Facets of Facebook

Use and Users

Edited by
Kathrin Knautz and Katsiaryna S. Baran

DE GRUYTER
SAUR

ISBN 978-3-11-041935-1
e-ISBN (PDF) 978-3-11-041816-3
e-ISBN (EPUB) 978-3-11-041820-0

Library of Congress Cataloging-in-Publication Data
A CIP catalog record for this book has been applied for at the Library of Congress.

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

publiziert von Walter de Gruyter GmbH, Berlin/Boston
Typesetting: fidus Publikations-Service GmbH, Nördlingen
Printing and binding: CPI books GmbH, Leck
♾ Printed on acid-free paper
Printed in Germany

www.degruyter.com

Kaja J. Fietkiewicz*, Elmar Lins

Chapter 11. New Media and New Territories for European Law: Competition in the Market for Social Networking Services

Abstract: Competition (or antitrust) law regulations around the world are supposed to maintain open competition on the economic markets through a series of national or international regulations and their enforcement by authorities. In the digital age, new (online) markets emerge and some stakeholders may be concerned whether present regulations and practices of national cartel offices, i.e. the national competition regulators, are still suitable. The focus of this chapter is on social networking services (SNSs), as an example of a new medium, and the question whether the current European competition law is sufficient to control these new and rapid developments. The market for consumer communication services (CCS) as well as aspects of data privacy are also addressed. The legal perspective on this matter will be complemented with an analysis in view of information science and economic theories. Here, such aspects as direct and indirect network effects, or standards established on the relevant markets are significant. It is possible these network effects will have a noticeable influence on the development of monopolies or oligopolies in the SNSs market. Furthermore, SNSs that in recent years became more or less standards appear to have strengthened their position by broadening their offerings spectrum through internal enhancements and acquisitions of other companies.

These practices may be also relevant in the legal debate. In terms of the competition law, the first step is determining if there are potential monopolies or oligopolies within the SNSs market, how they emerge, and how persistent they are. For this purpose, the relevant market must be defined. Should one company have a monopoly position and abuse this power in any way, consequences under the cartel law, particularly under Article 102 from the Treaty on the Functioning of the European Union (TFEU) will follow. The second step is investigating if another aspect of the competition law – merger control – should become more relevant (and more rigid) for the SNSs market now and in the future. For this purpose, the recent agreement between Facebook and WhatsApp will be discussed and the

***Corresponding Author: Kaja.Fietkiewicz**, Department of Information Science, Heinrich-Heine-University Düsseldorf, Germany, Kaja.Fietkiewicz @hhu.de.
Elmar Lins, Riesner Endowed Professorship in Entrepreneurship & Entrepreneurial Finance, Heinrich-Heine-University Düsseldorf, Germany.

(approving) decision of the European Commission (EC) analyzed. Moreover, the most important aspects of the European merger regulation and its lack of compatibility with data privacy protection will be addressed. Finally, a conclusion regarding the compatibility of (European and German) cartel offices' current practices with the new market for SNSs will be offered.

Keywords: Competition Law; Antitrust Law; Social Network Services; Facebook; WhatsApp.

Introduction to Social Media Markets

In the last decade, social media rapidly became an inevitable part of the Internet and, hence, of everyday life. Their variety and capabilities continue increase at an incredible pace. Following Linde and Stock (2011, p. 261), we observe four submarkets of social media: 1) sharing services allowing for the depositing of certain types of resources to share with other users; 2) social bookmarking services for managing resources; 3) knowledge bases for collecting documents and making them available to others; and 4) social networking services (SNSs) for communicating with other members of the community. It also appears in each social media (product and geographic) submarket, for the most part, one service dominates in either a European economic area (EEA) or at the global level. Some examples are YouTube as a video sharing service, Delicious as a social bookmarking service, Wikipedia as a collaborative online encyclopedia (knowledge-based submarket), or Twitter as a microblogging-oriented SNS.

Facebook is the leader for SNSs at almost a global level (some national SNSs are similar to Facebook, e.g., Renren in China or VKontakte in Russia and several other East European countries) (Baran, Fietkiewicz, & Stock, 2015). Other important players on the (global) digital market are Google for search engines (or Yahoo, e.g., in Japan), eBay for auctioning platforms, and Amazon for online bookselling. Considering the above, a question suggests itself: Does the Internet drive market monopolization and, respectively, is the digital economy characterized by high market concentration (Baran, Fietkiewicz, & Stock, 2015; Haucap & Heimshoff, 2014)? How do monopolies emerge on an information market, and can current competition law keep up with the new challenges (Baran, Fietkiewicz, & Stock, 2015; Graef, 2013; Waller, 2012)? This chapter will focus on the SNSs market, in particular, on Facebook. It will also address the customer communication services (CCS) market, in particular, WhatsApp, as part of the Facebook/WhatsApp transaction analysis.

Table 1: Facebook Ad Revenues (in Billions USD). Source: Statista, 2015.

Year	Revenue
2012	4.3
2013	6.99
2014	11.35
2015*	14.93
2016*	18.18

With reference to Boyd and Ellison (2007), we define SNSs as "web-based services that allow individuals to 1) construct a public or semipublic 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" (p. 211). Facebook was founded by Mark Zuckerberg in 2004. It employs about 9,200 people and has around 890 million daily active users all over the world (average for December 2014) (Facebook, 2015). Facebook is also an online advertisement provider, realizing high revenues that continue to increase (see Table 1).

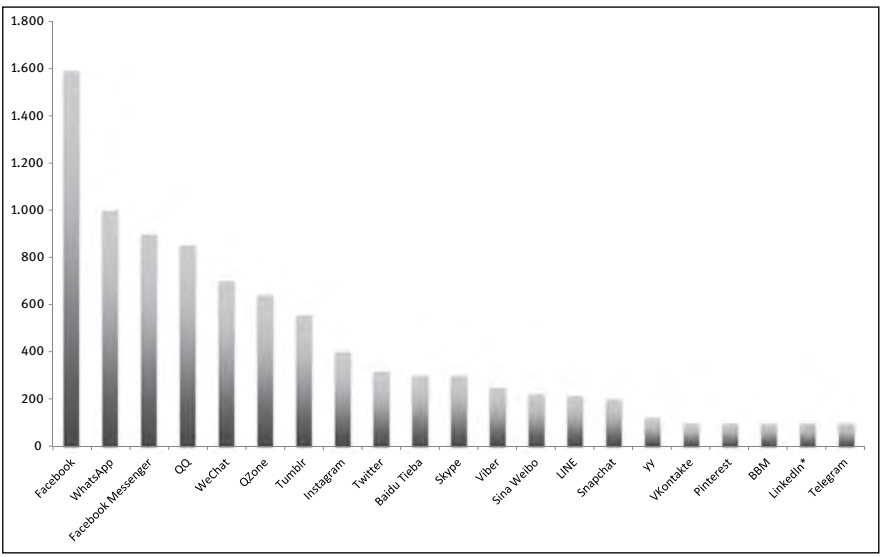

Figure 1: SNSs Ranked by Number of Users (in Millions) as of April 2016. Source: Statista, 2016.

Since its launch, Facebook has gained a powerful, if not monopolistic, position in the social media market. The range of Facebook users is far broader than observed on other online services, including SNSs and communication applications (e.g., WhatsApp, Skype, or Line) (see Figure 1). The distribution of power, or rather its concentration in one market player, may be explained with network effects applicable to this kind of online service, explained in the following section. A high concentration of market power can lead to its abuse as well as to a distortion of competition in individual cases. Due to so-called multihoming effects (i.e., use of numerous online services simultaneously) also characteristic in this sector, however, such monopolistic tendencies are not perceived to be as detrimental as they would be in other industries. In addition, we will examine economic rules applicable to the digital economy in the following section. Afterward, we will turn to the European competition law and its compatibility with the social media industry, especially SNSs such as Facebook.

Economic Perspective on Competition for SNSs

Schumpeterian Economics of Innovation

In each social media submarket, we generally can identify one service occupying a nearly monopolistic market position, leaving only limited space for competitors to grow. A crucial twofold question arises from the competition policy perspective: Why, in particular, do these Internet-based companies have such a huge market share, and is this phenomenon temporary? In the following, we will highlight the theoretical background of the emergence of monopolies from the Schumpeterian perspective in the context of SNSs to better distinguish between the economic life cycle of innovative firms and anticompetitive behavior.

Schumpeter regarded technological innovations as the most recognizable appearance of innovation that is not continuously distributed in time, defining it as "the setting up of a new production function" (Schumpeter, 1939, p. 84). Yet in contrast, innovations occur by leaps that disturb and upend the existing equilibrium and generate erratic growth (Kuznets, 1940). Schumpeter's theory of economic business cycles is based on a waveform process of economic developments under capitalism. Furthermore, he does not consider technological uncertainty as a necessary factor for the evolutionary process of economic business life cycles, but instead theorizes those waveform developments are caused by supply changes based on irregular technological changes. Such life cycles are the major catalysts of economic growth, but they vary in terms of industry, content, and

time span, such as the short Kitchin inventory cycle (3–4 years), the Juglar fixed investment cycle (6–8 years), and the Kondratieff long wave cycle (45–60 years) (Korotayev & Tsirel, 2010; Kuznets, 1940).

Early in the life cycle of an industry – when technology is changing rapidly, uncertainty is high, and entry barriers are low – new, young firms are the major drivers of innovation and a key element of industrial dynamics (Wiklund et al., 2010). They create economic discontinuities and an entrepreneurial environment conducive to introducing innovation and monopoly developments (Kuznets, 1940). If an entrepreneur or a small company aims to innovate to earn monopoly profits, it must identify unexplored markets in which low entry barriers are prevalent, so it can constantly drive the process of internal and external innovations. The growth of internal resources and knowledge stock enables firms to operate globally, to use economies of scale and a monopoly position to create high entry barriers (Scherer & Ross, 1990), as well as to further influence industry life cycles (Klepper, 1996; Schumpeter, [1954] 1994, p. 897 f.) and market structure (Agarwal, Sarkar, & Echambadi, 2002).

Firm development differs with respect to sector and industry specifics, which are particularly obvious when comparing the manufacturing sector with that of the service. Firms operating in manufacturing industries usually rely more on tangible assets, such as raw materials, machines, automobiles, and production plants. Economies of scale are limited for manufacturing firms, meaning the average total costs rise at relatively modest output levels (Posner, 2001). Further, those industries can be characterized by a modest rate of innovative activities due to the necessity of heavy capital investments, and slow and infrequent entry barriers (Posner, 2001). In comparison, service industries and particularly online services lack these characteristics to a considerable extent. Instead, they can be characterized by falling average costs at the product level, modest capital requirements to develop business operations, high innovative activities with a faster market entry, and economies of scale in consumption, which are so-called *network effects* (Posner, 2001).

