Telecommunications Policy **E** (**BBB**) **BBE-BBB**



Contents lists available at ScienceDirect

Telecommunications Policy



URL: www.elsevier.com/locate/telpol

Mandating portability and interoperability in online social networks: Regulatory and competition law issues in the European Union

Inge Graef*

Research Foundation – Flanders (FWO), KU Leuven – Interdisciplinary Centre for Law & ICT (ICRI) – iMinds, Sint-Michielsstraat 6 bus 3443, B-3000 Leuven, Belgium

ARTICLE INFO

Keywords: Data portability Interoperability Switching costs Network effects Online social networks Competition law

ABSTRACT

Due to the relatively concentrated nature of the market and the predominance of Facebook, online social networking may be the next digital service facing scrutiny by the European Commission. This article analyzes two potential competition problems in online social networks from a legal perspective. Attention is paid to the extent to which switching costs and network effects give rise to data portability and social network interoperability issues. It is discussed whether competition enforcement or newly devised regulation may serve to resolve these potential competition issues. A comparison is made with the telecommunication sector where similar concerns were addressed by way of regulation imposing obligations of number portability and network interoperability on all market players. Because of this similarity, it is worth considering if any lessons can be drawn from the regulatory approach applied in telecommunications for online social networking. The fact that the portability and interoperability issues in social networks relate to personal data and not 'merely' to technology like in the telecommunication sector, leads to additional considerations in the data protection regime. As a result, data protection concerns also have to be taken into account when devising remedies for the online social network industry.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Online social networking seems to a certain extent to be replacing classical communication services that have always been provided by telecommunication providers. For example, Skype enables users to make free calls over the internet and applications like Facebook Messenger let users send free internet messages without having to rely on the telephone network of their telecom operator. With the advancement of social networking and the rise of prevalent social networking providers like Facebook, the scope for potential competition concerns is growing. In the light of the similarities between social networking and telecommunication services, the question can be posed whether the approach that has been applied to address market distortions in the telecommunication sector may serve as a roadmap for the social networking environment.

* Tel.: +32 16320784. *E-mail address: inge.graef@law.kuleuven.be*

http://dx.doi.org/10.1016/j.telpol.2015.04.001 0308-5961/© 2015 Elsevier Ltd. All rights reserved.

2

ARTICLE IN PRESS

I. Graef / Telecommunications Policy I (IIII) III-III

From this perspective, the article discusses two potential competition issues relating to online social networks that have also occurred in the telecommunication sector. Although other possible competition problems in social networking may also deserve discussion, the choice is made to focus on portability and interoperability to see if any lessons can be drawn from the regulatory approach which has been applied in the telecommunication sector to address similar concerns in the telecommunication market. No standpoint is taken on whether certain social network providers are dominant in a given market, abuse their position or should be subject to regulation. Instead, it is the aim of the article to consider what type of remedies may be appropriate and which considerations have to be taken into account when intervention on the basis of regulation or competition law is deemed necessary in the online social networking sector. The first issue that is addressed concerns the practical inability of users to move personal data uploaded in a social network to a competing service. Because of the time invested in building a profile, users may become locked-in to a particular social networking site when it is not possible to transfer their data to another platform. In this light, the right to data portability that has been introduced in the proposal for a General Data Protection Regulation by the European Commission (Para. 2 of Art. 18, General Data Protection Regulation, 2012)¹ is analysed and compared with number portability as imposed in the telecommunication sector. Secondly, the issue of social network interoperability is discussed. Interoperability between online social networks would enable users to connect with each other irrespective of their social network provider. This would mean that, for example, a Facebook user can directly post a message or upload materials on someone's Google + page. The situation of social networks in this regard is compared with the telecommunication sector where network interoperability was imposed by way of regulation.

For both the portability and interoperability concerns, a distinction is made between remedies relying on competition law enforcement and remedies on the basis of regulation, for which a parallel is drawn with the telecommunication sector. It will be shown that although these potential competition problems can be solved by applying the regulatory approach used in telecommunications, additional issues arise for social networking in the field of data protection. Before analysing these issues in further detail, attention is paid to the characterization of online social networks.

2. Characterizing online social networks

Two different customer groups can be identified on social networks. In addition to users who employ the functionality offered by social network providers to build online communities, advertisers are present who are interested in displaying advertisements to users in the hope of selling their advertised products or services. As will be discussed below, the multisided network effect that users exert on advertisers tends to make the market in which online social networks operate quite concentrated as a result of which potential competition concerns may arise.

2.1. Role of users and advertisers in online social networks

Social networks offer users various means to communicate and share content including profiles, messages, photos and videos. In this article, social networks are understood as services enabling users to create a public or semi-public profile and a list of friends or contacts. These are the two essential functionalities of a social networking service according to the – in the European Commission's words – 'overwhelming majority of respondents to the market investigation' conducted in the context of the review of Facebook's acquisition of WhatsApp. Other important features, which according to the respondents to the market investigation in *Facebook/WhatsApp*, however, do not all have to be present for a service to be qualified as a social network, include exchanging messages, sharing information, commenting on postings and recommending friends (Facebook/WhatsApp, 2014, para. 51). A definition of social networks commonly used in the literature is that of boyd and Ellison: 'web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system' (boyd & Ellison, 2007, p. 211).

For a full characterization of online social networks it is required to look beyond the functionality provided to users and to consider the business model behind the creation of online communities by users. In order to finance the typically free provision of social networking features to users, social network providers sell targeted advertising services. Social networks can be seen as platforms or intermediaries enabling advertisers and users to interact. Companies bringing different customer groups together are referred to as two-sided, or in case more than two groups of customers are present, multisided businesses. The essential feature which makes a business multi-sided is the existence of an indirect network effect between the customer groups (Evans, 2003, pp. 331–333; Filistrucchi, Geradin, & Van Damme, 2013, pp. 37–39). Network effects occur when the utility that a customer derives from consumption of a good or service increases with the number of consumers purchasing the same good or service. A network effect is either direct when a product or service becomes more valuable as the number of users grows, or indirect when the increasing number of users of a good leads to more complementary products or services that raises the value of the network (Katz & Shapiro, 1985, pp. 424–425). In the case of

¹ In January 2012, the European Commission adopted a proposal for a General Data Protection Regulation that would replace Directive 95/46 which was adopted in 1995 and needed to be updated in order to adequately deal with technological developments that have brought new challenges for the protection of personal data.

Please cite this article as: Graef, I. Mandating portability and interoperability in online social networks: Regulatory and competition law issues in the European Union. *Telecommunications Policy* (2015), http://dx.doi.org/10.1016/j. telpol.2015.04.001

I. Graef / Telecommunications Policy I (IIII) III-III

multi-sided businesses, the 'indirectness' of the network effect does not relate to the complementarity of products but to the connection between the different sides of the platform. The term 'cross-side' network effect is also used to denote that the strength of one side of the platform has an impact on the growth of another side (Weyl, 2010, p. 1644). A distinction has to be made between the 'ordinary' type of indirect network effect that points to the complementarity of products in one-sided markets and the 'peculiar' type of network effect that is often also simply referred to as indirect network effect but which reveals the multi-sidedness of a business (Van Loon, 2012, p. 27). Therefore, the term 'multi-sided network effect' will be used in this article to refer to a network effect that crosses customer groups in multi-sided platforms.

