized companies. Ultimately ending up supporting the conclusion that the detrimental effects of the GDPR have been perceived more consistently by small and medium sized players, for which the cost of compliance to the GDPR becomes rather onerous.

# Chapter 1

## Taxonomy of Platforms and Big Data Usage

Platforms create major challenges for public policy. This is because, in a market-based society, competition policies ensure that the economy serves the needs of citizens, through the presence of a large number of firms producing similar products such that, in order to increase their profits, firms compete to acquire market share through lower prices and innovation, both in product design and in production technology.<sup>1</sup> When such a competition is not possible, governments have traditionally intervened through regulation or public ownership; rather, when competition is possible, governments used competition policy to ensure that private entities do not hinder competition for their own interests, through cartel agreements, monopolization strategies or mergers. Nonetheless, traditional competition is not always feasible in the digital economy. In these very fast moving and diversified markets, a regulation similar to the one used for traditional utilities would probably be inappropriate. Indeed, the possibility to provide a specific *ex ante* regulation for digital platforms firstly clashes with the difficulty of identifying their definitional scope. Furthermore, a mean of divide from the traditional applicable regulation has been generated from the quite recent phenomenon of the data revolution, which has disrupted every sector and industry, and posed questions regarding its actual applicability to the new digital ecosystems.

Our objective, in the paragraphs that follows, will be that of identifying those characteristics that are common ground to digital platforms, bearing in mind that this quest is not an easy task due to the continuous technological advancement that characterizes our era.

### 1.1. Characteristics of Digital Platforms

A platform can be identified as a market in which two or more distinct groups of users meet in order to exchange goods or services. Nonetheless, the multiform variety of business models of operators present on digital markets, and their variable degree of technological sophistication, makes it difficult to identify a definition of online platform able to include internally the diversity of current and future digital ecosystems.

In order to define what those platforms actually are, we will consider them from the point of view of their inner and commonly shared characteristics, basing ourselves on the EU Commission Staff Working Document (2016). According to the EU Commission, many online

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<sup>1</sup> Crémer et al., 2019:19.

platforms share: capacity to facilitate direct interactions or transactions between users; ability to collect, use and process a large amount of personal and non-personal data in order to optimize the service and the experience of each user; capacity to build network effects; ability to create and shape new markets into more efficient arrangements that bring benefits to users; and reliance on information technology (IT) as the means to achieve all of the above.

The diversity embedded within digital platforms exemplifies in the multiform variety in which those may present. Following Evans and Schmalensee (2007), we can distinguish among three types of online platforms: *Market makers* aimed at connecting two user groups in order to facilitate their mutual interaction hence bringing together two groups that are interested in trading, increase the likelihood of a match, and reduce search costs.<sup>2</sup> One example of this type is Amazon as it facilitates the transaction between the seller and the buyer; *audience makers* whose scope is to allow a user group to get the attention of a distinct user group, so that their function is not to favor the best match between the demand and supply of two groups of users, but more simply to provide the opportunity for a group of users – i.e. advertisers - to get widespread attention from another group of users- i.e. consumers.<sup>3</sup> One example is Facebook whose objective is creating a community on which to run ads; and *demand coordinators*, such as software platforms, operating systems, and payment systems that coordinate demand between different user groups, i.e. card holders and merchants, developers and smartphone users.

### 1.1.1. *Two-sidedness, Multi-sidedness and Network Effects*

The first characteristic that deserves to be mentioned is platform's operational capability on *two-sided* or *multi-sided markets*. Starting from the definition of *two-sided markets*, its notion comes from the economic theory and describes situations in which a social value arises through the interaction of different groups and in which this interaction takes place via an intermediary that brings the two groups into contact with each other.<sup>4</sup> Two-sided market are characterized by a firm acting as a platform, selling two different products to two groups of customers, whose demand from one group will be dependent upon the demand from the other.<sup>5</sup> Hence, two sided platforms need “to get both sides on board” in order to do business.

In recent years, with the rise of Internet platforms and the digital economy, a phenomenon of multi-sidedness has been appearing. However, multi-sidedness is not only an online phenomenon and many traditional “offline” markets have been identified as well as such.

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<sup>2</sup> Within this category we can make a further distinction between: *transaction platforms* where the interaction between users is aimed at a specific transaction and *non-transaction platforms* whose purpose is not to facilitate a transaction but the direct contact between the users of the platform.

<sup>3</sup> OECD, 2018:57.

<sup>4</sup> Franck J. et al., 2019:18.

<sup>5</sup> OECD, 2018:37.

In literature, there are multiple definitions of multi-sided platforms.<sup>6</sup> According to Rochet and Tirole (2006) 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; while for Evans and Schmalensee (2007), a multi-sided platform - an economic catalyst - has two or more groups of customers who need each other in some way, but who cannot capture the value from their mutual attraction on their own and rely on the catalyst to facilitate value creating interactions between them.

The lack of a universally adopted definition of multi-sided platforms is due to the fact that multi-sidedness is mainly a matter of degree, hence most bright-line definitions are under- or over-inclusive. The fragmented state of doctrinal views has consequences which go beyond semantics since it may threaten the coherent implementation of the theory of two-sided markets and lead to unsound applications of the antitrust law.<sup>7</sup> Furthermore, to render its application much more complex, the fact that whether a platform is one-sided, two-sided or multi-sided can often not be judged at first glance as platforms are non-static entities, where multi-sidedness often doesn't occur from the inception but it rather represents a gradual phenomenon.

However, a platform is *two-sided* if a company distinguishes between different user groups and these groups are linked through *cross-group external effects*. Indeed, the ability of the intermediary to facilitate interaction between the two sides – together with the level of participation or usage of the platform – determines a second main characteristic of platforms, that is *network effects*. *Network effects* imply that the convenience of using a technology or a service increases with the number of users adopting it.<sup>8</sup> More specifically, we talk about *direct network effects* when consumers' willingness to pay for a product depends on the number of other consumers of the same product; They occur when the utility of a user depends on the decisions of other users and all of these users belong to a group.<sup>9</sup> Metcalfe's law states that "the value of a network is proportional to the square of the number of nodes"<sup>10</sup> meaning that its value increases exponentially as users grow linearly.

*Direct network effects* can be in turn *positive* or *negative*: *positive direct network effects* occur when the benefit of a user depends significantly on the participation decisions of other potential users. Typical examples are communication networks - i.e. instant messaging apps like WhatsApp or Snapchat and social networks like Facebook and LinkedIn; *negative direct network effects* rather occur when users suffer from increased participation from other users.

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<sup>6</sup> A platform by definition, doesn't sell anything its objective is connecting two poles.

<sup>7</sup> Colangelo G. et al., 2019:111.

<sup>8</sup> Crémer et al., 2019:133.

<sup>9</sup> Franck J. et al., 2019:15.

<sup>10</sup> Crémer et al., 2019:25.

This may be due to overloading of the platform - i.e. traffic congestion for users of an Internet Service Provider (ISP).

On the other hand, we talk about *indirect network effects* when consumers' willingness to pay for a product depends on the number of consumers of another product. In other words, there are *indirect network effects* when the value extracted by a consumer from a good or service increases as the number of users of identical or interoperable complementary goods increases. Hence, the value of a platform increases along with the number of applications and services that are offered on the platform. Again, *indirect network effects* can be *positive* or *negative*: *positive indirect network effects* describe a situation in which users have greater benefit from increased participation of other users. These are typical of e-commerce platforms where sellers represent one group of users and buyers the other group of users. More buyers attract more sellers and more sellers attract more buyers. Hence, there are positive indirect network effects on both sides of the market. Examples of positive indirect network effects are: dating platforms such as Tinder or e-commerce platforms such as eBay. Furthermore, members of one or both groups not necessarily have to be natural persons: B2B platforms are, indeed, typically characterized by positive indirect network effects.

Whereas, *negative indirect network effects* generally occur on attention platforms that engage advertisers with potential buyers as while more potential buyers attract more advertisers, buyers often find more advertisements disturbing. In this case, there is a *negative indirect network effect* on both sides of the platform as: more advertising leads to fewer buyers, which is viewed negatively by the advertiser; whereas, more buyers lead to more advertising, which is judged negatively by the buyer. However, attention platforms do not always face *negative indirect network effects* especially if the advertising is customized to the user. In such a case, the accuracy of advertising may also benefit users. New technologies of information are often subject to *indirect network effects*, that means that the usefulness of the service provided to each user rises as the number of users rises.

The consequences of positive network effects are that the larger the platform, the more the users and the more efficient the platform will be, leaving little room for competition. Hence, as a consequence of network externalities and increasing returns to scale<sup>11</sup>, economic theory predicts that there can only be a few platforms competing to provide any given type of service. The drawback of this situation is that, users do not move to another platform because of quality concerns – meaning that there is a better performing platform on the market - but rather they

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<sup>11</sup> One of the reasons for which the new technologies of information are incompatible with traditional models of competition is that they show very strong returns to scale. That means that the cost of production is much less than proportional to the number of customers served. Indeed, once created, information can be transmitted to a large number of people at very low cost. This is to say that the cost of servicing these users rises much more slowly than the number of users.

are moved by individual incentives, based on their expectation that the others will follow. Network effects could, thus, impede a superior platform from overtaking an inferior one.<sup>12</sup>

Network externalities may lead to situations of tipping: as innovation channels are made by standards – that are goods and services that are provided to a huge number of consumers. Tipping implies that markets naturally converge towards one single standard generating competition for the market rather than competition in the market, with firms competing aggressively to become the industry standard by charging very low prices. Indeed, the tipping effect for platform markets often implies that once a company has acquired market power, it is unlikely to be shoved off its pedestal anytime soon.<sup>13</sup> This kind of competition is generally referred to as winner-takes-all competition. In such a condition, the conventional laws of antitrust cannot be applied.

In other words, the demands on the two sides of the market are linked by *indirect network effects*, that are recognized by the firm that therefore internalizes them. However, the buyers of the two products, do not internalize these effects, which are therefore called externalities. This, as noted by Rochet and Tirole, makes a *two-sided platform* different from complementary product, in which both products are bought by the same buyers, who can therefore be expected to consider both prices when selecting the product to buy. Whereas, in *two-sided platforms* this situation doesn't occur and prices from both parties are not taken into account. Typical examples of two-sided markets are: (1) media companies, that sell content and advertising space; (2) payment cards companies, that sell the use of cards to buyers and at the point of sale (POS) terminal to shops; (3) and online intermediaries, that sell their services to both buyers and sellers.

### 1.1.2. *Transaction v. Non-transaction Platforms*

Crucial for the distinction in the pricing strategy adopted by platforms, is the difference between two-sided *transaction* and *non-transaction platforms*. In *two-sided non-transaction platforms*, no transaction between the two sides of the market occurs, nonetheless an interaction is present which, in fact, cannot be observed by the platform that consequently cannot set a per transaction or per interaction fee. Examples are newspapers who set access price to both parties.

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<sup>12</sup> Crémer et al., 2019:23.

<sup>13</sup> Robertson, 2019:9.

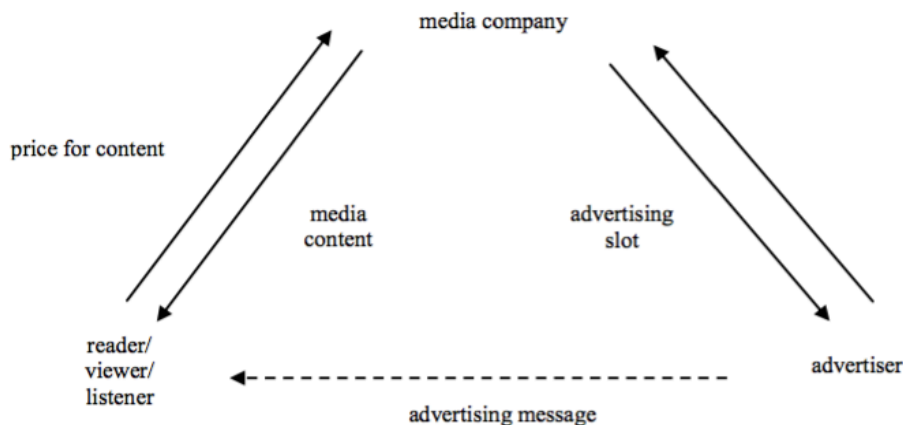


Figure 1. Example of a two-sided non-transaction market (media market).

On the other side, *two-sided transaction platforms* are able to observe the transaction between the two groups of users and are therefore able to charge a price both for joining the platform and for its usage generally with a two-part tariff. A straightforward example is the market for payment cards.<sup>14</sup>

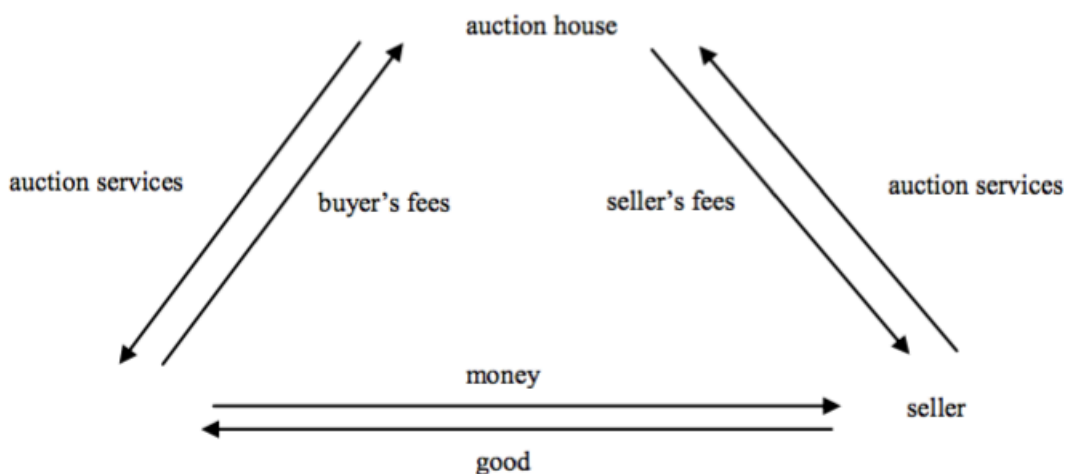


Figure 2. Example of a two-sided transaction market (auction market).

Furthermore, *two-sided non-transaction platforms* are characterized by *membership externalities* (or *indirect network effects*), meaning that their value arises from joining the platform and increases with the number of users joining it. Whilst, *two-sided transaction platforms* are characterized not only by *membership externalities*, arising from joining the platform (ex. buying a newspaper, holding a payment card), but also by *usage externalities*, arising from using the platform (paying or accepting payments with cards), meaning that the value of the platform and the benefits arising from using the platform both depend on the number of people actually using it.<sup>15</sup> Therefore, according to the strand of literature which

<sup>14</sup> OECD, 2018b:38.

<sup>15</sup> Filistrucchi L. et al., 2013:4.

supports the distinction between transaction and non-transaction platforms, in *two-sided non-transaction platforms* we define two interrelated markets; while in *two-sided transaction platforms* we only define one market, as none of the two products offered is sufficient without the other side, the products will be therefore consumed in a 1:1 proportion, as we will see in the chapters that follow.

### 1.1.3. Homing decisions

The economic literature distinguishes between *single-homing* and *multi-homing* (Armstrong, 2006). A user single-homes if he/she uses a single platform to satisfy his/her needs; and rather multi-homes if he/she uses several platforms at the same time for this same purpose. In multi-sided markets, pricing and market outcomes, depend upon customers decisions of selecting a single platform or more than one platform.<sup>16</sup> Specifically, a preference among customers towards single-homing, denotes intense competition and conversely an orientation towards multi-homing denotes low levels of competition.

There are different reasons for which a customer may decide to multi-home, and the most crucial one is generally product differentiation. However, specifically to the context of digital platforms, a crucial element for the decision by a customer to multi-home is represented by differences among platform services and functionalities with the purpose of better and cost effectively covering the same needs: a multi-homing user, for example, checks the price of a ride on both Uber and Lyft each time he needs a car.<sup>17</sup> And this explains why when users are multi-homing, entry barriers are lower (as it is easier to convince customers to switch to a new and better performing platform). Indeed, in many cases in which two platforms resulted in being substitutes, multi-homing has efficiently and spontaneously achieved the goals of mitigating the probability of “tipping” and reducing the relevance of indirect network effects as if all the customers are on both platforms, the number of those customers doesn’t affect the choice between platforms. Furthermore, multi-homing provides the user with the advantage to use the product of the new entrant while still being able to preserve the benefits of using the incumbent platform to interact with the others. For example, a user can use Facebook to keep in touch with his friends and family and LinkedIn to grow his network of business contacts.

The possibility to participate in several platforms at the same time mostly depends on switching costs. In some sectors switching costs are low – i.e. online travel services - in others high – i.e. social networks - because of strong direct network effects. However, consumers are often bound to a single platform when the cost of acquiring a device that is compatible with the other platforms is high.

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<sup>16</sup> OECD, 2018b:60.

<sup>17</sup> Franck J., Peitz M., 2019:56,57.



Furthermore, with relation to the concern about incumbents and new entrants, the customer would be hesitant to switch to a new entrant and single home with it even though the services offered are of a better quality, as they would be uncertain about how well the new platform can meet their needs.<sup>18</sup> To overcome this situation, people multi-home. Broadly speaking, very few people tend to be single-homing users, and those are the most valuable users for the platform. Single-homing users are such because of several reasons, such as laziness and unwillingness to waste time in searching for long. In the words of Armstrong (2006), when there is single-homing on one side and multi-homing on the other, platforms will compete aggressively for the single-homing customer who will therefore pay lower prices. Therefore, making multi-homing easier will be a key element in encouraging competition.

Platforms rarely directly forbid multi-homing, sometimes they make it less easy through some technical means or by offering fidelity rebates and some types of bundling both to the customer and the seller that operate on that platform. Indeed, platform strategies to prevent multi-homing are, elements of foreclosure and harm competition. As a matter of fact, a platform contract to induce single-homing by making it costlier for users to multi-home - i.e. limiting data sharing - are elements that reduce competition. Appropriate regulation could limit the use of such strategies by firms with bottleneck power. In this context, user data portability plays a key role in fostering competition through data sharing – an example is when you subscribe to other platforms through Facebook. Through user data portability the user has the right to bring its data from one platform to another, in this way not letting the incumbent locking in all the users.

#### *1.1.4. Big Data Usage*

One of the main features of online platforms is that of favoring the interaction between a significant number of users. In carrying out this task, platforms manage countless transactions which enable them to collect huge amount of data relative to the operations that they carry out and concerning users' personal data. Because of the massiveness of the data that these platforms are able to collect, those bundles of information are known as big data. Big data serve many scopes: they are used by platforms to better adapt their services to consumer preferences and needs; improve their operating processes in order to reduce costs; and identify new market trends and business opportunities. Platforms are, indeed, able to record the products that users have bought, seen, or placed in their wish-lists and starting from this information, they profile user preferences, therefore being able to predict and suggest which products may be of interest to the consumer due to its degree of similarity with another consumer's profile. Information is

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<sup>18</sup> Crémer et al. 2019:57.

collected and then analyzed by platforms via natural-language and machine-learning processes run on big data to infer correlations between seemingly unconnected events, implement pattern recognition programs that guess what their consumers might need or desire long before potential and actual customers clearly express their wants, and thus, obtain a more in-depth knowledge of the demand useful to adapt their services to consumer preferences. As a consequence, those platforms are able to provide advertisers with advertising space that can better capture the eyes of consumers. Indeed, the use of personal data allows platforms to present, on their pages, advertisements of potential interest to the user, thus increasing the chances of an interaction between advertisers and consumers. Therefore, firms collect as many digital data as possible to achieve a better understanding of the real world that gives them a competitive advantage over rivals that do not have access to the same big data.<sup>19</sup>

These data together with the attention of the users, in many cases represent the currency with which users pay their access to apparently free services. The revenue stream for these platforms, indeed, often starts with the sale of those data. Among the models of transaction carried out by those platforms, the most widespread is the pay-per-click model, where the advertiser pays a predefined fee for every click made by users on its advertisement. The ability to offer targeted advertisements allows platforms themselves to be able to demand higher commissions from advertisers. Therefore, to put it in another way, platforms help users of different sides of the market – i.e. sellers, buyers, social media users, advertisers, software developers, etc. - to find what they are looking for. The more efficient the platform is in matching users, the more the users will be attracted by the platform. Online platforms collect information on suppliers' products and consumers' preferences and use matching algorithms to match these in an efficient way in order to reduce search costs: the more information platforms have on supply and demand characteristics, the better the search ranking and the lower the search costs for users.

Search costs are deadweight losses for society: nobody gains from high search costs, neither the supplier nor the consumer. Reducing search costs increases potential welfare gains for society, including for the platform operator because it will attract more activity to the platform. The on-going reduction in the costs of storing and analyzing data, commonly referred to as the big data revolution, has had a profound impact on platforms. Data collection and analytics put platform operators in an advantageous position compared to individual platform users who have less information than the platform. This affects the structure of the supply chain and puts platforms in a dominant position.

Furthermore, the data collected may be used selectively by the platform operator to modify the behavior of one or more sides of the platform. Intrusiveness, bias in search rankings

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<sup>19</sup> Colangelo and Maggiolino, 2017:4.

and manipulation of user behavior, all point to welfare distribution issues. One example of antitrust concern in this regard is linked to Google Shopping and how they built their search rankings. Google is, indeed, able to manipulate their algorithm in order to provide who they want with more visibility, hence, endowing them with a competitive advantage over the others. Indeed, it is proved that people generally look only at the first option coming out of the research and, if really interested, at most the first four results. Therefore, it would be unfair if the algorithm would be set upon Google's discretion, but rather it should be a mixture between what the user is searching for and what most people are interested into.

Finally, it should be noted that big data may sometimes be transferred to third parties – i.e. data brokers – able to analyze them, for an economic compensation. In the last few years the number of data brokers making commercial partnerships with platforms such as Facebook or Google has greatly increased. Nevertheless, the narrative concerning big data takes for granted that the mere collection of huge volumes of data results in a better understanding of the world. In reality, the economic utility of big data does not depend on the data as such but on the intellectual resources that a firm invests in developing the analytics necessary to draw reliable inferences out of those data. The drawback of this situation is that individuals are progressively losing control over their personal data and their digital identities. Therefore, data protection authorities are examining the operations carried out by those digital platforms carefully.<sup>20</sup>

Generally speaking, the public debate about big data is filled with alarm. Some are concerned about an eventual mass information manipulation and the end of individuals' free will. Others fear that tech-giants will soon dominate almost every market, thanks to their big data.<sup>21</sup> Thus, many hope that the antitrust law will force these firms to share their big data.

#### *1.1.5. Non-neutral Pricing Structure and Relevant Market Definition*

Market definition is defined as the foundation stone on which an antitrust case or a regulatory intervention is built.<sup>22</sup> Its main purpose is that of identifying those products which are substitutable enough to perceive the firms producing them as competing against each other and which therefore constrain each other's ability to increase prices. When coming up to the definition of relevant market for two-sided platforms, the question that arises is whether one or two markets need to be defined. At this concern, it is tempting to say that when one side of the market does not pay, only one market should be defined, the paying one. However, providing a product for free may be a profit maximizing strategy for a firm, where although it loses money

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<sup>20</sup> Colangelo and Maggiolino, 2017b:363.

<sup>21</sup> Colangelo and Maggiolino, 2017a:2.

<sup>22</sup> Filistrucchi L. et al., 2013:2.

on one side, it recovers for these losses on the other, making higher profits than if it were to sell on both sides at a positive price. In this regard, there is no univocal approach capable of answering such a question, and indeed there is a considerable divergence of opinions about it.

To date, the theoretical approach that appears to find greater consensus is that proposed by Filistrucchi et al.: whether we should define a single market or two interrelated ones depends on whether we are dealing with a *two-sided transaction* or *non-transaction market*. We will therefore have that: in *two-sided transaction markets* a single market should be defined (this is the case of payment cards, where the platform has to be active on both sides of the market in order to guarantee the transaction between the two user groups); whereas in *two-sided non-transaction markets*, two (interrelated) markets should be defined. Indeed, in this case no transaction occurs on the platform, and it is therefore possible that the operator will be active only on one side of the market.

Furthermore, one of the characteristics of some online platforms, and more specifically of multi-sided media platforms, is that the cost of the service is generally subsidized by only one group of users (i.e. advertisers), while the participation of another group (e.g. users) is subject to the payment of a fee in reduced form or even no fee. Therefore, one wonders if, in the context of a multi-sided markets, the side of the platform in which the service is offered free of charge can be considered (part of) a market.