In economics, the process known as "creative destruction" was defined by Schumpeter as the transformations of firms and industries through a destruction of the old, which allows for a creation of the new (Schumpeter, 1942, ch. 7). The development of Internet technology, which became publicly and commercially available in the 1990s, can be seen as an example of such a dramatic shift. Soon after the economic potential of the Internet was revealed, a large number of Internet companies, the so-called *dotcoms*, emerged and begin to conduct business via the new electronic medium (Wang, 2007). When considering the development of information technology and, in particular, the online market in the late 1990s, we can observe rapid changes that reached their first peak at the end of the 1990s;

these also were characterized by enormous stock price increases, followed by a turning point in spring 2000. An abrupt decline occurred, which was marked by the bursting of what was termed the *dotcom bubble*. Stocks in the dotcom sector began to fall, bottoming out in mid-2001, when 384 dotcom companies closed their doors or declared bankruptcy (Florian et al., 2001). One reason for the crash was the immaturity of technology, in terms of slow Internet connections and restricted Internet access. However, only a few years later, both the number of Internet users and Internet speed had increased significantly, which is one potential reason Internet companies, such as Google, could see their stock double in price within a few short months. Amid this period, Facebook emerged in 2004 and soon achieved its dominant position in the SNSs market.

Such dominancy is typically observed in *winner-take-all* markets, whereby a company can achieve a quasi-monopolistic position (Fjell, Foros, & Steen, 2010). Besides gaining a monopoly by implementing radical improvements in performance dimensions, if a company introduces innovative products or services, this entails even greater disruption. Such a change can occur, for example, when a company offers consumers more than they actually need or thought themselves willing to pay for (Dietl & Royer, 2000). As a result, for example, consumers who once might have bought laptops based solely on the machines' processing power, become moved to consider entirely different functional capabilities, such as battery life, design, or weight (Galvan et al., 2008, p. 59). Entire product categories can thus be shaped, developed, launched, and established when companies can change consumer perceptions of value and price for the product offered.

Changing the basis of competition is not the only factor necessary to create a winner-take-all situation. Other factors, such as the presence of a consumer *lock-in*, are necessary to establish a profitable winner-take-all situation (Dietl & Royer, 2000; Liebowitz & Margolis, 1995). A lock-in can be described as a situation in which a consumer is not willing to change to another product due to high switching costs (Shy, 2000). Switching costs occur when many complementary parts of a network must be substituted. In the case of network specific and limited complementary parts, switching costs are relatively high, as the user perceives a high value loss when turning to another network. Besides this economic explanation, a behavioral-scientific explanation also serves to interpret the lock-in effect. From this cognitive theory perspective, consumer learning costs increase switching costs and thus, exit barriers. As a result, the consumer is bound in a position of dependence and limited freedom of decision. Therefore, the lock-in effect serves as a consumer loyalty instrument (Zauberman, 2003).

Not only can the adaptation of products or services lead to a lock-in and thus, to a strategic advantage, but also the timing of a product or service launch plays a role. This aspect is particularly relevant when considering innovations. A market

pioneer's position, clearly observed when launching an innovative product or service, offers both advantages and disadvantages (Lieberman & Montgomery, 1998). When examining so-called first-mover advantages, benefits derived from being the first to *enter* the market exceed the costs of being the first to *explore* new market areas. A first-mover must deal with significant uncertainty regarding consumer response and technological developments. Second-movers or early followers can learn from the market pioneer and avoid mistakes by entering the market with improved products or services. However, early followers must offer improved products or services to lure away the first-mover's consumers. Additionally, a first-mover usually enjoys consumer loyalty, a distribution network, and an established product line (Robinson & Min, 2002). Therefore, the period between the entries of a first- and a second-mover are particularly important from a Schumpeterian perspective, because the longer a market pioneer can dominate a relevant market in a monopoly position before the entry of followers, the greater its advantage.

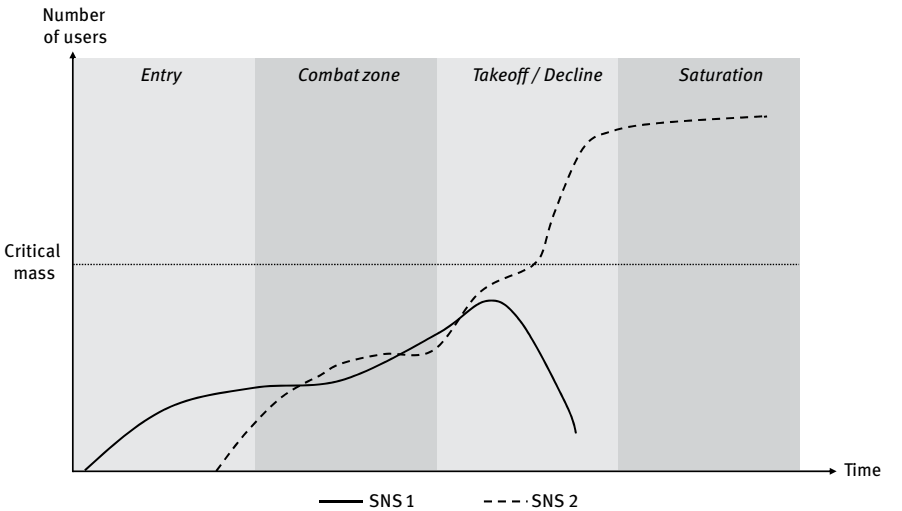

Figure 2: Typical Development on SNS Markets. Source: Following Dietl and Royer, 2000.

MySpace.com, the pioneer in SNS platforms, was able to reach a temporarily dominant position in SNSs market with more than 50 million unique U.S. visitors in May 2006 (comScore, 2006). With regard to Schumpeter, the online environment in the 2000s was characterized by rapid changes, and the raw concept of an SNS did not fit neatly into this development of online social networking and users expectations. However, Facebook – an early follower – was able to adapt quickly

to rapid changes, when expanding from its inception at Harvard University to colleges around the world and ultimately to open its services to everyone. Facebook's site design was clear, uniform, and standardized across all users, which provided a satisfying user experience (Safar & Mahdi, 2011, p. 112). By 2008, Facebook had overtaken MySpace, and as the dominant SNS, has grown increasingly relevant to become one of the largest SNS platforms worldwide (comScore, 2008).

Considering several SNSs after their market entry, we observe a successful network trespass the critical mass of users within a winner-take-all market after some point (see Figure 2). At this position, network effects are particularly relevant. Direct network effects (Linde & Stock, 2011, pp. 53–57) can be derived from the number of consumers, or users for an SNS, respectively, since an increase in the number of users is associated with an increase in the network's value. Indirect network effects (Linde & Stock, 2011, pp. 57–60) occur as consumer- or user-independent effects, such as the number of complementary products. Both direct and indirect network effects support the development of a quasi-monopoly and the establishment of the superior network as an industry standard.

Importance of Network Effects for SNS

In the context of SNSs, indirect network effects occur when product or services with more complementary products or services create higher benefits and greater demand (Lin & Bhattacherjee, 2008). Hence, the more complementary products an SNS offers, such as supporting tools, the more and better are users able to express themselves and maintain interactions with others, thereby giving users greater benefits (Lin & Lu, 2011). For instance, users of SNSs profit from the service functions of photos, videos, and message sharing to present and express themselves, share information, and interact with other users of the network in various ways. While it can be difficult to determine the impact of indirect network effects on certain SNS, we believe indirect network effects are particularly strong for Facebook due to the large number of user applications, such as games developed by Zynga, a provider of social games for social networking platforms (Schiesel, 2011). Complementary social gaming providers have become increasingly important for Facebook as they generate a large share of the company's revenue (Raice, 2012). For instance, 66 million Facebook users played Zynga's game *Sims Social* in September 2011 and shared gaming results with their friends (Schiesel, 2011).

Previous studies have analyzed network effects for SNSs to examine and explain information technology users' behavior as consumers (Gupta & Mela, 2008; Kim & Lee, 2007). Direct network effects originally were observed in a physical communications network (e.g., telecommunication networks between

two parties) (Rohlfs, 1974). Users of the network receive increasing returns in consumption, which expands with the number of consumers who can communicate over a certain two-way communication network. Thereof, network providers might receive increasing returns to scale in their production. The extension of network size appears to attract additional new consumers due to an increase of perceived value: The larger the expected network size, the more valuable the network (David, 1985), which is in line with Metcalfe's law suggesting that a network's overall value can be increased with the square of the number of users (Shapiro & Varian, 1998). However, positive network effects are only prevalent as long as network overcrowding is avoided.

Direct network effects derive from the perception that an increasing number of people are using a particular product or service. Thus, a user's benefit increases due to market size effects, which, for SNSs, are directly applicable to network size. If the network size increases, more elaborate conditions need to be provided to make the product or service more convenient to use (Katz & Shapiro, 1994). Such upgrades might involve additional resources, content, or functions to enhance the user experience. In addition, users can also benefit from the increasing knowledge or social support a large network offers, as well as that a large number of users can be interpreted as a signal a certain service is easy to use (Katz & Shapiro, 1994).

When arguing in favor of Facebook monopolizing social networking, we observe this SNS reached a critical user mass circa 2008 and thus was poised for immense growth potential afterward (*Takeoff*, see Figure 2) (comScore, 2011). On the one hand, in 2008, Facebook surpassed its main competitor, MySpace.com, in terms of user numbers, as well as being able to *generate a lock-in* effect that increased the perceived switching costs. MySpace, on the other hand, lost a large share of its users as a result (*Decline*, see Figure 2) (comScore, 2011). From that point, Facebook could constantly enforce its dominant position within the market for SNSs by generating direct network effects.

Previous studies have also identified indirect network effects. These generally occur when people use complementary devices of a certain network system, even if the devices are not physically connected. Such systems can be any combination of a durable product or service offering some desired functions. This type of system can be illustrated with the hardware/software paradigm, which includes not only computer products, but also camera and film devices, as well as television sets and other offerings (Katz & Shapiro, 1994). Consumers/users of compatible hardware and software systems form a so-called *virtual network* (Katz & Shapiro, 1985, 1994). Theoretically, any combination of complementary products or services can be seen as a system, constituted by the people who purchase a certain group of products. Herein, indirect effects are obtainable when these

system components are purchased at different times. Haucap and Wenzel (2009) describe in detail the characteristics of two-sided markets and the indirect effects on other platforms, such as eBay.

Nonetheless, network effects and Facebook's adaptability will not necessarily protect it – even as the present dominant SNS – from competitors. Arguing against the perception of Facebook monopolizing social networking, Facebook was able to overtake MySpace. The former, a start-up founded by students, ultimately came to dominate the latter, which up to that moment, had been the world's most popular SNS with a large number of users in 2008–2011, along with a contract to provide $900 million of advertising space to Google (Potter, 2013, p. 111). In addition, MySpace had dominated the market for SNSs between 2005 and 2007, at an even greater rate than Facebook does today (comScore, 2006). Breaking through the barrier of network effects, as Facebook did with MySpace, is a difficult task but – with regard to Schumpeter – apparently only a matter of time.

Economics of Information

Particular online platforms tend to dominate their relevant market and leave only limited space for competitors to operate and grow. Such platforms are able to gather large numbers of users on their websites and retain their personal information. If an SNS has a dominant or even quasi-monopolistic position, it can monetize user data, thereby increasing its revenues and enforcing entry barriers against competitors. The monopolist might have too little incentive to concern itself with users' privacy demands, and it could further erode privacy practices in exchange for greater income by directly reselling user's personal information and contact data (Levmore et al., 2010, p. 247). As a result, users might choose to switch to an alternative SNS, but would do so only once the costs/value of their privacy outweigh the perceived benefits offered by the original SNS.

