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Regulating the new information intermediaries as gatekeepers of information diversity

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Abstract

Purpose – *The purposes of this paper are to deal with the questions: because search engines, social networks and app-stores are often referred to as gatekeepers to diverse information access, what is the evidence to substantiate these gatekeeper concerns, and to what extent are existing regulatory solutions to control gatekeeper control suitable at all to address new diversity concerns? It will also map the different gatekeeper concerns about media diversity as evidenced in existing research before the background of network gatekeeping theory critically analyses some of the currently discussed regulatory approaches and develops the contours of a more user-centric approach towards approaching gatekeeper control and media diversity.*

Design/methodology/approach – *This is a conceptual research work based on desk research into the relevant and communications science, economic and legal academic literature and the relevant laws and public policy documents. Based on the existing evidence as well as on applying the insights from network gatekeeping theory, this paper then critically reviews the existing legal/policy discourse and identifies elements for an alternative approach.*

Findings – *This paper finds that when looking at search engines, social networks and app stores, many concerns about the influence of the new information intermediaries on media diversity have not so much their source in the control over critical resources or access to information, as the traditional gatekeepers do. Instead, the real bottleneck is access to the user, and the way the relationship between social network, search engine or app platforms and users is given form. Based on this observation, the paper concludes that regulatory initiatives in this area would need to pay more attention to the dynamic relationship between gatekeeper and gated.*

Research limitations/implications – *Because this is a conceptual piece based on desk-research, meaning that our assumptions and conclusions have not been validated by own empirical research. Also, although the authors have conducted to their best knowledge the literature review as broad and as concise as possible, seeing the breadth of the issue and the diversity of research outlets, it cannot be excluded that we have overlooked one or the other publication.*

Practical implications – *This paper makes a number of very concrete suggestions of how to approach potential challenges from the new information intermediaries to media diversity.*

Social implications – *The societal implications of search engines, social networks and app stores for media diversity cannot be overestimated. And yet, it is the position of users, and their exposure to diverse information that is often neglected in the current dialogue. By drawing attention to the dynamic relationship between gatekeeper and gated, this paper highlights the importance of this relationship for diverse exposure to information.*

Originality/value – *While there is currently much discussion about the possible challenges from search engines, social networks and app-stores for media diversity, a comprehensive overview in the scholarly literature on the evidence that actually exists is still lacking. And while most of the regulatory solutions still depart from a more pre-networked, static understanding of "gatekeeper", we develop our analysis on the basis for a more dynamic approach that takes into account the fluid and interactive relationship between the roles of "gatekeepers" and "gated". Seen from this perspective, the regulatory solutions discussed so far appear in a very different light.*

Keywords *Internet, Control technology, User studies, Policy, Information society, Regulation*

Paper type *Research paper*

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1. Introduction

Feeding debates, bringing news and exposing people to relevant content is no longer the privilege of the traditional media. New players are competing for consumers' attention, including search engines, social networks and e-commerce platforms. The social network Facebook's recent announcement that it will be cooperating with news agencies and publishers to offer their content directly on Facebook is just another piece of evidence of the growing importance of new information intermediaries for access to and consumption of media content. The concerns resulting from this phenomenon range from economic and competition concerns to concerns related to public media policy and the kind of information society we want to live in. It is the latter aspect that this article will concentrate on and in particular on concerns surrounding media diversity.

When policymakers and academics speak about Facebook, Google, etc., and their influence on media diversity, the notions of "gatekeeper" and "bottleneck" are often not far behind. The search engine Google or any other information intermediary's qualification as a gatekeeper is not only a matter of rhetoric. From a legal and public policy points of view, there is a long tradition of regulating gatekeeper control, particularly if such control threatens the realisation of important public policy goals, such as media diversity and competition on the marketplace of ideas. Many of the traditional tools for safeguarding media diversity and regulating gatekeeper control – such as access obligations, due prominence and media ownership rules, as well as diversity requirements – have also been put forward in one way or another in the ongoing debates over these new information intermediaries. But how much sense does it make to apply existing tools to new challenges, and what exactly are the challenges for media diversity raised by the new information intermediaries?

The objectives of this article are threefold. First, we will map the various concerns surrounding the new information intermediaries as gatekeepers in terms of media diversity, and to what extent these concerns are actually backed up by empirical research. This will help to assess the urgency and adequacy of applying one or some of the suggested regulatory solutions.