2.2. Room for competition in the market for online social networks

The multi-sided network effect occurring in social networks concerns the additional value that advertisers derive from the platform as the number of users on the other side increases resulting in a positive feedback loop. The larger the audience to which their advertisement is displayed, the higher the probability and number of purchases of the advertised item will be.² Markets in which multi-sided businesses operate are typically quite concentrated, since it is necessary to have a critical mass of customers on both sides before the platform can be successfully launched. The market for online social networks, for example, is largely dominated by a single player, namely Facebook. The same goes for the search engine market in Europe where Google is said to hold a dominant position in the market for online search as well as online search advertising (European Commission, 2013).³ As each side of the platform and the corresponding multi-sided network effect grows, it becomes more difficult for competing platforms to gain a foothold in the market. Due to product differentiation and heterogeneity of customer preferences, a number of platforms will still be able to coexist in the market. Furthermore, customers may use several platforms simultaneously (Evans & Noel, 2005, pp. 120–124). Nevertheless, multi-sided network effects and scale economies tend to limit the number of viable firms in a market (Evans & Noel, 2008, p. 13). Direct network effects and switching costs may lead to a further entrenchment of the strong position of successful platforms (Shelanski, 2013, pp. 1682–1684). As soon as an undertaking possesses significant market power, it becomes of heightened interest to competition authorities.

Multi-sided platforms are common in the digital industry which is one of the areas on which the European Commission has focused its competition enforcement activities over the last decade. After competition investigations involving computer hardware and operating systems targeting Microsoft, Intel and IBM, the Commission has recently examined the legality of Google's online practices relating to its search engine under European competition law (European Commission, 2015a). Facebook, the predominant social network provider in a relatively concentrated market, may be the next digital company coming under the scrutiny of the Commission. Although several potential competition issues may be identified in online social networking (Gebicka & Heinemann, 2014; Waller, 2012; Yoo, 2012), this article focuses on two concerns which also occurred in the telecommunication sector, namely portability and interoperability. The purpose of the parallel with telecommunications is to analyse if any lessons can be drawn from the approach applied there for the social networking sector. In telecommunications, the European Commission addressed the portability and interoperability concerns by imposing regulation applicable to all providers instead of by competition enforcement targeting only the dominant firm in the market. The question can therefore be raised whether the introduction of a similar form of regulation may resolve potential competition issues related to portability and interoperability in social networks. In the Digital Single Market Strategy for Europe that the European Commission adopted in May 2015, reference is made to the lack of interoperability and data portability between services in general as representing a barrier for the cross-border flow of data and the development of new services. The Commission indicated that it will propose a European 'Free flow of data' initiative that may also tackle these issues in 2016 (European Commission, 2015b, p. 14-15). The aim of the analysis in this article is to consider what remedies may be appropriate once regulatory or competition law intervention in the social networking sector is deemed necessary. In both telecommunications and social networking, switching costs and network effects lead to portability and interoperability concerns. However, in the social networking sector these economic characteristics relate to a different type of asset, namely personal data instead of 'mere' technology (Butts, 2010, pp. 290–291), which may give rise to additional complexities for devising remedies.

3. Competition law enforcement versus regulation

Before discussing the potential portability and interoperability concerns in online social networks, it is useful to have a look at the differences between competition law enforcement and regulatory intervention in the European Union in general.

² Manne and Wright specify that the strength of this network effect should be determined on the basis of the quality and not the quantity of users. In their view, advertisers on search engines may not value an increase in users that only look for information and do not buy the products or services they advertise. For this reason, advertisers would only care about the other side of the platform to the extent that its size corresponds with increased sales (Manne & Wright, 2010, pp. 208–209). A similar argument can be made for social networks.

³ In the context of the ongoing competition investigation into Google's search practices, the European Commission stated that it 'has concerns that Google may be abusing its dominant position in the markets for web search, online search advertising and online search advertising intermediation in the European Economic Area (EEA)' (European Commission, 2013).

4

ARTICLE IN PRESS

3.1. Scope of application of the abuse of dominance regime

The relevant branch of European competition law applicable to situations in which a single undertaking has used its market power in an anticompetitive way is the abuse of dominance regime of Article 102 of the Treaty on the Functioning of the European Union (TFEU). This article prohibits abusive behaviour of dominant undertakings. The European Court of Justice defined dominance as 'a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers' (United Brands, 1978, para. 65). Market share can be an indicator of dominance. The larger the market share, the more likely the finding of dominance. Case law of the European Court of Justice has made clear that very large market shares of 50% or higher are in principle in themselves evidence of the existence of a dominant position (Akzo Chemie, 1991, para. 60; Hoffman-La Roche, 1979, para. 41).⁴ For lower market shares, the presence of additional circumstances, such as economies of scale, barriers to entry and control of infrastructure not easily duplicated, is necessary to find dominance (European Commission, 2002, para. 78). Furthermore, in dynamic markets such as the social network environment, large market shares may not necessarily be indicative of market power due to the fast-growing nature of the market and the existence of short innovation cycles (Cisco and Messagenet v. Commission, 2013, para. 69).

After a dominant position in the market is found, the abuse has to be established. A dominant position in itself or the achievement thereof is not prohibited, although a dominant firm has 'a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market' (Compagnie Maritime Belge, 1996, para. 106; Michelin, 1983, para. 57; Tetra Pak, 1994, paras. 114–115). Several types of abusive behaviour can be distinguished. Article 102 TFEU contains the following non-exhaustive list of abusive conduct: (a) imposing unfair prices or other unfair trading conditions; (b) limiting production, markets or technical development to the prejudice of consumers; (c) applying dissimilar conditions to equivalent transactions with other trading parties; and (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which have no connection with the subject of such contracts. As will be further discussed below, a refusal of a dominant social network provider to facilitate data portability or interoperability may constitute a form of exclusionary abuse under Article 102(b) TFEU. In order to address the abusive conduct, the European Commission is entitled to impose remedies on dominant undertakings such as a duty to ensure data portability or interoperability (Art. 5 and Para. 1 of Art. 7, Regulation 1/2003, 2002).

3.2. Regulatory intervention

While competition law enforcement under Article 102 TFEU takes place on an *ex post* basis after the anticompetitive behaviour has occurred, the introduction of regulation enables intervention *ex ante* before potential harmful conduct may materialize. Another difference is that regulatory intervention is not in itself limited to situations in which dominance and abuse can be established. The scope of application of regulation can be as broad or narrow as the legislator decides. The room for regulatory intervention is thus potentially much wider than the scope of competition law enforcement. Irrespective of its scope, the introduction of regulation does not, in principle, prevent the concurrent enforcement of European competition rules in the same sector. The *Deutsche Telekom* case, which dealt with a so-called margin squeeze in the telecommunication sector, can serve as an illustration of this statement.