In addition, it is interesting to consider to whom information might be made available. Information a user shares is obviously available within an SNS itself. The user may not fully know or comprehend the extension time of data or their durability, as well as their membership extension (Gross & Acquisti, 2005). Furthermore, ease of joining and extending a user's network and the lack of adequate security policies make it easy to access users' information with the collaboration of the SNS (Gross & Acquisti, 2005). In the case of Facebook, the company has already used its market dominance to impair user privacy. In December 2009, Facebook deprived user control over pictures, contact information, and friend lists, and made these data publicly available (Levmore et al., 2010, p. 255).

However, the numbers of users continued to climb to new heights, reflecting the general trend for SNS users to cede control over their private information (comScore, 2011; Levmore et al., 2010, p. 255).

Even if privacy concerns may constitute a risk in an SNS, users provide the information willingly. Different aspects affect users' willingness to reveal their data in SNS. The most important ones include signaling, which reflects the perceived benefit of selectively revealing personal information to strangers may outweigh any perceived costs of possible privacy invasions (Gross & Acquisti, 2005). Other reasons might be peer pressure or herding behavior, a lack of interest in SNS privacy issues, incomplete information about the usage of the revealed data, or even trust in the SNS and its users to use the information appropriately (Gross & Acquisti, 2005).

When considering the possibility of a regulatory regime applying specific privacy protections for SNS users, government-mandated protection might be either too great or too little. It might be difficult for a regulatory regime to assess which information to protect and how much data users are willing to reveal, and which parts they want to retain control over (Levmore et al. 2010, p. 247). A regulator cannot accurately predict user demands, and must weigh the costs and benefits of various privacy policies and seek to develop an efficient economic approach to maximize the welfare gain. Another problem for a regulator might be the opportunity for a dominating SNS with a quasi-monopoly position to charge monopoly "fees" in a number of areas in addition to privacy issues, for instance, providing suboptimal SNS features or prices above competitive levels when selling user information, which would require additional regulatory solutions (Levmore et al. 2010, p. 247). Furthermore, government-mandated protection for SNSs faces the problem of rapid changes in this particular sector. New technologies or adaptations of business models are implemented both to and for SNSs on a frequent basis, which is why such a regime would need to constantly scrutinize its protection schemes in terms of effectiveness and usefulness, adjust its policies accordingly.

Social Media and Competition Law

Introduction to European Competition Law

The tendency for monopolies to dominate on information markets is very provocative, particularly as it concerns the European Union's (EU) competition law (Fatur, 2012). Reference is made to Article 102 of the TFEU, which states: "Any

abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States" (EC, 2008a, Article 102). Another central rule the European antitrust policy is based on is Article 101 of the TFEU prohibiting "agreements between companies which prevent, restrict, or distort competition in the EU and which may affect trade between Member States" (EC, 2008a, Article 101). The language encompasses two kinds of agreements – horizontal (between actual or potential competitors) and vertical (between firms operating at different levels) (EU, 2013a). For the present, anticompetitive agreements do not appear to be urgent issues in information market areas. The abuse of dominance by monopolistic online service providers may be a more relevant problem. Regarding our study, we mainly focus on merger control as it relates to the agreement between Facebook and WhatsApp reached in February 2014.

Moreover, Article 102 of the TFEU states the law "prohibits abusive conduct by companies that have a dominant position on a particular market" (EU, 2013b). Hence, to fall within the scope of this article, the concerned company must hold a dominant position in a specific market. The European Commission (EC) must first assess whether this prevails and define the relevant product market ("made of all products/services which the consumer considers to be a substitute for each other due to their characteristics, prices, and their intended use") as well as the relevant geographic market (as an "area in which the conditions of competition for a given product are homogenous") (EU, 2013b). A critical indicator for a company's dominant position is its share of the predefined market. If the share is less than 40 %, then dominance is rather unlikely (EU, 2013b). In addition to market share, other factors are considered, such as market entry barriers (for new companies), the existence of countervailing buyer power, or the company's overall size and strength (EU, 2013b).

A dominant position per se is not illegal, and a company must "abuse" its power by, for example, forcing buyers into exclusive purchasing agreements, setting prices at a loss-making level (to eliminate competition), or, in contrast, charging excessive prices (EU, 2013b). Recent cases concerning the digital market/web portals in general handled by the EC regarding the abuse of dominant position, for example, have been proceedings taken against Google. The investigation followed complaints about unfavorable treatment of search service providers in Google's unpaid and sponsored search results as well as preferential placement of Google's own services (EC press release IP/10/1624).

In this chapter, we examine the acquisition of WhatsApp by Facebook, which is a case for EU merger control with its legal basis in Council Regulation (EC) No. 139/2004 (EC, 2010). Uncontrolled mergers and acquisitions of companies can

change a distinct market into a monopoly (or oligopoly) and limit competition. However, not all mergers are controlled by the EC, since they have to be characterized by the *EU dimension*; namely, a planned merger must reach a certain turnover threshold in at least three member states. Involved companies must notify the EC about any pending merger with an EU dimension before the process can be finalized. In the first phase, the EC has 25 working days to analyze the agreement and can either clear the merger (unconditionally or subject to accepted remedies) or, when the proposed merger raises competition concerns, open the second phase of the investigation (EU, 2013c). The second phase requires more time to process as it involves more extensive information gathering, more detailed questionnaires to market participants, and so forth. The EC has 90 working days to make a final decision about the merger, a period that may be extended by an additional 15 working days, and subsequently, by up to 20 working days (on request or approval by the notifying parties). Finally, the EC may either unconditionally clear the merger (or approve it as subject to remedies) or prohibit it (EU, 2013c).

The Internet Economy's Challenges for the Current Legal System

In the Internet economy, many business models are based on the use of personal data, with the most popular being Google and Facebook (Monopolkommission, 2014, p. 52). It is characteristic for the digital economy that "(...) for many online offerings which are presented or perceived as being 'free,' personal information operates as a sort of indispensable currency used to pay for those services. As well as benefits, therefore, these growing markets pose specific risks to consumer welfare and to rights to privacy and data protection" (European Data Protection Supervisor, 2014, p. 6). From the information economy's inception, "personal data has been its most valuable asset" and, therefore, "an open conflict [has arisen] between [the] business demand for data and [the personal] desire for privacy" (Spiekermann & Novotny, 2015, p. 181). The relationship between SNS providers and platform users can be seen as a civil contract, based on the providers supplying information technology performance (the social network) and consumers agreeing to the use of their private data for commercial purposes (advertising) (Bräutigam, 2012, p. 635). Bräutigam (2012, p. 640) compares this "licensing"-like granting of the use of private information to the type of licensing known from copyright law. Bräutigam (2012) thus views recent developments as a commercialization of the right to informational self-determination (in the German legal system, a fundamental right to the free disposition of one's private data). He even anticipates the idea of collective societies managing compensation interests (for

use of private information), as is commonly done for managing copyright and related rights (Bräutigam, 2012, p. 641).

Data Privacy and Competition Law

Many legal concerns exist concerning the issue of data privacy on the digital market. One is the extent of the Internet's impact and its illimitability; hence, the need has arisen for a global uniform regulation of privacy issues in order to ensure its effectiveness. The German Monopolies Commission[1] defined three main problematic issues in terms of (Internet) companies' excessive personal data access: 1) data security (i.e., unlawful elicitation, storage, and use of personal data); 2) competition (i.e., the abusive exploitation of a databased economic position of power), and 3) consumer protection (i.e., the exploitation of a corporate entity's powerful position vis-à-vis consumers) (Monopolkommission, 2014, p. 60).

One of the most important competitive factors in the Internet-based industry is information about consumers. With the help of collected and analyzed data, such companies may provide better and more suitable services. Big market players, such as Google or Facebook, extend their range of activity and strengthen their market position by acquiring further online services (not necessarily directly related to their original field of activity). This increasing diversification of important service providers and takeovers of adjacent (online) services may lead to portfolio or conglomerate effects and, hence, to increasing market power of the discussed market players (Monopolkommission, 2014, p. 63). Portfolio effects are typically meant as synergies on the demand side, when diverse products are being purchased from only one provider (Monopolkommission, 2014, p. 63). Such integration of diverse products and services may offer positive as well as negative effects (negative, mostly, regarding market entry barriers). Additionally, existent network effects and economies of scale may hinder competition and market development (Monopolkommission, 2014, p. 63).

It is difficult to identify ex ante all possible competition problems in the Internet-based industry, since this is a relatively new field. Facing dynamic technology development, it is unclear what size a provider must be to develop a new (and competitive) product, and also, it remains uncertain what consequences network effects will have (Monopolkommission, 2014, p. 69). Despite this uncertainty,

1 The (German) Monopolies Commission is "an independent expert committee, which advises the German government and legislature in the areas of competition policy-making, competition law, and regulation"; retrieved from: http://monopolkommission.de on 22-03-2015.

the practice of the competition authorities deserves a critical review. It appears the administrative bodies only focus on competition problems to the detriment of other online service providers (i.e., the primary market level), and do not at all address problems of data access or data security of consumers (i.e., the secondary market level) (Monopolkommission, 2014, p. 69). The German Monopolies Commission sees this selective regulation of competition as insufficient to solve current problems or resolve customer concerns. Even though the competition law primarily focuses on market structure and actions against competitors, consumer welfare is an important component as well. Consumer welfare encompasses the protection of personal data – "the ultimate purpose of competition law is to ensure that the internal market will satisfy all reasonable wishes of consumers for competition, including not only the wish for competitive prices but also the wish for variety, innovation, quality, and other nonprice benefits, including privacy protection" (European Data Protection Supervisor, 2014, p. 17).

Concerning the problem of extensive access to user data, the German Monopolies Commission analyzed the existing competition regulations regarding their suitability for preventing these security issues (Monopolkommission, 2014, p. 69). As for merger control, it regulates market structure by supervising transactions between companies (i.e., mergers or acquisitions), which may have a significant impact on it. In recent years, several transactions between online service providers involving extensive data and user portfolios have been subject to merger control. One of them is the agreement between Facebook and WhatsApp discussed in the following section. Due to turnover thresholds that must be reached in individual countries, German authorities did not have the opportunity to assess the announced transaction. During the determination of the merger control jurisdiction, the data-related turnovers were not taken into consideration by the European competition authorities. The German Monopolies Commission views this matter as problematic and considers transaction volume or market shares as better jurisdiction criteria for German authorities (Monopolkommission, 2014, p. 70). However, it is already questionable if merger control is appropriate to use in regulating data security matters, and if there is a need to extend its application domain. The German Monopolies Commission explains that data security instead is a question of abusive exploitation of market power rather than the subject of merger control. The main focus of merger control lies in market structure and thus is only partially suitable to secure the competition against dynamically changing markets, such as the Internet (Monopolkommission, 2014, p. 70).

The German Monopolies Commission recognizes the current handling of personal data as a serious challenge for government and society, and the current competition law enables only limited interference against abusive personal data

exploitation. One solution would be extensive data security regulation; however, it is uncertain if such would be compatible with competition law (Monopolkommission, 2014, p. 72). There are already several regulations addressing data protection and respect for privacy existing side by side with the competition law. Regarding regulations beyond the competition law, we find Article 7 of the Charter of Fundamental Rights (the Charter), which governs the right to respect for private and family life, home, and communications against the state (EU, 2012, Article 7), and in Article 8 of the Charter, the protection of personal data (EU, 2012, Article 8). According to the Charter, personal data can only be processed when several essential requirements are fulfilled, namely, when the processing is fair and lawful, when it occurs for specified purposes, when it is transparent to the individual, and when this individual can access the collected data (European Data Protection Supervisor, 2014, p. 12). Another relevant regulation is the Data Protection Directive 95/46/EC (EC, 1995), in which, according to Article 12, individuals have the right to access data relating to them as well as to rectify, erase, or block data that is incomplete or inaccurate (European Data Protection Supervisor, 2014, p. 15).