Second, we will provide an overview of the regulatory options for safeguarding media pluralism and regulating gatekeeper control to date, and explain why most of them are unlikely to be particularly effective when applied to the new information intermediaries. More specifically, we will demonstrate why, when looking at search engines, social networks and mobile application ("apps") stores, the traditional gatekeeper definition no longer seems useful. Following Barzilai-Nahon (2008), we shall instead draw inspiration from management and information science, where gatekeepers are seen more as intermediaries of information, who gather and disseminate information within organisations, communities or professional contexts, where there are usually strong links between intermediaries and network members. In today's digital information environment, this understanding of gatekeeping seems more appropriate, as the roles of "gatekeepers" and the "gated" have become more fluid and interchangeable, e.g. in processes of peer recommendations.

Third, and based on analysis of the existing empirical evidence and insights from network gatekeeping theory, we will argue that many concerns regarding the influence of the new information intermediaries have their source not so much in the control of critical resources or access to information as with traditional gatekeepers. Instead, the real bottleneck is access to the users, and the way in which the relationship between social networks, search engines or app platforms and users is shaped. Based on this observation, we conclude by suggesting an alternative or complementary approach for countering possible media diversity concerns in relation to the new information intermediaries.

2. New information intermediaries as gatekeepers and concerns relating to media diversity

2.1 Media diversity as a public policy goal and its different dimensions

The realisation of media diversity is considered a central goal of national and European media policies, and the necessary premise for the exercise of people's fundamental right to freedom of expression, which "will be fully satisfied only if each person is given the possibility to form his or her opinion from diverse sources of information" (Council of Europe, 1999). This is also true for a converging media environment, where the supply, distribution and consumption of diverse content is not limited to the traditional media, but where both old and new players are exploring the potential of new communications channels, such as the Internet or apps (European Commission, 2013, 2010, 2007; High Level Expert Group on Media Freedom and Pluralism, 2013; Council of Europe, 2007, 2008, 2012; Ofcom, 2012; Neuberger and Lobgis, 2010; Napoli and Karppinen, 2013). At present, media diversity is still primarily conceptualised as diversity of supply and output (different speakers, different outputs) – at least in the public policy debate. And while it is very possible that search engines, social networks and app platforms affect the diversity of players and the way they compete in the "marketplace of ideas" (see Sections 2.3 and 2.4), this is only half of the story. By influencing the search and consumption behaviours of users through filtering, targeted recommendations, social search, etc., the new information intermediaries affect not only diversity of supply but also diversity of exposure (Napoli, 1999). This relates to the audience dimension of media diversity, and the question of to what extent the diversity of content and supply actually results in a (more) diverse programme consumption.

2.2 Different types of gatekeepers and why the distinction matters in media law and policy

Common to most concerns regarding the influence of search engines, social networks and app stores on media diversity is their alleged position as gatekeepers, and the level of power and influence they can exercise over the different phases of media supply, distribution and consumption (Schulz *et al.*, 2011; Neuberger and Lobgis, 2010). Traditionally, in scholarly discourse, two major types of gatekeepers can be roughly distinguished: gatekeepers which control access to information and gatekeepers which have a facilitating role through control of critical intermediary resources or services that are necessary to link users and content, to mediate between the different players in the information chain, to produce, transport and distribute content, etc. (compare Laidlaw, 2010). An example of the former is the editor who, by virtue of his position, authority and knowledge selects the type, format and order of content that is ultimately presented to the audience. Examples of the latter are internet service providers (ISPs) or operators of cable network channels or pay-TV platforms – resources that are needed to transmit contents from sender to receiver. The distinction is important because the different types of gatekeepers are associated with different types of influences on media diversity (Schulz *et al.*, 2011; see Sections 2.3 and 2.4). What is more, for the different types of gatekeepers, different types of regulatory tools and mechanisms have been developed to control the influence and undesirable side effects they can have on the realisation of public policy objectives, such as media diversity.

Regarding editorial control over access to and selection of information, the associated types of direct and indirect editorial influences are subject to media law requirements for editors of media content. The aim of these requirements is to ensure that direct editorial influences are not in conflict with established public policy objectives, such as the protection of minors, the representation of European content or media diversity. Importantly, media law distinguishes between different levels of societal responsibility: public broadcasters have traditionally played a rather prominent role as public interest intermediaries and, as such, face heavy regulatory burdens with regard to their general

accessibility and quality, the diversity of their programming but also the permitted level of external commercial influences. Whereas commercial broadcasting and on-demand services are subject to a lesser degree of institutionalised social responsibility, and thus also to less stringent legal requirements regarding, *inter alia*, programming diversity. In addition, the media, and the press, in particular, are also subject to ethical principles and self-regulation, with media diversity being only one of many (ethical) requirements.