Notably, this issue poses concerns to the employment of the SSNIP test, a tool employed for the definition of the relevant market in the context of traditional markets, in which the use of a service or the purchase of an asset is subject to the payment of a monetary compensation by the user in favor of the supplier. This test, therefore, is not particularly suitable in those cases where the compensation paid is not quantifiable in purely monetary terms (e.g. personal data, or even the mere attention of the user). However, based on the above, there is the possibility to adapt the SSNIP test relying on the assumption that consumers can opt for one product rather than another on the basis of "quality" criteria. In light of this circumstance, an alternative version of the SSNIP test could be chosen which, instead of taking into consideration a "small but significant non-transitory increase in the price" of the product, is based on a SSNDQ "small but significant non-transitory decrease in quality".<sup>23</sup> This method would therefore assess whether a monopolist could hypothetically decrease the quality of the product offered, still maintaining its product profitable. Thus, for example, the application of the SSNDQ test in the case of Facebook could consist in verifying whether a decrease in the quality of the service - in the form of frequent inability to access the website, sudden interruptions of the service, theft of user identities, or particularly intrusive requests for sensitive information - would lead users to switch to other social networks - i.e. Twitter or Google Plus.

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<sup>23</sup> OECD, 2018b:15.

In order to assess whether this decrease in quality is profitable for Facebook or not, it will have to be considered, on the one hand, if it has been implemented as a consequence of the platform efforts to contain the maintenance and management costs, and, on the other hand, that this decrease in quality would result in a possible migration of users to other platforms, hence, resulting in lower revenues – i.e. in terms of lower sales of advertising space. Thus, when the losses deriving from a lower user base will be greater than the savings in management costs, this qualitative decrease in its service would not be profitable for Facebook.

The application of the SSNDQ is not confined to the mere theoretical sphere, having found a practical application in the Qihoo 360 v. Tencent case, where the Chinese Supreme People's Court has highlighted how the use of the traditional SSNIP test is limited in relation to the market of instant messaging services.<sup>24</sup> However, as stated by the OECD, the idea is probably more useful as a loose conceptual guide than as a precise tool that courts and competition authorities should actually attempt to apply.

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<sup>24</sup> Franck J. et al., 2019:67.

## Chapter 2

### **Antitrust and Data Protection: Rethinking Regulation**

In this chapter we will mainly focus on the privacy concerns relative to ad-driven two-sided business models. As we have already introduced in the previous chapter, two-sided markets are prevalent in the digital economy, and this poses new challenges to regulators who are trying to find new ways to deal with them. This is mainly occurring by evaluating new analytical approaches, hence, by refraining from mechanically applying the traditional principles of competition policy, especially in the area of privacy regulation. In such a context, progress would be relevant when addressing the question of firms and governments over-intruding into consumers' privacy. Indeed, it is well known that those entities collect large amounts of information about individuals, the latter being often unaware of this issue.

Furthermore, even though some acknowledge the role of their data, they often fail to recognize the true scale of this process and its actual consequences, as well as they tend to underestimate the level of control that firms and governments exert over this sensitive information, especially in divisive dominions such as religion, politics and sexuality.<sup>25</sup> Moreover, it is often the case that customers, not being aware of the value of their data, look at zero price offers with a lot of appeal, allowing platforms to over-intrude in their data in order to profit out of them. Indeed, it is in such a context that the “privacy paradox” arises, as it represents the need to find a balance between users' willingness to pay and their willingness to protect their personal data.<sup>26</sup> Furthermore, another major point of concern is determined by the fact that even though the data-driven economy has generated substantial innovations, that benefit both consumers and firms' productivity, just a small number of those firms, and specifically the large ones, control and profit out of the widest array of big data, which has risen in turn a number of competition law concerns.

Therefore, the digitalization offers new opportunities for our society as well as new threats, where the European Union's General Data Protection Regulation represents a significant step towards our full protection from such issues. Nonetheless, further efforts should be made and end up into including a full set of accepted standardized policies, starting from the question of whether, and to what extent, the traditional competition law principles can be transferred from the “real” to the data economy. In this regard, we will analyze, in the

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<sup>25</sup> Tirole J., “Regulating the disrupters” (2019) <https://www.livemint.com/Technology/XsgWUgy9tR4uaoME7xtITI/Regulating-the-disrupters-Jean-Tirole.html>.

<sup>26</sup> Colangelo G., Maggiolino M., 2017b:363.

paragraphs that follow, whether a possible commingling of data protection rules and antitrust provisions could be adopted as a mean of intervention in order to better tackle at those privacy issues.

## **2.1. Market Failures in the Digital Economy**

Economic analysis of privacy has shown that it is not possible to provide a uniform answer to whether the disclosure of personal data is beneficial for data subjects or rather for data controllers and eventually to what extent, as economic efficiency in privacy matters depends on several different factors, such as the market characteristics, the individual preferences, and the specific situation. Furthermore, privacy preferences are personal and diverse by nature: what one person considers to be a really sensitive information, might be really easily disclosed by another person.

A reason for those uncertain results is that the economic value of privacy is ambivalent. Indeed, the disclosure of private information can serve as a mean of payment, *in lieu* of a monetary compensation. In that case, privacy serves as an intermediate good, and this allows to assign a monetary value to privacy rights. Nonetheless, privacy can also serve as a final good.

Against this background, the question is whether market forces will be actually able to maintain a balance between privacy and disclosure in a world where economic interests favor information availability over information protection. In order to analyze such aspect, we will look at the role that consent under the GDPR plays, since it significantly shapes the behavior of market players. Indeed, following the GDPR, any processing of personal data is prohibited unless an explicit legal basis for it can be appealed by the data controller.

Art. 6(1) GDPR provides a list of such legal bases, such as contractual necessity or legitimate interests. One widely relied on legal basis is granted through Art. 6(1) GDPR and Art. 4(11) GDPR, namely, when consent is explicitly provided by the data subject. Indeed, any freely given, specific, informed and unambiguous indication of the data subject's wish to agree to the processing of its own personal data has to be considered compliant with the rules set by the GDPR. Furthermore, Art. 7 GDPR specifies the conditions for this consent to be considered valid: Art. 7(3) GDPR specifies that for the consent to be considered valid, the data subject should be endowed with the possibility to withdraw such consent at any time. Moreover, when it comes to the processing of special arrays of data, such as those regarding the health or the ethnicity of individuals, processing is prohibited pursuant to Art. 9 GDPR, unless we consider the exceptions in Art. 9(2) GDPR, such as when the data subject has given "explicit consent" to the processing (Art. 9(2)(a) GDPR). The idea that consent serves as legal basis for the processing of personal data reflects the notion of "informational self-determination", namely, one of the basic principles of the EU data protection law. For what concerns Art. 6(1)(a) GDPR,

its aim is rather to allow data subjects to decide freely on whether and to what extent to provide access to his or her own personal data.

All in all, the articles just mentioned show clearly that the objective of the GDPR is to provide data subjects with a complete knowledge and control over their personal data. Furthermore, data subjects have to be able to grasp the information regarding the access to personal data, how they are processed and what the corresponding future implications might be in a totally autonomous manner. Nonetheless, this is quite an idealized picture of effective informational self-determination and autonomy which oftentimes does not keep up to its actual goals. Indeed, users often do not act according to the prescriptions of the GDPR and data holders, in knowing that, profit out of such situations.

To better understand the reasons behind such a market failure, it is worthy that the concept of “privacy paradox” is highlighted. This concept broadly refers to the fact that the majority of users claim to care about their privacy, while in reality they do not act accordingly. For example, it happens frequently that Internet users disclose personal data by agreeing to terms and conditions without having even read them. This privacy paradox leads to two problems: the first one is that while on the one side users do care about privacy, on the other, for laziness they do not act upon their own standards; the second is that users do not know what their data will be used for because of the general lack of transparency connected to the data-related process. Indeed, even if users try to make an informed choice, this is often not possible for them as most privacy policies are hardly intelligible.

Therefore, from an economic perspective we will have that Internet users have clear preferences towards the amount of privacy, yet, markets do not always provide as many privacy options as requested. More specifically, when it comes to social networks, direct network effects lead to market concentration, that, in turn, determine situations in which users are faced with “take-it-or-leave-it” lockups. Therefore, users will have either to consent to the terms given or to abstain from using the service at all. A perfect functioning market would rather provide users with all the many privacy offerings that they require. However, privacy-friendly options are rarely offered, and at the same time users are not generally demanding them. The second market failure is represented by the fact that users face a solid lack of transparency when in the situation of providing online consent as users often neglect the amount of data collected, processed and passed on to third parties.<sup>27</sup> As a result of this information asymmetry, users are not able to make well-informed, rational choices. Therefore, in light of such market failures, the issue of the interaction of competition, data protection and consumer law as a mean to better tackle at those inefficiencies has been opened.

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<sup>27</sup> Botta M., Wiedemann K. 2019:8.



### *2.1.1. Competition, Data Protection and Consumer Law*

The respect of privacy and the protection of personal data are such prominent freedoms that are enshrined in the Charter of Fundamental Rights of the European Union. In this regard, the main European law that protects the privacy of individuals, with reference to the free movement and processing of personal data, is the Data Protection Directive of 1995 and the national laws that implement it.<sup>28</sup> Nonetheless, this Directive was held when the Internet was still in its infancy and the number of users were far lower than the current 250 Million Europeans using it on a daily basis. Therefore, in light of this wider employment of the Internet, it is clear that a broader and more robust regulation is now necessary. Indeed, on January 2012, a draft of the new Regulation has been approved by the Commission, with the purpose of replacing the 1995 Directive. As a consequence of those changes, all personal data of all EU residents will be protected even if those data are held by companies outside the Union, furthermore ensuring the “right of portability” and the “right to be forgotten”. This will favor a stronger, simpler and clearer data protection framework that will benefit both consumers and companies alike, fostering economic growth, innovation and job creation and, at the same time, protecting users of the Internet from an unwarranted access to their private data.

Nonetheless, in light of the market failures that characterize the data economy, a growing number of scholars are concerned about the sufficiency of the data protection law in order to properly and fully address those privacy concerns and rather suggest new ways of tackling at such issues, namely, in most cases, through a commingling of data protection law, competition law and consumer protection law.<sup>29</sup> This is due to the fact that those three share the aim of protecting the welfare of individuals in the modern market economy and in particular are concerned with the power asymmetries that may occur between undertakings and individuals. Regardless of these “family ties” that characterize and connect those three branches, the objectives, scopes of application and enforcement regimes of each policy are different, and an overlapping of such subjects may result in being meaningless and theoretically dangerous.

Among the early proponents of a combined enforcement approach specific to digital markets were the OECD and the European Data Protection Supervisor, which recommended a closer dialogue between regulators and experts across policy boundaries, with the goal of strengthening competition and consumer protection enforcement and stimulating the market of privacy-enhancing services through the creation of a network.<sup>30</sup> The network would have been responsible for using data protection and consumer protection standards to infer “theories of

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<sup>28</sup> See J. Almunia, “Competition and Privacy in Markets of Data” (speech at Privacy Platform event: Competition and Privacy in Markets of Data, Brussels, 26 November 2012, [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_12\\_860](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_12_860)

<sup>29</sup> Botta M., Wiedemann K. 2019:8.

<sup>30</sup> OECD, 2018a:32.

harm” relative to mergers and exploitative abuses, suggest regulatory solutions, and assess the impact of the remedies.

Generally speaking, theories of consumer harm can relate to any type of negative effect on the final consumer, namely on price, choice, quality or innovation.<sup>31</sup> Nonetheless, when we deal with digital economies, the effects on quality and innovation are rather the most relevant ones and this is straightforward in platform-to-consumer (P2C) markets, where services are generally offered free of monetary charge to consumers, and where therefore, obviously, there is no monetary price effect. Firms can indeed subject users to the processing of their personal data, distorting competition and harming consumers through the erection of barriers to entry and maintaining dominance by limiting their competitors’ access to such data, preventing others from sharing data and opposing to data portability policies. The resulting harm is not necessarily higher prices, but rather a loss in quality, innovation and privacy.

Privacy can be an important parameter of competition and a driver of consumer choice in those markets where a non-monetary transaction occurs. Indeed, in zero-price markets, privacy is a potential dimension of quality, and competition cases in this regard could arise with respect to: mergers, cartels and abuse of dominance. In such a context it is important to analyze whether the antitrust is the most appropriate institutional choice within which to explore, and potentially address, Big Data concerns. Indeed, by looking at competition, data protection and consumer law more closely, we will see that the EU competition law sanctions the anticompetitive behavior of undertakings in order to indirectly safeguard the welfare of consumers.<sup>32</sup> Its core provisions are Art. 101 and 102 TFEU. Where Art. 101 TFEU sanctions anti-competitive agreements, while Art. 102 TFEU sanctions abuses by dominant companies and both are enforced by the EU Commission and NCAs in parallel. Whereas, data protection law safeguards the privacy of the “data subjects” and the “free movement of personal data”.<sup>33</sup> More specifically, it ensures that consumers are not obliged to pay with their personal data. In particular, the GDPR seeks to ensure that the processing of personal data is not disguised or bundled with the provision of a contract for a service for which additional personal data are not necessary. There must be, therefore, the possibility to deliver the service without the prior consent to the other additional uses. Nonetheless, data protection is only applicable to personal data that reveal information about the identity of data subjects and, therefore, it is not effective in cases of anonymization of data or when data have never been personal from the outset – i.e. weather data or machine data. Similarly to competition law, the system of enforcement of this policy has been decentralized and national supervisory authorities are the main enforcers of the

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<sup>31</sup> Crémer J. et al. 2019:46.

<sup>32</sup> Botta M., Wiedemann K. 2018:37,38.

<sup>33</sup> “Data subjects” can be both consumers when data protection affects the processing of personal data by firms, but also citizens who interact with the public administration.

new General Data Protection Regulation (GDPR). Unlike the competition law, consumer law protects the welfare of the individual consumer, rather than the aggregate consumer welfare in the economy. It sanctions unfair contractual terms that may harm consumers' free choice. Its scope of application covers the contractual relationship between undertakings and the final consumer, while business to business relationships fall outside their scope. Under the EU consumer protection law, the marketing of products as free, without informing consumers of the collection of personal data and user generated content, is considered a misleading practice. Furthermore, for those digital business models in which the digital content is supplied in exchange of personal or other data, given its increasing economic value, those services cannot be regarded as simply "free". Consumers should therefore have the right to be provided with pre-contractual information and 14-days withdrawal period, regardless of whether they pay for the service with money or provide personal data.<sup>34</sup> The enforcement regime of the EU consumer protection law sees some Member States establishing an administrative authority in charge of enforcing the EU consumer law while other Member States rely on a judicial system of redress.<sup>35</sup>

In sum, regardless of the differences between competition, data and consumer protection law, authorities all have a complementary role in promoting competitive zero-price markets, therefore, cooperation among them is essential, especially with respect to advocacy and regulatory solutions. Up till now, the EU competition law was never used against digital platforms, neither with reference to users' personal data and digital identities, nor as a remedy for flaws in the data protection law. Only recently, the role that privacy plays in driving consumers' choices, and as a parameter of competition between digital platforms, is starting to be taken into consideration. However, antitrust law does not focus on market structures that determine a failure in the supply of a given product or service, but rather on business practices that worsen competition, therefore, supporting the idea that such issues rather deserve regulatory solutions. Nevertheless, many scholars have criticized such a "hands-off approach" that antitrust enforcers have adopted.<sup>36</sup> To this purpose, four main theories of harm have been developed to support the commingling of privacy questions with antitrust issues, to which four counterarguments – one for each - have been equally pursued.

### *2.1.2. Google/DoubleClick Merger*

The first of the theories of harm developed in support of a commingling of the antitrust law with the data protection law is focused on the network effects that characterize the online

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<sup>34</sup> OECD, 2018a:5.

<sup>35</sup> Botta M., Wiedemann K., 2018:40.

<sup>36</sup> Colangelo G., Maggiolino M., 2017b:366.

advertising market. As we have already seen in chapter one, a network effect arises when a good or service increases its value the more the users that adopt it. Those network effects, together with other structural figures characterizing digital platforms, strengthen their market power and decrease their incentives to compete by offering higher levels of privacy products and services. The counterargument to this position holds that it may be true that market power leads to less improvement in the goods offered, in terms of privacy, but this issue is not specific to digital platforms or digital business models. Furthermore, no firm has an antitrust obligation to provide the best products it can even if they do not maximize profits and, moreover, antitrust law does not intervene in market feature and market structure. Therefore, if network effects are disincentives for digital platforms in producing privacy-friendly products, economic regulation, rather than antitrust should apply.

In the 2008 Google/DoubleClick merger, it was questioned whether DoubleClick's acquisition by Google, would have substantially lessen competition by acquiring data that exacerbate network effects and controlling a key competitor to its own "AdSense" network, leading to a more likely possibility of "tipping" both in the search and in the display markets, making it way more difficult for another company to challenge the combined firm.

When analyzing the concentration, both the US and the EU antitrust authorities recognized that privacy is not an end for which antitrust should supply the means. In particular, in the US, the FTC rejected to use privacy as the basis to block Google's acquisition of DoubleClick concluding that privacy considerations, as such, do not provide a legal basis to challenge this kind of transactions.<sup>37</sup> For what concerns the decision of the European Commission in this regard, on November 13<sup>th</sup>, 2007, the Commission concluded that the transaction raised serious doubts as to its compatibility with the common market and decided to initiate proceedings under Article 6(1)(c) of the Merger Regulation.

By analyzing the company on the search side, it appears evident that Google is able to charge a premium for search advertising because it has the highest volume of searches.<sup>38</sup> Furthermore, more searches translate into more data, which enable Google to enhance the quality of the algorithms used to process searches and match them against the relevant advertising. Moreover, as users engage in the platform, also the accuracy of the targeted advertising rises, therefore driving even more traffic to the site, which further increases the value of the search advertising on Google. Rather, on the display advertising side, DoubleClick has its own dataset of information about users' behaviors on the Internet, which enables the

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<sup>37</sup> Statement of the Federal Trade Commission Concerning Google/DoubleClick, FTC File No. 071- 0170 (Dec. 20, 2007), [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)

<sup>38</sup> Google is estimated to detain the 60% of all Internet search queries in the sole US market vs. Yahoo, the next-largest, only 22,9% for the same market.

company to better predict where to place advertisements. Therefore, the combination of the search information gathered by Google and the browsing information gathered by DoubleClick, will create a far richer source of data where the two companies will profit out of a major exploitation of network effects and a better convergence of the search and the display. All this will enable highly targeted advertising that lead to the possibility of placing the right message in front of the right Internet user at the right moment.

Regardless of all this, after a second phase investigation, the Commission has concluded that the concentration is not likely to significantly impede effective competition in the common market or in a substantial part of it and that it is therefore to be declared compatible with the common market pursuant to Articles 8(1) and 10(2) of the Merger Regulation. The European Commission, therefore, excluded the idea that DoubleClick's and Google's datasets together would have conferred the merged identity a bottleneck power, furthermore, excluding the possibility of market squeeze by the merged entity, where the resulting company would have kept out competitors and acquired the possibility of charging higher prices for their intermediation services.

In doing so, the approach followed by the European Commission was consistent with a clear separation between the scope of the EU antitrust provisions and the data protection rules enabling Google to offer a bundle consisting of both advertising intermediation services and ad-serving tools. Indeed, the Commission focused on the foreclosure scenario derived from the combination of the datasets that both Google and DoubleClick hold on their customers' online behavior, without considering the combining effects of these bundle of data on privacy. The Commission, indeed, underlined that such a decision was exclusively based on the appraisal of whether the merger impeded effective competition in the market irrespectively of the obligation imposed by the Community legislation in relation to the protection of privacy and the processing of personal data. Therefore, disclaiming the responsibility regarding these privacy issues by attributing their management to the data protection.

### *2.1.3. Facebook/Whatsapp Merger*

The second theory of harm in support of a commingling of data protection law and antitrust law affirms that mergers between companies that hold big data lead the post-merger firm to have superior tools to profile individuals and invade their privacy. In response to such a statement, those who are not in support a commingling of data protection and antitrust state that the protection of personal data and individuals' digital identities is not among the goals of the EU competition law, but, rather, the latter is designed to ensure a proper market functioning with relation to consumers' welfare variations. Therefore, whoever wants to employ it to solve data protection issues, will employ competition law beyond its scope of application, leading to

confusion without any gain for consumer protection. Indeed, no references regarding privacy issues are present both in articles 101 and 102 TFEU and in Merger Regulation.<sup>39</sup>

In the more recent Facebook/Whatsapp merger, the same approach of Google/DoubleClick was adopted by the Commission. Again, we have a case of a big company controlling huge amounts of personal data but where the Commission could not point any foreclosure effect due to the fact that the after-merger resulting datasets were also available to their rivals. Furthermore, the European Commission declared that even if some degree of integration of users' databases was possible, it would not impact the result of the competitive assessment because of the "significant overlap between the networks" – i.e. many users would use both platforms anyways.<sup>40</sup> Nonetheless, when it came to the assessment of the corresponding implications for users' privacy, the commission acknowledged them, but they did not affect the outcome of the assessment. Indeed, the Commission declared that any "privacy-related concern resulting from the concentration of data, do not fall under the scope of the EU competition law but, rather, within the scope of the EU data protection rules".<sup>41</sup>

Instead, Facebook was actually processed for changing its terms of service and privacy policy with the scope of implementing automated user-matching between Facebook and Whatsapp - to gain access to Whatsapp data - and for making users think that the use of Whatsapp was dependent upon the upfront acceptance of the new terms and conditions. Therefore, in May 2017, the EU Commission imposed a fine of €110 Million on Facebook/Whatsapp for providing misleading information during the 2014 merger review proceedings, namely, for having not disclosed at the time of the merger that it was capable of matching the profiles of its users to those of Whatsapp in a manner sufficient for targeted advertising purposes. Nonetheless, the EU commission rebated that, even though the information provided by Facebook was incorrect, this conduct did not have any impact on the competitive assessment of the merger.

Furthermore, also the Italian Competition Authority, the *Autorità Garante della Concorrenza e del Mercato (AGCM)*, intervened by starting two separate proceedings against Whatsapp Inc. The first enforcement procedure concerned some of the terms and conditions applied to users, which were considered improper; and the second concerns Whatsapp's conduct in forcing users to accept the new terms and conditions, including the automatic transfer of consumers' personal data to Facebook. According to AGCM, Whatsapp conduct was an aggressive practice infringing Art. 20, 24 and 25 of the Italian Consumer Code and at roughly the same time of the EU Commission decision, AGCM imposed a fine of €3 Million

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<sup>39</sup> Colangelo G., Maggiolino M., 2017b:368.

<sup>40</sup> Botta M., Wiedemann K., 2018:59.

<sup>41</sup> Botta M., Wiedemann K., 2018:60.

on Facebook basing its entire decision not on competition concerns, but on the infringement of the Italian consumer protection law. Whatsapp rebated to this by stating that its conduct was in compliance with data protection law, and it was therefore not sanctionable as an infringement the Italian Consumer Code. Nonetheless, this defense was not accepted by AGCM. Moreover, even though the Italian Competition Authority relied only on consumer protection regulation for its assessment, Whatsapp conduct could have also been processed as a unilateral imposition of unfair contractual terms under Art. 102 TFEU.

#### 2.1.4. *Qihoo 360 v. Tencent*

The third theory of harm bringing antitrust and data protection together comes from the elaboration that the quality of products and services may be assessed by considering whether they are privacy-friendly or not. Therefore, any practice, such as a merger, a unilateral behavior or an agreement, that leads to the production of goods which are not privacy-friendly, harms consumer welfare and must therefore be considered as anticompetitive. On the other hand, those who are not in favor of such a commingling, hold that quality-driven assessments are difficult to develop, and scholars are working on new econometric tools and indexes, such as the SSNDQ test, not without any difficulty in the application.

The only application of such new econometric tool has been implemented by the Chinese Supreme People's Court in *Qihoo 360 v. Tencent*, where the Court considered how consumers would have reacted to small but significant decreases in quality of the instant messages products under scrutiny. The case involved a litigation between two internet services providers: Qihoo 360 and Tencent where the latter attracts users by providing a variety of free services, including QQ, its instant messaging platform, Weibo, its microblogging platform, online gaming, online security, social network site, search and e-commerce. The company's turnover is generated by the sale of virtual products for its online gaming services, mobile books, and by selling advertising to companies who want to reach Tencent's users; on the other hand, Qihoo 360 attracts users by providing various free services among which online and mobile security through an antivirus software, a web browser, a game platform, and a search engine. The company makes profits through the sale of advertising and by providing web game services.