In 2012, the EC proposed a comprehensive reform of data protection rules including, for example, the "right to be forgotten" (EC Press Release IP/12/46). The aim of the planned General Data Protection Regulation is to harmonize the current data protection laws across the EU. In contrast to the (Data Protection) Directive, this regulation will be directly applicable in all EU member states without the need for nationally implementing legislation (Computer Weekly, 2015). Consumer welfare in general is not defined in the EU competition law, and its relationship with market efficiency (as the main issue of the competition law) is not commonly understood (European Data Protection Supervisor, 2014, p. 19). In the holdings concerning competition cases by the European Court of Justice (ECJ), we rarely find references to consumer welfare. However, even if not explicitly referenced (and then only at a conceptual level), consumer interests are taken into account in each major branch of the competition law – prohibition of anticompetitive behavior, abuse of dominant market position through exclusionary conduct or exploitation, control of mergers, and control of state aid (European Data Protection Supervisor, 2014, p. 19).

In the digital economy, personal data is a significant intangible asset in the value creation of online services, and it may have further implications for defining key concepts in competition law, such as transparency, market dominance, or consumer welfare and harm (European Data Protection Supervisor, 2014, p. 37). Even though there is heightened risk for personal data, "the market for privacy-enhancing services (...) remains weak. While many consumers may be becoming more and more 'tech savvy,' most appear unaware of or unconcerned

by the degree of intrusiveness into their searches and emails as information on their online activities is logged, analyzed, and converted into revenue by services providers" (European Data Protection Supervisor, 2014, p. 11). A new concept of consumer welfare protection for competition enforcement could be based on the abuse of market dominance and consumer harm through a refusal of access to personal information and misleading privacy policies, which could further lead to the promotion of privacy-enhancing services and better control over one's own personal data (European Data Protection Supervisor, 2014, p. 26).

A greater need exists for rigid merger control when considering the amount of data accumulated by companies to be one of the most important indications for (online) market dominance, as well as the need to assess a given transaction's impact not only on competitors but also on users. The lack of effective policymaking interaction among competition, consumer protection, and data protection efforts "may have reduced both the effectiveness of competition rules' enforcement and the incentive for developing services which enhance privacy and minimize potential for harm to the consumer" (European Data Protection Supervisor, 2014, p. 37). To better understand the current praxis of the EC during a merger control, in this chapter, we examine the transaction between Facebook and WhatsApp conducted in 2014.

Newest Trends

The digital market is developing rapidly. Again and again, new and alarming trends concerning data privacy emerge, for example, big data analyses, which are useful for optimizing products, processes, or business decisions, and involve analytic association of vast amounts of data (retrieved from different sources) in order to attain economic, social, or scientific insights (Ohrtmann & Schwering, 2014, p. 2984). However, the concept of big data entirely contradicts the basic principles of data protection – data minimization (only to utilize as much information as necessary) and appropriation (only to collect or analyze data for specific and explicit purpose) (Ohrtmann & Schwering, 2014, p. 2984 ff.). The increasing use of personal information for marketing aims may be explained by economic efficiency, which arises when complete information and transparency are provided (see Posner's neoclassical economic theory, Posner, 1978; Spiekermann & Novotny, 2015, p. 181).

It appears the basic principles of data minimization and appropriation are not fully compatible with the requirements of the *digital information society* (Hackenberg, 2014, recital 17). As for Germany, the basic decision of the Federal Constitutional Court from 1984 (the so-called "census verdict") led to the estab-

lishment of these two principles as grounds for the informational self-determination fundamental law. This law was based on the idea that each person has the right to know who owns what information about her/him, and for what purpose. However, it is questionable if today, a frequent Internet-user, even after proper clarification by providers, can still maintain an accurate overview of all the information he/she once disclosed (Hackenberg, 2014, recital 17).

Another current privacy issue comes from the *social media login*, which allows users to create new accounts with further service providers by using already existing social media profile (i.e., Facebook, Google Plus, or Twitter). The (personal) information on the former social media profile is usually shared with the new service provider upon registration (Weber, 2015, p. 236). Besides the exchange of data and linking profiles or services originally meant to remain separate (such as a professional account on LinkedIn, meant to establish an individual's credibility and professionalism in the labor force, now linked to a Facebook-account, designed to showcase one's leisure activities and personal life beyond the workplace), a serious threat is posed by the possibility of criminal activities. Once login-data for one service is obtained, several other services can be easily accessed as well (Weber, 2015, p. 236).

Therefore, when it comes to the information market, huge amounts of personal data, and along with them, an uneasy feeling about their attendant data security, travel in tandem. We have observed the challenges that come from new developing sectors and the (un)suitability of current legislation to meet or if need be overcome them. In the following section, we will examine the current EC practice in a case concerning all the problems we have noted above – the agreement between Facebook and WhatsApp.

Agreement Between Facebook and WhatsApp

During the last decade, Facebook has acquired over 50 companies. The most "controversial" transaction discussed by the media and feared by users was the 2014 acquisition of WhatsApp. In this section, we examine this agreement and the EC proceedings pertaining to it. The commentary is based upon the EC's decision *Case No. COMP/M.7217 – FACEBOOK/WHATSAPP*. On 29 August 2014, Facebook notified the EC about its planned acquisition of WhatsApp by means of a share deal (i.e., purchase of shares). Keep in mind the broad spectrum of services the *company* Facebook, Inc. currently offers and that the *Facebook* social networking platform is only one component in its product range. The EC described the notifying party (Facebook) as a provider of websites and applications for mobile devices offering SNSs (e.g., the platform *Facebook*), consumer communications

(*Facebook Messenger*), and photo/video sharing functionalities (*Instagram*), as well as a provider of online advertising space. The other party, WhatsApp, has a much narrower field of activity. It only provides consumer communication services (CCS) via the mobile application WhatsApp and does not sell any advertisement space. The purchase price amounted to 19 billion USD, and the transaction resulted in Facebook gaining sole control over the entity into which WhatsApp was merged.

The transactions did not have a strict EU dimension, because given WhatsApp's limited revenue, it did not meet the required turnover threshold (EC, 2015, p. 2). However, the notifying party requested that the EC examine the case, and the transaction was deemed to have a EU dimension pursuant to Article 4 (5) of the Merger Regulation (EC, 2004b, Article 4). Again, the question arises: Is a current regulation of the EC's jurisdiction appropriate for new sectors, in this case, digital ones? As in the investigated transaction between Facebook and WhatsApp, other cases may eventually arise offering free (or nearly so) products to consumers, and therefore fall outside the EC's jurisdiction (EC, 2015, p. 2). The merger control process can be pursued only when the required thresholds are reached, and in cases such as this, only when one or both parties operate in two-sided markets "where their free services are monetized through advertising, as in the case of online search or social networking services" (EC, 2015, p. 2). It could be beneficial to take an example from the United States and base identifying the EU dimension on the transactions' value, especially for the digital market, since "turnover-based thresholds do not properly reflect the future market potential of an IT company" (EC, 2015, p. 2). Furthermore, it should be considered that on the online market, personal data customers provide could be viewed as the "currency" they use to pay for the "free" service (EC, 2015, p. 2).

During its investigation, the EC worked to define the relevant product and geographic markets for both parties and conduct a competitive assessment for them all. With due regard to the assessment's outcome, the EC decided not to oppose the transaction and cleared the acquisition as being compatible with both the internal market and the EEA agreement. After a short summarization of the EC's conclusions regarding the relevant markets and competitive assessment, we offer a discussion/critical review of the decision, especially as it concerns data privacy and security.

Relevant Markets

In the course of the investigation, the EC considered the three markets Facebook is active on to be relevant: 1) CCSs, 2) SNSs, and 3) online advertising services.

Consumer communication services. CCSs are "multimedia communications solutions that allow people to reach out to their friends, family members, and other contacts in real time" (EC, 2014, recital 13). These services can be further differentiated into stand-alone applications (e.g., WhatsApp, Viber, Threema, and Facebook Messenger) or functionality being part of a broader offering (e.g., Facebook, Xing, or LinkedIn). Despite the single functionalities of text, photo, video, or group chat, the distinction can be made regarding the operating system for which the applications are available. Here, the differentiation among applications (apps) is mostly made among "proprietary apps" available for only one operating system (e.g., FaceTime or iMessage) and "cross-platform apps" available for multiple operating systems (e.g., WhatsApp and Facebook Messenger) (EC, 2014, recital 17). The most important question is whether this differentiation between CCSs indicates the presence of separate product markets. The concrete definition of the relevant market is important, since a narrow market definition may lead to a certain company becoming dominant, whereas a broad definition would rank the same company as only one among many market players.

In the present case, the EC decided the relevant product market should encompass consumer communication apps for all operating systems and include all communication functionalities, since an investigation indicated that communication apps available for different operating systems are normally regarded as a single product (EC, 2014, recitals 23, 27). The EC assessed the effects of the transaction between Facebook and WhatsApp in the product market of consumer communication apps for smartphones. Regarding the geographic market, the EC decided it is at least EEA-wide, if not worldwide.

Social networking services. The social networking platform is Facebook's core offering. The essential functionalities of such SNSs are to create public or semi-public profiles and lists of friends or contacts, followed by exchanging messages, sharing information (through posts, links, or videos), and commenting on other users' posts (EC, 2014, recital 51). Even though there are some overlaps between SNS and CCS (e.g., content-exchange), the differences between them remain crucial. As for SNSs, they "tend to offer [a] richer social experience," whereas "the functionalities of consumer communication apps (...) are more limited and focus on enabling basic communication between users rather than creating a richer experience around their digital identity" (EC, 2014, recital 54). The assessed differentiation by the EC can be further inferred from Table 2.

Table 2: Differences Between SNS and CCS (EC, 2014, Recitals 51–56).

Social Network Services	Consumer Communication Services
Rich social experience through disclosure of personal interests, activities or life events etc.	Focus on basic communication between users instead of creating a richer experience around one's digital identity
Messages (posts, comments) are normally not expected to be answered in real time	Instant, real-time communication, responses are normally sent promptly
Communication and information-sharing with broad audience (or even strangers)	Targeted and personal communication (mostly only on one-to-one basis)

The EC left open whether CCSs should fall within the scope of the SNS market since the transaction would not raise any concerns under any alternative market definition. As for the geographic market assessment, the scope for the relevant SNS market is, again, at least EEA-wide, if not worldwide.

Online advertising services. The last product market to define was the advertising sector. As for Facebook, it provides online (non-search) advertising on its SNS platform. However, there is no advertising on Facebook Messenger. As for WhatsApp, it "does not currently sell any form of advertising and does not store or collect data about its users that would be valuable for advertising purposes," nor are messages sent by users stored on WhatsApp's servers (EC, 2014, recital 71). Here, the question concerns whether the transaction may somehow change Facebook's position in the advertising market.