Deutsche Telekom, the German incumbent telecom operator, tried to justify its potential abuse of dominance by relying on the fact that its behaviour was regulated by the German telecommunication regulator on the basis of sector-specific telecommunication regulation. Deutsche Telekom was obliged to provide competitors with local access to its network. The national regulatory authority had fixed the wholesale prices it could charge its competitors and the retail tariffs for end consumers were subject to a price cap. In its 2003 decision, the European Commission concluded that Deutsche Telekom had abused its dominant position by charging prices to its competitors for wholesale access to its local loop network that were higher than its own retail tariffs to end consumers thereby preventing competitors from generating a profit from their retail services (Deutsche Telekom, 2003). The European Court of Justice argued that, although wholesale prices were set by the German regulator, the margin squeeze was attributable to Deutsche Telekom, since it had sufficient scope to adjust the retail prices it charged to its end users, notwithstanding the fact that those prices were subject to some form of regulation (Deutsche Telekom, 2010, para. 183). The Deutsche Telekom case thus makes clear that the fact that a sector is regulated does not mean that it is immune from competition law intervention as long as the applicable regulation leaves room for autonomous conduct.

4. Data portability as solution to user lock-in in online social networks

One of the concerns relating to online social networks that has attracted a lot of attention from scholars, is the inability of users to move their data (friend lists, status updates, photo uploads, etc.) to another social network (Swire & Lagos, 2013; Waller, 2012, pp. 1789–1790; Yoo, 2012, pp. 1154–1155). Although social networking sites have made progress in enabling users to export

⁴ In the Guidance Paper on Article 102 TFEU, the Commission states that 'experience suggests that dominance is not likely if the undertaking's market share is below 40% in the relevant market' (European Commission, 2009, para. 14).

Please cite this article as: Graef, I. Mandating portability and interoperability in online social networks: Regulatory and competition law issues in the European Union. *Telecommunications Policy* (2015), http://dx.doi.org/10.1016/j. telpol.2015.04.001

I. Graef / Telecommunications Policy I (IIII) III-III

5

their data, there are still considerable limits on the direct transfer of personal information to other platforms. While both Facebook and Google+ offer users to a certain extent the possibility to export their data by obtaining a copy,⁵ transferring a profile to a competing service requires a lot of time and effort, in particular because the data is not extracted in a format that can be easily imported into another social network. Moreover, social network providers do not allow third-party sites to directly acquire the user's information. For instance, Facebook blocks Google Chrome's extension for exporting friends.⁶ As a result, in practice users have to manually re-enter their profile information, photos, videos and other information in the new platform if they want to switch from one social network to another.

4.1. Data portability and data protection regulation

By limiting the possibility for users to transfer their data to a competing service, social network providers are creating switching costs. Due to switching costs, consumers can become locked-in to a given service. In such a situation, the costs of changing to another service are so high that users will stay with their current service provider (Zanfir, 2012, p. 152). In the case of social networks, this would entail that because of the limitations that social network providers put on the portability of user data, users will find it too cumbersome to switch to another service. Instead, they will stay with the online social network they joined first, even if they prefer another networking site. The fact that the numerous changes made to the privacy policies of social networks like Facebook have not led to a direct decline in activity in spite of the fierce opposition that these changes have sometimes caused on the part of the users, may form an indication of the high degree of lock-in in online social networks (Waller, 2012, pp. 1791–1792).⁷

In January 2012, the European Commission published a proposal for a General Data Protection Regulation that could remedy the problem of user lock-in in the context of social networks. In the proposal, a "right to data portability" was introduced that would enable users 'to *transfer data from one electronic processing system to and into another*' (General Data Protection Regulation, 2012, p. 9). The European Parliament adopted several amendments in March 2014 a few of which also target the right to data portability. In particular, the applicability of the right to data portability was made dependent on whether direct transfer of personal data is '*technically feasible and available*' (General Data Protection Regulation, 2014).⁸ The proposal for a General Data Protection Regulation is currently being discussed in the Council which will negotiate with the European Parliament and the European Commission on the final text to be adopted.

Depending on the final form of the right to data portability, it would enable users of online social networks to transfer their contacts, photos, videos and status updates to another networking site. A Facebook user would, for instance, be entitled to ask Facebook to transfer his or her profile directly to Google+, instead of downloading the data from Facebook him- or herself and uploading it again to Google+. Social networks would only be one example of a system to which the new right would apply. It will also address other forms of cloud computing and web services (Swire & Lagos, 2013, pp. 337–338). An example different from that of social networks is the transfer of documents or files consisting of personal data such as photos that a user has uploaded into a cloud storage service. In this context, the right to data portability would enable users to move this information to a competing cloud storage service directly without having to download the data, save it onto their own devices and upload it again to a new service.

4.2. Comparison with number portability in telecommunications

The right to data portability has a number of similarities with number portability as introduced in the European Union telecommunication sector. Number portability enables telephone users to retain their telephone number when changing from one telecom operator to another. A customer wishing to port his or her number has to contact the new operator who will arrange the technical issues with the former operator. EU telecommunication legislation specifies that porting of numbers and their subsequent activation has to take place against a cost-oriented price and within the shortest possible time which is interpreted as maximum one working day (Art. 30, Directive 2002/22, 2002). This is comparable to the right to data portability according to which the user is entitled to ask his or her current service provider to transmit the data directly to the new provider. A difference between the two legislative instruments concerns the way in which the requirement to transfer the number or data is framed. While the proposal for a General Data Protection Regulation gives users a right to data portability under certain circumstances, under telecommunication regulation a duty is imposed in general on all telephone providers to enable number portability.

 ⁵ Facebook offers the "Download Your Info" feature (https://www.facebook.com/help/131112897028467) and Google has the "Google Takeout" service (https://support.google.com/accounts/answer/3024190?rd=1).
 ⁶ Under Facebook's Terms of Services on Safety, Facebook prohibits automatic collection of user content: 'You will not collect users' content or

^b Under Facebook's Terms of Services on Safety, Facebook prohibits automatic collection of user content: 'You will not collect users' content or information, or otherwise access Facebook, using automated means (such as harvesting bots, robots, spiders, or scrapers) without our prior permission' (https://www.facebook.com/legal/terms).

⁷ Although a direct effect after the implementation of new privacy policies is not visible, studies indicate that the growth of Facebook has been gradually declining and may decrease further in the next years (Cannarella & Spechler, 2013; Cauwels & Sornette, 2012).

⁸ In addition, the right to data portability which is included in a separate article in the Commission's proposal (Art. 18, General Data Protection Regulation, 2012) is merged with the right of access in the version of the proposal amended by the European Parliament (Para. 2a of Art. 15, General Data Protection Regulation, 2014).

6

ARTICLE IN PRESS

I. Graef / Telecommunications Policy I (IIII) III-III

The underlying objectives of the two legal regimes are also different. Whereas number portability was imposed in order to facilitate consumer choice and effective competition in the telecommunication market (Recital 47, Directive 2002/22, 2002), the main objective of the right to data portability as proposed in the General Data Protection Regulation is to give users more control over their personal data and to build trust in the online environment (European Commission, 2012, p. 43). At the same time, the right to data portability may also reduce lock-in and stimulate effective competition by enabling users to switch easily between social networking sites. Unlike the situation in the telecommunication sector, data protection concerns arise in addition to the competition related issues of data portability because of the personal character of the data that has to be ported. As a piece of data protection legislation, the proposal for a General Data Protection Regulation logically focuses on addressing data protection concerns. Two different legal regimes thus come together in data portability issues on online social networks: competition law and data protection law. While there is a broad consensus in the European Parliament that data portability is a data protection issue, several EU Member States in the Council have expressed the view that portability is rather a tool to enhance competition and therefore falls outside the ambit of data protection legislation (Council of the European Union, 2014b, footnote 1 on p. 3). It thus remains to be seen whether the right to data portability will survive the negotiations in the Council and will be included in the final version of the General Data Protection Regulation.