On November 3<sup>rd</sup>, 2010, Tencent required its users to choose between its QQ or Qihoo 360 software: specifically, if users wanted to adopt Tencent instant messaging platform, they had to adopt a security software other than Qihoo 360, including its own. This non-interoperability conduct was repaired the day after, on November 4<sup>th</sup>, 2010, under direction of the Chinese Government. Nonetheless, the case was initially brought by Qihoo 360 to the Guangdong High Court, which dismisses Qihoo 360's allegations in the March 2013. Therefore, Qihoo 360 appealed to the Supreme Court which focused on five major issues - the first three

of which are of economic nature: market definition; market power and abuse of dominance – in order to assess its position relatively to this issue. The court analyzed two conducts carried out by Tencent which were alleged as anti-competitive by Qihoo 360: 1) the non-interoperability issue; and 2) the bundling of the instant messages app and the security software.

Regarding 1), the Supreme Court found that Tencent had no incentive in restricting competition in the instant messages market. But rather, such a non-interoperability brought vibrant competition to this market, although it only lasted for one day. Such a result not only proved that Tencent's non- interoperability conduct was not an abuse of dominance, but also that Tencent did not occupy a dominant position. Furthermore, regarding 2), the Supreme Court did not find any evidence that the bundling behavior leveraged Tencent's leading position from the instant messages also into the security software market and that there were significant reasons for Tencent to bundle QQ instant messaging app with QQ Software Manager, as the result of the bundle provided substantial functions integration and improvements to quality and security which promote QQ features and value. Therefore, the Supreme Court concluded that in neither case the abuse was present.<sup>42</sup>

#### *2.1.5. Data Portability and Abuse of Dominance: Facebook*

The fourth theory of harm is supported by the French Autorité de la Concurrence and by the German Bundeskartellamt and it maintains that privacy policies should be considered from a competition point of view, in the case in which these policies affect competition, and more specifically, when these policies are implemented by a dominant firm to which these data are necessary as main input to the production of its products and services. Indeed, it is, in this context, worthy to be underlined that some provisions of the GDPR, namely Art 20(1), may enhance competition. Indeed, through the data portability right 'data subjects shall have the right to receive the personal data concerning him or her which he or she has provided to a controller, in a structured, commonly used, machine readable format and have the right to transmit those data to another controller without hinderance from the controller to which the data has been provided'.<sup>43</sup> Furthermore, it will be possible to provide those aggregated personal data to whoever will use them in return for value-added personalized services. Thanks to this solution, platforms will be forced to compete upon the specific characteristics of their services in order not to lose their customers, and the latter, in turn, will be able to exert power over their own data. Furthermore, data portability may be a result of the application of competition law, although the scope of application would be different. Indeed, the portability imposed by

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<sup>42</sup> D. Evans and V. Zhang, '*Qihoo 360 v Tencent: First Antitrust Decision by the Supreme Court*' (2014) Competition Policy International 1, <https://www.competitionpolicyinternational.com/qihoo-360-v-tencent- first-antitrust-decision-by-the-supreme-court>.

<sup>43</sup> Colangelo G., Maggiolino M., 2017b:368.



competition authorities concerns all personal and non-personal data collected by dominant firms; whereas the same provision under the GDPR applies to personal data collected by each and every firm.

In March 2016, the Bundeskartellamt – the German Competition Authority – initiated its proceedings against Facebook, basing itself on the suspicion that the social network was abusing of its market power by violating data protection rules.<sup>44</sup> In the investigation against Facebook, it was assumed that the latter is a dominant company in the German market for social networks, and that, as such, it is subject to special obligations, including the use of adequate terms of service. Indeed, for advertising-financed firms, in which the use of data is of outmost importance, is essential to provide users with terms of service which make them aware about the type and extent of data collected. The German Competition Authority, therefore, accused Facebook of abusing of its dominant position by making the use of its social network dependent upon the acceptance by users to limitlessly provide every kind of data generated by the use of third-party websites as well as merging those data with Facebook user’s account.<sup>45</sup>

In the Statement of Objection, published on December 2017, the German Competition Authority made a distinction between the collection and the use of data on the network itself – in this case Facebook – and from third party websites. Only the latter issue is subject to ongoing scrutiny, with a particular focus on those websites and apps that have an embedded APIs - Application Programming Interfaces - with Facebook, that allow for data sharing. This is not only the case of those service providers who are directly owned by Facebook, like Whatsapp and Instagram, but also of many other websites that, from a user perspective, are not *prima facie* connected to the social network. Indeed, many of those websites and applications, transfer users’ personal data to Facebook, regardless of their users not being engaged actively in this data sharing. For example, if a third-party website has embedded Facebook products like the “like” button or the “Facebook login” option, or use analytical services such as Facebook analytics, data will be automatically transferred to Facebook via such Application Programming Interfaces (APIs). In such a way, Facebook is able to transfer, collect and process data, even when the user visits other websites.<sup>46</sup>

Therefore, the terms of service are key to the competitive assessment and those lead the Bundeskartellamt to assume that Facebook prescribed a take it or leave it option, where users were forced to accept the unlimited data collection, also from third-party websites or refuse to use the service at all. Therefore, the German Competition Authority refers to an infringement of the data protection rule when pointing out that Facebook had violated the “principle of data

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<sup>44</sup> Botta M., Wiedemann K., 2018:63, 64.

<sup>45</sup> Botta M., Wiedemann K., 2018:64.

<sup>46</sup> Colangelo G., 2019:2.

minimization”, according to which the least amount of data should be collected from individuals.

## **2.2. Concluding Remarks**

The collection and analysis of big data has risen new challenges and concerns regarding privacy issues. Many seem to be dissatisfied with the current EU data protection law, regardless of the fact that it has been recently revised and would like a public intervention into the education of consumers towards the full awareness of the value of their personal data. Others support the idea of privacy solutions by design, programmed to avoid infringements of the data protection law. Others support a commingling of EU data protection law and EU competition law. Nonetheless, as the EU commission has already affirmed, EU competition law cannot be pulled out of its scope to tackle privacy issues and the potential antitrust violation should therefore be established on a standalone basis, regardless of any privacy concern.

Therefore, the critical point interests the gap between privacy protection and the objectives that competition law is called to pursue. Commingling antitrust laws and privacy could be risky as the antitrust needs to mirror economic analysis and economic-driven theories of harm. Therefore, to make antitrust law and privacy law commingle, it is important to develop a privacy-quality theory of harm to force data protection concerns into the traditional antitrust law framework. Nonetheless, at present this path is difficult to undertake.<sup>47</sup>

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<sup>47</sup> Colangelo G., Maggiolino M., 2017b:369.

## Chapter 3

### The German *Facebook* Case

Facebook develops and operates various digital products, Internet services and applications for smartphones. The core product of the company is its social network that can be used by private users at *www.facebook.com* or via a mobile app. It offers private users a range of functions to network with friends and acquaintances and share contents. To do so, the user, when registering with the network, creates a user profile with his/her name, and a variety of other personal circumstances and uploads a profile photo which he/she uses to provide others with information about him/herself. On the basis of such information, the user will be provided with his/her own Facebook page which is subdivided into three sub-pages: the “profile”, the “home” and the “find friends” pages. Users can see the latest news, called “posts”, of other private and commercial users in the “Newsfeed” or “home” on their start pages. The order of appearance of such posts is based on an algorithm to match the user’s interests. Furthermore, the platform offers a variety of other functionalities: *Facebook Messenger*, which is integrated into the social network and serves for real-time communications, both bilateral and group ones; a job board; an app center; and event organization.

The platform can be used not only by private users, but also by companies, associations or business individuals who can post their own content on Facebook in order to increase their reach. Those publishers can create their own pages to publish content and connect with private users and are, therefore, very useful for the platform because they can enrich it and increase its utility by setting up their own pages, distributing their content and associate with private users via "subscriptions" or a "like me" function. Furthermore, publishers and other businesses are also essential to Facebook because they fund the social network through online advertising targeted at the individual social network user. The aim is to present users with ads that are potentially interesting to them based on their purchasing behavior, interests, purchasing power and living conditions.

Facebook, furthermore, offers "*Facebook Business Tools*" a selection of free products which are aimed at website operators, developers, advertisers and other businesses to integrate their own websites, apps and online offers through Application Programming Interfaces (API) predefined by Facebook, including social plugins (“Like” or “Share” buttons), login and other

analytics services - *Facebook Analytics* - implemented through *Facebook Pixel* or mobile Software Development Kits (SDKs).<sup>48</sup>

Besides all this, Facebook also offers *Instagram*, another popular social network which mainly provides a medium for sharing photos and short video clips which is often referred to as a “photo network” or “photo blogging” service. The service has been growing exponentially over the last few years and is also funded through advertising. Private users have to register via the mobile app by entering an email address, a user name and, as an optional piece of information, a phone number. They can also upload a profile picture, use the Instagram camera to take pictures or record videos and edit them using filters, texts, drawings or special effects before sharing them with other users.

*WhatsApp Inc.* is also part of the Facebook Group. It is a free service which was originally developed as a free internet-based alternative to Short Message Services (SMS). Using the service, users can send and receive media like text messages, photos, videos, documents, locations, voice messages and voice calls. While *WhatsApp* has not been monetized through advertising so far, the company announced that it was going to launch advertising in the “status” function in 2019.

*Masquerade* is another product used for editing and sharing pictures with filters and masks. Facebook also offers *Oculus*, through which it sells virtual reality headsets and software. As we have already anticipated, Facebook finances its social network, *Facebook.com*, through tailored online advertising, with the scope of showing the individual user ads that might be of interest to him/her based on his/her personal consumer behavior, interests, purchasing power and life situation.<sup>49</sup> Therefore, private users do not have to pay a fee to use the social network, nonetheless, their participation is dependent upon their acceptance to Facebook's Terms of Service when registering to the service.

The Terms of Service stipulate that Facebook processes personal data as specified in particular in the data and cookie policies. The consent serves Facebook to collect user and device-related information about user activity inside and outside the social network. The user activities taking place outside the social network involve: on the one hand, visiting websites or using mobile apps from third party providers that are associated to Facebook via programming interfaces, namely through *Facebook Business Tools*, integrated by advertisers, app developers and publishers;<sup>50</sup> and, on the other hand, using other corporate services belonging to Facebook, where the data processing takes place across the other Facebook companies and products.<sup>51</sup> As

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<sup>48</sup> Bundeskartellamt, 2019b:2.

<sup>49</sup> Bundeskartellamt, 2019c:3.

<sup>50</sup> Colangelo G., Maggiolino M., 2019:5.

<sup>51</sup> Bundeskartellamt, 2019c:3.

a legal basis for data processing, Facebook claims that the data are required to provide the service and to fulfil Facebook's legitimate interests.

### **3.1. Antitrust Law and Data Protection Provisions: The German *Facebook* Proceedings**

The digital economy is characterized by rapid technological developments and by a mixture of economic and digital power. The unprecedented magnitude of data collection and the indispensability of digital platforms raised concerns for both legislators and society in general who are trying to find appropriate measures and answers to tackle at such new issues. Digital markets are, therefore, characterized by market failures like the lack of informed consent, which together with the privacy paradox lead to a lack in transparency in the terms of service and to the inability of online firms to take care of users' privacy needs.

The entry into force of the GDPR leads to an increase in the level of privacy guaranteed by firms to users in the whole Europe. Indeed, several provisions contained in the GDPR aim at tackling at market failures in digital markets, i.e. requiring the user's informed consent. Moreover, it is worthy to be noted that in the European Union, market failures in the digital markets can also be tackled through the antitrust law. Indeed, Art. 102 TFEU sanctions unfair trading conditions imposed by dominant firms to their customers. Therefore, unfair contractual clauses imposed by dominant online platforms to end users, could also be sanctioned as exploitative abuses of dominant positions.

In such a regard, a debate over the scope of action of antitrust law and data protection rules has risen. More precisely, in recent years, two opposing political visions have gained consensus: from one side, those who are in support of the adoption of competition law provisions outside their traditional scope of application, as a remedy to the inadequacies of privacy law and to favor a holistic control over personal data; while, on the other hand, those who are in support of the traditional way to approach at antitrust issues. In the recent *Facebook* case, the issues connected to the first trend revealed, but, up till now, only the goals of the second were achieved. Indeed, in March 2016, the Bundeskartellamt (GCA) formally initiated proceedings against Facebook basing itself on the suspicion that the company was abusing of its market power by violating data protection rules. On December 2017, the authority published a preliminary assessment which was based on the assumption that Facebook is a dominant company on the market for social networks in Germany and that it is abusing of its dominant position by making the use of its social network conditional on being allowed to limitlessly gather any kind of data, also from third parties, and merge them with the user's Facebook account.<sup>52</sup> In line with such reasoning, the Bundeskartellamt on February 6<sup>th</sup>, 2019, after three

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<sup>52</sup> Botta M., Wiedemann K. 2019:13.

years of investigations, considered Facebook's data policy abusive for making the use of its social-networking service conditional upon users granting extensive permission to collect and process their personal data and for having exploited, unlawfully, its dominant position in the German market for social networks. It was, therefore, prescribed by the Authority a prohibition to Facebook to the possibility of "combining user data from different sources".

In its decision, the GCA draws a clear cut between the collection and use of data on the network itself ("on Facebook"), and from third-party websites ("off Facebook"). Only the latter was subjected to scrutiny, with particular reference to those websites and apps that have embedded API with Facebook that allows for data sharing. The authority further distinguished between services owned by Facebook, i.e. Whatsapp, Instagram, and other third-party websites that are not directly connected to the social network.

The investigations run as follows. Consistent with an antitrust approach, the GCA ascertained that Facebook held a dominant position in the German market for social-networking services. Subsequently, it moved on to establish that, due to this market position, Facebook's users cannot switch to other social networks with minimal effort or an equal level of satisfaction.<sup>53</sup> Thus, the Bundeskartellamt held that Facebook should comply with special obligations when shaping its business model, namely by adopting adequate terms of service without exploiting its locked-in users. Such an obligation was not respected by Facebook according to the GCA, which firstly, kept its users not fully aware of the fact that the platform collected their personal data from sources other than the social network platform, and that merged them with those gathered on the platform, with the aim of better detailing their online profiles compared to its competitors.

Furthermore, the Bundeskartellamt held that Facebook put its users in the position of either having to accept its data policy or refraining from using the platform at all. In other words, due to Facebook's dominant position, even well-informed users would have not been able to voluntarily consent to the data collection and combination, frightened by the alternative of not being able to access the social network anymore. Therefore, not only did the GCA conclude that Facebook's conduct violated the GDPR, by depriving its users of the right to control the processing of their personal data and the constitutional right of informational self-determination, but it also maintained that Facebook's dominant position was a key element of such a privacy violation, therefore establishing a link between the typical antitrust element of market power and the traditional privacy issues connected to information disclosure and individuals' awareness.

This decision has sparked a lively discussion since it deals with two hot topics: the value of data in digital markets and the possible commingling of data protection rules and antitrust

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<sup>53</sup> Colangelo G., 2019:2.

provisions to better address privacy concerns in the digital world. Thus, a growing number of scholars and institutions have suggested that the antitrust should consider additional dimensions of competition, that go also beyond the economic field. A more synergistic approach has been, hence, purposed that merges together data protection law, competition law, and consumer protection law.

### *3.1.1. Market Definition: The German Market*

The Bundeskartellamt's investigations began after the suspicion that Facebook had a quasi-monopoly on the German market for social networks due to the massive number of users and the limited substitutability from rivals' products. Therefore, the Bundeskartellamt began by defining Facebook's product market, basing themselves on the concept of demand-side substitutability. Facebook's product market was defined as that of a private social network market with private users as the relevant opposite market side. The relevant geographic market is Germany.

In defining the market, the Bundeskartellamt, first of all, examined Facebook's business model: a network financed through targeted advertising, which forms a multi-sided market because of this form of financing. Key users are: on the one hand, private users using Facebook for "free"; and, on the other hand, advertisers running targeted advertisements.<sup>54</sup> Indirect network effects exist between these two groups of users. To this web of interconnections, Facebook adds further market sides: one is publishers, that use Facebook to promote their businesses through their pages on which they publish editorial content and connect with users; another side is developers, that integrate Facebook into their websites or apps by using APIs that employ Facebook Products like social plugins (i.e. "Like" button), Facebook Login or the Facebook Analytics service. Indirect network effects also exist between private users and the latter two sides:

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<sup>54</sup> Bundeskartellamt, 2019c:3.

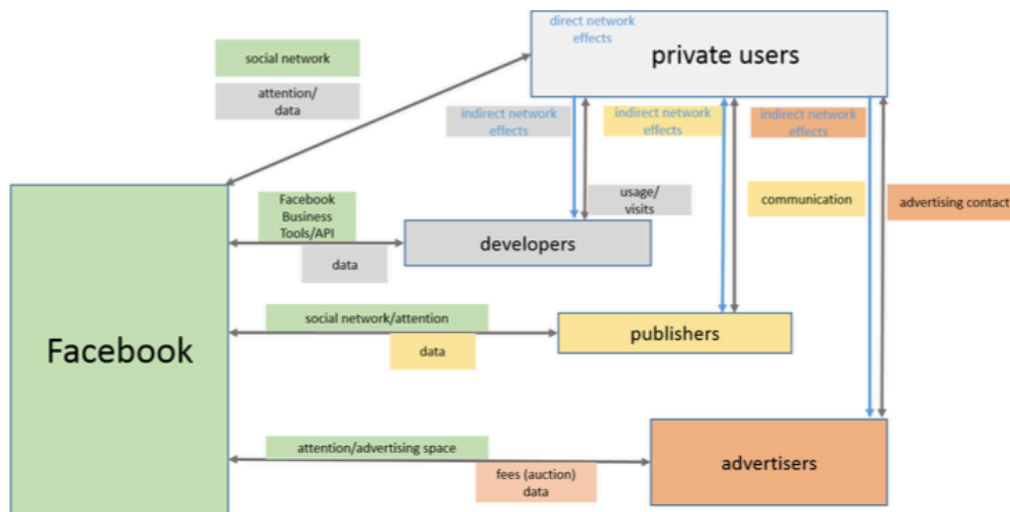


Figure 3. Shows the interactions among the different sides of the platform.

The network has to be considered a market service despite the fact that its use is not subject to fees for private users.<sup>55</sup>

For what concerns the product market, it is characterized by a high degree of product differentiation and strong direct network effects. The Bundeskartellamt's investigations have shown that a national market exists for social networks. Indeed, after the withdrawal from the market of Google+, besides Facebook the German market now only includes some smaller German providers of social networks. Professional networks such as LinkedIn and Xing, designed to meet professional requirements, occupy a separate market compared to Facebook. Moreover, considering the decision of the Commission in the *Facebook/WhatsApp* case, messaging services like WhatsApp occupy a separate market compared to the Facebook's one due to their different technical characteristics. Furthermore, also the business model of YouTube was analyzed, showing some overlaps with the business model adopted by social networks. Nevertheless, the overall service, as such, is not sufficiently comparable to a social network. Moreover, Snapchat, whose central function is taking "snaps", which are photos that automatically delete after a short while, is not part of the same product market either. This same criterion applies to Twitter, Pinterest and Instagram, the latter being part of the Facebook Group.

Furthermore, when defining the market, the Bundeskartellamt also looks at the flexibility that those Internet companies, shaped by network effects, can show in adapting their offers, as it is not sufficient to have a "critical mass" of users or technical, financial and personal expertise in order to be able to enter neighboring markets and be as successful as on the original market. An example of such a situation can be represented by Google+. As a result of the investigations, the geographic market was defined as the whole Germany, based on the fact that

<sup>55</sup> Bundeskartellamt, 2019c:4.



the service was used mainly to connect with people within the users' own country, special national user habits and the lack of opportunities for supply-side substitution.<sup>56</sup>

### *3.1.2. Market Dominance*

As we have already mentioned in the previous paragraphs, Facebook develops and operates various digital products, online services and applications for smartphones and its core product is its social network Facebook.com, which has been offered in Germany since 2008, and where users can access the platform via the websites [www.facebook.com](http://www.facebook.com), [www.facebook.de](http://www.facebook.de) or via a mobile app. Facebook user base has been growing increasingly worldwide and, in 2018, the platform accounted to 23 million daily active users and 32 million monthly active users in Germany only.

In light of such numbers, the platform has been scrutinized in order to deduct a market dominance assessment. Following such evaluation, Facebook was defined as the dominant company on the market for social networks for private users in Germany, pursuant to Section 18(1) in conjunction with (3) and (3a) GWB, as the company has a scope of action in its market that is not sufficiently controlled by competition. To get to this point, first, the Bundeskartellamt examined the market share of Facebook on the relevant market which it found out to be very high, especially among daily active users, where Facebook has a market share exceeding 95%. Whereas, Facebook's market share among monthly active users is above 80%, and above 50% among registered users. As users use social networks as a virtual social space, social network's success is measured by the intensity of its use. Therefore, the Bundeskartellamt considers the number of daily active users as the key indicator to assess the network's competitive significance. The conclusion of the Bundeskartellamt was, therefore, that the services of the Facebook Group would have a combined market share far beyond the market dominance threshold pursuant to Section 18(4) GWB, even if platforms like YouTube, Snapchat, Twitter, WhatsApp, and Instagram were included in the relevant market.<sup>57</sup>

Key elements of Facebook's dominance are the strong direct network effects derived from its business model and the difficulties of switching to another social network.<sup>58</sup> Indeed, Facebook users connect with people that they select, and it is, therefore, difficult to motivate them to switch to another service. As a consequence of all this, competitors of the platform have been experiencing a continuous decrease in their user base, which has led some of them to leave the market i.e. StudiVZ and SchülerVZ, leaders in the German market before Facebook entered it; Google+, a social network operated by the Google Group, which, in the spring of

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<sup>56</sup> Bundeskartellamt, 2019c:5.

<sup>57</sup> Bundeskartellamt, 2019c:6.

<sup>58</sup> Colangelo G., Maggiolino M., 2019b:6.

2018, interrupted its service for private users to offer only a payable service for business communications. Facebook, on the contrary, kept increasing its market share as its competitors were losing ground, and this was a strong indicator of a market tipping process which would have resulted in Facebook being a monopolist in the German market for social networks. Therefore, what played a key role in the market dominance assessment are the strong direct network effects connected to Facebook's business model and the difficulties associated to switching to other social networks. Indeed, according to the GCA, direct network effects generate significant barriers to entry and lead to a locked-in effect which prevent users from switching to other social networks.

Moreover, another important driver of indirect network effects is the fact that Facebook offers advertising-funded services that increase the barriers to entry, as competitors supporting the same business model, to enter the market successfully, must acquire a critical mass of private users. Facebook also has access to a huge amount of data, fundamental for competition in the context of social networks. Indeed, these data, facilitate highly personalized advertising, which combined with the direct and indirect network effects, constitute another barrier to market entry for a competitor's product. Indeed, Facebook is becoming more and more indispensable for advertising customers as it has managed to improve its targeted advertising activities with the help of the user profiles generated. In its assessment, the Bundeskartellamt considered the Internet's innovative power, with its dynamic and disruptive processes, and its significance for assessing market power. The commission, therefore, examined the recent innovations which were implemented by the social network, deducting that such developments do not go beyond the scope of being mere responses to competitors' substitutes. In particular, the strategic responses of the company to some competitors' new features have shown that Facebook has been capable of not losing market share to a relevant extent despite the Internet's highly innovative power.<sup>59</sup>

### *3.1.3. Abusive Data Policy*

For the purpose of our analysis on the current abusive data policy adopted by Facebook, it is important that we make a step back and look at the historical patterns that led to Facebook rising dominance. Such elements have to be found in the early 2007, when the social network market shown to be very prolific and highly competitive, with hundreds of social networks available to users, like Google, Yahoo and MySpace. By the time, competition was set on privacy, and companies competed firmly by providing privacy friendly products. The scenario drastically changed in recent years predominantly because of Facebook's business strategies.

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<sup>59</sup> Bundeskartellamt, 2019c:6.