On the other hand, gatekeepers which control critical facilities are subject to general and sector-specific competition law, most prominently in the area of communications regulation. Because of its character as (sector-specific) competition law, the overall objectives of communications law are less focused on fostering public debate or media diversity than preventing control over critical resources from distorting competition. Typical examples include access obligations and control of market power or opinion power. A somewhat odd, intermediate position is occupied by rules for electronic programme guides (EPGs), and the resulting provisions on due prominence, which are arguably one of the first attempts to regulate searching. Though positioned within sector-specific competition law (communications law), these rules also clearly cover content-related aspects, which some member states have transposed into their national media laws.

The example of EPG regulation suggests how difficult it can be in a converging environment to maintain the theoretical distinction between editor-like gatekeepers and more structural gatekeepers that control access to essential facilities. Search engines, app platforms and social networks combine characteristics of both gatekeeper concepts. As a result, both types of gatekeeper regulations are under discussion. A search engine, for example, has been defined as "an information retrieval system for the public networked information environment" (Van Hoboken, 2012, p. 33). As such, search engines provide a central platform for both information providers and information seekers and act as "central brokers in many of the partly overlapping value chains in the networked online information environment" (Van Hoboken, 2012, p. 39). At the same time, they have an important role in selecting and ordering information, thereby organising information flows and access to information, which is also why they are associated with editor-like functions in public policy discourse (Foster, 2012). Regarding social networks, Van Dijk (2012, p. 4) described Facebook, for example, as "the software interface to channel communicative traffic between people", and hence a facility for linking and connecting people. Facebook also exercises control over the information (not) presented, e.g. in users' news feeds. The recent Facebook experiment mentioned above made it very clear that the platform can take a rather active interest in even editing and modifying content on personal profiles. Finally, app platforms provide a digital marketplace for informational applications, but again, through the way in which information products (e.g. personalised recommendations, prioritisation) are presented on or excluded from the platform, they also play an important role in controlling access to information (Jullien, 2005).

But before investigating what kind of regulatory solutions have been put forward, and whether they actually respond to the challenges for media diversity that are posed by the new information intermediaries (Section 3.1), we will first provide some insights into what these challenges actually are and what we (do not yet) know about them.

2.3 Search engines, social networks and app platforms as editors

The following section provides an in-depth analysis, based on a literature review, of the extent to which concerns regarding different forms of editorial or structural influences have been advanced and, not less importantly, whether they are relevant in practice, as shown by empirical research.

2.3.1 Direct editorial influences. Editorial control refers to control of the content, style, format and structure of information that is offered or distributed which then may affect the public or political agenda. Individuals or institutions with editorial control do not necessarily intend to influence politics. Whether journalists, for example, consider political influence as part of

their professional role depends very much on the overall journalistic culture of the country and the specific newsroom (Donsbach and Patterson, 2004). However, they all share an awareness that editorial activities may have an impact on society and politics. Therefore ethical considerations such as a perceived responsibility to inform citizens, to promote media diversity as well as to comply with any legislative framework applying to media companies play an important role in traditional news outlets. News selection is closely monitored by both formal (editing process) and informal (professional norms) control structures.

Turning to the new information intermediaries, these mostly lack the self-understanding of news-providing media outlets, as well as the corresponding editorial mission and hence the internal control structures. Their employees do not have journalistic training which might promote adherence to journalistic norms and awareness of the potential political or societal impact of editorial decisions. This does not, however, take away the fact that even though they do not publish their own news, search engines, social media and app platforms routinely take editorial decisions by blocking access to offensive or illegal content to comply with local legislation, local sensibilities or in response to requests by concerned parties. Given the enormous amounts of data, some of them apply automatic filtering mechanisms, while others rely on a large staff of administrators to review offensive content complaints (for an overview, see Gomez Marmol *et al.*, 2014) – a highly labour-intensive process which is also susceptible to manipulation. Here, we still lack any systematic analysis of how this form of content censorship affects the diversity of supply. Some of the new intermediaries, such as Google (2013), provide reports on received requests for content removal. These reveal quite a number of attempts to suppress politically adverse content, even in democratic countries, but the full extent of the resulting bias is difficult to assess.

2.3.2 Indirect editorial influences. Even when information intermediaries exert no direct influence in the production, aggregation and (non-) distribution of (information) content, they may have an indirect influence, particularly on the diversity of exposure by affecting the "findability" of content, the (non-neutral) ordering and prioritisation of existing content, the management and direction of user attention as a scarce resource, as well as influence over the choices users make. This can take the form of offering basic search functionality but also through algorithmic or collaborative filtering and display of personalised search results and recommendations (Schulz *et al.*, 2011; European Commission, 2013; Council of Europe, 2012; High Level Expert Group on Media Freedom and Pluralism, 2013).