When devising regulatory intervention for data portability issues, it is necessary to determine the range of data which is subject to the portability requirement. For number portability in telecommunications, the material scope of application was straightforward: the telephone number of the customer wishing to switch to another operator. In the case of data portability, the boundaries of the object, i.e., the data, that has to be transferred are not clear at the outset. As a result, there is a need to determine to what range of data the right to data portability would apply. In this perspective, the proposal for a General Data Protection Regulation refers to 'personal data provided by the user'. Personal data is defined as 'any information relating to an identified or identifiable natural person ('data subject')'. The identification can take place 'directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, unique identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social or gender identity of that person' (Para. 2 of Art. 4, General Data Protection Regulation, 2012). The fact that only information provided by the user him- or herself falls within the scope of the right to data portability may have peculiar practical consequences. As a user of an online social network you will only be able to port that part of your personal data that you have provided to the network yourself. Even though information uploaded to the social networking site by others may qualify as your personal data, you are not able to transfer it when you would like to switch providers. For example, you will not be entitled to ask for the transfer of pictures displaying you but uploaded to the social networking site by other users. Messages about you posted by others on your profile page will also not be subject to the right to data portability. An additional complexity is that the transfer of data of a particular user under the right to data portability may affect the interests of other users (Costa & Poullet, 2012, p. 257). The part of a profile of a departing user that is linked to the profiles of other users ceases to exist or will not be updated anymore. To illustrate: messages that you have posted on profiles of other users may disappear after the switch resulting in gaps in the communication visible on the personal pages of the users with whom you interacted.⁹ It is unclear how these messages that you are entitled to take with you can be made visible on your new social network if the users to which you addressed the posts do not have a profile there.

Furthermore, other legal regimes such as privacy and intellectual property law may pose limits on the data that can be transferred by a particular user. Other users may not necessarily agree to the transfer of messages or content relating to them that you posted on the social network which leads to privacy issues (Grimmelmann, 2009, p. 1193). The same concern occurs in case of the transfer of a picture in which several individuals appear. Enabling a user to move this picture to another social network may infringe the privacy rights of the others. Intellectual property law issues may occur in case a licence prohibits the user from copying content such as photos. Social networking sites themselves may also impose restrictions on what data can be downloaded invoking their intellectual property rights (Swire & Lagos, 2013, p. 348). Since personal data on social networking sites typically relates to multiple users and may be subject to intellectual property protection, additional complexities have to be dealt with in devising regulation for data portability that were not at issue in the legislator to guarantee that risks such as data misuse and identity theft are kept to a minimum (Swire & Lagos, 2013, p. 373–375; Weiss, 2009). Although security measures ensuring that a telephone number is only ported on request of the rightful customer were also at stake in the telecommunication sector, security risks for data portability are more significant due to the quantity of data that can be transferred at once and the personal nature of the data.

Another issue that has to be considered in the process of setting up regulation enforcing data portability is the adoption or development of technical standards to make it possible for data extracted from one social network to be seamlessly inserted into another (Wahyuningtyas, 2015, pp. 61–66). Under the Commission's proposal for a General Data Protection Regulation, Article 18(3) empowers the European Commission to specify the '*technical standards, modalities and procedures for the transmission of personal data*' under the right to data portability. However, it can be questioned whether the Commission is in the right position to determine the standards and procedures for the data to be transferred. Considering the different design features of social networks, it could become difficult, if not impossible, to come up with a format that

⁹ This is presupposing that the data that will be ported has to be deleted from the former social network and not merely copied to the new social network.

Please cite this article as: Graef, I. Mandating portability and interoperability in online social networks: Regulatory and competition law issues in the European Union. *Telecommunications Policy* (2015), http://dx.doi.org/10.1016/j. telpol.2015.04.001

I. Graef / Telecommunications Policy [(IIII) III-III

would ensure that all the transferred data is displayed in the same way as in the social network from which the data was extracted (Yoo, 2012, p. 1155). For example, differences exist as to the way in which content and messages are displayed on the personal page of users in different social networks. The Commission would then have to decide which features will be standardized. In amendments to the proposal, members of the European Parliament tackled this issue by leaving it to the social network providers themselves to agree upon standard formats. In the amended text, Article 18(3) is deleted and the following sentence is added to the recital that is renumbered as recital 55: '*Data controllers should be encouraged to develop interoperable formats that enable data portability*' (General Data Protection Regulation, 2014).

Criticism has been expressed that the right to data portability risks reducing dynamic efficiency and lowering incentives to innovate by placing a disproportionate burden on small companies (Swire & Lagos, 2013, pp. 350–358). In situations where a user of a small start-up social network wishes to move his or her data to the incumbent networking site in the industry or the other way around, the large social network may impose the form of the transfer which would force the small social network to make complex and costly adjustments to align the process of data transmission with that of the incumbent firm. In the view of the Council, this concern can be addressed by setting minimum common technical standards, modalities and procedures. However, according to the Council these should not be included in the General Data Protection Regulation itself, as this will defeat its technological neutrality which may render it difficult to reconcile the Regulation with future developments in the social networking industry (Council of the European Union, 2014a, p. 3). While industry participation in setting the technical standards and procedures for data transmission is important for ensuring that sufficient room is available for social network providers to innovate, additional guarantees may be necessary in order to make sure that incumbent providers do not dictate the way in which the data should be transferred. The newly to be set up European Data Protection Board¹⁰ composed of the head of each national data protection authority and of the European Data Protection Supervisor, who oversees the data processing activities of the EU institutions, may facilitate this process by issuing guidelines, recommendations and best practices on how to implement the right to data portability (Para. 1(b) of Art. 66, General Data Protection Regulation, 2012).

While the introduction of number portability in the telecommunication sector has enhanced competition and reduced switching costs, the situation in the online social network environment is more complicated. Technical standards have to be developed to ensure that data portability can be effectively implemented in practice. Since such measures may affect the way in which the data is presented in social networks this process is more complex than in the telecommunication sector. The application of a portability requirement in the social networking industry is also more far-reaching considering that social network providers have gathered, organized and kept the data whereas telephone numbers in the telecommunication sector are assigned by public authorities and are not further invested in by telecom operators. As telecom operators merely allocate users a certain telephone number that has been assigned to them by a public authority, the only issue to be tackled is how quickly and against which price users should be able to port their number. A requirement for data portability may thus have a more adverse effect on the incentives of social network providers to invest in the collection of user data, as users may transfer their profile to a competitor. On the other hand, this can also be a competitive advantage as providers could receive data of users wishing to join their social network.