The company, indeed, initially putted forward its superior privacy-centered offer, with its “closed communication system” that required a sign up to the page. Therefore, some users’ personal information was disclosed before being able to have access to the network. During such period, Facebook provided users with the ability to opt-out from having their information shared with third parties, including advertisers or marketers, and promised them it would remove their information on demand. However, with this system any effort to track users’ behavior was unsuccessful and Facebook had to change its privacy policies, promising to allow users to vote on future changes that contractually modify user privacy. Nowadays, Facebook’s data policy allows the company to collect user and device-related data from sources outside the platform and to merge it with data collected on the platform. Lastly, Facebook in disposing of wide array of personal data from its users, it grants for itself superior access to competition-relevant data. Therefore, social networks, in being data driven products, necessitate of such data as “essential factors” for competition in the market. Indeed, data are relevant both for the product design and the for monetization of the service. Therefore, access to data, together with direct and indirect network effects, constitutes another barrier to market entry for a competitor’s product.

Against this background, the GCA investigation is rooted in the fact that Facebook makes usage of its social network conditional on being allowed to limitlessly amass any kind of data generated when using third-party websites and to merge it with the user’s Facebook account.<sup>60</sup> Third-party sites include services owned by Facebook, like WhatsApp, Instagram, Oculus and Masquerade, as well as websites and apps of other operators with embedded Facebook APIs. Through APIs, data are transmitted to Facebook and collected and processed by Facebook even when a user visits other websites, and in accordance with Facebook’s terms and conditions, these data can be combined with data from the user’s account and used by Facebook, even if users have blocked web tracking in their browser or device settings.<sup>61</sup>

According to the GCA, these terms and conditions are neither justified under data protection principles nor under competition law standards. Therefore, this data policy constitutes an abuse of dominant position in the market for social networks in the form of exploitative business terms pursuant to the general clause of Section 19(1) GWB. This, as such, constitutes a violation of the data protection law pursuant to the GDPR, as they represent inappropriate terms to the detriment of both private users and competition.<sup>62</sup>

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<sup>60</sup> The so-called “Facebook package”.

<sup>61</sup> Colangelo G., Maggiolino M., 2019b:6.

<sup>62</sup> Bundeskartellamt, 2019c:7.

Namely, in light of the EU data protection rules, combining data in a user account should be subject to users' voluntary consent. Furthermore, Andreas Mundt, the President of the Bundeskartellamt, added that such a consent should not consist of a mere tick in the box. Indeed, Facebook's clearly profits out of a superior market power which puts users in a difficult situation as they have to choose whether to accept the terms offered by the platform or refrain from using the platform at all. Being Facebook, as said before, holder of such greater market power compared to its competitors, acceptance by users of such terms and conditions through a mere tick in the box, cannot, as such, be considered an expression of voluntary consent.<sup>63</sup> Following all this reasoning, the violation of data protection requirements found is to be considered a manifestation of Facebook's market power.

Through its inappropriate processing of data, Facebook gains access to a wider array of sources that combines among its different accounts, providing for itself a superior advantage against its competitors. Such a competitive advantage is, thus, to be considered unlawful, leading to a further increase in the market entry barriers, which in turn secure Facebook's market power towards end customers.<sup>64</sup> Furthermore, as Facebook's terms and conditions extend beyond the social network, consumers' data are collected whenever people use the Internet, grasping away the user right to decide autonomously on the disclosure of such data.

Therefore, the GCA considered Facebook's conduct exploitative within the meaning of the general clause of Section 19(1) of the GWB. Furthermore, the Authority, in recognizing the importance of data for platforms whose business model heavily relies on the collection and processing of personal data, held that Facebook-owned services can still continue to collect data for themselves, but, when users do not voluntarily consent to data combination, data must remain within the respective service and cannot be processed in combination with Facebook data. Furthermore, in the case of data from third party websites, both the collection and the combination require a further voluntary consent. In other words, without users' consent, data processing must take place as an internal and separate process. In summary, the combination of data sources enabled Facebook to build a unique database and thus to gain market power.

As a consequence, the GCA has carried out an "internal divestiture" of Facebook's data with the scope of intervening against the activities that result in the accumulation of such data. Furthermore, the GCA required that Facebook adapts its terms of service and data processing by considering different criteria, many of which target at the uniqueness of Facebook's dataset, in terms of volume (restrictions on the amount of data and on data storage periods), variety (limitations to the purpose of use and the type of data processing), and significance (anonymization). Facebook was required to implement the necessary changes within a period

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<sup>63</sup> Colangelo G., Maggiolino M., 2019:6.

<sup>64</sup> Bundeskartellamt, 2019c:11.

of twelve months and to submit an implementation road map for the adjustments within four months.

#### *3.1.4. Critics*

The rapid pace of development of technology and the economic structure of the Internet raised some questions regarding whether an antitrust enforcement in digital industries could successfully protect consumers, without causing harm from interfering in complex and rapidly evolving businesses. In such a context, a divergence of opinions has generated, with, on the one hand, those who keep a strongly negative position towards competition enforcement in digital environments and ask for a systematic retreat from intervention because of the technologically dynamic nature of those markets. Indeed, digital platform markets have characteristics that make it particularly difficult for antitrust authorities to assess the effects of a conduct and the likelihood of overenforcement is therefore high, with consequent negative economic results for the welfare as well as for the costs of investments and innovation. On the other hand, those in support of the enforcement of competition law to face privacy issues, rather ask for an aggressive regulation of currently dominant platforms, holding that such a branch of the law has evolved to tackle, as well, at issues belonging to digital environments.

In short, the issue at heart of these two positions is the mismatch between the conventional, price-oriented, antitrust framework and the innovative, non-monetary, markets for digital goods and services. Indeed, in the latter context the validity of the usual price-oriented antitrust analysis is questioned as it may result irrelevant in markets where consumers don't pay a monetary compensation for the services they use and in which firms compete more through technological advancements than through lower prices.

Among the opponents to an interference of competition law in privacy matters, Colangelo and Maggiolino (2019) question the effectiveness of the antitrust law to remedy at privacy violations. It was, indeed, claimed by them that the said interference would lead the GCA to act as an economy-wide super-regulator and enforcer, that expects an antitrust injury out of every dominant firm advantage generated by the saving on costs or the rising of rival's costs. Moreover, specifically to the Facebook case, the authors question the legitimacy of the decision of the GCA to act as if it were a privacy authority entrusted with the power to apply and interpret the GDPR: firstly, because, the Irish data protection authority should have been the competent authority in applying the GDPR; and secondly, because, the GCA endorsed a restrictive approach in interpreting the GDPR by opting for the idea that the presence of a dominant firm requires a strengthened form of consent by users, with the ultimate goal of imposing on dominant firms a special privacy responsibility. Therefore, the conclusion of Colangelo and Maggiolino (2019) is that the GCA is carrying out an internal divestiture of

Facebook's big data intended to limit its competitive advantage against rivals through means that could undermine the uniqueness of its dataset by affecting at least three of the "Vs" that characterize Big Data: volume, variety and value. This will, hence, weaken Facebook's competitive advantage which is rooted in the uniqueness of its dataset.<sup>65</sup>

Another position in disfavor of the enforcement of competition law to tackle at privacy infringements, is brought up by Manne (2019). The author argues that the GCA's decision is fallacious as it gathers together several disconnected concerns under the inferences of competition law. First of all, the author questions the assumptions of the GCA regarding Facebook's business terms, having the authority defined them as "exploitative" on the basis of the fact that the company covers a dominant position in the market for digital data collection and generation. This was, in the view of the GCA, sufficient to render Facebook eligible to the necessity to adopt a strengthened form consent from the side of its users, for this consent to be defined effectively as "voluntary". Nonetheless, such a concept of "voluntary consent" does not belong to the already wide-ranging German antitrust law, as, indeed, it was taken from the EU data protection law, therefore constituting a violation of the GDPR. It was therefore assumed by the GCA that any violation of the GDPR by a dominant firm, also constitute an antitrust violation if the latter is a consequence of a firm's market power. However, it was pointed out by Manne G., that the GDPR is a new policy established to guarantee to all European users their right to privacy, and as such, has never had any reference to competition law. Furthermore, the author underlines that it has been shown that, in such a context, size is generally inversely proportional to the abuses of the GDPR, as the smaller the firm, the more difficult will be for it to cope with the costs of compliance. Therefore, using in the Facebook case the relative norms of the GDPR as a proxy to assess anticompetitive harms appears arbitrary, and understanding in which way the GCA thinks that users' lack of information is linked to Facebook market power seems totally unclear. Furthermore, it has to be taken into due consideration the fact that Facebook was not dominant when it entered the German market, and, although having always offered the same take-it-or-leave-it options, has managed to achieve an immense popularity. In other words, its market share was generated despite its conduct.

Moreover, the author, similarly to Colangelo and Maggolino (2019), maintains that the competent authority to check on the compliance to the GDPR would rather be the Irish data protection authority, therefore cutting the GCA out of any sort of supervisory power over the compliance to the GDPR. Furthermore, there are six bases, distinct and alone wholly sufficient,

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<sup>65</sup> Colangelo G., Maggolino M., 2019:17.

upon which firms can process personal data,<sup>66</sup> and the GCA has looked at only one of them, namely consent by users to process their personal data. Therefore, to sum up, according to Manne (2019), the antitrust is not well suited to tackle at privacy policies and this is especially true when the alleged harm is not to the economic efficiency but rather concerns the sphere of the informed consumer choice. The end result of the commingling of data protection and privacy concerns under the name of the antitrust would then be that of undermining firms' incentives to innovate and compete, while at the same time adopting very little measures to protect consumers' privacy.<sup>67</sup>

Auer (2019) pretty much supports the same opinion by defining the GCA decision as a “Russian doll of sorts” that pushes competition law far beyond its natural confines. Auer poses several critiques to the GCA's approach: first of all, he maintains that within the proceedings against Facebook, the GCA completely neglected the tremendous value that arises from the integration of services with third parties, such as in the case of Facebook login. The latter, indeed, makes it much faster for users to access to third party websites, therefore, increasing competition and benefiting consumers. Hence, the desire by Facebook to request a form of compensation in return from the offering of such service, should rather be considered by authorities a fair claim. Secondly, assessing that consumers are not fully aware of what happens to their data due to a lack of transparency of companies' policies is something that has to be checked on by EU data protection rather than by competition authorities. Indeed, as mentioned within the GDPR the members of a national supervisory authority need to have enough “qualifications, experience and skills, in particular within the area of the protection of personal data, to exercise its powers.” This, therefore, excludes competition authorities from the responsibility to exert such practices and rather limit them to the mere review of data protection issues that show to have anticompetitive effects. Thirdly, the position adopted by the GCA implies that virtually every legal infringement by a dominant firm could amount to an antitrust violation, therefore, acting as a self-appointed enforcer of data protection rules. However, this situation, according to the author, would rather threaten the delicate balance between over and under-deterrence achieved by other legal instruments.

Furthermore, competition authorities' mission is not to monitor firms' data collection policies but to preserve competition. Therefore, the GCA decision is ultimately unconvincing

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<sup>66</sup> The six bases are the following: the data subject has given consent to the processing of his/her personal data for one or more specific purposes; processing is necessary for the performance of a contract; processing is necessary for compliance with a legal obligation to which the controller is subject; processing is necessary in order to protect the vital interests of the data subject or of another natural person; processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller; processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party, except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of personal data, in particular where the data subject is a child.

<sup>67</sup> Manne G., 2019.

as Facebook’s data processing practices might plausibly infringe the highly restrictive GDPR, but it was not up to the German competition authority to make that call; Fourth, the GCA takes an extremely narrow view of “consent.” Indeed, the GDPR provides that consent must be “freely given” but it does not explicitly preclude “take it or leave it” offers. Such decision is rather left to data protection authorities which base themselves on the assessment of whether data processing was actually necessary for guaranteeing the service. Letting competition authorities decide on such matters threatens the coherent application of the GDPR.

Ultimately, the conclusion that users have not freely consented to Facebook’s terms of service, because they have no alternatives to the Facebook platform, is equally unconvincing. This is because, even though not belonging to the same relevant market as Facebook, users can still share photos on Tumblr, Flickr, Snapchat, or Pinterest; read newsfeeds on Twitter and Google News and send instant messages on Snapchat, WeChat, Telegram, Signal, and through SMS. Consumers are, therefore, not forced into joining the Facebook platform, rendering the eventuality that the platforms’ market power undermines users’ consent to Facebook’s terms of service quite questionable.<sup>68</sup>

Ezrachi and Robertson (2019) explore the consequences of third-party tracking over data protection and competition rules, holding that a violation of data protection rules is not a prerequisite for finding of an infringement under competition law, nor does such a violation automatically lead to a competition law infringement. However, enhanced data concentration may lead to foreclosure and barriers to expansion and entry that, together with new strategies and technologies may enable the industry to bypass specific regulatory instruments. Therefore, competition law could add an important layer of protection against exploitative third-party tracking. We do not know the extent to which third-party tracking will affect antitrust scrutiny in the future, however, in this regard, it may be of interest to see whether other jurisdictions, beyond the EU one, come up with a similar protection mechanism, or rather favored a free market approach with limited regulation.<sup>69</sup>

On the contrary, among the proponents of the adoption of competition law to tackle at privacy issues, Botta and Wiedemann (2019) hold that public enforcers, when proving a breach of law, should rely on the most deterrent remedy, rather than the easiest route.<sup>70</sup> Furthermore, the employment of competition law offers the possibility of imposing higher fines compared to data protection and consumer law, as well as the possibility of tackling at issues via behavioral commitments, which are flexible as can be negotiated with third parties if market conditions change. Furthermore, and most importantly for a competitive perspective, this branch of law

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<sup>68</sup> Auer D., 2019: 1-4.

<sup>69</sup> Ezrachi A. and Robertson V., 2019:

<sup>70</sup> Skipping the passage of defining the relevant market and of assessing market power.



provides the possibility of creating regulatory asymmetries that foster competition and favor the entry of new players in the market. Whereas, data protection and consumer law oftentimes inadequately tackle at market failures, as they create equal regulatory burdens both for dominant firms, already settled in the market, and new entrants.

Another interesting position in favor of the adoption of competition law to tackle at privacy issues is offered by Lianos (2018). In his work, the author talks about the adoption of a “polycentric competition” as opposed to the current mainstream, price-focused and “monocentric” one. A polycentric approach would, indeed, address multiple-level strategies in order to restrict competition, at the same time accounting for the different orders of worth in society. As opposed to the polycentric approach, the monocentric one, ignores the complexity of social interactions and the quickness with which positions of dominance may be leveraged across different fields of social activity, often leading to feedback loops and lock in situations. However, the author admits that even though polycentric elements are more and more frequent in competition law, abandoning the monocentric approach will not be easy because of the struggle that is needed to be faced against conservative thoughts. Nonetheless, such progressive reforms are needed in order to effectively regulate digital and informational capitalism and to adjust the competitive process to render it a valuable mechanism to organize social interactions in a complex economy.<sup>71</sup>

Also Buttarelli (2019) shows to be supportive of such position, stating that fundamental rights are at particular risk when companies become so powerful to be able to dictate the terms of processing of personal data. To tackle at such problem, a strong enforcement of competition law rules would be fundamental to counter the challenges that powerful tech companies pose to European lawmakers. However, in the author’s position, competition authorities don’t need to enforce other areas of law to counter such issues, but rather they just need to identify the cases where dominant undertakings damage the interests of consumers. At the same time, the scope of data protection authorities should be that of cooperating and assisting during the whole process. Buttarelli, furthermore, points out that an ever increasing dialogue among the three branches of law, namely competition, data protection and consumer protection, is necessary, recognizing that many steps towards this end have already been taken since the introduction of the European Data Processing Supervisor, an EU independent data protection authority which has helped to facilitate the relationships among these three branches of law through the means of a Digital Clearinghouse, which meets several times every year. However, towards this scope, according to the author, there are still further desirable improvements to be made in the forthcoming years.<sup>72</sup>

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<sup>71</sup> Lianos I., 2018:39-44.

<sup>72</sup> See Buttarelli G. (2019).

According to Nazzini (2019), competition policy should evolve to be able to deal with the challenges posed by the digital economy, in particular it should be able to address as well both data protection and privacy standards. In all this, the German *Facebook* decision could have brought some clarity to the role that privacy plays in the competition analysis, but it failed as it blurred the boundaries between competition enforcement, data protection and consumer law, depriving competition policy of its distinctive identity. Indeed, the author would rather suggest a different approach that considers privacy standards as relevant elements for the competitive assessment of unilateral conducts.<sup>73</sup> However, a mere breach of the GDPR by a dominant undertaking is not as such a harm to competition. Whereas, if dominant undertakings, apart from breaching the GDPR, also severely manipulate privacy standards from a market power perspective, they would also breach competition law because by doing so, they generate a specific harm to competition that Article 102 TFEU prohibits.

For what concerns the EU Commission's decision regarding the Facebook case, as in other EU cases, the Authority has not adopted competition law to defend individual's control over personal data and digital identities. Indeed, according to the Commission, a mere breach of the GDPR does not fall within the scope of competition law because it is not, *as such*, a harm to competition. Hence, as to one side it was recognized the importance of data as a driver of consumers' choices and, hence, for competition purposes, to the other, it was decided that Facebook services can still continue to collect data for themselves, but, when users do not voluntarily consent to data combination, data must remain within the respective service. Furthermore, in the case of data from third party websites, both the collection and the combination require a further voluntary consent.<sup>74</sup>

To conclude, the debate over the most adequate regulatory road to take is still ongoing and will highly likely constitute one of the main points at issue in the following years in the context of the regulation of digital markets in Europe.

### *3.1.5. Higher Regional Court of Dusseldorf Decision*

On August 26<sup>th</sup>, 2019, the Higher Regional Court (OLG) of Düsseldorf disagreed with the entire reasoning behind the GCA decision, holding that the data policy imposed by Facebook did not give rise to any relevant competitive harm.<sup>75</sup> Indeed, the OLG rejected both the idea of the existence by Facebook of exploitative abuses to the detriment of users and an that of exclusionary abuses to the detriment of actual or potential competitors.

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<sup>73</sup> Nazzini R., 2019:2-8.

<sup>74</sup> Colangelo G., Maggiolino M., 2019:12.

<sup>75</sup> Colangelo G., 2019:3.

More specifically, with regard to the alleged exploitative abuse, the OLG held that the GCA did not carry out sufficient investigations over the counterfactual scenarios and, as a result, made no meaningful findings on what would have occurred under “competitive” conditions. Further, the OLG found unconvincing the GCA’s allegation that Facebook’s business terms resulted in a loss of users’ control over their data and a violation of the right to informational self-determination. Indeed, according to the OLG, users were aware of the data processing carried out by Facebook over their data, and there was no evidence to support that Facebook obtained the consent through coercion, pressure, exploitation of a weakness of will, or other unfair means.

To this regard, the OLG held that the fact that the use of Facebook is linked to the consent to the use of additional data does not mean a loss of control for the user or, broadly, a reduction in user welfare. It merely requires balancing the benefits of using a social network financed through advertising, therefore free to the end user, against the consequences of the use of the additional data by the platform. Users can undertake such balancing autonomously, according to their own preferences and values.

In light of such a consideration, the OLG deducted that the GCA was discussing a data protection issue, rather than a competition problem. Indeed, Facebook’s alleged abuse of market power was only based on the assumption that its data policy breached data protection law. Nonetheless, the latter does not necessarily constitute also an infringement of competition law, namely, as it was inferred by the GCA, through the alleged abuse of dominance. Indeed, an abuse of dominance, under both EU law and German law requires some kind of anticompetitive conduct, and, hence, damage to competition.

The OLG maintained that a random link between dominance and abusive conduct deserves to be deducted and that the GCA has failed to relate Facebook’s alleged market dominance and the alleged infringements of data privacy rules. Through its reasoning, the Court introduced a distinction between “behavioral” and “normative” causality. According to the latter, an abuse of a dominant position can be assumed whether it leads to a structural weakening of competition at the expense of current or potential competitors. In such cases, a connection between abuse and market power is regarded as sufficient in the sense of causality of results. This type of assessment typically relates to exclusionary abuses. Such normative causality is not sufficient for exploitative abuses since they do not affect the market structure, hence their effects on consumers are unrelated to dominance.

Furthermore, the OLG assumed that Facebook’s conduct did not constitute an exclusionary abuse either. Notably, the OLG held that the GCA’s conclusion that Facebook’s processing of data raised entry barriers was not straightforward as it was put. Indeed, it would have been difficult to estimate the impact of the processing of an additional unit of data over

the market entry of Facebook's rivals. It is in the view of the OLG that, bearing in mind that the platform under scrutiny is only financed through advertising, whether market entry barriers actually exist requires a more detailed demonstration. Being the business model adopted by the firm in running its platform based on advertising revenues, the scope and quality of the user data collected are of relevant importance for generating advertising income, and therefore do not directly constitute a means for the platform to achieve a superior market position. Therefore, the OLG concluded that the GCA has failed in its attempt to provide reliable information on the extent to which data could increase Facebook's advertising revenues. Furthermore, it has failed to point out that the key element for a successful market entry for a platform is not determined by the amount of advertising revenues that the platform itself is able to collect, but rather by how quickly it is capable of achieving a consistent number of users. The OLG also questioned the lack of reasoning of the GCA when it comes to inferring a leveraging of dominance from the market for social networks to the market for online advertising for social media.

Therefore, after a three-year investigation, the Higher Regional Court of Düsseldorf suspended the Bundeskartellamt's *Facebook* decision expressing serious doubts about its legal basis. However, the suspension and the findings are preliminary and Andreas Mundt, announced that the competition authority will file an appeal to the Federal Supreme Court.

## Chapter 4

### General Data Protection Regulation and Web Technology

Technological advancements such as progress in machine learning and data processing technologies have led to an enormous growth in consumers data collection and have allowed firms to turn data into successful products and services. However, consumers started to perceive the increasing lack of control over their privacy, and the European Union, therefore, decided to take some steps towards the resolution of such problem. Indeed, against this setting, European regulators ratified the GDPR, which served to empower EU residents with more control over their personal data.

The GDPR was adopted by the EU Parliament on April 2016 and it required, within May 25<sup>th</sup>, 2018, that firms would have made substantial changes in the way they store and collect consumers' data. Such a regulation applies to both EU and non-EU firms that target EU residents and it deliberates that companies need users' *informed, specific and unambiguous* consent before being able to process their data.

The European Union was the first to enact such a legislation, which served as a basis for many other privacy legislations around the world, like in California, Vermont, Brazil, India, Chile and New Zealand.<sup>76</sup> The key principles embedded within the GDPR lie in the concepts of *data minimization*, firms must limit the amount of users' personal data collected, and users' *consent* to the processing of personal data. Regarding the latter, Recital 32 of the GDPR asserts:

*Consent should be given by a clear affirmative act establishing a freely given, specific, informed and unambiguous indication of the data subject's agreement to the processing of personal data relating to him or her, such as by a written statement, including by electronic means, or an oral statement. This could include ticking a box when visiting an internet website, choosing technical settings for information society services or another statement or conduct which clearly indicates in this context the data subject's acceptance of the proposed processing of his or her personal data. Silence, pre-ticked boxes or inactivity should not therefore constitute consent.*

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<sup>76</sup> Aridor G., et al., 2020: 1.

Furthermore, the purposes of the GDPR broaden to include also other values, such as “lawfulness, fairness and transparency”, “accuracy”, “integrity and confidentiality” and “accountability”.<sup>77</sup>

Regarding the monitoring of its application, such a legislation was arranged following a decentralized approach, where each Member State should elect one or more independent authorities in charge of taking care of its proper and effective application. Such independent authorities are supposed to be competent for the task assigned and to exercise the powers conferred in accordance to the GDPR. Non-compliance with this law implies large fines: up to a maximum of €20 million or 4% of the total annual sales of the preceding financial year. An amount which would not significantly impact large business but that, imposed on small players, would drive them out of the market. Indeed, one of the paradoxes of the GDPR is that it may strengthen large platforms to the detriment of smaller market actors. At this regard, an empirical evidence of the effectiveness of such regulation is still missing. Therefore, the scope of this chapter will be that of delineating the intended and unintended outcomes of such a legislation in order to more precisely assess its impact on the economic welfare of consumers as well as its effect on firms operating in the context of web technologies.

#### **4.1. Drawbacks of the Implementation of the GDPR**

The GDPR represents an unquestionably valid mean to protect individuals’ right to privacy. However, it may generate market dynamics that may limit competition and increase market concentration. At this purpose we identify seven drawbacks of the implementation of the GDPR.