Control over the diversity of opinions in the displayed content has thus largely been handed to the audience as a whole, as well as to the individual user, but, most importantly, to the software engineers who construct the websites' architecture and personalisation algorithms. Whether this in itself is already sufficient to be considered "editorial control" is a question that academic research has so far failed to address adequately. From the few existing studies on the motivations and self-perceptions of search engine engineers (Van Couvering, 2007), or of social network providers (Busch and Sheperd, 2014), it becomes clear that they attach little importance to public responsibility or diversity – even though they may use social responsibility as a marketing tool.

The economic literature seems to confirm this conclusion. Polo (2007) analyses the incentives for both external and internal diversity, drawing on the existing literature. First, the principle of "maximum differentiation" holds that media companies facing a public of viewers characterised by heterogeneous taste for content and a disutility from advertising will choose maximally differentiated content *vis-à-vis* each other (Gabszewicz *et al.*, 1999). It is important to note that the differentiation of content will occur for the dimensions that the public cares about. Thus, if the public is heterogeneous in terms of, for example, taste in entertainment and not in terms of their interest in politics, maximum differentiation entails that media companies differentiate themselves according to entertainment but converge to a median or central political positioning. Thus, when there are multiple dimensions of

content, firms will maximally differentiate on the dimensions that are more important to consumers, while converging to minimum differentiation on the less important dimensions (Irmen and Thisse, 1998).

Second, when investment in quality is taken into account, the prediction is different. Improving quality results in fixed costs. In cases where there is limited variety in the distribution of tastes, there is little scope for differentiation due to the fact that firms need to compete intensively on the quality they provide for the preferred variation (Motta and Polo, 2001). Thus, the authors conclude, the concentration of firms caused by fixed quality costs, combined with the public's relatively undifferentiated taste, weakens the provision of external diversity by the market. For example, comparative studies on the political information provided by television broadcasters conclude that increased market competition leads to less news and current affairs programming, in other words, lower quality programming overall (Esser *et al.*, 2012).

Similarly, a search engine's business model is to attract users to gain income from advertisements (Taylor, 2013). According to Frijters and Velamuri (2010), this continues to be the dominant model also for news markets, despite digitisation and the rise of the internet. The product a search engine delivers – the search results – must be attractive to consumers. Therefore, search engines invest in improving the quality of the organic search results (Varian, 2008; Taylor, 2013). According to some findings in the literature and statements by Google, they also compete on quality: "competition is a click away" (Gandal, 2001). Hence, search engines have an incentive to invest in quality to maintain and improve attractiveness for users. The open question is, however, whether quality implies diversity. Presumably, search algorithms rank websites on the basis of popularity (one of the algorithms used by Google is PageRank, which favours websites that receive a higher number of referrals). Tension may therefore exist between quality and diversity: consumers prefer rankings based on popularity, which implies convergence of search results to a limited subset of frequently used websites. The same can be said of social network sites where the urge to follow others may reduce diversity.

2.3.2.1 Overall increase in choice but bias towards more popular content by established news brands prevails. From the perspective of media consumers, the new information intermediaries all represent an increase in the availability and accessibility of information. Search engines provide them with long lists of sources they would have had difficulty finding on their own. The overall variety in these lists is considerable, often including smaller, lesser-known sources from all corners of the globe, which may lead to a diversification of the news supply. For example, Thurman (2007) has demonstrated that today Americans make up one-third of the audience of British news websites due to their visibility on international news aggregators such as Google News. However, this phenomenon is limited to popular topics and websites. More specialised media outlets, or those originating in smaller (online) markets, are less likely to achieve good rankings in the lists of search engines and news aggregators and thus less likely to profit from new transnational reader flows. Because, as already mentioned, in general, the ranking algorithms of both search engines and news aggregators strongly favour very popular sites, this leads to a high degree of concentration on a small number of sites in the first rows (Hindman, 2007; Watanabe, 2013). In turn, as the majority of search engine users limit their search to the first few entries on the list (Keane *et al.*, 2008; Pan *et al.*, 2007; Stark *et al.*, 2014), the democratisation of access to news provided by search engines is mostly limited to mainstream news sources.

At the same time, according to a study by Beiler (2013), the ranking of search results does not appear to be influenced by journalistic news values. In other words, if users construct their news diet mainly via search engines, this diet will differ dramatically from that presented by journalistic news organisations. Most importantly, the news content accessed via search engines will be less diverse and foster the misperception of a consistent opinion climate based on the long lists of consonant duplicate entries in the search results.