Another complicating factor in social networking is the personal nature of the data to be transferred which brings about data protection and privacy issues in addition to competition concerns. The situation in the telecommunication sector was much simpler, as a telephone number, contrary to personal data, can only belong to one customer and its transfer to another telecom operator does not affect the interests of other individuals or leads to interaction with other legal regimes such as intellectual property. For these issues that need to be addressed when designing regulation for data portability issues, no lessons can be drawn from the telecommunication sector.

4.3. Data portability and European competition law

If introduced, the new right to data portability will not only serve a data protection purpose, but will also address competition related access issues in online social networks. By improving access of individuals to their personal data, the right to data portability has a competition law dimension. In a speech, the former Commissioner for Competition argued that the proposed right to data portability 'goes to the heart of competition policy' since '[c]ustomers should not be locked-in to a particular company just because they once trusted them with their content'. He also made clear that '[w]hether this is a matter for regulation or competition policy, only time will tell' (Almunia, 2012b). It, therefore, cannot be excluded that the European Commission will also take action on the basis of competition law if a dominant firm does not allow users to take their data with them when switching services (Geradin & Kuschewsky, 2013, p. 11).

The on-going investigation of the European Commission against Google provides evidence for this statement. One of the concerns expressed by the Commission in the *Google* case relates to the limitations that Google imposes on the portability of advertising campaigns on Google's AdWords advertising platform. The Commission is particularly concerned that Google puts 'contractual restrictions on software developers which prevent them from offering tools that allow the seamless transfer of

¹⁰ Once the General Data Protection Regulation enters into force, the European Data Protection Board will replace the current Article 29 Working Party which acts as an independent advisory body for data protection matters and consists of representatives of the national data protection authorities as well as a representative of the European Data Protection Supervisor and the European Commission (Art. 29, Directive 95/46, 1995).

Please cite this article as: Graef, I. Mandating portability and interoperability in online social networks: Regulatory and competition law issues in the European Union. *Telecommunications Policy* (2015), http://dx.doi.org/10.1016/j. telpol.2015.04.001

I. Graef / Telecommunications Policy I (IIII) III-III

search advertising campaigns across AdWords and other platforms for search advertising' (Almunia, 2012a). This situation is comparable to the inability of users of online social networks who want to move their profile to a different platform. Instead of a social network, the platform in the *Google* case is an online advertising system. The relevant customers are advertisers who would like to transfer their advertising campaigns to a different advertising platform.

Restrictions on data portability may lead to liability under the abuse of dominance regime of Article 102 TFEU. A lack of data portability may lead to entry barriers for competitors and breach Article 102(b) TFEU by limiting markets and technical development to the prejudice of consumers (Geradin & Kuschewsky, 2013, p. 11; Yoo, 2012, pp. 1154–1155). In case a social network provider is found to possess a dominant position on a given market, a refusal to ensure data portability which excludes competitors and for which no objective justification exists would qualify as abusive conduct. In such a situation, the European Commission can impose a duty on the dominant social network provider to give users the possibility to transfer their data to a competitor. The difference with the proposal for a General Data Protection Regulation in this regard is that the proposal gives users a right to data portability, while competition authorities can impose a duty on dominant service providers to facilitate data portability on the basis of Article 102 TFEU. In addition, the scope of application of the two regimes is different. The right to data portability only applies to transfers of personal data. Information that does not qualify as personal data falls outside the scope of the new right, while action under competition law can potentially be taken against a lack of portability of all data irrespective of whether it relates to an identified or identifiable natural person. The scope of application of competition law in this regard is thus much wider. However, action on the basis of Article 102 TFEU can only be taken if the restrictions on data portability gualify as abuse of dominance. In contrast, the right to data portability would apply generally. No dominance or abuse will have to be established in order for users to be able to transfer their data between services under the General Data Protection Regulation.

Although no lessons may be drawn from the telecommunication sector on how to define the scope of a requirement to provide for data portability, a parallel can be made with regard to the role of competition law in a regulated sector. The goal of telecommunication regulation in the EU is to ensure that competition in the sector will develop so that the regulation can be gradually reduced and telecommunications can eventually be governed by only competition law. Regulatory obligations may therefore only be imposed where no effective competition is present (Recital 5, Directive 2009/140, 2009). Competition enforcement thus works as a safety net that can be relied upon in case regulation does not adequately tackle certain market distortions. In the social networking sector, a similar role may be given to competition law if the right to data portability is adopted and implemented.

The fact that data portability can also be regarded as a competition issue does not have to be a reason for the European legislator to refrain from adopting regulation in the data protection field. Data protection regulation for ensuring data portability seems appropriate in order to ensure that users of online social networks gain control over their data. The right to data portability can thus be put in the context of the fundamental right to data protection in Article 8 of the Charter of Fundamental Rights and the reference to the protection of personal data as a principle of EU law in Article 16 TFEU (Zanfir, 2012, p. 152). Issues falling out of the scope of the right to data portability and qualifying as competition concerns under Article 102 TFEU can be solved by way of competition enforcement. Concurrent application of the two regimes is all the more appropriate considering the difference in goals which is absent in the telecommunication sector.

With regard to the effect of the enforcement of data portability, it has been argued that privacy concerns may occur because data relating to other users can be transferred to a social network that does not necessarily have the same level of privacy protection as the site into which the data was initially inserted. On this ground, the claim is made that mandatory data portability will lead to a 'privacy race to the bottom' (Grimmelmann, 2009, p. 1194). However, the enforcement of data portability also opens the market for new companies which may start to attract users by providing a more privacy-friendly service.¹¹ Furthermore, the development of the telecommunication sector provides evidence that a portability requirement stimulates competition and addresses lock-in. The same can therefore be expected from the implementation of a requirement of data to a new service they may still feel reluctant to leave a social network when their friends are not coming with them and they lose their connection with them. Data portability may therefore not be sufficient for addressing the switching costs and lock-in. In this perspective, an obligation to provide for interoperability between social networks may be considered comparable to the one adopted in the telecommunication sector (Hornung, 2012, p. 74).

5. Interoperability as remedy to network effects in online social networks

Interoperability can be defined as 'the ability to transfer and render useful data and other information across systems, applications or components' (Palfrey & Gasser, 2012, p. 5) and concerns the extent to which systems or products can communicate and work together. Interoperability between online social networks would enable users to connect with each other irrespective of their social network provider. Social network interoperability therefore goes one step further than enabling data portability between social networks. Data portability permits users to move their profile to another social network, but does not allow users to reach someone that is not on the same social network. While Facebook, for instance, enables users to send messages to "traditional" email systems such as Hotmail, Yahoo! or Gmail and vice versa, it is not

¹¹ See Casadesus-Masanell & Hervas-Drane (2013, p. 4) who 'expect consumers to become increasingly familiar with privacy tradeoffs in the marketplace'.

I. Graef / Telecommunications Policy I (IIII) III-III

9

possible to post materials on someone's Facebook page without having a Facebook profile. Full social network interoperability would thus, for example, enable a Google+ user to upload pictures or post messages on someone's Facebook page directly without having to create a profile on Facebook. A lighter version of interoperability enabling users to view each other's profile on other social networks without giving them the possibility to upload information to rival websites seems ineffective in practice considering that communication and interaction among users is at the core of the functionality that social networks offer to users.