The first one is connected to the cost of generating a dataset which complies with the relevant norms embedded within the GDPR. Such a compliance is highly affected by economies of scale, which generate further entry barriers for small entrants who might not be able to bear the costs of collecting data. Second, the GDPR makes it more difficult to engage in data collection, rendering more advantageous the gathering for just a bunch of collectors. Third, compliance with the GDPR lowers the willingness by firms to share the data collected, in turn reducing the number of data suppliers. Furthermore, even when data is shared, there are strong possibilities that the operation is limited by the GDPR, rendering it costly and sometimes impossible to obtain informed consent from data subjects to have their personal data shared with the data receiver, as required by the GDPR. Such a situation may further worsen in a multi-product and multi-service environment, where consent is necessary for each different use of the data; fifth, the costs of non-compliance to the GDPR is high, also for data receivers, who are

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<sup>77</sup> Geradin D., et al., 2020:8.

supposed to make sure that the data are GDPR-compliant when getting them from an external entity. The situation aggravates when the data show up not to be compliant after they have already been learned by an algorithm, or worse, if they have already been converted into services or products. Therefore, to avoid such kind of problems, data receivers should engage into an ongoing monitoring, which further reduces the incentives to opt for external data collection, and rather strengthen the incentives for an internal data gathering; sixth, the GDPR generates uncertainties which large firms tend to exploit to limit the sharing of their data; seventh, data privacy may lead data subjects to be more willing to provide their data based on the reputation of the platform, thereby providing a further advantage to larger and already established firms.

The overall result of such dynamics is represented by a decline of competition in data markets due to a rise in the barriers to data-sharing.<sup>78</sup> Therefore, since the introduction of the GDPR, firms prefer to collect data internally, and only where the internal collection is not possible, they rely on the purchase of such data from external data suppliers, reducing the number of potential data providers, and increasing the costs and barriers to data sharing.

#### *4.1.1. Elements of Market Concentration*

Compliance with the GDPR is particularly difficult, especially for small and medium-sized ad tech providers, because the costs connected to its implementation are high. Indeed, in order to obtain a full compliance with such norms, companies must compulsory carry out a series of tasks: put in place consent gathering mechanisms; render available the full details regarding the data processing activities; adopt organizational measures to ensure compliance with the GDPR; monitoring and documenting the compliance with the GDPR; carry out Data Protection Impact Assessments; and have a designated Data Protection Officer. Therefore, European companies, working with consumers data, had to spend millions to comply with the GDPR. A situation which has disproportionately burdened small and medium-size businesses, which have limited human and financial resources in comparison to large enterprises, the latter generally already having lawyers, data experts and programmers in their teams able to smoothly take all the actions in order to comply with the GDPR. Furthermore, the possibility by large firms to adopt technical and organizational measures and of monitoring and documenting data flows, are operations which allow them to achieve economies of scale and scope that make them generate additional competitive advantages.

All this, in a sector which already suffers from high rates of market concentration, and in which there has been a recent large drop in investments, led to the struggling or, worse, the

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<sup>78</sup> Gal M., Rubinfeld D., 2016:3.

exiting from the market of several smaller ad tech players. This situation is further aggravated by the uncertainty concerning certain GDPR topics, such as: what legal basis is actually appropriate in the context of online advertising; how to obtain user consent; and who can be considered a controller in the complex online advertising ecosystem, which made many small and medium sized players abandon this market, ultimately benefiting large ad tech companies from decreased competition.

Furthermore, large firms in the ad tech industry are more and more benefiting out of their better reputation compared to small players. To the users' side, this is due to the fact that the latter might be more hesitant to provide consent to the processing of their personal data to a player which they actually don't know anything about; whereas, to the advertisers' side, they need to select a company which they trust is compliant to the GDPR, because of the large fines they would also be liable for in case of non-compliance.

This situation is further accentuated by the one-stop-shop principle envisaged within the GDPR. This principle implies that companies are supposed to deal with only one data protection authority (DPA) for what concerns their regulatory compliance issues. Specifically, the competent supervisory authority should be the one of their single or main geographical establishment. However, such a situation has led to the creation of bottleneck escaping from DPA's close monitoring and liability because of the latter's reluctance to intervene. Moreover, a key limitation of the GDPR is that while DPAs have imposed limits on *external* data transfers, namely between different companies, it has not done anything to limit *internal* data sharing within various units of large digital platforms. This, not only constitutes a major threat to user privacy, but also places large platforms, in a competitive advantage. For example, Facebook's data policy allows to combine user data from its services such as Facebook, Instagram, WhatsApp and Messenger, as well as from its Business Tools with the purpose of providing, personalizing, improving its products, to provide measurement, analytics and other business services, to promote security, to communicate with the user, and to research and innovate for social good.<sup>79</sup>

To sum up, large digital platforms like Google and Facebook have been profiting out of the introduction of the GDPR, seeing an increase in market concentration as a response to the difficulties encountered by small and medium sized players.

#### *4.1.2. Impact of the GDPR on Large Ad Tech Companies: Evidences from the Google Case*

Google is an ad tech provider, namely a company which provides online advertising services to advertisers and publishers of online content. The company, together with Facebook,

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<sup>79</sup> Geradin D., et al., 2020:24.



holds almost the totality of the market share for digital advertising, up to the point that this market has currently transformed into a duopoly, dominated by both Google and Facebook.<sup>80</sup> However, contrarily to Facebook, which offers its ad tech tools only on its own web-page, Google operates on the open web. The company, through acquisitions and organic growth, has made it to be present at every step of the value chain between advertisers, wishing to buy third-party display inventory, and publishers.

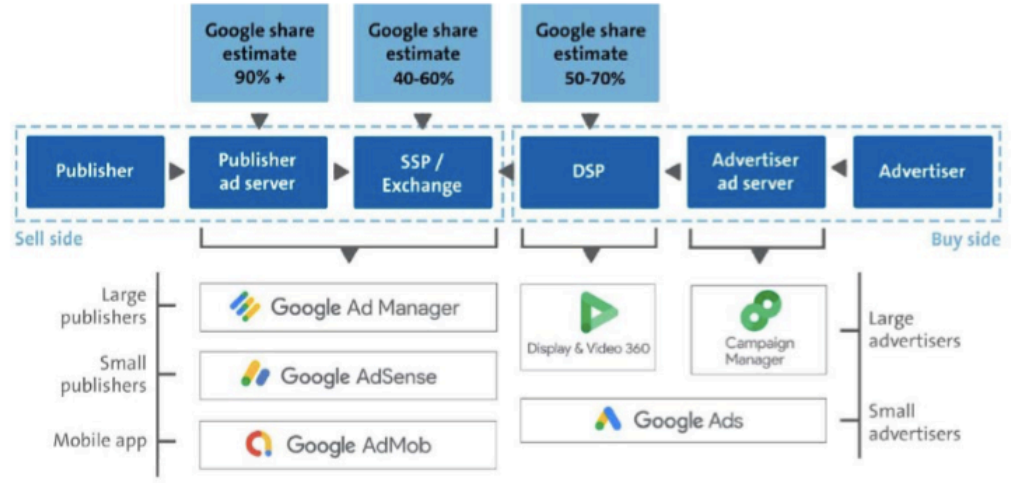


Figure 4. Shows Google's position in the intermediation chain.

Google, in strategically carrying out its operations, has performed a “weaponization” of the GDPR, namely it has employed data protection laws with the ultimate scope of strengthening its own market power. Thanks to its markets power, Google made it to become a *de facto* privacy regulator, able to dictate its interpretation of the GDPR to advertisers, publishers and rivals.<sup>81</sup> The company managed to generate, out of its behavior, many of the market dynamics mentioned above which limit competition and increase market concentration. Among those, the capability of the company to profit out of the opaqueness embedded within the GDPR to exploit it at its own advantage by requiring advertisers only to buy its own ad tech products for which it could guarantee valid user consent, thereby using its market dominance in the ad tech sector to strengthen its position even further in the name of the GDPR, benefiting from the dependency and trust of advertisers. All this led to a wider reliance of advertisers and publishers to Google, with additional repercussions for smaller vendors.

Furthermore, Google benefited out of its better reputation compared to small players. This has had effects both on the consumers’ side and on the advertisers’ side. To the users’ side, Google has managed to be very successful by easily obtaining users’ consent to the collection of personal data by leveraging on its market dominance. Indeed, billions of people are

<sup>80</sup> Economides N., Lianos I., 2020:7.

<sup>81</sup> Geradin D., et al., 2020:14.

dependent upon Google's services either for personal and for professional purposes, which combined with a lack of alternatives considered by users worthier of trust, made even privacy-concerned users rely on the use of Google's services; whereas, to the advertisers' side, they need to select a company which they trust is compliant to the GDPR, because of large fines they would be liable for in case of non-compliance. Therefore, advertisers have been gathering their spending on the largest players, making Google's market position even stronger since the entry into force of the GDPR.

Moreover, the one-stop-shop rule has ultimately increased Google's market position. Indeed, numerous complaints had been submitted to the DPA since the entry into force of the GDPR, specifically with regard to the company's data practices, in particular its tracking of users' location or its granting to third parties with access to often sensitive users' data. For example, in 2012, Google merged more than sixty separate privacy policies into a single one, with the scope of creating a simple and intuitive user experience across its services. As a result, Google could combine the data among its different product offers, creating detailed users' profiles, which it could use for a wide variety of purposes, including product development and online advertising. Furthermore, users had only limited ability to opt-out of having their data being used for other Google services. In addition, in 2016, Google changed its privacy policy again so that it could also associate data collected across the web with personal Google accounts. However, despite the calls to action, Google remained unpunished. The competent authority, indeed, would be the Irish Data Protection Commission, which has rather neglected the notified breaches. This behavior could be due to the economic dependency of Ireland to ad tech giants, which may disincentivize rigorous GDPR enforcement. This, however, raises the question of whether the Irish DPA is the most appropriate authority to regulate large ad tech companies.

#### *4.1.3. Impact of the GDPR on Venture Investments and AI Startups*

Following Jia J. et al (2018), the enforcement of the GDPR has generated a number of negative effects on new technology venture investments and particularly on AI startups operating in the EU. Those negative effects, have manifested in a reduction in the number of venture deals, the size of those deals and the overall amount of dollars invested, with a \$3.38 million decrease in the aggregate dollars weekly raised by EU ventures per industry category, a 17.6% reduction in the number of weekly venture deals, and a 39.6% decrease in the amount raised in an average deal. Those negative effects, furthermore, appear to be the most pervasive in newborn zero to three years old ventures, in the process of transitioning from angel to venture

capital investment companies. And this is demonstrated by their losses in jobs from 4.09 to 11.20%, since the came into force of the GDPR.<sup>82</sup>

Among those, AI Startups have shown to be particularly problematic. Indeed, Artificial Intelligence has advanced rapidly over the last decade, with many scholars upholding its beneficial effects in boosting productivity and economic growth. However, AI relies on huge amount of data, which are used to train and tune algorithms. Those data often include consumers' sensitive information, which raised a number of concerns regarding the actual fairness of their extensive grasping. In such a context, the GDPR was set with the scope of protecting individuals from an excessive collection of privacy sensitive data. However, while to one side this regulation is intended to protect consumers, to the other it negatively impacts firms that need access to training data to run sophisticated algorithms, which often lead to the implementation of cutting-edge technologies like neural networks and ensemble learning. Moreover, contrarily to what might be thought, the need for data is not proportional to the size of the firms, but rather firms who target at the creation of similar AI products will need similar amount of data resources. This situation creates an advantage for larger firms, which may be able to access data more easily by profiting out of their larger breadth of supplier relationships and their more developed customer ecosystem.

As a consequence, these startups have no choice other than reallocating their limited resources, to create new positions to deal with the implications of the GDPR regulation and in order to profit out of the benefits connected to the possibility of reaching a wide European customer base. However, in reaching this goal, these firms could be required to delete or not to collect some data necessary to better train their algorithms and create economically impactful products. A situation which may, then, result in fewer startups competing against established firms ultimately moving to other geographies where the compliance to the norms would rather be easily.

#### **4.2. Possible Remedies to Market Concentration**

As said above, the introduction of the GDPR has led to the possibility by dominant firms to enact a series of behaviors which led to a consistent concentration in favor of large tech giants in the market for web technologies. The relevant norms of the GDPR have mainly operated in order to considerably limit data sharing, by requiring *free, specific, informed* and *unambiguous* consent to data transfers, as well as by requiring the data supplier to monitor and follow the data transferred to ensure that they are used in accordance with the data subject's consent. Fines are imposed in cases of violations of the GDPR and this is the reason for which, when entities decide to engage in data sharing, they prefer to deal with large market actors, whom they trust

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<sup>82</sup> Jia J. et al (2018):4.

they comply with the GDPR. This affected competition and created a competitive advantage for large, well-known players, making smaller suppliers or new entrants being disregarded.<sup>83</sup>

Against this background, the data portability rule was thought to encourage customers to switch between different service providers in order to facilitate the entry of new firms. Such a rule was set out within Art 20 and recital 68 of the GDPR, which impose obligations over data controllers to transfer any data they are in possess of, concerning a specific data subject, following the latter's request to do so. The effectiveness of the data portability rule in fostering competition depends on what type of data are actually portable and entry becomes easier only if everything is portable. However, such practice, only applies to data provided by data subjects and not those inferred by data controllers. In such a context, data analytics enables firms to provide non-portable services to customers, being able to ultimately lock users in a relationship with the data-controlling firm.

Thus, data portability does not completely eliminate the incumbency advantage, rather, it may even enhance it under certain conditions. More specifically, data portability affects entry in two ways: firstly, through the *switch-facilitating effect*, namely by simplifying consumers' switching and entry for a given level of data provision in the first period; secondly, through the *indirect demand expansion effect*, with which it encourages to provide more data in the first period, with the promise that the value of those data will become higher when they will be ported across other service providers, thereby, raising the value of the incumbent's service and strengthening its incumbency advantage.<sup>84</sup>

In such a context, we may find out that, without data analytics, data portability facilitates switching and entry, as the *switch-facilitating effect* in that case dominates upon the *demand-expansion effect*. Whereas, with data analytics in addition to data portability, the *demand-expansion effect* dominates if the big data service is valuable enough. In the latter case, data portability would rather make entry more difficult especially if there will be involved network effects. The reason is that, with network effects, the positive externalities connected to the data provision on other customers, are neglected, thereby leading the user to provide too little data and weakening the *switch facilitating effect*. However, on the other hand, less data provision, together with a higher degree of data portability, means that a customer is more likely to switch and port their data, which in turn makes their data provision more responsive to enhanced data portability. Combining both effects, data portability is more likely to raise entry barriers when there are network effects. Furthermore, entry deterrence is more likely if the entrant adopts an innovative strategy, because, in this way, there is a higher probability that a better firm will enter the market. Consumers would, in turn, be less likely to stay with the incumbent, which,

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<sup>83</sup> Geradin D., et al., 2020:17.

<sup>84</sup> Lam W., Liu X., 2020:2.

ultimately, would reduce the value of providing data to the latter. This would reduce the provision of data in the first period and weaken the *switch-facilitating effect*. However, regardless of the fact that in the first period the amount of data provided would be smaller, consumers would, nonetheless, be more likely to port those data to the innovative entrant, which strengthens the *demand-expansion effect*. Hence, entry becomes more difficult. Furthermore, the set of other rights embedded within the GDPR together with the data portability right further amplify the *demand-expansion effect*, due to the higher willingness to provide data in the post-GDPR era, which would in turn make entry even more difficult. Therefore, although data portability may benefit consumers in the short run, it can have adverse effects on entry and long-run efficiencies.

To sum up, the effectiveness of the right to data portability will depend on what types of data can be ported, leading to the conclusion that the role of data portability in promoting entry and competition may be limited when the inferred data are not covered under the current legislation.

#### *4.2.1. Employment of Technological Solutions to Overcome GDPR Limitations*

Another way through which it would be possible to overcome the limitations set out by the GDPR to data sharing would be through the employment of technological tools. In this regard the major tool employed is based upon the concept of data anonymization. In accordance with the EU commission, personal data which were rendered irreversibly anonymous in a way that the individual entity is no longer identifiable, is no more considered to be personal and therefore not contestable under the GDPR. Therefore, companies have been focusing on the implementation of technological tools which generate algorithms functional to an irreversible anonymization. However, a complete anonymization is often technically difficult to achieve and sometimes impossible.

Furthermore, technological solutions suffer from several downsides: the first one being the fact that data often lose much of their value once it is cleaned out of personal details about the data subject. Secondly, this kind of solutions inhibit the possibility of profiting out of synergies generated by the combination of two or more datasets. And, finally, anonymization solutions, in constituting themselves a form of processing of personal data, must comply with the relevant requirements, and, therefore, often do not constitute a valuable tool to cost-effectively overcoming the GDPR's constraints on data collection and sharing.

## Chapter 5

### Survey Analysis of The Impact of the GDPR

In the previous chapter we have observed how the GDPR has potentially had adverse effects on small and medium sized players, casting on them threats mainly determined by an increase in market concentration. In such a context, the adoption of remedies, like the data portability rule and anonymization by design, have only partially solved such problems, the full extent of which being still neglected as well as their possible long-term outcomes.

Against this background, we have decided to carry out a survey, the scope of which is that of providing more ground to the assessment of the effects of the introduction of the GDPR. However, the objective of such analysis is not that of having a final say regarding the argument, for which more time and analysis will be needed, but rather to render the reader more aware of the short-term positions currently occupied by both large players and small and medium sized ad tech providers regarding the adoption of the GDPR as well as its consequences for the day to day business' operations. For this purpose, we have surveyed several firms, the majority of which being small, newborn, startups. Indeed, evidence suggests that the most negative and pronounced effects, following the rollout of the GDPR, have been on such venture categories for their number of deals, size of those deals and overall amount invested in them.<sup>85</sup> From such firms we wish to better assess their current market situation, as well as to compare/contrast the divergence of outcomes in relation to large firms, in order to estimate the eventual presence of inverse proportionality between the size of firms and the adversity of the impacts presented.

#### 5.1.1. Employed Methodology

In order to achieve the previously mentioned goals, I wrote down ten closed-ended questions, in the form of both multiple choice and ranking and uploaded them on the survey platform [www.surveymonkey.com](http://www.surveymonkey.com) which enables to collect survey answers and draw the relative analytics. For the sake of simplicity, the survey was run through closed-ended questions, that enabled the possibility to get fast responses from interviewees and to draw conclusions over the results obtained in a clearer and objective manner. Only one of those questions allowed for an open answer together with the multiple-choice option, to provide respondents, if wished, with the possibility of better clarifying his or her own position regarding the matter.

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<sup>85</sup> Jia J. et al., 2018:20.

After the creation of the survey, I started looking for interviewees in several ways. For what concerns the quest of small and medium ad tech companies, I found them by first browsing on [www.google.com](http://www.google.com) to the voice “ad tech startups” and then either by clicking on the relative firms’ webpages, or by looking for firms’ LinkedIn pages. When on the website, I looked for e-mail contacts to which I asked to be redirected to employees in charge of the compliance with the GDPR or, more broadly, in charge of the data processes. Whereas, on LinkedIn, I directly looked for employees connected to the company’s page, in the section “people” of the menu, and sent a message to those I thought were relevant for the purpose of the analysis. Furthermore, some small and medium ad tech companies were found through the University venture group, LUISS Enlabs.

For what concerns the quest for bigger players, the process employed was similar to the previous one, but without the previous browsing, as those are renowned companies in the market for ad tech services. Therefore, the survey was generally sent to the contacts via e-mail, or through direct messages when the contact with the respondent was established through the LinkedIn platform.

In the end the respondents to the survey were overall ten, eight of which belonging to the category of small and medium sized players, while the other two being rather large and well-known in the market for ad tech services. The companies answering to the survey and belonging to the range of small and medium ad tech players were the following: Mediaspike, a small private company, operating in the US, in charge of automating virtual product placement in mobile and social games; Faception, a private company, founded in 2014 in Tel Aviv, Israel, with the goal of providing on global scale personality analytics services. Namely through breakthrough computer-vision and machine learning technology, the company commits to analyzing facial images and automatically reveal personalities in real-time, with the scope of allowing predictive screening solutions and enabling preventive actions in the public safety; Metadata, headquartered in San Francisco, California, with the objective of automating B2B ad targeting; Markerly, founded in 2012 in Austin, Texas, is a private company in charge of creating end-to-end influencer marketing strategies able to connect brands with real people to deliver authentic and successful brand affiliations. Handstack, founded in 2014 and headquartered in San Francisco, California, provides interactive marketing tools for engaging audience via text; Sidelines, founded in 2012 and headquartered in San Francisco, California, has the scope of providing users with a positive advertising experience through community-powered content; Silverpush, born in 2010 in Gurgaon, India, operates globally to provide tailored AI solutions to enable businesses to reach their target customers; and finally, Privy, is a medium sized company born in 2011 and headquartered in Boston, Massachusetts, with the objective of helping small and medium sized companies to jumpstart their businesses, by

providing them with tools, education and support to grow their brands and online stores and ultimately building thriving businesses.

Furthermore, among the big players we have: Sightly, a Google partner operating as a video advertising platform, enabling to deliver targeted ads to custom segments by leveraging on Google's first-party profile, location, search, and channel data, making it possible to target the audience with the most relevant messaging at the moments that matter. The company is headquartered in San Diego, California, but provides services on a global basis; and Medialets, a branch of the multinational company WPP, headquartered in New York, which provides advanced measurement technology and analytics, and simplified campaign management workflow for the largest advertisers and media agencies.

### *5.1.2. Survey Analysis: Questions and Key Findings*

As anticipated above, the survey is composed by ten questions, to which ten different companies operating in the ad tech environment have been responding. Eight of these companies can be defined as small and medium ad tech companies, the majority of which being specifically newborn at tech startups. The other two are rather big players in the ad tech environment.

The scope of the survey is to deduct inferences useful to better estimate the degree of influence exacerbated by the introduction of the GDPR, arguably having repercussions on both small and medium enterprises and large firms. The first question introduced in the analysis was: "how do you value the overall introduction of the General Data Protection Regulation (GDPR) on consumers' privacy?". The scope of this question, per se, is the one of assessing the level of care that the different companies assign to the protection of consumers' rights to privacy, with the ultimate goal of perceiving their position about data harvesting issues. The question had three multiple choices options, namely, "very useful", "quite useful" and "not useful". As we can observe from Figure 5, 80% of the respondents answered with "very useful"; while only 20% answered with "quite useful"; and none with "not useful".



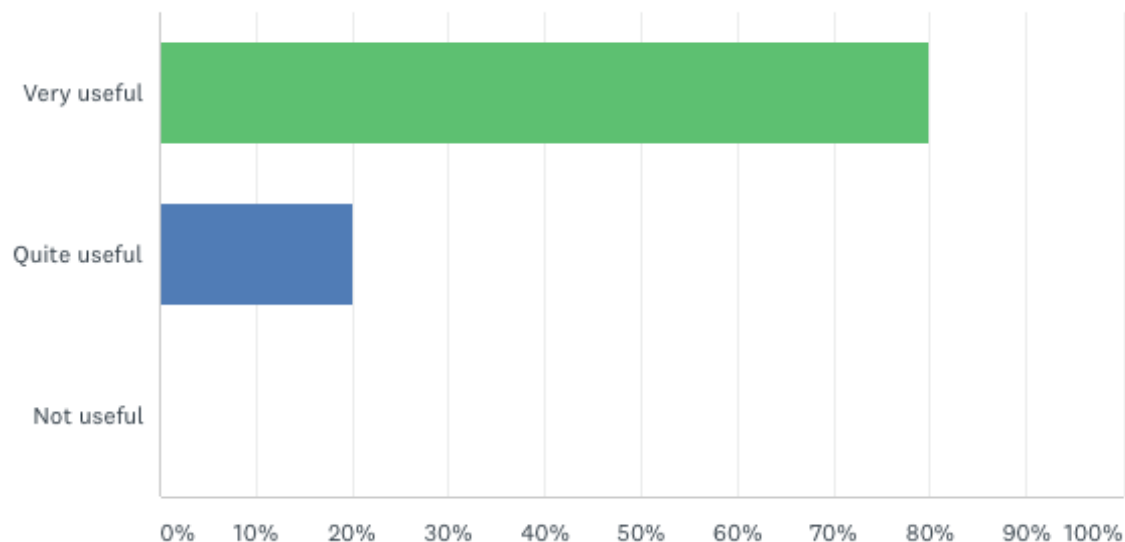


Figure 5. Results figures to question one: “how do you value the overall introduction of the General Data Protection Regulation (GDPR) on consumers’ privacy?”.