The EC distinguished between providing offline versus online advertising space. Further sub-segmentation may be offered for search and non-search advertising, as well as mobile and static online advertising. For the investigated case, the EC stood by its distinction between online and offline advertisement without further sub-segmentation, hence, a rather broad market definition. Regarding geographic reach, the "advertisers typically purchase online advertising space and conduct advertising campaigns on a national (or linguistic) basis" (EC, 2014, recital 82). Therefore, the EC concluded, "that the online advertising market (...) should be defined as national in scope or alongside linguistic borders within the EEA" (EC, 2014, recital 83).

Competitive Assessment

After defining relevant product and geographic markets, the EC next pursued a competitive assessment, investigating whether the transaction would have an impact on predefined markets and would raise concerns in terms of the competition law. The most important aspects the EC focused on were market shares, closeness of competition, consumers' ability to switch providers, and possible barriers to entry and expansion (for competitors).

Consumer Communication Services

Regarding the CCS industry, the transaction involved Facebook Messenger with approximately 250–350 million users worldwide and 100–200 million users in the EEA, and WhatsApp with approximately 600 million users worldwide and 50–150 million users in the EEA (EC, 2014, recital 84). Despite these two large players, there are other providers present in the EEA and worldwide markets. According to the EC's market investigation, the main drivers for competitive interaction between the different CCS providers are the functionalities offered and the underlying network (EC, 2014, recital 86). In addition, many customers use several CCS apps simultaneously, the so-called "multihoming" (EC, 2015, p. 5). Such apps are only useful when the people with whom the users want to communicate also employ that same concrete CCS, and a larger network makes this more likely to occur. Due to network effects, the value of a product or service increases with the number of users and, as for the Facebook/WhatsApp transaction, mainly, the primary direct network effects are affected (an increase of users directly benefits those same users) (EC, 2015, p. 5). The final two important aspects appear to be the "perceived trendiness and coolness amongst groups of users" and the price of the app (CCS consumers appear to be very price-sensitive) (EC, 2014, recitals 89–90).

First, the EC targeted the market shares and concentration level of both parties. The estimated market shares (in the EEA) for the period between November 2013 and May 2014 are listed in Table 3. Even though the EC assessed that the data on market shares (provided by the parties) are probably underestimated, it concluded that in the present case, the market shares are not necessarily indicative of market power, and hence, are not a threat to competition. The EC based this reasoning on the concept that the CCS is "a recent and fast-growing sector … characterized by frequent market entry and short innovation cycles in which large market shares may turn out to be ephemeral" (EC, 2014, recital 99). This

view has reference to Schumpeter's innovation cycles discussed in section above, this chapter.

Table 3: Market Shares, EC (2014).

Provider	Shares
Facebook Messenger	20–30 %
WhatsApp	10–20 %
Android's messaging platform	5–10 %
Skype	5–10 %
Twitter	5–10 %
Google Hangouts	5–10 %
iMessage	5–10 %
Viber	5–10 %
Snapchat	0–5 %
Other market players	0–5 %

Second, the EC examined whether both parties are close competitors on the CCS market. There are several important differences between Facebook Messenger and WhatsApp. One of them is the identification system used to gain access to the service, with the contact lists also coming from different sources. The user experience in Facebook Messenger is richer (given the integration with the SNS platform Facebook), but its privacy policy is less favorable (data collection about users for advertising activities) (EC, 2014, recital 102). Given a significant overlap between these two networks as well as the consumer tendency for multihoming, the EC concluded the two offerings complement rather than closely compete with each other.

Third, the EC investigated whether consumers can still take into account alternative services. Switching costs among different providers are relevant, and according to the EC, to date, are not significant. All CCS apps are either available free of charge or at a very low price, all are easily downloadable and can coexist on the same handset, switching time between different apps installed on one device is nearly nonexistent, learning costs are minimal due to similar and simple user interfaces, and information about new apps is easily accessible (EC, 2014, recital 109). Also, due to "push" notifications, users are not required to actively launch each app (EC, 2015, p. 5) Another important aspect is the missing "*status*

quo bias," since the considered apps are preinstalled on only a very small amount of handsets, whereas a software pre-installation can apparently make switching more difficult (EC, 2014, recital 111). The only issue of concern may be network effects that could lead to an increase of switching costs (EC, 2014, recitals 112–115), as they create value for the users and can make competition more difficult. When the number of users grows, more users are attracted to the service, which in turn leads to a positive feedback loop (which is why most online services are free of charge in order to generate a critical mass of users) (EC, 2015, p. 4).

Fourth, the EC checked the market entry and expansion barriers for (potential) competitors. Here, the CCS market "has been characterized by disruptive innovation" (EC, 2014, recital 116), which may be explained with Schumpeter's theory on innovation cycles. Hence, there are no particular "traditional barriers for new providers entering the market" of concern (EC, 2014, recital 117). This (new) market is dynamic and fast growing; in addition, there are no patents or other intellectual property rights hindering the entry of new competitors. The transaction itself would not increase the entry barriers since neither of the parties disposes of any control elements (EC, 2014, recitals 118–121). Finally, the only concerning aspects are again network effects. Many competitors see "the presence of established players with a large user base and network effects in consumer communication apps" as a significant entry or expansion barrier (EC, 2014, recital 126).

The mechanics of network effects were explained in section above, this chapter. Facebook Messenger and WhatsApp have a large user network. According to the EC, while network effects as such do not "a priori indicate a competition problem in the market affected by a merger," they may, however, in some cases allow involved parties to foreclose on competitors (EC, 2014, recital 130). The EC examined whether an acquisition may strengthen network effects, which would be possible only if the transaction somehow led to uniting the two networks into a single, larger one (EC, 2014, recital 136). According to Facebook, such an integration would cause significant technological difficulties and is not intended. Even if it were to take place, there is already a significant overlap between the user bases, so no significant strengthening of network effects would occur. In due consideration of the above-outlined aspects, the EC expressed no serious doubts regarding the compatibility of the transaction with the internal market (with respect to the CCS).

Social Networking Services

Facebook operates one of the largest SNS platforms worldwide. The important question here is whether WhatsApp is Facebook's (close) competitor in this sector (i.e., also perceived as an SNS). Taking into account the differentiation presented in Table 2, SNSs provide far richer social experiences. Therefore, providers such as Facebook, Google Plus, LinkedIn, Twitter, and MySpace ought to be qualified as SNSs (EC, 2014, recital 148). Should we enclose the consumer apps into the SNS market, the competition would be even greater and would include such services as WhatsApp, LINE, WeChat, iMessage, Skype, Snapchat, Viber, and Hangouts (EC, 2014, recital 150). This broad view on the SNS market would lessen the market shares of Facebook and make the agreement even less of a concern in terms of competition law. However, the differences among these groups of services are quite significant. The EC concluded that the diverse functionalities and focuses of Facebook and WhatsApp prevent these two providers from being seen as close competitors on the SNS market. Should a post-transactional integration of WhatsApp into Facebook occur, its impact would be mitigated by the fact that a large share of WhatsApp users already utilize Facebook (approximately 70 %–90 %) (EC, 2014, recital 162). Considering all the above, the EC did not see any concerns regarding the transaction's compatibility with the competition law in terms of the SNSs market.

Online Advertising Services

The final assessed market was that of online advertising. Its importance should not be underestimated. Even though for users, the core service of Facebook appears to be a social network, the company's money flowing in on the other side, thanks to its advertising service. For SNS users, the service appears to be free of charge, however, users pay with the currency of their time, attention, and personal data. How much Facebook actually collects with its online advertising program can be concluded from the information presented in Table 1. The EC has analyzed the potential data concentration to investigate whether the transaction is likely to strengthen Facebook's position in the online advertising market. Apparently, the consumer protection and privacy-related concerns emanating from this transaction do not fall within the scope of EU competition law, but instead within the scope of EU data protection rules (EC, 2014, recital 164). In general, there are two cases in which data may be relevant in the competition law assessment of mergers in the digital sector – "either as a competitive advantage

of the merged entity, or, on the context of privacy, as a non-price parameter of competition in the market" (EC, 2015, p. 5).

There are no horizontal overlaps in the market for online advertising, since WhatsApp is not active in this area. Moreover, WhatsApp does not collect data about its users concerning age, verified name, gender, social groups, and so forth, nor does it store the messages (once they are delivered). Therefore, there is no user data beneficial for online advertising that Facebook could use (EC, 2014, recital 166). Facebook could only strengthen its position if (post-merger) advertising were introduced on WhatsApp or its user data were used for something other than their original purpose (EC, 2014, recital 167). It is important to keep in mind that in the digital economy, data can be construed as "assets" or offering a "competitive advantage." Large datasets thus are increasingly valuable and form a competitive advantage for companies active in targeted online advertising, online search, or SNSs (EC, 2015, p. 6).

Regarding the first possibility (introducing advertising on WhatsApp), Facebook's market shares in the sector of targeted advertising are around 20 %–30 % (EC, 2014, recital 171). Introducing advertisements on WhatsApp would renege on that firm's earlier "no ads" policy. Furthermore, there would be a need to abandon end-to-end message encryption, which would lead to broad discontent of users who value data privacy and security. Indeed, "privacy concerns also seem to have prompted a high number of German users to switch from WhatsApp to Threema in the 24 hours following the announcement of Facebook's acquisition of WhatsApp" (EC, 2014, recital 174). Given the circumstances, introducing ads on WhatsApp is very unlikely. Nevertheless, should such a change be implemented, there remain enough actual and potential competitors as strong as Facebook in the targeted ads sector (EC, 2014, recital 179).

Regarding the second possible scenario in which WhatsApp is used as a potential source of user data, the EC expressed no concerns. First, the collection and integration (or matching) of data from Facebook and WhatsApp would require complex technological changes and regulatory adjustments that are apparently not wanted by either party. Second, such changes would motivate many users to switch providers. Furthermore, even if these changes were pursued, a significant number of alternative providers of online advertising would remain. The EC decided that "there will continue to be a large amount of Internet user data that are valuable for advertising purposes and that are not within Facebook's exclusive control" (EC, 2014, recital 189).

While taking into account all addressed matters, the EC cleared the transaction as being compatible with the internal market and with the EEA Agreement. The aspect of privacy, however, was left open.

Critical Review and Data Privacy Concerns

In the end, the EC expressed no concerns concerning the agreement between Facebook and WhatsApp. Again, however, we witness the emergence of a lack of compatibility between competition law/merger control and consumer protection/data security. In two-sided markets, products are offered at no charge to users, but monetized through targeted advertising; hence, private data comprise the "currency" with which the users pay (EC, 2015, p. 6). Accordingly, post-merger, if a provider starts to require "more personal data from users (...) as a condition for delivering its 'free' product [this change] could be seen as either increasing its price or as degrading the quality of its product" (EC, 2015, p. 6). Consequently, such behavior could lead to competition or infringements of data protection law. Still, this "theory of harm" is only relevant in cases "where privacy is an important factor in the decision to purchase a product or services, that is, a key parameter of competition" (EC, 2015, p. 6), and was not applied to the Facebook/WhatsApp transaction. Even though consumer protection is indirectly included in the aims of the competition law, it does not really surface when it comes to data privacy issues, as apparently this is already a separate jurisdictional concern controlled by the data privacy regulations. Nonetheless, there are serious data privacy issues regarding such occurrences on the online market – concerning WhatsApp and Facebook separately, and especially after the acquisition process is complete.