5.1. Network effects in online social networks

The imposition of interoperability requirements between social networks will redress the network effects that are present in this market. As already explained above, a network effect arises if the value of a product or service increases with the total number of consumers using it. This characterization also applies to online social networks. The number of users and the variety of personal information that they have uploaded about themselves are an important source of direct and indirect network effects (Waller, 2012, pp. 1787–1788). As the number of users and the amount of information on the social network increases, it becomes more valuable for its users. While network effects are beneficial to users in the short term by increasing consumption utility, they also make it easier for undertakings to achieve a dominant position and to reinforce barriers to entry which may have negative effects on competition and innovation in the long run (Harbour & Koslov, 2010, p. 778).

However, network effects will not be limited to a specific social network anymore when several platforms are interoperable. If the online social networks of two providers are compatible, users of both systems benefit from the combined user base and the increased network effects. Enabling interoperability between social networks could therefore be a way to redress network effects and increase competition in the market. In addition, switching costs and the degree of user lock-in will be reduced. In particular, the social lock-in of users will be addressed, since the number of people that a user can reach is not limited anymore to the number of users on the social network that the user decided to join. Social network interoperability enables users to switch services without losing their social networks, users that switch to another networking site will still be able to contact their friends who decided to stay with the former service. For example, when a user would leave Facebook for a smaller and less well-known social network he or she could still remain in touch with his or her Facebook friends through the new platform. As a result, it will not be necessary for users anymore to join the social network of their friends or more generally, the social network that has the most users. Instead, users can join the social network of their preference (Waller, 2012, p. 1789).

5.2. Interoperability and European competition law

Competition authorities have already been called upon to impose interconnection requirements on social network providers (Brown & Marsden, 2013, pp. 190–191). However, competition authorities can only intervene on an *ex post* basis (with the exception of merger review). Before the European Commission, or a national competition authority, would be entitled to impose interoperability remedies on the basis of current European competition rules, it would need to establish that the social network provider at issue is abusing its dominant position on a given market by denying interoperability with other social networks. The *Microsoft* case illustrates that interoperability can be a competition problem. In its 2004 decision, which was confirmed by the General Court in 2007 (Microsoft, 2007), the European Commission found that Microsoft abused its dominant position in the market for client PC operating systems by denying to share interoperability information with competitors (Microsoft, 2004).

Without considering if and in which market current social network providers like Facebook could be found dominant, it is questionable whether competition law is the most suitable instrument to ensure interoperability between online social networks. On the basis of Article 102 TFEU, it would only be possible to impose interconnection requirements in specific situations. For enabling effective interaction between all social networking sites, interconnection requirements should be imposed in general on all social networks and in all situations. If interconnection obligations would be applied solely to the dominant social network provider, interoperability would only be available between the largest social network and the other networking sites in the market. No interconnection would exist among the latter non-dominant social networks. Therefore, 'real' interoperability can only be established when all social network providers are obliged to participate in the process.

5.3. Interoperability and regulation

A comparison can be made with the telecommunication sector where interoperability was imposed on all providers by way of regulation on a EU level. In one of the Directives of the regulatory framework that formed the basis for the liberalization of the telecommunication market in the European Union in January 1998, a provision was included that obliged operators of public communications networks to ensure interconnection of their networks in order to enable users on different networks to communicate with each other. The regulatory framework for interoperability in telecommunications is based on the principle that undertakings receiving requests for interconnection to their network should negotiate and conclude agreements on a commercial basis for the purpose of ensuring the provision of communication services throughout the European Union. Operators of public communications networks have a right, and when requested by other

I. Graef / Telecommunications Policy I (IIII) III-III

undertakings, an obligation to negotiate interconnection with each other (Para. 1 of Art. 4, Directive 97/33, 1997).¹² However, the need for social network interoperability seems to be less compelling than interconnection between public communications networks. One of the recitals to the Directive states that '*it is necessary to ensure adequate interconnection within the Community of certain networks and interoperability of services essential for the social and economic well-being of Community users*' (Recital 5, Directive 97/33, 1997). Considering the numerous alternatives that people these days have at their disposal to communicate with each other, interoperability of online social networks does not seem to be necessary for ensuring the social and economic well-being of users in the European Union. Instead, interconnection between online social networks may serve a different goal namely the advancement of effective competition in the online social network environment. Even if data portability would be imposed through regulation or competition enforcement users may still feel locked-in to their current social network for social reasons because they will not be able to keep in touch anymore with the contacts staying with the former social network. A duty to provide for interoperability is the only way in which this type of lock-in can be adequately addressed and effective competition will be stimulated to the fullest.

Nevertheless, the situation of social network interoperability is more complicated than that of network interoperability. The peculiarity of interoperability between networks is that a user can utilize the network of a provider with which he or she does not have a contractual relationship. For public communications networks this is not problematic, since the relationship between the user and the third party provider stops as soon as the phone call ends. The user pays his or her own provider for the call and the providers arrange amongst themselves for payment of the use of the networks. However, for online social networks the situation is more complex. When a user would post materials, for example a picture, on a friend's page on a different social network, the relationship between the user and the third party provider does not end after the upload. As long as the picture remains visible on the social networking site, the user and third party provider are in a legal relationship. Because of the complexities relating to personal data, several issues should be addressed before regulation can be adopted and implemented for establishing interoperability between social networks.

Furthermore, a potential regulatory intervention for establishing interoperability between social network providers would also have to address the jurisdictional issues resulting from the non-EU nature of most providers. For competition enforcement and the proposal for a General Data Protection Regulation this issue does not have to be addressed as both regimes already have mechanisms in place ensuring that European authorities have jurisdiction over undertakings providing services to European consumers but based outside the European Union. As for the competence of the European Commission in competition cases, two approaches can be distinguished. The first approach evolved from the Woodpulp cases in which the European Court of Justice held that the decisive factor for the determination of jurisdiction is the place where the behaviour is implemented (Woodpulp, 1988, para. 16). The second approach is based on the qualified effects of the relevant practices in the European Union and was applied in the Gencor case in which the General Court established that application of European competition law is justified when an immediate and substantial effect in the EU is foreseeable (Gencor v. Commission, 1999, para. 90). In the Intel judgment, the General Court made clear that these two approaches or doctrines are alternative so that for the European Commission to have jurisdiction it is sufficient to establish either the qualified effects of the practice in the EU or that the practice was implemented in the EU (Intel v. Commission, 2014, paras. 236 and 244). Under either approach, potential restrictions on data portability imposed by social network providers based outside the European Union would fall under the jurisdiction of the Commission as both the implementation and the effects of the practice occur in the EU.

With regard to the territorial scope of the proposal for a General Data Protection Regulation, Article 3(1) states that the rules apply to the processing of personal data in the context of the activities of an establishment of an undertaking in the European Union 'whether the processing takes place in the Union or not'.¹³ So even if the principal seat of the undertaking lies outside the EU, the Regulation will be applicable as long as the company at issue also has established a subsidiary within an EU Member State regardless of where the data processing takes place. Facebook is thus caught by this provision, since it has an Irish subsidiary. According to Article 3(2) which deals with the extraterritorial application of the Regulation, the data protection rules also apply to the processing activities are related to the offering of goods or services to users in the Union, irrespective of whether a payment of the user is required.¹⁴ This provision can be relied upon in case an undertaking does not have any presence in the EU while offering services to European users. Because of the broad geographical scope, social network providers offering their services to users in the European Union will always be subject to the right to data portability regardless of where they are established.