Subsequently, by assigning a value of one where the selected option by the firm occurred, we have broken up the answers into cross-tabulating subgroups (see Figure 6). In this way we can observe that, there is a clear divide between the positions adopted by those belonging to the subgroup of the SMEs and those who not, with a strong homogeneity in the per subgroup selection of the answers. Indeed, all 80% of the respondents which value the impact of the GDPR on consumers’ privacy as extremely valuable, belong to small and medium sized firms; whereas, the remaining 20%, which consider the impact of the GDPR on consumers’ privacy to be quite valuable, is actually completely composed by respondents belonging to large firms. However, none answered by assigning a “not useful” to value the introduction of such norms on consumers’ privacy.

		Very Useful	Quite Useful	Not Useful
<b>Small and Medium Firms</b>	<b>Mediaspike</b>	1		
	<b>Faception</b>	1		
	<b>Metadata</b>	1		
	<b>Markerly</b>	1		
	<b>Handstack</b>	1		
	<b>Sidelines</b>	1		
	<b>Silverpush</b>	1		
	<b>Privy</b>	1		
	<b>Large Firms</b>	<b>Sightly</b>		1
<b>Medialets</b>			1	
<b>Total 100%</b>		80%	20%	0%

Figure 6. Results figures to question one: “how do you value the overall introduction of the General Data Protection Regulation (GDPR) on consumers’ privacy?”, ranked by firms’ size.

Such findings might suggest that small and medium sized players see in the GDPR already an effective way of protecting consumers privacy, and would rather probably reject further changes or a further tightening of the latter; while bigger players, who had mostly gained from such introduction, thanks to an increase in the levels of market concentration, would rather accept even a higher degree of empowerment by consumers over their own personal data.

For what concerns the second question: “from 1 to 10, where one is extremely poor and 10 extremely good, what score would you give to the impact of the GDPR on the individual welfare?”, it was asked to assign a score ranging from one to ten in order to assess the importance that each company gives to the GDPR in positively impacting the welfare of individuals.

		Score	Mean by Firms' size
<b>Small and Medium Firms</b>	<b>Mediaspike</b>	9	
	<b>Faception</b>	7	
	<b>Metadata</b>	8	
	<b>Markerly</b>	8	
	<b>Handstack</b>	8	
	<b>Sidelines</b>	7	
	<b>Silverpush</b>	9	
	<b>Privy</b>	8	8
	<b>Large Firms</b>	<b>Sightly</b>	6
	<b>Medialets</b>	7	6,5
<b>Total 100%</b>			<b>7,7</b>

Figure 7. Shows the answers given by each firm to question two: “from 1 to 10, where one is extremely poor and 10 extremely good, what score would you give to the impact of the GDPR on the individual welfare?”, further providing the mean figure ranked by firms’ size and the overall mean figure.

The results are shown in Figure 7 and can be described as follows: interviewees’ answers were concentrated in a range from 6 to 9, which assesses that the average consideration towards the impact of the GDPR over the individual welfare was 7.7, hence, overall positive. However, by looking at the figures more closely, we will notice that small and medium sized firms’ average consideration was higher in comparison to large firms’ one. Indeed, SMEs got an overall average of 8, whereas, large firms only a 6.5. Again, such a turnout could witness that small and medium enterprises already consider the impact of the GDPR to be substantial, and would rather not ask for its further tightening. Whereas, large firms, would rather have a larger margin of tolerance towards further implementation.

The third question, “how do you value the impact of the introduction of the GDPR on large ad tech firms’ opportunities?”, has the scope of understanding the position of the different players in the ad tech market, for what concerns the possible advantages and disadvantages that the introduction of the GDPR in such market has generated in favor of large ad tech players. Again, the answer possibilities were set into three multiple choices, namely, “advantageous”, “mostly advantageous”, “disadvantageous”. The overall results are shown in Figure 8 which highlights that the majority, namely 70% of the respondents, answered with “advantageous”, only 10% with “mostly advantageous”, and 20% with “disadvantageous”.

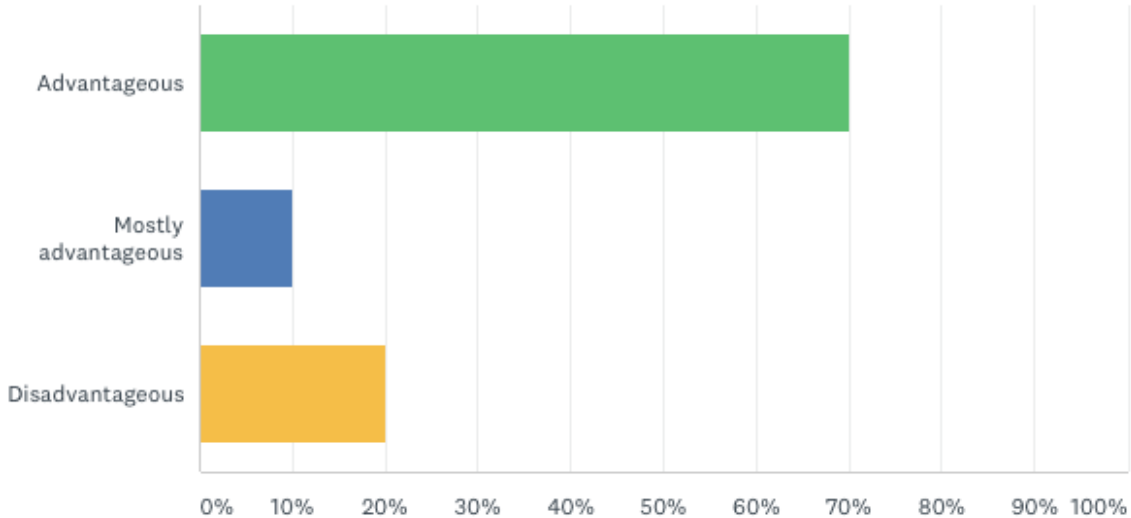


Figure 8. Shows the results figures for question three: “how do you value the impact of the introduction of the GDPR on large ad tech firms’ opportunities?”.

Again, to be more specific, we broke up the results into cross-tabulating subgroups (Figure 9). The figure shows that out of the eight SMEs, seven answered with “advantageous”, and only one with “mostly advantageous”, which overall gives quite a homogeneous idea on how such firms perceive a tightening in competition from the side of large firms since the introduction of the GDPR. However, the only two large firms investigated, shown to have a totally divergent opinion compared to the one held by SMEs, by stating that the introduction of the GDPR has been rather “disadvantageous” for their opportunities.

		Advantageous	Mostly Advantageous	Disadvantageous
Small and Medium Firms	Mediaspike	1		
	Faception	1		
	Metadata	1		
	Markerly	1		
	Handstack		1	
	Sidelines	1		
	Silverpush	1		
	Privy	1		
	Large Firms	Sightly		
Medialets				1
<b>Total 100%</b>		70%	10%	20%

Figure 9. Results figures to question three: “how do you value the impact of the introduction of the GDPR on large ad tech firms’ opportunities?”, ranked by firms’ size.

We might then think that both small and medium firms and large ones have been perceiving the drawbacks of the implementation of the GDPR, and that challenges have been heavenly posed to both firms. However, large firms might have been more responsive to tackle at them, ultimately being able also to gain from the losses in the market share derived from the incapacity of small players to adapt to such norms. This has eventually enabled large firms to obtain gains out of the disadvantageous position in which the employment of the GDPR had set them.

Question four, “how do you value the impact of the introduction of the GDPR on small and medium ad tech firms’ opportunities?”, follows the objectives set within question three, but targeting at a different side of competition, namely, at small and medium sized companies, to capture an eventual missing in the opportunities derived from the introduction of the GDPR, casting repercussions on smaller players. As we can see in Figure 10, almost the opposite situation to the one presented in question three occurs, with just a 10% of respondents answering with “advantageous”, none answering with “mostly advantageous”, and almost the totality, namely 90% of the respondents, answering with a “disadvantageous”. However, contrarily to question three, question four sees a stronger cohesion on the “disadvantageous” position.

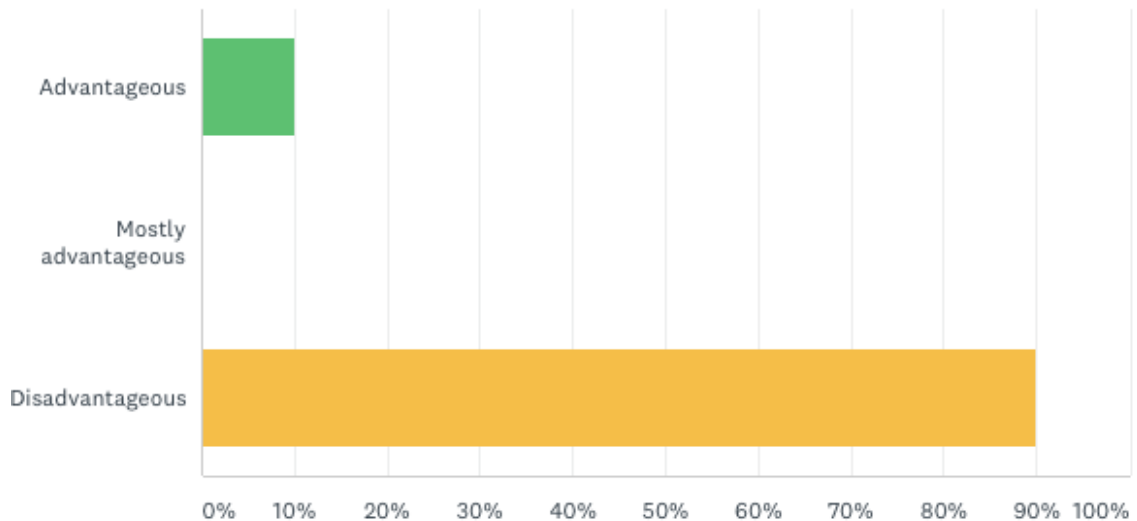


Figure 10. Shows the results figures for question four: “how do you value the impact of the introduction of the GDPR on small and medium ad tech firms’ opportunities?”.

From a cross-tabulating analysis, we will see that all the small and medium firms and even one of the two large companies, accounting for a total of 90%, admitted that there have been serious threats imposed on small and medium sized firms for what concerns their opportunities since the introduction of the GDPR, with a negligible 10%, accounting for only one large firm, to uphold the opposite position, by selecting the “advantageous” option.

		Advantageous	Mostly Advantageous	Disadvantageous
<b>Small and Medium Firms</b>	<b>Mediaspike</b>			1
	<b>Faception</b>			1
	<b>Metadata</b>			1
	<b>Markerly</b>			1
	<b>Handstack</b>			1
	<b>Sidelines</b>			1
	<b>Silverpush</b>			1
	<b>Privy</b>			1
	<b>Large Firms</b>	<b>Sightly</b>	1	
<b>Medialets</b>				1
<b>Total 100%</b>		10%	0%	90%

Figure 11. Shows the results figures for question four: “how do you value the impact of the introduction of the GDPR on small and medium ad tech firms’ opportunities?”, ranked by firms’ size.

These numbers, if mixed together with the results coming from question three, outstandingly demonstrate there is quite a homogeneous tendency, from both sides of market competition, to admit that the consequences of the introduction of the GDPR have been relatively more detrimental for small and medium sized players.

For what concerns question five, “do you think that the introduction of the GDPR has posed significant threats on small and medium sized players operating in the ad tech

environment?”, has the purpose of drawing on the previous question, and amplify its scope. Indeed, this time, rather than asking for whether the GDPR has any way impacted small and medium sized firms’ opportunities, it rather straightforwardly enquires whether there are any practices embedded within such norms which, actually, threaten small and medium ad tech firms. The select options were ranging, this time, from “I totally agree”, to “I partially agree” and finally to “I do not agree”. The results are shown in Figure 12: they illustrate that 70% of respondents totally agree on the position that the GDPR has posed significant threats on small and medium sized players, 20% partially agree on such a consideration, whereas only 10% do not agree on such opinion.

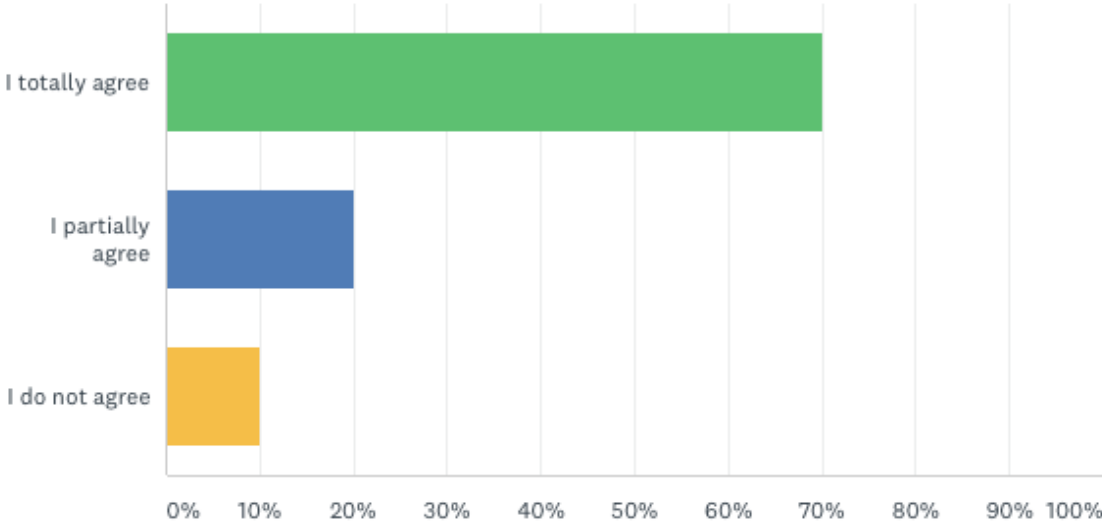


Figure 12. Shows the results figures for question five: “do you think that the introduction of the GDPR has posed significant threats on small and medium sized players operating in the ad tech environment?”.

By looking at the relative cross-tabulating results in Figure 13, we will see that 70% of small and medium firms answered with “totally agree”, that demonstrates that threats as consequence of the implementation of the GDPR were quite strongly perceived by such category of firms. Furthermore, only two companies, accounting for 20% of the votes, answered with “partially agree”, of which one is an SME and the other is a large firm. Finally, only one firm selected the “do not agree” option and it belongs to the subgroup of large firms.

		Totally Agree	Partially Agree	Do Not Agree
<b>Small and Medium Firms</b>	<b>Mediaspike</b>	1		
	<b>Faception</b>	1		
	<b>Metadata</b>	1		
	<b>Markerly</b>		1	
	<b>Handstack</b>	1		
	<b>Sidelines</b>	1		
	<b>Silverpush</b>	1		
	<b>Privy</b>			
	<b>Large Firms</b>	<b>Sightly</b>		1
<b>Medialets</b>				1
<b>Total 100%</b>		<b>70%</b>	<b>20%</b>	<b>10%</b>

Figure 13. Shows the results figures for question five: “do you think that the introduction of the GDPR has posed significant threats on small and medium sized players operating in the ad tech environment?”, ranked by firms’ size.

Therefore, unsurprisingly, we will notice that such question, posed to each different side of competition generated quite opposite results, with small and medium players upholding that threats, generated by the introduction of the GDPR, have endangered smaller firms. To the other side, however, bigger players do not seem to agree on such position, which does probably mean that, according to them, pressures have been spreading homogeneously among players as a consequence of the GDPR.

For what concerns question six, “do you think that the data portability rule has helped in fostering competition within the web technology market?”, it has the purpose of evidencing to what extent the remedies suggested by the GDPR are effective in avoiding the risk of market concentration and in favoring a competitive market. Again, the answer possibilities were three, namely “I totally agree”, “I partially agree”, and “I do not agree”, set in the form of multiple options choices. The results are shown in Figure 14, and see 20% of the interviewees answering with “I totally agree”; the majority, namely 70%, answering with “I partially agree”; and only 10% answering with “I do not agree”.

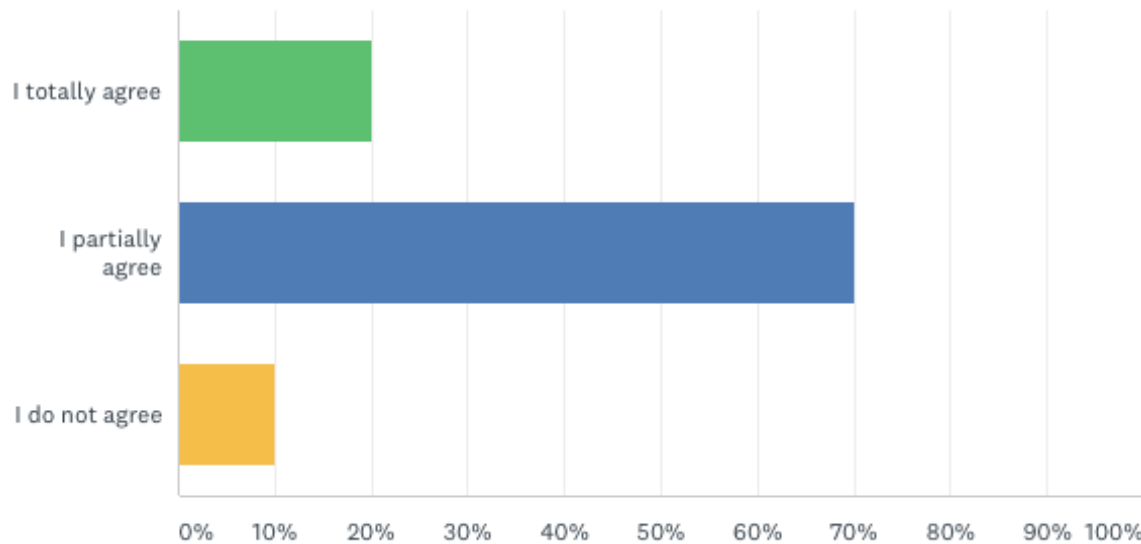


Figure 14. Shows the results figures for question six: “do you think that the data portability rule has helped in fostering competition within the web technology market?”.

By splitting up these answers per size of the company, we will see that both the large firms surveyed selected the “totally agree” option, accounting to 20% of all the overall votes, while 70%, all belonging to the array of SMEs, selected the “partially agree” option, and only one small firm selected the “do not agree option”.

		Totally Agree	Partially Agree	Do Not Agree
<b>Small and Medium Firms</b>	<b>Mediaspike</b>		1	
	<b>Faception</b>		1	
	<b>Metadata</b>		1	
	<b>Markerly</b>			1
	<b>Handstack</b>		1	
	<b>Sidelines</b>		1	
	<b>Silverpush</b>		1	
	<b>Privy</b>		1	
	<b>Large Firms</b>	<b>Sightly</b>	1	
<b>Medialets</b>		1		
<b>Total 100%</b>		<b>20%</b>	<b>70%</b>	<b>10%</b>

Figure 15. Shows the results figures for question six: “do you think that the data portability rule has helped in fostering competition within the web technology market?”, ranked by firms’ size.

By looking at the results, we will see that both large firms have considered the data portability option to be a good remedy against market concentration, while SMEs, either partially agreed to this statement or of did not agree at all. Therefore, we might infer that small and medium firms operating in the ad tech environment, do not feel like the market is substantially competitive at the current level of legislation, and would rather wish higher levels of competitiveness, which could be achieved either through a further tightening in the legislative framework, or by a total deregulation of the market.



Question seven, “do you think that the implementation of technological tools of anonymization by design will help more in the future for the generation of a competitive environment in the ad tech market?” has the scope of investigating whether companies consider the introduction of technological tools, able to make companies conform to the necessities imposed by the current legislation through means of anonymization by design, as valuable ways to adjust for the market failures that characterize digital ecosystems, ultimately enabling equal possibilities to all players in the market, and lowering the barriers to enter within them. Thereby, providing hopes of an ever-increasing fairness in future digital ecosystems. To such end, three possible answers, namely “I totally agree”, “I partially agree”, and “I do not agree”, were provided as given options to the respondents. To which the answers have been the following (see Figure 16): 20% of the respondents answered with “I totally agree”; 80% with “I partially agree”; and none with “I do not agree”.

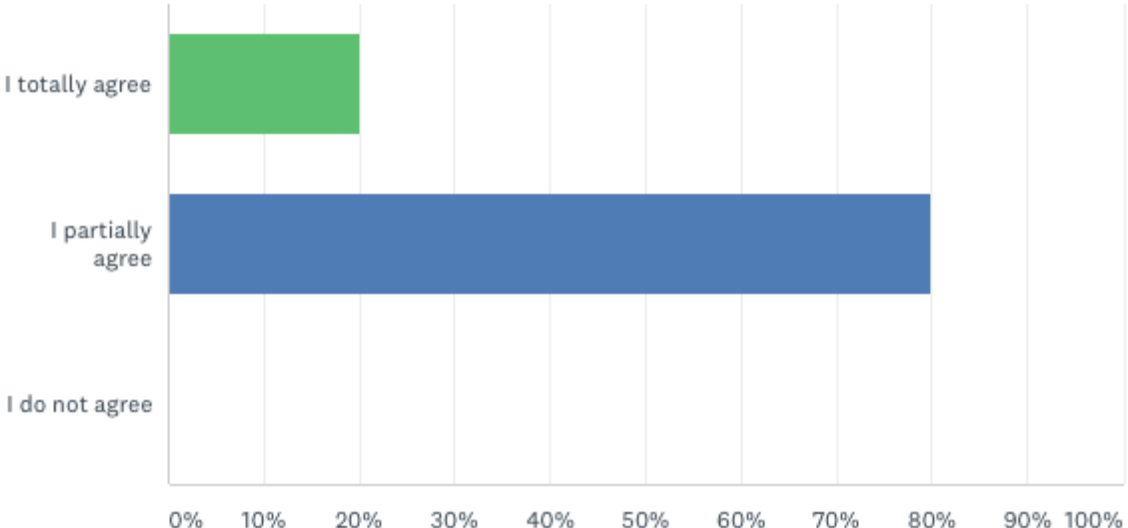


Figure 16. Shows the results figures for question seven: “do you think that the implementation of technological tools of anonymization by design will help more in the future for the generation of a competitive environment in the ad tech market?”.

Furthermore, by splitting those results by size of the companies (see Figure 17), we will see that both large firms, accounting for 20% of the votes, answered with “I totally agree”, which means that they are confident in the future possibilities of technology to address eventually also legal issues. Whereas, the totality of small and medium players, accounting to 80% of the votes, selected “I partially agree”, probably implying that systems of anonymization by design can help the competitive process up until a certain point, after which human cognitive capabilities will be needed.

		Totally Agree	Partially Agree	Do Not Agree
Small and Medium Firms	Mediaspike		1	
	Faception		1	
	Metadata		1	
	Markerly		1	
	Handstack		1	
	Sidelines		1	
	Silverpush		1	
	Privy		1	
Large Firms	Sightly	1		
	Medialets	1		
<b>Total 100%</b>		<b>20%</b>	<b>80%</b>	<b>0%</b>

Figure 17. Shows the results figures for question seven: “do you think that the implementation of technological tools of anonymization by design will help more in the future for the generation of a competitive environment in the ad tech market?”, ranked by firms’ size.

For what concerns question eight: “do you think that more could be done from the side of institutions in order to favor the fostering of a competitive environment?”, has the purpose of analyzing the position of respondents, concerning the intervention of institutions within the competitive process. To this end, interviewees were asked to select among three possibilities, namely “I totally agree”, “I partially agree”, and “I do not agree”. To this question, 10% of the respondents, answered with “I totally agree”, 30% with “I partially agree”, and 60% with “I do not agree” (see Figure 18).