Market Entry Barriers

Regarding market entry barriers, the EC presumed that even such a strong or dominant market position as Facebook enjoys would not raise any serious competition concerns. This presumption was based on the digital market being characterized by Schumpeter's innovation cycles, which posit dominant market players being quickly replaced by new ones. As explained in section above, this chapter, however, the quasi-monopolistic position of Facebook may persist far longer than that of its predecessors, namely, due to its "immunization strategy," network effects, and, following Waller (2010), its *stickiness*. The term *stickiness* means that in some way, Facebook has become "mandatory" for millions of users to join for social reasons. A temporary account deactivation (or even worse, a permanent one) can be psychologically and socially difficult and damaging, because one is not reachable online anymore – to family members, friends, or colleagues. Facebook's stickiness also derives from the fact that the information gathered on Facebook cannot be easily exported to another SNS profile (Waller, 2010, p. 1789). Considering the strong network effects and stickiness (and possibly such aspects

as brand loyalty, information gaps, and some switching costs), it is possible that current users of Facebook are (or feel) locked-in to the system, giving Facebook dominant market power (at least over current users) (Waller, 2010, p. 1791).

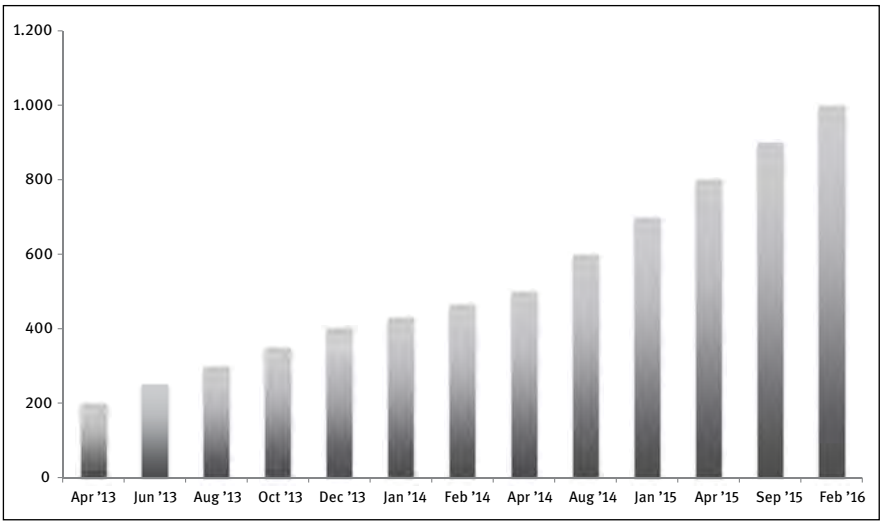

Figure 3: Monthly Active WhatsApp Users, April 2013-February 2016 (in Millions).
Source: Statista, 2016.

WhatsApp and Privacy Concerns

According to "Datenschutzbeauftragter" (2015), message content sent with WhatsApp is stored on its servers until the messages are delivered, but not longer than 30 days. Moreover, WhatsApp gains access to the user's address book and uses only the telephone numbers saved there. After an account is deactivated/deleted, all user data, except for payment information, is also erased (the deletion of the payment information occurs after 30 days) (Datenschutzbeauftragter, 2015). At first, this seems to be relatively good news for users concerned with privacy. However, during WhatsApp's growth period, every once in a while, serious data privacy objections arose. In 2012, it was learned that messages sent via WhatsApp were not encrypted (which in turn leads to a high risk of interference by unauthorized third parties), because even though the company had implemented encryption in its new version of the app, it was very simple and therefore easy to hack (Datenschutzbeauftragter, 2015). Notwithstanding the issue of poor encryption, the amount of information users must allow WhatsApp

to access upon its installation (microphone, pictures, location data, etc.), and that afterward, are allegedly stored on servers located in the United States, was also criticized (Datenschutzbeauftragter, 2015, with further references). With the start of 2015, WhatsApp adopted end-to-end encryption (following the lead of other messenger apps more concerned with privacy, e.g., Threema), however, initially only for Android devices and excluding group-chats and media. Moreover, it became known that users' privacy settings can be easily circumvented (see Datenschutzbeauftragter, 2015, for further references). Finally, the straightforward functionality of direct association of a phone number with a user's identity is more problematic than it first appears. It is enough to save a phone number in an address book in order to access considerable information about the number's carrier. When this phone number is associated with a registered WhatsApp user, it automatically appears in the WhatsApp favorites' list (without any *contact confirmation* or related information). Next, we can easily observe the profile picture or status changes as well as the usage habits (by monitoring when and for how long the user is online) (see King (2014) with further references). Yet, apparently, all of these shortcomings failed to discourage millions of people from using WhatsApp (see Figure 3).

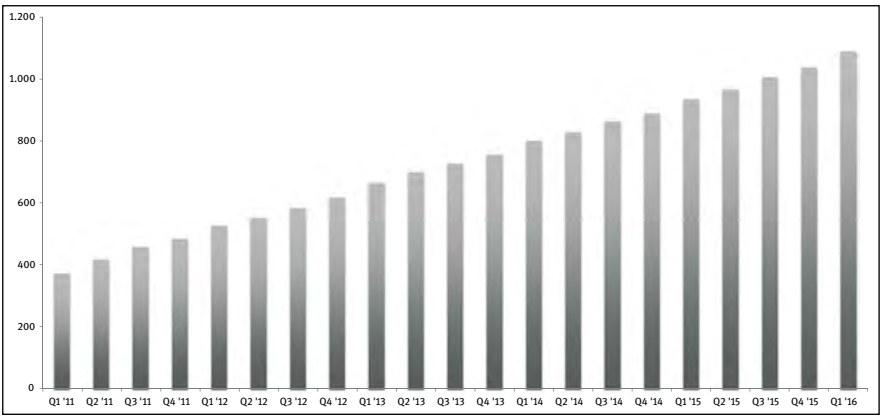

Figure 4: Daily Active Facebook Users (in Millions, Worldwide), 2011-2016.
Source: Statista, 2016.

Facebook and Privacy Concerns

It appears that Facebook causes even more privacy concerns than WhatsApp. Facebook has access to huge amounts of data, which is further analyzed and used

for online advertisement. Nonetheless, the count of Facebook users continues to increase (see Figure 4). Many users who broadly disclose aspects of their private life on Facebook (or other SNSs) either do not realize to what extent their personal data are being used or simply do not care. It is not a vague notion to state that Facebook and other SSNs compete on the data markets, that is, the market for information about users. It would be a significant advantage for an SNS to be able to define privacy as an aspect of non-price competition, leading to SNS providers competing to offer the best form of privacy to users (Harbour & Koslov, 2010; Waller, 2012). Today, instead we recognize the opposite tendency, namely, "most social networking [web]sites compete in the opposite direction as to the acquisition, compilation, manipulation, exposure, and monetization (rather than protection) of personal information" (Waller, 2012, p. 1784). However, some users have acknowledged the potential endangerment of personal information and fight against excessive personal data (mis)use by the big online market players. In this regard, the safe harbor decision by the European Commission is emphasized as it enables U.S. companies to gain, relatively easily, access to European users' data.

Data Transfer Outside the EU

Data transfer outside the EU on principle is only legal when the non-European country assures an adequate level of data security (see Article 25 of the Data Protection Directive 95/46/EC, EC, 1995; Jensen, 2014). The aim of this regulation is to ensure that the rights and interests of the person concerned are not endangered due to data export (Deutlmoser, 2014, recital 41). The agreement made between the EC and the U.S. Department of Commerce thus comprises the safe harbor principles (EC, 2000), enabling easier data transfer between the two regions. According to the agreement, the required privacy standard is maintained when data are transmitted to a U.S.-based company that complies with the safe harbor principles (Deutlmoser, 2014, recital 43; Spies, 2013, p. 535). However, the validity of this agreement was questioned after a lawsuit (in the form of a class-action) against Facebook was filed by an Austrian privacy activist, Max Schrems (Privacy Association, 2015; SC Magazine, 2015). This case has already been in motion for a few years. Schrems started a citizens' initiative against Facebook (and indirectly other similar U.S. Internet giants that control enormous amount of private information), called *Europe versus Facebook*[2]. The heavy critique about Facebook and

2 http://www.europe-v-facebook.org/

the safe harbor decision started after Edward Snowden's affair exposing the practice of NSA and its program PRISM (Bräutigam, 2015).

Edward J. Snowden is a former U.S. Central Intelligence Agency (CIA) employee and former National Security Agency contractor, who in 2013, publicly revealed intelligence information concerning Internet surveillance programs, such as PRISM, Xkeystone, and Tempora (Zhang & Schmidt, 2015, p. 201). After this disclosure, data privacy authorities started questioning the current regulations that pertain to data transmission to nonmember countries. Foreign intelligence services were alleged to be accumulating vast amounts of private data, violating European data-privacy standards (Voigt, 2014). After Max Schrems filed his complaint against Facebook regarding Facebook's cooperation with NSA, the Irish High Court submitted questions to the ECJ concerning the continuity of the safe harbor agreement with the United States after this disclosure by the whistleblower, that is, the compatibility of the agreement with the Charter (ZD-Aktuell, 2014). The Irish High Court wished to "ascertain whether that Commission decision [from 26 July 2000, the safe harbor scheme] has the effect of preventing a national supervisory authority from investigating a complaint alleging that the third country does not ensure an adequate level of protection and, where appropriate, from suspending the contested transfer of data" (ECJ, 2015). First, the Court of Justice held that the existence of a Commission decision "cannot eliminate or even reduce the powers available to the national supervisory authorities" and "the supervisory authorities (...) must be able to examine, with complete independence, whether the transfers of person's data to a third country complies with the requirements laid down by the directive" (ECJ, 2015). Second, the Court investigated whether the safe harbor decision itself is invalid. Here, the Court observed that "the scheme is applicable solely to the United States undertakings which adhere to it, and United States public authorities are not themselves subject to it," and furthermore, "national security, public interest and law enforcement requirements of the United States prevail over the safe harbor scheme, so that United States undertakings are bound to disregards, without limitation, the protective rules laid down by that scheme where they conflict with such requirements" (ECJ, 2015). All in all, the Court of Justice found that the Commission "did not have the competence to restrict the national supervisory authorities' powers" with the safe harbor scheme, and declared the safe harbor decision invalid (ECJ, 2015).

The Europe-versus-Facebook initiative offered a number of relevant objections about Facebook's monopolistic position and power, as well as several interesting proposals to resolve the situation. One of the proposed solutions, next to data minimization and more transparency, is an open social network: "Like with your email, you should be able to choose your provider and still be able to communicate with your friends [who] made another choice. This would mean that the

market for social networks would be open to new business models or even non-profit concepts that would bring us innovation and choice."[3] It is not necessary to determine whether the idea of an open social network would indeed solve current data privacy-related problems. There are other legal steps with much higher priority. Data privacy regulations and competition law both need to be more compatible, especially regarding merger control in order to prevent uncontrolled data concentration. In the age of the Internet, people are overwhelmed with the flow of information, and it can be difficult to keep track of all the changes in agreements, general terms, and conditions imposed by the rising number of online service providers (this is also because due to possible "multihoming," we are accessing an increased number of online offers simultaneously). Furthermore, consumers might not realize how many services may be housed under one single corporate rooftop. Multicorporate enterprises are getting bigger by acquiring smaller, yet still powerful, popular companies. As a result, numerous personal data sources are becoming concentrated in the hands of very few entities. The leniency toward reckless and frivolous handling of personal data by U.S. companies can be addressed only by more rigid regulations. The nullification of the safe harbor decision is surely a good first step towards better data protection, however, we are in need for new agreement. The annulment of the decision does not mean that since that day, there is no data transfer in the US. The transfer is conducted based on other regulations. Finally, consumers do not have enough power to autonomously resist data abuse. A total "opting-out" from the Internet and its services is of course possible, but nowadays rather difficult and unattractive to pursue.