If regulation for ensuring interoperability between social networks would be adopted, measures have to be established for ensuring the extraterritorial application of the interconnection requirement. If this is not taken into account, the regulatory intervention will be rendered useless as social network providers can avoid application of the regulation by establishing themselves outside the European Union. Although telecommunication providers may operate networks in several Member States, they usually have a subsidiary in every country in which they are active. This is unlike the situation

¹² This provision can now be found in Directive 2002/19 (Para. 1 of Art. 4, Directive 2002/19, 2002).

¹³ The latter phrase is added as a result of an amendment made by the European Parliament (Para. 1 of Art. 3, General Data Protection Regulation, 2014).
¹⁴ The explicit reference to free services has been included by the European Parliament (Para. 2a of Art. 3, General Data Protection Regulation, 2014).
Under the proposal of the European Commission reference is made to an additional basis for extraterritorial application in case the processing activities are related to the monitoring of behaviour of users in the European Union (Para. 2b of Art. 3, General Data Protection Regulation, 2012).

in the social networking sector where market players like Facebook are globally active which makes the extraterritorial scope of regulation a necessity.

6. Conclusion

Two potential competition issues can be identified in social networking that have also occurred in the telecommunication sector. In both industries, switching costs and network effects give rise to portability and interoperability concerns. In the telecommunication sector, these issues have been addressed by way of regulation leading to obligations of number portability and public communications network interoperability applicable to all telecom operators. Although similar concerns may occur in the social networking sector, the situation is more complex due to the fact that the potential competition problems do not merely relate to technology, like in telecommunications, but involve personal data of users. As a result of the personal nature of the data that is at stake, data protection and privacy considerations have to be considered when devising remedies for the social networking industry.

The issue of data portability in social networks has already attracted the attention of policy makers. In the proposal for a General Data Protection Regulation, the European Commission introduced the right to data portability with the objective to give internet users more control over their data. While the new right seems fit to achieve this goal, its scope of application may be too limited to address the more competition related issues of switching costs and lock-in resulting from a potential anticompetitive lack of data portability. Under the right to data portability, a user would only be able to ask for the transfer of data that leads to his or her identification. The scope of application of competition law in this regard is broader in the sense that action can be taken against a lack of portability of all data irrespective of whether it relates to a particular user. Nevertheless, competition enforcement is limited to cases where a refusal to facilitate data portability qualifies as abuse of a dominant position. The right to data portability, in contrast, applies to all social network providers regardless of whether they are dominant in a given market and whether their behaviour amounts to abuse. Considering these differences in scope and underlying objectives, concurrent application of the two regimes in the social networking sector seems appropriate to effectively remedy potential data portability issues. Whereas the regulatory approach applied in the telecommunication sector illustrates that a portability requirement leads to a more competitive market, no lessons can be drawn from telecommunications for determining the scope of a regulatory intervention in social networking with regard to the type of data that has to be transferred and how one should deal with the interests of other users in terms of privacy legislation. These issues as well as the interaction of the right to data portability with intellectual property protection still require further consideration.

Although mandatory data portability would make it easier for users to switch social networking providers, they may still be reluctant to leave their current provider when their contacts do not join them in their move to the new platform. This type of social lock-in as well as the network effects present in social networks which may give rise to interoperability issues, can only be adequately addressed by way of the imposition of interconnection obligations. Under such a form of regulation users would be able to connect and interact with each other irrespective of their social network provider. Since Article 102 TFEU only enables the imposition of obligations on a dominant undertaking that abuses its position, competition enforcement cannot ensure an effective level of interconnection between all social networking sites. Therefore, regulation is necessary in order to ensure that interconnection requirements apply to all social networking providers and not just to the dominant one. Unlike in the telecommunication sector where interoperability between public communications networks was deemed necessary for the social and economic well-being of users in the European Union, interconnection between online social networks would serve to advance effective competition in the market. In addition to the difference in objectives, other issues have to be addressed in the social networking sector that were not at stake in telecommunications including legal issues relating to the relationship between users which upload content to a social network where they do not have a profile as well as the question of jurisdiction considering the non-EU nature of most social network providers.

Regulatory intervention would make an end to the "walled gardens" that currently characterize the predominant online social networks. Although a requirement for data portability and interoperability may affect the business model of these providers that depend on their closed user base for attracting advertisers, such obligations will encourage new firms to enter the market leading to more competition and consumer choice as well as better protect the interests of users in the field of data protection. New policy and regulatory initiatives of the European Commission such as the Ditigal Single Market Strategy adopted in May 2015 may indicate how the interplay between the interests of social network providers and users will be further shaped in the European Union. In any case, online social networks are unlikely to escape from the attention of regulators in future policy discussions.

References

Akzo Chemie (1991). Case C-62/86 Akzo Chemie [1991] ECR I-3359.

Almunia (2012b). Vice-President of the European Commission responsible for Competition Policy Almunia. Competition and personal data protection, speech given at the Privacy Platform event: Competition and Privacy in Markets of Data in Brussels, 26 November 2012. Available at (http://europa.eu/rapid/press-release_SPEECH-12-860_en.htm); Accessed 05.02.15.

boyd, d. m., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. Journal of Computer-Mediated Communication, 13(1), 210–230.

Almunia (2012a). Statement of Commissioner Almunia on the Google antitrust investigation. Press room Brussels, 21 May 2012. Available at: (http://europa.eu/ rapid/press-release_SPEECH-12-372_en.htm); Accessed 05.02.15.

I. Graef / Telecommunications Policy [(IIII) III-III

Brown, I., & Marsden, C. T. (2013). Regulating code: Good governance and better regulation in the information age. Cambridge, MA: MIT Press. Butts, C (2010). The Microsoft case 10 years later: Antitrust and new leading "new economy" firms. Northwestern Journal of Technology and Intellectual Property, 8(2), 275–291.

Cannarella, J., & Spechler, J. A. (2013). Epidemiological modeling of online social network dynamics. ArXiv, 1-11.

Casadesus-Masanell, R., & Hervas-Drane, A. (2013). Competing with privacy. Harvard Business School Working Paper 13-085 October 2013. Available at http://www.hbs.edu/faculty/Publication%20Files/13-085_95c71478-a439-4c00-b1dd-f9d963b99c34.pdf; Accessed 05.02.15.

Cauwels, P., & Sornette, D. (2012). Quis Pendit Ipsa Pretia: Facebook valuation and diagnostic of a bubble based on nonlinear demographic dynamics. The Journal of Portfolio Management, 38(2), 56–66.

Cisco and Messagenet v. Commission (2013). Case T-79/12 Cisco Systems Inc. and Messagenet SpA v. Commission, judgment of 11 December 2013, not yet reported.