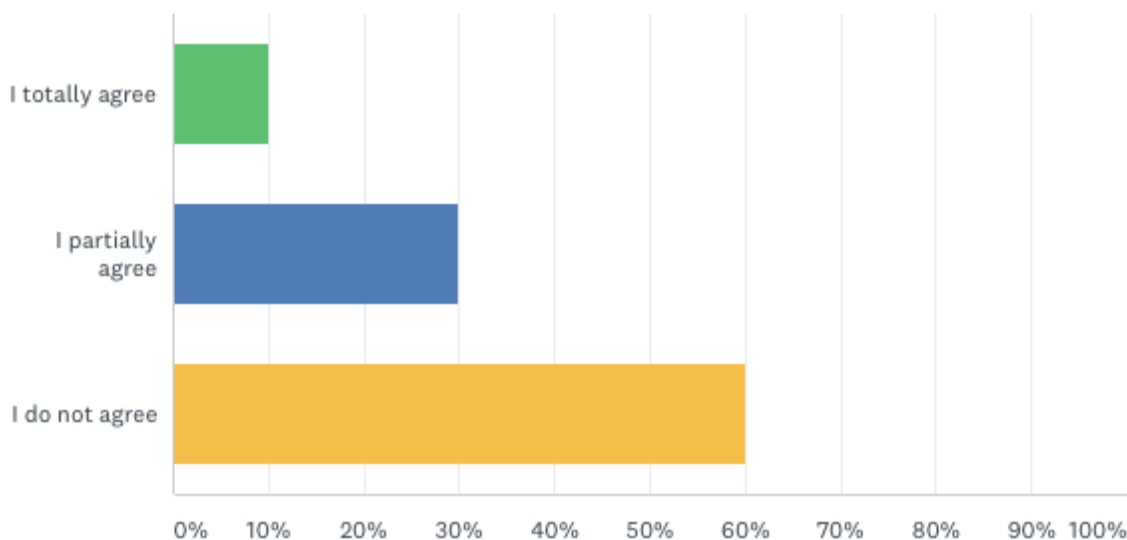


Figure 18. Shows the results figures for question eight: “do you think that more could be done from the side of institution in order to favor the fostering of a competitive environment?”.

By dividing the firms into two sub-categories (see Figure 19), we will see that only one company, namely a small one, has shown to be in favor of the intervention by institutions within the competitive process. While, 30%, of which two small companies and one large, partially agreed on such statement. However, the majority, namely six of all the interviewed companies,

accounting for the 60% of the votes, selected the “do not agree” option. Among the latter, five were small and medium sized companies, while only one was large.

		Totally Agree	Partially Agree	Do Not Agree
<b>Small and Medium Firms</b>	<b>Mediaspike</b>		1	
	<b>Faception</b>			1
	<b>Metadata</b>			1
	<b>Markerly</b>	1		
	<b>Handstack</b>		1	
	<b>Sidelines</b>			1
	<b>Silverpush</b>			1
	<b>Privy</b>			1
<b>Large Firms</b>	<b>Sightly</b>		1	
	<b>Medialets</b>			1
<b>Total 100%</b>		10%	30%	60%

Figure 19. Shows the results figures for question eight: “do you think that more could be done from the side of institution in order to favor the fostering of a competitive environment?”, ranked by firms’ size.

The results of such analysis show mixed opinions regarding the intervention of institutions within the competitive process, with the majority of the voters disagreeing on a further tightening of the legal framework.

Question nine, “do you think that the intervention from the side of institutions within privacy issues is rather detrimental for the purpose of innovation and competitiveness?”, broadens the scope of question eight, by explicitly asking whether an intervention from the side of institutions, with the scope of protecting consumers, rather harms companies in their innovation and organizational purposes. The question is again a multiple one, with three given choices, namely “I totally agree”, “I partially agree”, and “I do not agree”, among which to select. From Figure 20, we will see that 70% of the respondents, voted for “I totally agree”, 20% for “I partially agree”, and only 10% for “I do not agree”.

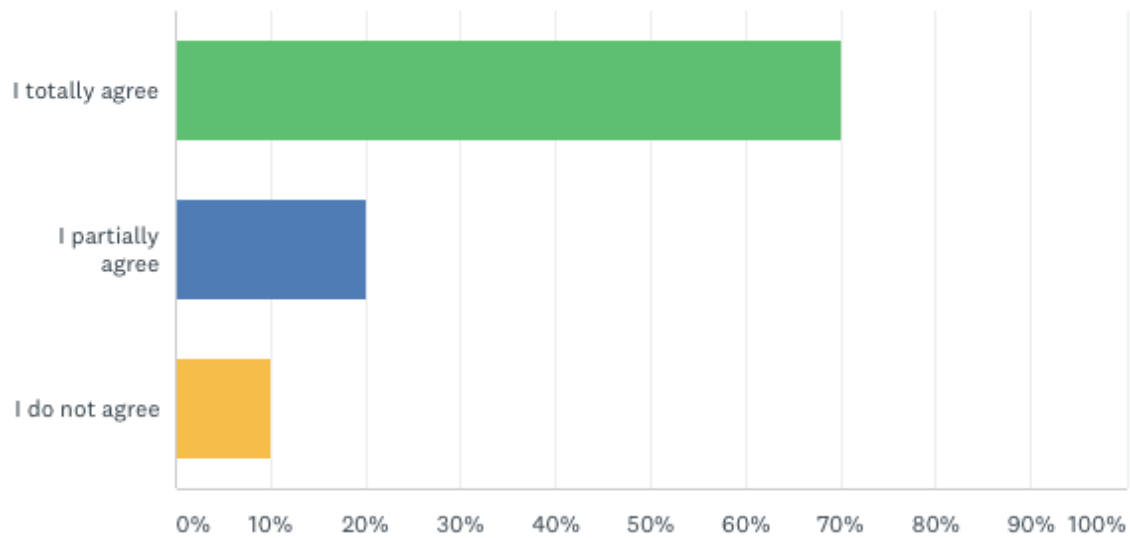


Figure 20. Shows the results figures for question nine: “do you think that the intervention from the side of institutions within privacy issues is rather detrimental for the purpose of innovation and competitiveness?”.

By dividing those answers into two cross-tabulating subgroups (see Figure 21), we will see that among those 70% of the respondents who selected “I totally agree”, one is a large company, while the rest are small companies. Whereas, among those 20% of respondents who selected “I partially agree”, there are only small companies. And finally, the 10% who voted for “I do not agree” is determined by the vote of only one large firm.

		Totally Agree	Partially Agree	Do Not Agree
<b>Small and Medium Firms</b>	<b>Mediaspike</b>	1		
	<b>Faception</b>	1		
	<b>Metadata</b>	1		
	<b>Markerly</b>		1	
	<b>Handstack</b>	1		
	<b>Sidelines</b>	1		
	<b>Silverpush</b>	1		
	<b>Privy</b>		1	
	<b>Large Firms</b>	<b>Sightly</b>	1	
<b>Medialets</b>				1
<b>Total 100%</b>		70%	20%	10%

Figure 21. Shows the results figures for question nine: “do you think that the intervention from the side of institutions within privacy issues is rather detrimental for the purpose of innovation and competitiveness?”, ranked by firms’ size.

Once again, we see mixed opinions, this time regarding the possibility that institutional intervention within privacy issues would rather be detrimental for the purpose of innovation and competitiveness. Among the answers of the respondents we see a great variety of positions even within the same subgroup, to demonstrate that there cannot be a univocal consideration regarding this issue. Indeed, even the positions of the two large companies, which up till now

have always seemed quite aligned, are now totally opposed in their outcomes, seeing one selecting the “totally agree option” and the other the “do not agree” one.

Finally, for what concerns question ten, “do you have further considerations or warnings regarding the pros and cons of the GDPR?”, has the purpose of being a rather open question, providing the possibility, to those who want, to have more space for personal considerations regarding the topic at issue. To such question, 90% of the respondents answered that they did not have any further reflection to provide, while only 10%, accounting to one single respondent answered positively (see Figure 22).

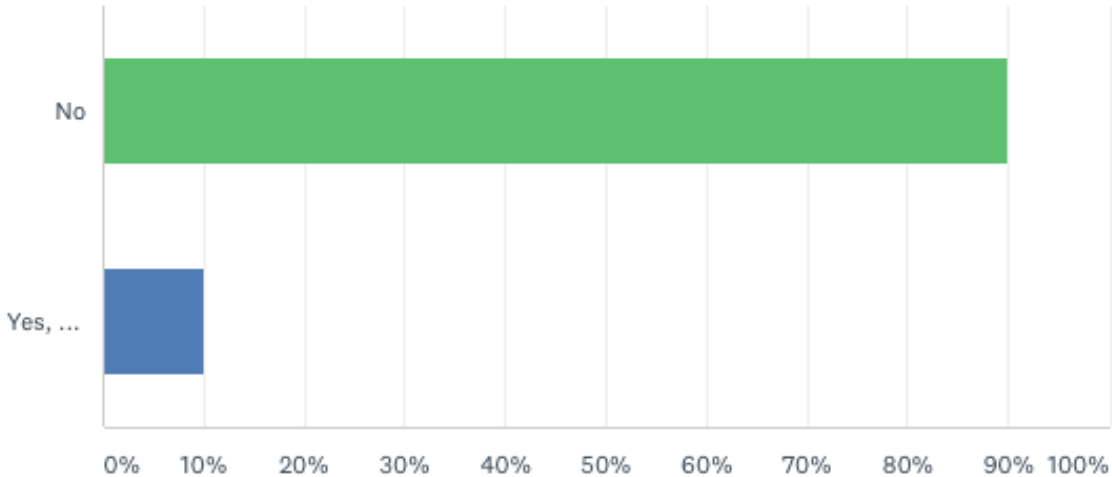


Figure 22. Shows the results figures for question ten: “do you have further considerations or warnings regarding the pros and cons of the GDPR?”.

Such positive answer was provided by the large player Medialets. In the answer the firm states: “the introduction of the GDPR has posed challenges to both large and small firms in an even manner. Their possibilities to compete and thrive, therefore, depend uniquely on their capabilities. Thereby, the GDPR has not endangered firms’ possibilities to compete through better products.” Through such an answer, we can confirm much of the assumptions made above. In particular, with regards to the considerations made to question five, this answers supports the position that large companies may have not agreed on the point that the GDPR has unilaterally posed threats to smaller players, rather considering the eventuality of a better handling of the situation from their side, which enabled them to have much more success.

**5.2. Key Findings**

From the analysis of the survey, we can draw on several key findings.

First of all, companies belonging to the different subgroups, tend to have homogenous per subgroup responses, ultimately proving the existence of per subgroup trends. Secondly, both the subgroups assign to the introduction of the GDPR, as a mean to protect consumers from privacy issues, a positive value. However, the subgroup of SMEs seems to be more

satisfied with the current levels of legislation compared to large companies, proving that further implementation would not be positively accepted by smaller firms. Thirdly, both the subgroups agree quite homogeneously, and with little deviations, on the idea that smaller firms have been suffering from the introduction of the GDPR. However, the same position cannot be appreciated when analyzing larger firms. Indeed, the latter have been declaring from themselves that they have been suffering as well from the introduction of such norms, but this same position seems to be contested by small and medium sized firms who actually blame them of having been able to increase market concentration, ultimately raising entry barriers, thanks to the introduction of the GDPR. On such point, however, large firms have contested that threats due to the introduction of the GDPR equally affected both large and small firms, but that only those who had the best capabilities were able to thrive, ultimately, enabling the introduction in the market of valuable options for the purpose of innovation.

Fourthly, we can notice a clear divide between the positions adopted by SMEs and those held by large players for what concerns the remedies offered by the GDPR against market failures. Indeed, large firms demonstrate a great confidence in the current and future possibilities of the remedies imposed by the GDPR; whereas the same cannot be said for smaller firms. This once again demonstrated that small firms, at the *status quo*, do not see the norms embedded within the GDPR as best to favor competition and reduce market concentration, nor are completely confident that the introduction of remedies by design would help to totally overcome such failures. On the contrary, as we can see from the results to question nine, the majority of small and medium sized companies, consider the intervention from the side of institution rather detrimental for the purpose of competitiveness and innovation, and would rather ask for its lessening.

## Conclusions

The advent of the data economy has generated disruptive effects whose consequences affected, either positively and negatively, all aspects of society. In such a context, regulators have tried to assess whether the current legal framework was appropriate to tackle at the new issues derived from the adoption of the Internet and the realization of the new economy. At this purpose, we have analyzed the concept of Big Data, the contexts of its employment, and the consequent legal implications derived from the adoption of business models that exploit privacy related contents. To be more specific, we have assessed that digital platforms are the ones that have seen in the collecting and processing of privacy data a huge opportunity to make profits. Indeed, those platforms, if to one side they offer a service, which comes generally for “free” to end users, to the other they are able to sell a huge bulk of personal information to advertisers, captured from users’ purchasing behaviors inside and outside their platforms. Such a situation has generated a number of legal concerns, never faced before, which raise the question of whether a commingling of the three branches of law, namely data protection, competition and consumer law, would rather be a better solution to address those new privacy issues.

This idea, if upheld from one side, it has been strongly criticized to the other, as to the level of actual commingling which could rather be auspicated to these three branches of law, and their final possibilities of better solving privacy issues. To this purpose, we have analyzed closely the German Facebook case, to get to the conclusion that, if to one side the EU Commission acknowledges the importance of privacy, to the other it considers the necessity for the antitrust law to be assessed on a standalone basis.

Privacy concerns should be therefore tackled in light of the GDPR. However, a number of drawbacks of the implementation of the latter have been pointed out, like the raise in entry barriers and the increase in market concentration. Indeed, the latter norms are said to favor larger players, to the detriment of competition and innovation, with little results from the embedded norms aimed at solving potential market failures. To estimate the actual impact of the GDPR, we have therefore decided to carry out a survey on ten firms, either small, medium and large ones, operating in the ad tech context. The result of such survey sees a clear divide between the positions maintained by large firms and those by small and medium sized players, ultimately demonstrating that the implementation of such norms has affected all firms in the web technologies scenario, with the final result of casting on smaller players further burdens.

## Appendix

The survey is also available at the following link:

[https://it.surveymonkey.com/analyze/jkPRcB1beqxKr1ORbJhnJqJbkBFdp2rkpso\\_2BTu7wh7c\\_3D](https://it.surveymonkey.com/analyze/jkPRcB1beqxKr1ORbJhnJqJbkBFdp2rkpso_2BTu7wh7c_3D).

- 1) How do you value the overall introduction of the General Data Protection Regulation (GDPR) on consumers' privacy?
  - a) Very useful
  - b) Quite useful
  - c) Not useful
  
- 2) From 1 to 10, where one is extremely poor and 10 extremely good, what score would you give to the impact of the GDPR on the individual welfare?
  
- 3) How do you value the impact of the introduction of the GDPR on large ad tech firms' opportunities?
  - a) Advantageous
  - b) Mostly advantageous
  - c) Disadvantageous
  
- 4) How do you value the impact of the introduction of the GDPR on small and medium ad tech firms' opportunities?
  - a) Advantageous
  - b) Mostly advantageous
  - c) Disadvantageous
  
- 5) Do you think that the introduction of the GDPR has posed significant threats on small and medium sized players operating in the ad tech environment?
  - a) I totally agree
  - b) I partially agree
  - c) I do not agree



- 6) Do you think that the data portability rule has helped in fostering competition within the web technology market?
- a) I totally agree
  - b) I partially agree
  - c) I do not agree
- 7) Do you think that the implementation of technological tools of anonymization by design will help more in the future for the generation of a competitive environment in the ad tech market?
- a) I totally agree
  - b) I partially agree
  - c) I do not agree
- 8) Do you think that more could be done from the side of institution in order to favor the fostering of a competitive environment?
- a) I totally agree
  - b) I partially agree
  - c) I do not agree
- 9) Do you think that the intervention from the side of institutions within privacy issues is rather detrimental for the purpose of innovation and competitiveness?
- a) I totally agree
  - b) I partially agree
  - c) I do not agree
- 10) Do you have further considerations or warnings regarding the pros and cons of the GDPR?
- a) No
  - b) Yes (If you select this option, motivate your choice)

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## Executive Summary

Both data and data driven innovations are considered to be among the main pillars of the 21<sup>st</sup> Century's economy. The increasing digitalization of every kind of socio-economic activity and the decline in the costs related to the collection, storage, and analysis of data, has indeed led to the creation of a new economic paradigm, which for its massiveness goes under the name of Big Data revolution. Data are currently estimated as the world most valuable resource. Its innovative characteristics are summarized into four Vs: volume (of the data created every year, which grow exponentially); velocity (of their collection and analysis); variety (there are many types of data); value (data have become more and more valuable assets for firms and new factors of production). Thanks to those characteristics, Big Data have been largely employed by digital platforms, with the purpose of being able to better target the needs of their users. As a consequence, the importance of Big Data has become so pivotal that digital companies built their business models upon the usage of the latter by developing non-traditional forms of business, characterized by operational capabilities on more than one side of the market. Here raise the concepts of two-sidedness and multi-sidedness. A company can be defined as two-sided or multi-sided if a social value arises through the interaction of different groups and in which this interaction takes place via an intermediary that brings the groups into contact with each other.<sup>86</sup> However, multi-sidedness is not exclusively an online phenomenon and many traditional "offline" markets have been identified as well as such.

Moreover, when analyzing digital platforms, we realize that the latter are characterized by a number of features, one of these being network effects. Network effects imply that the convenience of using a technology or a service increases with the number of users adopting it.<sup>87</sup> More specifically, we talk about direct network effects when consumers' willingness to pay for a product depends on the number of other consumers of the same product.<sup>88</sup> Direct network effects can be in turn positive or negative: positive direct network effects occur when the benefit of a user depends on the participation of other users; whereas negative direct network effects occur when users suffer from increased participation from other users. On the other hand, we talk about indirect network effects when the value extracted by a consumer from a good or service increases along with the number of applications and services offered on the platform. Again, indirect network effects can be positive or negative: with positive indirect network effects users have greater benefits from increased participation of other users; whereas, negative

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<sup>86</sup> Franck J. et al., 2019:18.

<sup>87</sup> Crémer et al., 2019:133.

<sup>88</sup> Franck J. et al., 2019:15.

indirect network effects occur when users have lower benefits from increased participation of the other users' groups, and this is generally the case of attention platforms where more advertising leads to fewer buyers and more buyers lead to more advertising. However, attention platforms do not face negative indirect network effects if the advertising is customized to the user. Indeed, in that case, the accuracy of the advertising may also benefit customers. The consequences of positive network effects are that the larger the platform, the more the users and the more efficient the platform will be, leaving little room for competition. Furthermore, users tend to move to other platforms not because of quality concerns but rather basing themselves on their expectation that the others will follow. Network effects could, thus, impede a superior platform from overtaking an inferior one, ultimately leading to situations of tipping.<sup>89</sup>

Moreover, a strand of literature supports the idea that two-sided platforms can be divided into transaction and non-transaction platforms: non-transaction platforms, see no transaction between the two sides of the market, nonetheless an interaction is present which, however, cannot be observed by the platform that consequently cannot set a per transaction fee but rather sets an access price to both parties; whereas, transaction platforms are able to observe the transaction and therefore charge a price both for joining the platform and for its usage. Non-transaction platforms are characterized by indirect network effects, meaning that their value arises from joining the platform and increases with the number of users joining it. Whilst, transaction platforms are characterized not only by indirect network effects, but also by usage externalities, meaning that both the value of the platform and the benefits arising from using it depend on the number of people actually joining the platform.<sup>90</sup> Therefore, in two-sided non-transaction platforms we define two interrelated markets; while in two-sided transaction platforms we only define one market, as none of the two products offered is sufficient without the other side.<sup>91</sup>

Furthermore, for what concerns the approach of the user towards digital platforms, it can vary consistently depending on whether he single-homes or multi-homes. A user single-homes if he/she uses a single platform to satisfy a specific need; and rather multi-homes if he/she uses several platforms for this same purpose.<sup>92</sup> Pricing and market outcomes depend upon customers decisions of selecting a single platform or more than one platform to satisfy their needs: if customers single-home there will be an intense market concentration; conversely if he/she multi-homes barriers to market entry will be much lower. A crucial element for the decision to multi-home is represented by differences among platform services and functionalities. However, the possibility to participate in several platforms at the same time mostly depends on switching

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<sup>89</sup> Crémer et al., 2019:23.

<sup>90</sup> OECD, 2018b:38.

<sup>91</sup> Filistrucchi L. et al., 2013:4.

<sup>92</sup> OECD, 2018b:60.



costs, such that if the cost of acquiring a device that is compatible with the other platforms is high, users will tend to be bound to a single platform.

Broadly speaking, very few people single-home, and those are the most valuable users for the platform. When there is a single-homing on one side and a multi-homing on the other, platforms will compete aggressively for the single-homing customer who will therefore pay lower prices. However, making multi-homing easier is a key element in encouraging competition. Therefore, strategies to prevent multi-homing are considered to be elements of foreclosure as they harm competition. In this context, user data portability plays a key role in fostering competition through data sharing, ultimately preventing firms with bottleneck power from locking in users.

However, the key feature of online platforms is that they are able to record the products that users have bought, seen, or placed in their wish-lists and starting from this information, they profile user preferences, therefore being able to predict and suggest which products may be of interest to the consumer due to its degree of similarity with another consumer's profile. Such information, known as Big Data, are collected and analyzed by platforms via natural-language and machine-learning processes to obtain a more in-depth knowledge of the demand useful to adapt their services to consumer preferences. As a consequence, platforms are also able to provide advertisers with advertising space that can better capture the eyes of consumers, thus increasing the chances of an interaction between the two. Therefore, firms collect as many digital data as possible to achieve a better understanding of the world that gives them a competitive advantage over rivals that do not have access to the same data. Furthermore, it should be noted that Big Data may sometimes be transferred to third parties able to analyze them, for an economic compensation. Therefore, individuals are progressively losing control over their personal data and their digital identities. In this regard, the public debate is filled with alarm, as many are concerned about an eventual mass information manipulation and the end of individuals' free will. Others fear that tech-giants will soon dominate almost every market, thanks to their Big Data. Thus, many hope that the antitrust law will force these firms to share their data in order to reduce market concentration, lower barriers to entry, ultimately, favoring competition.<sup>93</sup>

In this regard, the antitrust law has as first objective that of defining the relevant market, as such a step represents the foundation stone on which a regulatory intervention is built.<sup>94</sup> When coming up to the definition of relevant market for two-sided platforms, the question that arises is whether one or two markets need to be defined. At this concern, it is tempting to say that when one side of the market does not pay, only one market should be defined, the paying

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<sup>93</sup> Colangelo and Maggolino, 2017b:363.

<sup>94</sup> Filistrucchi L. et al., 2013:2.

one. However, providing a product for free may be a profit maximizing strategy for a firm, where although it loses money on one side, it recovers for these losses on the other, making higher profits than if it were to sell on both sides at a positive price. In this regard, there is a considerable divergence of opinions, and to date, the theoretical approach that appears to find greater consensus is that proposed by Filistrucchi et al., for which in two-sided transaction markets a single market should be defined; whereas in two-sided non-transaction markets, two (interrelated) markets should be defined.

Furthermore, one of the characteristics of some online platforms, and more specifically of multi-sided media platforms, is that the cost of the service is generally subsidized by only one group of users (i.e. advertisers), while the participation of another group (e.g. users) is subject to the payment of a fee in reduced form or even no fee. Therefore, one wonders if, in the context of multi-sided markets, the side of the platform in which the service is offered free of charge can be considered (part of) a market. Notably, this issue poses concerns to the employment of the SSNIP test, a traditional tool used for the definition of the relevant market in situations in which the use of a service or the purchase of an asset is subject to the payment of a monetary compensation by the user in favor of the supplier. This test, therefore, is not particularly suitable in those cases where the compensation paid is not quantifiable in purely monetary terms. However, based on the above, there is the possibility to adapt the SSNIP test relying on the assumption that consumers can opt for one product rather than another on the basis of "quality" criteria. In light of this circumstance, an alternative version of the SSNIP test could be chosen, which rather takes into consideration a "small but significant non-transitory decrease in quality" (SSNDQ).<sup>95</sup> This method would therefore assess whether a monopolist could hypothetically decrease the quality of the product offered, still maintaining its product profitable. However, as stated by the OECD, the idea is probably more useful as a loose conceptual guide than as a precise tool that courts and competition authorities should actually attempt to apply.

Therefore, two-sided markets are posing new challenges to regulators who are trying to find new ways to deal with them, especially in the area of privacy regulation. In such a context, the European Union's General Data Protection Regulation represents a significant step towards the full protection from privacy issues. Nonetheless, further efforts should be made and end up into including a full set of accepted standardized policies, starting from the question of whether, and to what extent, the traditional competition law principles can be transferred from the "real" to the data economy. Regarding this issue, a growing number of scholars are concerned about the sufficiency of the data protection law in order to properly and fully address those privacy concerns and rather suggest new ways of tackling at such issues, among which, through a

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<sup>95</sup> OECD, 2018b:15.

commingling of data protection law, competition law and consumer protection law.<sup>96</sup> This is due to the fact that those three share the aim of protecting the welfare of individuals in the modern market economy and in particular are concerned with the power asymmetries that may occur between undertakings and individuals. However, regardless of these “family ties”, the objectives, scopes of application and enforcement regimes of each policy are different, and an overlapping of such subjects may result in being meaningless and theoretically dangerous.