Do We Need Privacy?

We ought to keep in mind the speed of technological changes as well as the presence of significant intergenerational differences between digital natives (or the millennial generation) who have been born into an already digitalized world, and digital immigrants (or preceding generations) who still can remember life without Facebook and other social media (Bennett, Maton, & Kervin, 2008; Margaryan, Littlejohn, & Vojt, 2011; Kilian, Hennings, & Langner, 2012; Fietkiewicz, Lins, Baran, & Stock, 2016). The digital market is rapidly evolving, and it is more and more complicated to comprehend all the changes and technological trends that may prove available. On the one hand, it is not necessarily true that actions we take at this moment in time toward more rigid data privacy regulations and

3 http://www.europe-v-facebook.org/EN/Objectives/objectives.html

protections will indeed favor future generations. Times change. In a few short decades, we may no longer be concerned with data privacy. Instead we might appreciate targeted advertisements showing us which products to buy before we even realize we actually want or need them. We can already recognize tendencies of the youngest generations toward exposing much of their private lives to the world with the help of new media, for example, the live-streaming platform YouNow[4] (Honka, Frommelius, Mehlem, Tolles, & Fietkiewicz, 2015). On the other hand, many may expect different (and negative) outcomes to occur from such courses of action, similar to George Orwell's version of the future, where people are controlled and watched by "Big Brother" (Orwell, 1949). We cannot precisely estimate the impact of current developments, and it is too early to definitively resolve all competition issues related to this industry (see also Waller, 2012, p. 1772).

Still, society is recognizing that privacy is an "increasingly important dimension of competition" and, therefore, "modern antitrust analysis must take privacy into account. It makes no sense to maintain an artificial dichotomy between competition and consumer protection law, especially when their goals are complementary" (Harbour & Koslov, 2010, p. 773). Furthermore, even though the judicial system, to a certain extent, can sanction the harmful or negative consequences of companies' actions toward consumers and other stakeholders, it is better to prevent these negative effects from happening in the first place since some of them cannot be readily undone. Even if we are challenged to maintain a golden mean among consumer protection, a free market economy, and a developing digital information society, it seems more prudent to prevent troublesome outcomes, rather than try to recover from the damage they may perpetrate on society. One must continuously work to find a balance and support the digitalization and development of technology and the information society, and refrain from entirely blocking out its progress by the aide of traditional legal means. Following Haucap (2015), instead of asking how to constrain new technologies and markets under old regulations, we should focus on new legal frameworks, enabling us to prevent undesirable developments or side effects of the digitalization process. At the same time, these regulations should not limit the development or suppress positive outcomes (Haucap, 2015, p. 1). It remains open whether an amendment of merger regulations would significantly enhance data protection. Still, progress would be easier if such aspects as consumer protection and data security were already included in premerger investigations by the EC, rather than later attempts to obtain demergers and decentralization, anonymization, or deletion of personal

4 http://www.younow.com

data. Also, requirements for the EC's jurisdiction (despite the turnover thresholds) for the digital sector should be expanded, so mergers and acquisitions conducted in this market setting (including services that often are free of charge) will not fall outside the scope of merger control.

Conclusion

A high concentration of market power can lead to its abuse and to distortion of competition. Especially in Internet submarkets, we can observe a tendency of such concentration, for example, Facebook among the SNSs. Here, the concentration of market shares in one dominant company may be explained by the presence of strong network effects and the creation of entry barriers. Hence, the question arises whether a dominant position in online markets is temporary or not. In line with this, we wanted to study whether the current European competition law is sufficient to adequately control dominating companies. For this purpose, we examined the acquisition of WhatsApp by Facebook and the assessment of it by the EC.

We found that Facebook uses its financial resources, acquired due to its dominant position on the SNS market, to take over innovative companies. In doing so, the company tries to spur the development of complementary products and services for the SNS, as well as to enter other emerging markets. With the acquisition of WhatsApp, one of the most popular messaging apps in the EEA, Facebook is able to enforce its attempt to gain a foothold in the growth market for mobile Internet communication. Further, it potentially marks the next innovative, developmental stage in Internet usage, with regard to the Schumpeterian view of economic business cycles and the inception of mobile Internet use. Facebook has grasped the potential of the mobile Internet market, and it has not been ruled out that the company will try to integrate WhatsApp into its Facebook app to strengthen network effects (see recent news about implementing the "WhatsApp button" into the Facebook app; Spiegel, 2015). In view of the above, and considering the additional revenues the company prospectively can generate by embedding personalized advertisements on its pages, or collecting and redistributing consumer data, Facebook can move to enforce entry barriers in both SNS and CCS markets. In this way, it can accumulate significant knowledge stock to face down and even foreclose on emerging competitors. Thus, Facebook's acquisition of WhatsApp prospectively serves to bolster its dominant position, stickiness, and economic success.

When considering the Facebook/WhatsApp agreement solely from a merger control perspective, we are in agreement with the EC's assessment of the situation. Facebook and WhatsApp were active on different markets. Although WhatsApp takes a strong, leading role in the market of CCS (especially in the EEA), the application is far from being a monopoly. The CCS market is characterized by short innovation cycles and frequent market entry, both of which spur disruptive changes in competition. This is in line with Schumpeter's theory of innovative leaps followed by sweeping technological change. Another critical point is the user's opportunity for multihoming and perception of low switching costs, which could erode WhatsApp's market share in a short period. Consequently, the acquisition neither induced nor enforced a monopoly in the market for CCS, which is why no severe concerns about this agreement regarding competition law could be offered.

However, in contrast to stance taken by the EC, which expressed no concerns about the acquisition of WhatsApp by Facebook, we pointed out the problem of a lack of compatibility between competition law/merger control and consumer protection/data security. Even if competition law partially comprises consumer protection, this was not considered in the WhatsApp acquisition due to a separate jurisdiction of data privacy issues. Indeed, WhatsApp and Facebook both have recently been associated with privacy issues and, particularly, users' restricted control of personal information. The latest dispute around this matter is a case currently under consideration by the ECJ, which may regulate the handling of personal data with more attention to privacy. Meanwhile, in those markets concerned with communication, such information is a most valuable asset and should not be underestimated. Moreover, when considering the rapid changes and developments in the recent past as well as their outcomes in these innovative sectors, an immediate and definitive settlement of problematic issues appears to be long overdue.

Acknowledgements: We would like to thank W.G. Stock and K.S. Baran for their support and consultation during the development of this critical discourse.

References

Agarwal, R., Sarkar, M., & Echambadi, R. (2002). The conditioning effect of time on firm survival: An industry life cycle approach. *Academy of Management Journal, 45*(5), 971–994.

Baran, K. S., Fietkiewicz, K. J., & Stock, W. G. (2015). Monopolies on social network services (SNS) markets and competition law. In: F. Pehar and C. Schlögl (Eds.), *Re:inventing*

Information Science in the Networked Society. Proceedings of the 14th International Symposium of In-formation Science (pp. 424–436). Hülsbusch, Boizenburg, Germany, 2015.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39*(5), 775–786.

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

Bräutigam, P. (2012). Das Nutzungsverhältnis bei sozialen Netzwerken. Zivilrechtlicher Austausch von IT-Leistungen gegen personenbezogene Daten. *MultiMedia und Rrecht*, 635–641.

Bräutigam, F. (2015). Fragen und Antworten zum EuGH-Verfahren. Facebook und der "sichere Hafen". Online: http://www.tagesschau.de/ausland/eugh-facebook-daten-101.html (last accessed on 26.03.2015).

Computer Weekly (2015). Essential guide: EU Data Protection Regulation. Online: computerweekly.com (last accessed on 18.04.2015).

comScore Media Matrix. (2006). Social networking sites continue to attract record numbers as MySpace.com surpasses 50 million U.S. visitors in May. Online: http://www.comscore.com/Insights/Press-Releases/2006/06/MySpace-Surpasses-50-Million-Visitors (last accessed on 1.5.2015).

comScore Media Matrix. (2008). Social Networking Explodes Worldwide as Sites Increase their Focus on Cultural Relevance. Online: http://www.comscore.com/Insights/Press-Releases/2008/08/Social-Networking-World-Wide (last accessed on 1.5.2015).

comScore Media Matrix. (2011). The network effect: Facebook, Linkedin, Twitter & Tumblr reach new heights in May. Online: http://www.comscore.com/Insights/Blog/The-Network-Effect-Facebook-Linkedin-Twitter-Tumblr-Reach-New-Heights-in-May (last accessed on 1.5.2015).

Datenschutzbeauftragter (2015). WhatsApp und Datenschutz – Antworten auf die wichtigsten Fragen. Online: https://www.datenschutzbeauftragter-info.de/whatsapp-und-datenschutz-antworten-auf-die-wichtigsten-fragen/(last accessed on 24.3.2015).

David, P.A. (1985). Clio and the Economics of QWERTY. *American Economic Review*, *75*, 332–337.

Deutlmoser, F. (2014). E-Discovery. In: T. Hoeren, U. Sieber, and B. Holznagel (Eds.), *Multimedia-Recht*. München: C.H. Beck.

Dietl, H., & Royer, S. (2000). Management virtueller Netzwerkeffekte in der Informationsökonomie. *Zeitschrift für Führung und Organisation*, *69*(6), 324–331.

EC (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. Official Journal L 281, 23/11/1995, 31–50.

EC (2000). 2000/520/EC: Commission Decision of 26 July 2000 pursuant to Directive 95/46/EC of the European Parliament and of the Council on the adequacy of the protection provided by the safe harbor privacy principles and related frequently asked questions issued by the US Department of Commerce. Official Journal L 215, 25/8/2000, 7–47.

EC (2003). Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty. Official Journal L 1, 4/1/2003, 1–25.

EC (2004a). Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentration between undertakings. Official Journal of the European Union C 31, 5/2/2004, 3–18.