Compagnie Maritime Belge (1996). Joined cases T-24-26 & 28/93 Compagnie Maritime Belge Transports v. Commission [1996] ECR II-1201.

Costa, L., & Poullet, Y. (2012). Privacy and the regulation of 2012. Computer Law & Security Review, 28(3), 254–262.

Council of the European Union (2014a). Council of the European Union, Interinstitutional File: 2012/0011 (COD), 5879/14, 31 January 2014.

Council of the European Union (2014b). Council of the European Union, Interinstitutional File: 2012/0011 (COD), 10614/14, 6 June 2014.

Deutsche Telekom (2003). Commission decision Deutsche Telekom AG [2003] OJ 2003, L 263/9.

Deutsche Telekom (2010). Case C-280/08P Deutsche Telekom AG [2010] ECR I-9555.

Directive 95/46 (1995). Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ 1995, L 281/31.

Directive 97/33 (1997). Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP), OJ 1997, L 199/32.

Directive 2002/19 (2002). Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), OJ 2002, L 108/7 as amended by Directive 2009/140.

Directive 2002/22 (2002). Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive), OJ 2002, L 108/51 as amended by Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009, OJ 2009, L 337/11.

- Directive 2009/140 (2009). Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services, OJ 2009, L 337/37.
- European Commission (2002). Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ 2002, C 165/6.

European Commission (2009). Communication from the Commission – Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, OJ 2009, C 45/7.

European Commission (2012). Commission Staff Working Paper — Impact Assessment accompanying the General Data Protection Regulation and the Directive on the protection of individuals with regard to the processing of personal data by competent authorities for the purposes of prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and the free movement of such data ("Impact Assessment report"), SEC(2012) 72 final.

European Commission (2013). Press Release. Antitrust: Commission seeks feedback on commitments offered by Google to address competition concerns, 25 April 2013. Available at (http://europa.eu/rapid/press-release_IP-13-371_en.htm); Accessed 05.02.15.

European Commission (2015a). Press Release. Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android, 15 April 2015. Available at http://europa.eu/rapid/press-release_IP-15-4780_en.htm; Accessed 13.05.15.

European Commission (2015b). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A Digital Single Market Strategy for Europe, 6 May 2015, COM(2015) 192 final.

Evans, D.S (2003). The antitrust economics of multi-sided platform markets. Yale Journal on Regulation, 20(2), 325–381.

Evans, D. S., & Noel, M. (2005). Defining antitrust markets when firms operate two-sided platforms. Columbia Business Law Review, 101-134.

Evans, D. S., & Noel, M. (2008). Competition and regulatory policy for multi-sided platforms with applications to the web economy. SSRN Working Paper. Available at (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1090368); Accessed 05.02.15.

Facebook/WhatsApp (2014). Case no. COMP/M.7217 - Facebook/WhatsApp, 3 October 2014.

Filistrucchi, L., Geradin, D., & Van Damme, E. (2013). Identifying two-sided markets. World Competition, 36(1), 33–59.

Gebicka, A., & Heinemann, A. (2014). Social media & competition law. World Competition, 37(2), 149–172.

Gencor v. Commission (1999). Case T-102/96 Gencor v Commission [1999] ECR II-753.

General Data Protection Regulation (2012). European Commission, Proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), COM(2012) 11 final. General Data Protection Regulation (2014). European Parliament, amendments on the proposal for a General Data Protection Regulation. Available at (http:// www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2014-0212); Accessed 05.02.15.

Geradin, D., & Kuschewsky, M. (2013). Competition Law and Personal Data: Preliminary Thoughts on a Complex Issue. SSRN Working Paper. Available at (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2216088); Accessed 05.02.15.

Grimmelmann, J (2009). Saving Facebook. Iowa Law Review, 94, 1137-1206.

Harbour, P. J., & Koslov, T. I. (2010). Section 2 in a Web 2.0 World: An expanded vision of relevant product markets. *Antitrust Law Journal*, 76(3), 769–797. Hoffman-La Roche (1979). *Case 85/76 Hoffman–La Roche* [1979] ECR 461.

Hornung, G. (2012). A general data protection regulation for Europe? Light and shade in the Commissions Draft of 25 January 2012. *Scipted*, *9*(1), 64–81. Intel (2014). *Case T-286/09 Intel Corp.* v *European Commission*, 12 June 2014, not yet reported.

Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. American Economic Review, 75(3), 424–440.

Manne, G. A., & Wright, J. D. (2010). Google and the limits of antitrust: The case against the case against Google. Harvard Journal of Law & Public Policy, 34(1), 171-244

Michelin, (1983). Case 322/81 NV Nederlandsche Banden Industrie Michelin v. Commission of the European Communities [1983] ECR 3461.

Microsoft (2004). Commission Decision Microsoft [2004] OJ L32/23.

Microsoft (2007). Case T-201/04 Microsoft v. Commission [2007] ECR II-3601.

Palfrey, J., & Gasser, U. (2012). Interop: The promise and perils of highly interconnected systems. New York: Basic Books.

Regulation 1/2003 (2002). Council Regulation 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2002], OJ L1/1.

Shelanski, H.A (2013). Information, innovation, and competition policy for the Internet. *University of Pennsylvania Law Review*, *16*(6), 1663–1705. Swire, P., & Lagos, Y. (2013). Why the right to data portability likely reduces consumer welfare: Antitrust and privacy critique. *Maryland Law Review*, *72*(2),

335–380. vine, r., & Lagos, Y. (2013). Why the right to data portability h

Tene, O (2013). Me, myself and I: Aggregated and disaggregated identities on social networking services. Journal of International Commercial Law and Technology, 8(2), 118–133.

Tetra Pak (1994). *Case T-83/91 Tetra Pak International SA v Commission of the European Communities* [1994] ECR II-00755. United Brands (1978). *Case 27/76 United Brands* [1978] ECR 207.

Van Loon, S. (2012). The power of Google: First mover advantage or abuse of a dominant position?. In Lopez-Tarruella (Ed.), Google and the Law. Empirical approaches to legal aspects of knowledge-economy business models (pp. 9–36). The Hague: T.M.C. Asser Press.

I. Graef / Telecommunications Policy I (IIII) III-III

Wahyuningtyas, S. Y. (2015). Interoperability for data portability between social networking sites (SNS): The interplay between EC software copyright and competition law. Queen Mary Journal of Intellectual Property, 5(1), 46-67.

Waller, S. W. (2012). North Carolina Law Review. Antitrust and social networking, 90(5), 1771-1806.

Weyl, E.G (2010). A price theory of multi-sided platforms. *American Economic Review*, 100(4), 1642–1672. Weiss, S (2009). Privacy threat model for data portability in social network applications. *International Journal of Information Management*, 29(4), 249–254. Woodpulp (1988). Joined Cases 89/85, 104/85, 114/85, 116/85, 117/85 and 125/85 to 129/85 Ahlström Osakeyhtiö and Others v Commission ('Woodpulp') [1988] ECR 5193.

Yoo, C.S (2012). When antitrust met Facebook. George Mason Law Review, 19(5), 1147-1162.

Zanfir, G (2012). The right to Data portability in the context of the EU data protection reform. International Data Privacy Law, 2(3), 149-162.