Among the early proponents of a combined enforcement approach specific to digital markets were the OECD and the European Data Protection Supervisor, which recommended a closer dialogue between regulators and experts across policy boundaries.<sup>97</sup> This network would have been responsible for using data protection and consumer protection standards to infer “theories of harm” relative to mergers and exploitative abuses, suggest regulatory solutions, and assess the impact of the remedies.

Generally speaking, theories of consumer harm can relate to any type of negative effect on the final consumer, namely on price, choice, quality or innovation.<sup>98</sup> Nonetheless, when dealing with digital economies, the effects on quality and innovation are rather the most relevant ones. Firms can indeed subject users to the processing of their personal data, distorting competition and harming consumers through the erection of barriers to entry and maintaining dominance by limiting their competitors’ access to such data, preventing others from sharing data and opposing to data portability policies. The resulting harm is not necessarily higher prices, but rather a loss in quality, innovation and privacy.

Privacy can be an important parameter of competition and a driver of consumer choice in those markets where a non-monetary transaction occurs. Indeed, in zero-price markets, privacy is a potential dimension of quality, and competition cases in this regard could arise with respect to: mergers, cartels and abuse of dominance. In such a context it is important to analyze whether the antitrust is the most appropriate institutional choice within which to explore, and potentially address, Big Data concerns. Indeed, regardless of the actual differences existing between these three branches of law, those three all have a complementary role in promoting competitive zero-price markets. Therefore, cooperation among them is essential, especially with respect to advocacy and regulatory solutions.

Up till now, the EU competition law was never used against digital platforms, neither with reference to users’ personal data and digital identities, nor as a remedy for flaws in the data protection law. Only recently, the role that privacy plays in driving consumers’ choices, and as a parameter of competition between digital platforms, is starting to be taken into

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<sup>96</sup> Botta M., Wiedemann K. 2019:8.

<sup>97</sup> OECD, 2018a:32.

<sup>98</sup> Crémer J.et al. 2019:46.

consideration. However, antitrust law does not focus on market structures that determine a failure in the supply of a given product or service, but rather on business practices that worsen competition, therefore, supporting the idea that such issues rather deserve regulatory solutions. Nevertheless, many scholars have criticized such a “hands-off approach” that antitrust enforcers have adopted.<sup>99</sup> To this purpose, four main theories of harm have been developed to support the commingling of privacy questions with antitrust issues, to which four counterarguments – one for each - have been equally pursued.

The first of the theories of harm developed in support of a commingling of antitrust law with data protection law is focused on the network effects that characterize the online advertising market. Those network effects, together with other structural figures characterizing digital platforms, strengthen their market power and decrease their incentives to compete by offering higher levels of privacy products and services. The counterargument to this position holds that it may be true that market power leads to less improvement in the goods offered, in terms of privacy, but this issue is not specific to digital platforms or digital business models. Furthermore, no firm has an antitrust obligation to provide the best products it can even if they do not maximize profits and, moreover, antitrust law does not intervene in market feature and market structure. Therefore, if network effects are disincentives for digital platforms in producing privacy-friendly products, economic regulation, rather than antitrust should apply.

In this regard we analyzed the 2008 Google/DoubleClick merger, where it was questioned whether DoubleClick’s acquisition by Google, would have substantially lessen competition by acquiring data that exacerbate network effects and controlling a key competitor to its own network, leading to a more likely possibility of “tipping” both in the search and in the display markets, making it more difficult for another company to challenge the combined firm. To this question the Commission excluded that DoubleClick’s and Google’s datasets together would have conferred the merged identity a bottleneck power, furthermore, rejecting the idea that a market squeeze, where the resulting company would have kept out competitors and acquired the possibility of charging higher prices for their intermediation services, could have been generated. The Commission’s decision was, therefore, exclusively based on the appraisal of whether the merger impeded effective competition in the market, ultimately attributing the management of privacy issues to data protection.

For what concerns the second theory of harm in support of a commingling of data protection law and antitrust law, affirms that mergers between companies that hold big data lead the post-merger firm to have superior tools to profile individuals and invade their privacy. In response to such a statement, those who are not in support a commingling of data protection and antitrust state that the protection of personal data and individuals’ digital identities is not

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<sup>99</sup> Colangelo G., Maggiolino M., 2017b:366.

among the goals of the EU competition law, but, rather, the latter is designed to ensure a proper market functioning with relation to consumers' welfare variations.

Indeed, in the recent Facebook/Whatsapp merger, the same approach of Google/DoubleClick was adopted by the Commission. Again, we have a case of a big company controlling huge amounts of personal data but where the Commission could not point any foreclosure effect due to the fact that the after-merger resulting datasets were also available to their rivals.<sup>100</sup> Instead, Facebook was actually charged for changing its terms of service and privacy policy with the scope of implementing automated user-matching between Facebook and Whatsapp - to gain access to Whatsapp data - and for making users think that the use of Whatsapp was dependent upon the upfront acceptance of the new terms and conditions. Therefore, in May 2017, the EU Commission imposed a fine of €110 Million on Facebook/Whatsapp for providing misleading information during the 2014 merger review proceedings, namely, for having not disclosed at the time of the merger that it was capable of matching the profiles of its users to those of Whatsapp in a manner sufficient for targeted advertising purposes. Nonetheless, the EU commission rebated that, even though the information provided by Facebook was incorrect, this conduct did not have any impact on the competitive assessment of the merger.

The third theory of harm bringing antitrust and data protection together comes from the elaboration that the quality of products and services may be assessed by considering whether they are privacy-friendly or not. Therefore, any practice, such as a merger, a unilateral behavior or an agreement, that leads to the production of goods which are not privacy-friendly, harms consumer welfare and must therefore be considered as anticompetitive. On the other hand, those who are not in favor of such a commingling, hold that quality-driven assessments are difficult to develop, and scholars are working on new econometric tools and indexes, such as the SSNDQ test, not without any difficulty in the application.

The only application of such new econometric tool has been implemented by the Chinese Supreme People's Court in *Qihoo 360 v. Tencent*, where the Court considered how consumers would have reacted to small but significant decreases in quality of the instant messages products under scrutiny. In the assessment, the Chinese Supreme Court analyzed Tencent's alleged non-interoperability and bundling behaviors against Qihoo 360. Regarding the non-interoperability issue, the Supreme Court found that Tencent had no incentive in restricting competition in the instant messages market, proving that in not occupying a dominant position, its conduct did not represent an abuse of dominance. Furthermore, regarding the bundling behavior, the Supreme Court did not find any evidence that this behavior leveraged Tencent's leading position from QQ instant messaging app to QQ Software Manager. On the

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<sup>100</sup> Botta M., Wiedemann K., 2018:59.

contrary the bundling provided substantial functions integration and improvements to quality and security which promoted QQ features and value, therefore, concluding that in neither case the abuse was present.<sup>101</sup>

The fourth theory of harm maintains that privacy policies should be considered from a competition point of view when these are implemented by a dominant firm to which these data are necessary as main input to the production of its products and services. At this regard, in March 2016, the Bundeskartellamt initiated its proceedings against Facebook, basing itself on the suspicion that the social network was abusing of its market power by violating data protection rules. In the investigation, it was assumed that Facebook is a dominant company in the German market for social networks, and that, as such, it is subject to special obligations, including the use of adequate terms of service. The terms of service were considered key to the competitive assessment and lead the Bundeskartellamt to assume that Facebook prescribed a take it or leave it option, where users were forced to accept the unlimited data collection, also from third-party websites or refuse to use the service at all. Therefore, Facebook was accused of abusing of its dominant position by making the use of its social network dependent upon the acceptance by users to limitlessly provide every kind of data generated by the use of third-party websites as well as merging those data with Facebook user's account.<sup>102</sup>

The Bundeskartellamt's investigations begun by defining Facebook's product market: a private social network market with private users as the relevant opposite market side.<sup>103</sup> Key users are: private users, using Facebook for "free"; and advertisers, running targeted ads. Indirect network effects exist between these two groups of users. To this web of interconnections, Facebook adds further market sides: one is publishers, that use Facebook to promote their businesses; and another is developers, that integrate Facebook into their websites or apps by using Facebook APIs like social plugins (i.e. "Like" button), Facebook Login or the Facebook Analytics service. Professional networks such as LinkedIn and Xing, messaging services like WhatsApp, and business models like YouTube are considered to occupy a separate product market. This same criterion applies to Snapchat, Twitter, Pinterest and Instagram, the latter being part of the Facebook Group. The relevant geographic market analyzed by the Authority was the whole Germany, based on the fact that the service was used mainly to connect with people within the users' own country, special national user habits and the lack of opportunities for supply-side substitution.<sup>104</sup>

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<sup>101</sup> D. Evans and V. Zhang, *Qihoo 360 v Tencent: First Antitrust Decision by the Supreme Court* (2014) Competition Policy International 1, <https://www.competitionpolicyinternational.com/qihoo-360-v-tencent- first-antitrust-decision-by-the-supreme-court>.

<sup>102</sup> Botta M., Wiedemann K. 2019:13.

<sup>103</sup> Bundeskartellamt, 2019c:3.

<sup>104</sup> Bundeskartellamt, 2019c:5.

Therefore, the authority moved on by examining Facebook's market share on the relevant market, which it found out to be very high, especially among daily active users, where Facebook had a market share exceeding 95%. Whereas, Facebook's market share among monthly active users was above 80%, and above 50% among registered users. The Bundeskartellamt considered the number of daily active users as the key indicator to assess the network's competitive significance, concluding that Facebook had a combined market share far beyond the market dominance threshold pursuant to Section 18(4) GWB, even if platforms like YouTube, Snapchat, Twitter, WhatsApp, and Instagram were included in the relevant market.<sup>105</sup>

Key elements of Facebook's dominance were considered to be the strong direct network effects derived from its business model and the difficulties of switching to another social network.<sup>106</sup> Indeed, according to the GCA, direct network effects generate significant barriers to entry and lead to a lock-in effect which prevent users from switching to other social networks. Moreover, Facebook offers advertising-funded services that increase the barriers to entry, as competitors supporting the same business model, to enter the market successfully, must acquire a critical mass of private users. To this, it adds that Facebook has access to a huge amount of data, fundamental for competition in the context of social networks as they facilitate highly personalized advertising, which combined with the direct and indirect network effects, constitute another barrier to market entry for a competitor's product. Indeed, Facebook is becoming more and more indispensable for advertising customers as it has managed to improve its targeted advertising activities with the help of the user profiles generated.

Nowadays, Facebook's data policy allows the company to collect user and device-related data from sources outside the platform and to merge it with data collected on the platform. Lastly, Facebook in disposing of wide array of personal data from its users, it grants for itself superior access to competition-relevant data. Against this background, the GCA investigation is rooted in the fact that Facebook makes usage of its social network conditional on being allowed to limitlessly amass any kind of data generated when using third-party websites and to merge it with the user's Facebook account. Third-party sites include services owned by Facebook, like WhatsApp, Instagram, Oculus and Masquerade, as well as websites and apps of other operators with embedded Facebook APIs. Through APIs, data are transmitted to Facebook and collected and processed by Facebook even when a user visits other websites, and in accordance with Facebook's terms and conditions, these data can be combined with data

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<sup>105</sup> Bundeskartellamt, 2019c:6.

<sup>106</sup> Colangelo G., Maggiolino M., 2019:6.

from the user's account and used by Facebook, even if users have blocked web tracking in their browser or device settings.<sup>107</sup>

In light of the EU data protection rules, combining data in a user account should be subject to users' voluntary consent. However, Facebook profits out of a superior market power which enables to offer users take it or leave it offers. In such a context, following the GCA's reasoning, consent provided through a mere tick in the box is not to be considered, as such, voluntary, thereby constituting, an abuse of dominant position in the market for social networks in the form of exploitative business terms pursuant to the general clause of Section 19(1) GWB.<sup>108</sup>

However, on August 26<sup>th</sup>, 2019, the Higher Regional Court (OLG) of Düsseldorf disagreed with the entire reasoning behind the GCA decision, holding that the data policy imposed by Facebook did not give rise to any relevant competitive harm, rejecting both the idea of the existence by Facebook of exploitative abuses to the detriment of users and an that of exclusionary abuses to the detriment of actual or potential competitors.<sup>109</sup>

In sum, commingling antitrust laws and privacy could be risky as the antitrust needs to mirror economic analysis and economic-driven theories of harm. Therefore, to make antitrust law and privacy law commingle, it is important to develop a privacy-quality theory of harm to force data protection concerns into the traditional antitrust law framework. Nonetheless, at present this path is difficult to undertake.<sup>110</sup>

The currently accepted normative framework applicable to privacy issues is embedded within the GDPR. The GDPR was adopted by the EU Parliament on April 2016 and it required, within May 25<sup>th</sup>, 2018, that firms would have made substantial changes in the way they store and collect consumers' data. Such a regulation applies to both EU and non-EU firms that target EU residents and it deliberates that companies need users' *informed, specific and unambiguous* consent before being able to process their data. The key principles embedded within the GDPR lie in the concepts of data minimization, firms must limit the amount of users' personal data collected, and users' consent to the processing of personal data.<sup>111</sup>

The GDPR represents an unquestionably valid mean to protect individuals' right to privacy. However, it may generate market dynamics that may limit competition and increase market concentration. For what concerns the elements of market concentration, they are firstly determined by the difficulties of compliance to the GDPR, especially for small and medium sized players. Indeed, European companies, working with consumers data, had to spend

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<sup>107</sup> Colangelo G., Maggiolino M., 2019b:6.

<sup>108</sup> Bundeskartellamt, 2019c:7.

<sup>109</sup> Nazzini R., 2019:2-8.

<sup>110</sup> Colangelo G., Maggiolino M., 2017b:369.

<sup>111</sup> Geradin D., et al., 2020:8.



millions to comply with the GDPR. A situation which has disproportionately burdened small and medium-size businesses, which have limited human and financial resources in comparison to large enterprises, the latter generally already having lawyers, data experts and programmers in their teams able to smoothly take all the actions in order to comply with the GDPR.

All this, in a sector which already suffers from high rates of market concentration, and in which there has been a recent large drop in investments, led to the struggling or, worse, the exiting from the market of several smaller ad tech players. This situation is further aggravated by the uncertainty concerning certain GDPR topics, such as: what legal basis is actually appropriate in the context of online advertising; how to obtain user consent; and who can be considered a controller in the complex online advertising ecosystem, which made many small and medium sized players abandon this market, ultimately benefiting large ad tech companies from decreased competition. Furthermore, large firms in the ad tech industry are more and more benefiting out of their better reputation compared to small players. To the users' side, this is due to the fact that the latter might be more hesitant to provide consent to the processing of their personal data to a player which they actually don't know anything about; whereas, to the advertisers' side, they need to select a company which they trust is compliant to the GDPR, because of the large fines they would also be liable for in case of non-compliance.<sup>112</sup> This situation is further accentuated by the one-stop-shop principle envisaged within the GDPR. This principle implies that companies are supposed to deal with only one data protection authority (DPA) for what concerns their regulatory compliance issues. Specifically, the competent supervisory authority should be the one of their single or main geographical establishment. However, such a situation has led to the creation of bottleneck escaping from DPA's close monitoring and liability because of the latter's reluctance to intervene.

To sum up, large digital platforms like Google have been profiting out of the introduction of the GDPR, seeing an increase in market concentration as a response to the difficulties encountered by small and medium sized players. Indeed, Google, in strategically carrying out its operations, has performed a "weaponization" of the GDPR, namely it has employed data protection laws with the ultimate scope of strengthening its own market power. Thanks to its markets power, Google made it to become a *de facto* privacy regulator, able to dictate its interpretation of the GDPR to advertisers, publishers and rivals.<sup>113</sup>

The company managed to generate, out of its behavior, many of the market dynamics mentioned above which limit competition and increase market concentration. Among those, the capability of the company to profit out of the opaqueness embedded within the GDPR to exploit it at its own advantage by requiring advertisers only to buy its own ad tech products for which

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<sup>112</sup> Gal M., Rubinfeld D., 2016:3.

<sup>113</sup> Geradin D., et al., 2020:14.

it could guarantee valid user consent, thereby using its market dominance in the ad tech sector to strengthen its position even further in the name of the GDPR, benefiting from the dependency and trust of advertisers. Furthermore, Google benefited out of its better reputation compared to small players. This has had effects both on the users' side and on the advertisers' side. To the users' side, Google has managed to be very successful by easily obtaining users' consent to the collection of personal data by leveraging on its market dominance. Indeed, billions of people are dependent upon Google's services either for personal and for professional purposes, which combined with a lack of alternatives considered by users worthier of trust, made even privacy-concerned users rely on the use of Google's services; whereas, to the advertisers' side, they need to select a company which they trust is compliant to the GDPR, because of large fines they would be liable for in case of non-compliance. Therefore, advertisers have been gathering their spending on the largest players, making Google's market position even stronger since the entry into force of the GDPR. Moreover, the one-stop-shop rule has ultimately increased Google's market position. Indeed, numerous complaints had been submitted to the DPA since the entry into force of the GDPR, specifically with regard to the company's data practices, in particular its tracking of users' location or its granting to third parties with access to often sensitive users' data. However, despite the calls to action, Google remained unpunished. The competent authority, indeed, would be the Irish Data Protection Commission, which has rather neglected the notified breaches. This behavior could be due to the economic dependency of Ireland to ad tech giants, which may disincentivize rigorous GDPR enforcement.

On the contrary, the introduction of the GDPR has generated a number of negative effects on smaller firms, especially on new technology venture investments and particularly on AI startups operating in the EU. Those negative effects, have manifested in a reduction in the number of venture deals, the size of those deals and the overall amount of dollars invested. Those negative effects, furthermore, appear to be the most pervasive in newborn zero to three years old ventures, in the process of transitioning from angel to venture capital investment companies.

AI Startups have shown to be particularly problematic because of their employment of Artificial Intelligence. Indeed, AI relies on huge amount of data, which are used to train and tune algorithms. Those data often include consumers' sensitive information, which raised a number of concerns regarding the actual fairness of their extensive grasping. In such a context, the GDPR was set with the scope of protecting individuals from an excessive collection of privacy sensitive data. However, while to one side this regulation is intended to protect consumers, to the other it negatively impacts firms that need access to training data to run sophisticated algorithms, which often lead to the implementation of cutting-edge technologies like neural networks and ensemble learning. Moreover, contrarily to what might be thought, the

need for data is not proportional to the size of the firms, but rather firms who target at the creation of similar AI products will need similar amount of data resources. This situation creates an advantage for larger firms, which may be able to access data more easily by profiting out of their larger breadth of supplier relationships and their more developed customer ecosystem. A situation which may, then, result in fewer startups competing against established firms ultimately moving to other geographies where the compliance to the norms would rather be more easily.

Against this background, the data portability rule was thought to encourage customers to switch between different service providers in order to facilitate the entry of new firms. Such a rule was set out within Art 20 and recital 68 of the GDPR, which impose obligations over data controllers to transfer any data they are in possess of, concerning a specific data subject, following the latter's request to do so. The effectiveness of the data portability rule in fostering competition depends on what type of data are actually portable and entry becomes easier only if everything is portable. However, such practice, only applies to data provided by data subjects and not those inferred by data controllers. Thus, data portability does not completely eliminate the incumbency advantage, rather, it may even enhance it under certain conditions.

More specifically, data portability affects entry in two ways: firstly, through the *switch-facilitating effect*, namely by simplifying consumers' switching and entry for a given level of data provision in the first period; secondly, through the *indirect demand expansion effect*, with which it encourages to provide more data in the first period, with the promise that the value of those data will become higher when they will be ported across other service providers, thereby, raising the value of the incumbent's service and strengthening its incumbency advantage.<sup>114</sup>

In such a context, we may find out that, without data analytics, data portability facilitates switching and entry, as the *switch-facilitating effect* in that case dominates upon the *demand-expansion effect*. Whereas, with data analytics in addition to data portability, the *demand-expansion effect* dominates if the big data service is valuable enough. In the latter case, data portability would rather make entry more difficult especially if there will be involved network effects. The reason is that, with network effects, the positive externalities connected to the data provision on other customers, are neglected, thereby leading the user to provide too little data and weakening the *switch facilitating effect*. However, on the other hand, less data provision, together with a higher degree of data portability, means that a customer is more likely to switch and port their data, which in turn makes their data provision more responsive to enhanced data portability. Combining both effects, data portability is more likely to raise entry barriers when there are network effects. Furthermore, entry deterrence is more likely if the entrant adopts an innovative strategy, because, in this way, there is a higher probability that a better firm will

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<sup>114</sup> Lam W., Liu X., 2020:2.

enter the market. Consumers would, in turn, be less likely to stay with the incumbent, which, ultimately, would reduce the value of providing data to the latter. This would reduce the provision of data in the first period and weaken the *switch-facilitating effect*. However, regardless of the fact that in the first period the amount of data provided would be smaller, consumers would, nonetheless, be more likely to port those data to the innovative entrant, which strengthens the *demand-expansion effect*. Hence, entry becomes more difficult. Furthermore, the set of other rights embedded within the GDPR together with the data portability right further amplify the *demand-expansion effect*, due to the higher willingness to provide data in the post-GDPR era, which would in turn make entry even more difficult. Therefore, although data portability may benefit consumers in the short run, it can have adverse effects on entry and long-run efficiencies.

To sum up, the effectiveness of the right to data portability will depend on what types of data can be ported, leading to the conclusion that the role of data portability in promoting entry and competition may be limited when the inferred data are not covered under the current legislation. However, another remedy to overcome the limitations set out by the GDPR to data sharing would be through the employment of technological tools. In this regard the major tool employed is based upon the concept of data anonymization. In accordance with the EU commission, personal data which were rendered irreversibly anonymous in a way that the individual entity is no longer identifiable, is no more considered to be personal and therefore not contestable under the GDPR. Therefore, companies have been focusing on the implementation of technological tools which generate algorithms functional to an irreversible anonymization. However, a complete anonymization is often technically difficult to achieve and sometimes impossible.

Against this background, we have decided to carry out a survey, the scope of which is that of providing more ground to the assessment of the effects of the introduction of the GDPR. However, the objective of such analysis is not that of having a final say regarding the argument, for which more time and analysis will be needed, but rather to render the reader more aware of the short-term positions currently occupied by both large players and small and medium sized ad tech providers regarding the adoption of the GDPR as well as its consequences for the day to day business' operations. For this purpose, we have surveyed ten firms, the majority of which being small, newborn, startups. Indeed, evidence suggests that the most negative and pronounced effects, following the rollout of the GDPR, have been on such venture categories for their number of deals, size of those deals and overall amount invested in them.

From the analysis of the survey, we drew on several key findings: first of all, companies belonging to the different subgroups, tend to have homogenous per subgroup responses, ultimately proving the existence of per subgroup trends.

Secondly, both the subgroups assign to the introduction of the GDPR, as a mean to protect consumers from privacy issues, a positive value. However, the subgroup of SMEs seems to be more satisfied with the current levels of legislation compared to large companies, proving that further implementation would not be positively accepted by smaller firms.

Thirdly, both the subgroups agree quite homogeneously, and with little deviations, on the idea that smaller firms have been suffering from the introduction of the GDPR. However, the same position cannot be appreciated when analyzing larger firms. Indeed, the latter have been declaring from themselves that they have been suffering as well from the introduction of such norms, but this same position seems to be contested by small and medium sized firms who actually blame them of having been able to increase market concentration, ultimately raising entry barriers, thanks to the introduction of the GDPR. On such point, however, large firms have contested that threats due to the introduction of the GDPR equally affected both large and small firms, but that only those who had the best capabilities were able to thrive, ultimately, enabling the introduction in the market of valuable options for the purpose of innovation.

Fourthly, we can notice a clear divide between the positions adopted by SMEs and those held by large players for what concerns the remedies offered by the GDPR against market failures. Indeed, large firms demonstrate a great confidence in the current and future possibilities of the remedies imposed by the GDPR; whereas the same cannot be said for smaller firms. This once again demonstrated that small firms, at the *status quo*, do not see the norms embedded within the GDPR as best to favor competition and reduce market concentration, nor are completely confident that the introduction of remedies by design would help to totally overcome such failures. On the contrary, the majority of small and medium sized companies, consider the intervention from the side of institution rather detrimental for the purpose of competitiveness and innovation, and would rather ask for its lessening.

All in all, the clear divide between the positions maintained by large and small and medium sized players, ultimately demonstrate that the implementation of the relative norms embedded within the GDPR affected all firms in the web technologies scenario, with the final result of casting on smaller players further burdens.

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