EC (2004b). Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings. Official Journal of the European Union L 24, 29/1/2004, 1–22.
EC (2008a). Consolidated version of the Treaty on European Union and the Treaty on the Functioning of the European Union. Official Journal of the European Union C 115, 9/5/2008, 1–334.
EC (2008b). Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentration between undertakings. Official Journal of the European Union C 265, 18/10/2008, 7–25.
EC (2009). Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. Official Journal of the European Union C 45, 24/2/2009, 7–20.
EC (2010). EU Competition Law Rules Applicable to Merger Control. Situation as at 1 April 2010. (Competition Handbooks). Brussels, Belgium: European Commission.
EC (2014). Case No COMP/M.7217 – Facebook/Whatsapp. Regulation (EC) No 139/2004 merger procedure. Available online on EUR-lex under document number 32014M7217.
EC (2015). Competition merger brief. Issue 1/2015 – February. Online: http://ec.europa.eu/competition/publications/cmb/2015/cmb2015_001_en.pdf (last accessed on 19.04.2015).
ECJ (2015). Court of Justice of the European Union. The Court of Justice declares that the Commission's US Safe Harbour Decision is invalid. Press release No 117/15. Luxembourg, 6 October 2015.
EU (2012). Charter of Fundamental Rights of the European Union. Official Journal of the European Union C 326, 26/10/2012, 391–407.
EU (2013a). Competition: Antitrust procedures in anticompetitive agreements. European Union, July 2013. Online: http://ec.europa.eu/competition/antitrust/procedures_101_en.html (last accessed on 19.04.2015).
EU (2013b). Competition: Antitrust procedures in abuse of dominance. European Union, July 2013. Online: http://ec.europa.eu/competition/antitrust/procedures_102_en.html (last accessed on 19.04.2015).
EU (2013c). Competition: Merger control procedures. European Union, July 2013. Online. http://ec.europa.eu/competition/mergers/procedures_en.html (last accessed on 19.04.2015).
European Data Protection Supervisor (2014). Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy. Preliminary Opinion of the European Data Protection Supervisor from March 2014. Online: www.edps.europa.eu (last accessed on 28.03.2015).
Facebook (2015). *Our Mission.* Online: http://newsroom.fb.com/company-info (last accessed on 28.3.2015).
Fatur, A. (2012). *EU Competition Law and the Information and Communication Technology Network Industries.* Oxford, UK: Hart.
Fietkiewicz, K. J., Lins, E., Baran, K. S., & Stock, W. G. (2016). Inter-generational comparison of social media use: Investigating the online behavior of different generational cohorts. In *Proceedings of the 49th Hawaii International Conference on System Sciences* (pp. 3829–3838). Washington, DC. IEEE Computer Society.
Fjell, K., Foros, Ø., & Steen, F. (2010). *The Economics of Social Networks: The Winner Takes It All?* Bergen, Norway: Institute for Research in Economics and Business Administration. (SNF Working Paper; 42/10).
Florian, E., Munoz, L., & Schlosser, J. (2001). Dead and (mostly) gone. *Fortune*, *144*(13).

Graef, I. (2013). Addressing lock-in, network effects and entry barriers in online social newtroks: Regulatory and competition law issues. In *PhD Seminar of the International Telecommunications Society, 23–24 Oct. 2013, Florence* (17 pp.).

Gross, R., & Acquisti, A. (2005). Information revelation and privacy in online social networks. In *Proceedings of the 2005 ACM Workshop on Privacy in the Electronic Society* (pp. 71–80). New York, NJ: ACM.

Gupta, S., & Mela, C. F. (2008). What is a free customer worth? *Harvard Business Review*, *86*, 102–109.

Hackenberg, W. (2014). Big Data. In: T. Hoeren, U. Sieber, and B. Holznagel, *Multimedia-Recht*, München: C.H. Beck.

Harbour, P. J., & Koslov, T. I. (2010). Section 2 in a Web 2.0 world: An expanded vision of relevant product market. *Antitrust Law Journal, 76*, 769–797.

Haucap, J. (2009). Ist eBay unbestreitbar ein nicht bestreitbares Monopol? Monoplisierungsgefahren und Regulierungsbedarf bei Online-Marktplätzen. *Wettbewerbsprobleme im Internet*.

Haucap, J., & Heimeshoff, U. (2014). Google. Facebook, Amazon, eBay: Is the internet driving competition or market monopolization? *International Economic and Economic Policy, 11*(1–2), 49–61.

Haucap, J. (2015). Ordnungspolitik und Kartellrecht im Zeitalter der Digitalisierung. DICE Ordnungspolitische Perspektiven, No. 77. Online: hdl.handle.net/10419/120936 (last accessed on 09.11.2015).

Honka, A., Frommelius, N., Mehlem, A., Tolles, J. N., & Fietkiewicz, K.J. (2015). How safe is YouNow? An empirical study on possible law infringements in Germany and the United States. *The Journal of MacroTrends in Social Science, 1*(1), 1–17.

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

Katz, M. L., & Shapiro, C. (1994). Systems competition and network effects. *Journal of Economic Perspectives*, *8*, 93–115.

Kilian, T., Hennings, N., & Langner, S. (2012). Do Millennials read books or blogs? Introductíng a media usage typology of the Internet generation. *Journal of Consumer Marketing, 29*(2), 114–124.

Kim, E., & Lee, B. (2007). An economic analysis of customer selection and leveraging strategies in a market where network externalities exist. *Decision Support Systems*, *44*, 124–134.

King, B. (2014). WhatsApp: Studie bestätigt mangelhaften Datenschutz. Online: www.zdnet.de (last accessed on 24.3.15).

Klepper, S. (1996). Entry, exit, growth, and innovation over product life cycle. *American Economic Review*, *86*(3), 562–583.

Korotayev, A.V., & Tsirel, S.V. (2010). A spectral analysis of world GDP dynamics: kondratieff waves, kuznets swings, juglar and kitchin cycles in global economic development, and the 2008–2009 economic crisis. *Structure and Dynamics*, *4*(1), 3–57.

Kuznets, S. (1940). Schumpeter's business cycles. *American Economic Review*, *30*, 257–271.

Lieberman, M., & Montgomery, D. (1998). First-mover (dis)advantages: Retrospective and link with the resource-based view. *Strategic Management Journal*, 19, 1111–1125.

Liebowitz, S. J., & Margolis, S.E. (1995). Path Dependence, Lock-In, and History." *Journal of Law, Economics, and Organization*, 11(1), 205–26.

Levmore, S. X., Levmore, S., & Nussbaum, M.C. (Eds.). (2010). The offensive internet. Cambridge, MA: Harvard University Press.

Lin, C. P., & Bhattacherjee, A. (2008). Elucidating individual intention to use interactive information technologies: The role of network externalities. *International Journal of Electronic Commerce*, *13*, 85–108.

Lin, K. Y., & Lu, H. P. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior*, *27*(3), 1152–1161.

Linde, F., & Stock, W.G. (2011). *Information Markets. A Strategic Guideline for the I-Commerce*. Berlin, Germany, New York, NY: De Gruyter Saur. (Knowledge & Information. Studies in Information Science).

Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education, 56*, 429–440.

Monopolkommission (2014). Aktuelle Probleme der Wettbewerbspolitik: Google, Facebook & Co – eine Herausforderung für die Wettbewerbspolitik. In *Hauptgutachten XX: Eine Wettbewebrsordnung* für die Finanzmärkte, (pp. 58–73). Online: http://www.monopolkommission.de (last accessed on 09.11.2015).

Ohrtmann, J. O., & Schwering, S. (2014). Big Data und Datenschutz – Rechtliche Herausforderungen und Lösungsansätze. *Neue Juristische Wochenschrift*, 2984–2990.

Orwell, G. (1949). *Nineteen Eighty-four: A Novel*. London: Secker and Warburg.

Posner, R. A. (2001). Antitrust in the new economy. *Antitrust Law Journal*, 925–943.

Potter, W. J. (2013). *Media Literacy*. Thousand Oaks, CA: Sage.

Privacy Association (2015). ECJ to hear Schrems' Safe Harbor Case Tuesday. Online: https://privacyassociation.org/news/a/ecj-to-hear-schrems-facebook-case-tuesday/(last accessed on 26.03.2015).

Raice, S. (2012). Facebook sets historic IPO. Wall Street Journal. Online: http://www.wsj.com/articles/SB10001424052970204879004577110780078310366 (last accessed on 1.5.2015).

Robinson, W. T., & Sungwook M. (2002). Is the first to market the first to fail? Empirical evidence for industrial goods businesses. *Journal of Marketing Research*, *39*(1), 120–128.

Rohlfs, J. (1974). A theory of interdependent demand for a communications service. *Bell Journal of Economics*, 10, 141–156.

Safar, M., & Mahdi, K. (2012). *Social Networking and Community Behavior Modeling (Qualitative and quantitative measures)*. Hershey, PA, USA: Business Science Reference, IGI Global.

SC Magazine (2015). ECJ deliberates Facebook "Safe Harbor" agreement. Online: http://www.scmagazineuk.com/ecj-deliberates-facebook-safe-harbor-agreement/article/405170/(last accessed on 26.03.2015).

Schiesel, Seth (2011). A Game to Make Zynga Nervous. New York Times. Online: http://www.nytimes.com/2011/10/08/arts/video-games/sims-social-is-an-astonishing-success-on-facebook.html?_r=0 (last accessed on 1.5.2015).

Scherer, F., & Ross, D. (1990). *Industrial Market Structure and Economic Performance*. Boston, MA: Houghton Mifflin Company.

Schumpeter, J. A. (1939). *Business Cycles*. New York, NY: McGraw-Hill.

Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. New York, NY: Harper & Brothers.

Schumpeter, J. A. (1994[1954]). *History of Economic Analysis*. London, UK: Routledge.

Shapiro, C., & Varian, H. R. (1998). *Information Rules*. Boston, MA: Harvard Business School Press.

Shy, O. (2002). A quick-and-easy method for estimating switching costs. *International Journal of Industrial Organization*, 20, 71- 87.

Spiegel (2015). Neuer Button: WhatsApp kommt in die Facebook-App. Online: http://www.spiegel.de/netzwelt/apps/whatsapp-in-der-facebook-app-sende-button-aufgetaucht-a-1027225.html (last accessed on 03.05.2015).

Spiekermann, S., & Novotny, A. (2015). A vision for global privacy bridges: Technical and legal measures for international data markets. *Computer Law and Security Review, 3*(1), 181–200.

Spies, A. (2013). Keine "Genehmigungen" mehr zum USA-Datenexport nach Safe Harbor? Übertragung personenbezogener Daten aus Deutschland in die USA. *Zeitschrift für Datenschutz*, 535–538.

Statista (2015). The Statistics Portal. Online: statista.com (last accessed on 10.05.2016).

Voigt, P. (2014). Rechtswidrigkeit von Datenübermittlungen in die USA auf Grund von PRISM? *ZD-Aktuell,* 03165, 2014. Online: beck-online.beck.de (last accessed on 15.04.2015).

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

Waller, S. W., & Sag, M. (2015). Promoting innovation. *Iowa Law Review, 100,* 1–20.

Wang, Z. (2007). Technological innovation and market turbulence: The dot-com experience. *Review of Economic Dynamics*, *10*(1), 78–105.

Weber, R. H. (2015). The digital future – A challenge for privacy? *Computer Law & Security Review, 3*(1) 2015, 234–242.

Wiklund, J., Baker, T., & Shepherd, D. 2010. The age-effect of financial indicators as buffers against the liability of newness. *Journal of Business Venturing, 25*, 423–437.

ZD-Aktuell (2014). Irland: EuGH soll über Facebook und PRISM entscheiden. ZD-Aktuell, 04214, 2014. Online: beck-online.beck.de (last accessed on 15.04.2015).

Zhang, K., & Schmidt, A. H. J. (2015). Thinking of data protection law's subject matter as a complex adaptive system: A heuristic display. *Computer Law & Security Review, 3*(1), 201–220.

Zauberman, G. (2003). The intertemporal dynamics of consumer lock-in. *Journal of Consumer Research*, *30*, 405–419.