In a similar manner, app stores can greatly facilitate access to a diverse range of news outlets which can all be accessed more easily than their offline counterparts, which can even encourage previously disengaged people to consume news, e.g. during periods of boredom (Van Damme *et al.*, 2015). For regular news consumers, however, app stores do not lead to more diverse news use. Most remain loyal to their established brands. In addition, app stores require news suppliers to agree to their terms of service, which usually stipulate not only a high share of the revenue, but also access to customer data. As a result of this, some major news providers (e.g. the Financial Times) have created their own apps, while smaller news outlets in particular have chosen not to provide an app (Westlund, 2013).

2.3.2.2 Filter bubbles? Most of the new information intermediaries discussed here use explicit and implicit personalisation strategies in order to increase user satisfaction and loyalty. Explicit personalisation encompasses all tools which allow users to create interest profiles, subscribe to news feeds and install mobile apps. In contrast, implicit personalisation is conducted without the users' active participation through algorithms that adapt the content to their individual interests based on their past click behaviour, location and search behaviour (Thurman and Schifferes, 2012). There are concerns that these personalisation tools, in particular the algorithms which are invisible to the average user, create for each user a "personal ecosystem of information" or a so-called "filter bubble" (Pariser, 2011), in which they are no longer confronted with attitude-discrepant information.

However, a number of studies have demonstrated users' reluctance to put any form of effort into personalising their own news supply (Gauch *et al.*, 2007; Thurman and Schifferes, 2012), despite the fact that personalisation has been shown to improve users' attitude and loyalty to websites (Kalyanaraman and Sundar, 2006). This may be due, in part, to the discrepancies between users' declared and actual news interests (Lavie *et al.*, 2010). In other words, the worrying reduction in the diversity of supply through explicit personalisation only applies to a small number of users.

To assess whether such troubling filter bubbles actually exist, researchers would have to analyse on the one hand the personalised news experiences created by the implicit personalisation features of news sites and apps, and on the other the personalised outputs of the collaborative filtering mechanisms (such as "recommendations by other users") used by all new intermediaries. Facebook has recently provided a first empirical study of the polarisation of news via its platform (Bakshy *et al.*, 2015). It conducted a semi-automated content analysis of the news encountered by all users in the USA who identified as either politically "conservative" or "liberal" on the network. This demonstrated that even though a lot of cross-cutting news content is available in Facebook as a whole, the content shared within each user's personal network is significantly less diverse, in particular for liberals (only 24 per cent compared to 35 per cent for conservatives), due to their politically homogeneous friendship networks. The Facebook news feed algorithm then further reduces diversity. However, in the case of the conservatives, the main reduction in exposure diversity occurs through personal choice: they are less likely to click on a cross-cutting link. Nevertheless, it should be considered problematic that users have no knowledge of the selection criteria on which the processes of implicit personalisation are based and that they are not provided with any tools to change them or "turn them off". Thus, they are unable to assess how limited their news selection is. As research on selective exposure has shown, individuals perceive a greater need for orientation in specific situations (e.g. during election campaigns) and are then more willing to engage with attitude-discrepant news (Garret, 2009). Without any specific knowledge or control of the implicit personalisation processes, they are unable to reverse them in case of need.

There is also no evidence that (personalised) search engines and news aggregators increase passive selective exposure to attitude-consistent news among their users (Mutz and Young, 2011). In fact, a main finding of research on selective exposure is that, although users may prefer to consume attitude-consistent content, they invest little effort in avoiding

attitude-discrepant news. On the contrary, when confronted with attitude-discrepant news, they tend to invest more time reading and processing the information (Garret *et al.*, 2013).

Therefore, even though traditional media outlets offer more opportunities for users to "accidentally" encounter opinion-challenging information (which they could choose not to read/watch, but would still notice), there is no evidence that the new information intermediaries strongly inhibit contact with attitude-discrepant news. They may curtail these opportunities somewhat and increase the effort required to access this content (another link to click), which, in turn, could facilitate the avoidance of attitude-discrepant news. However, despite the existence and substantial use of search engines and news aggregators, most empirical studies report ongoing significant audience overlaps, in particular for moderate news outlets (Garret *et al.*, 2013).

On social networks, users have been shown in particular to follow, mention and reply to other users with similar views (Himelboim *et al.*, 2013). Commentators on partisan Facebook pages also mostly provide ideology-consistent links (Robertson *et al.*, 2009). Although this does imply limitation of exposure diversity in these networks, there is also empirical evidence of cross-cutting exposure and conversation: while partisan users talk disproportionally with likeminded others on Twitter, they do not ignore those with differing opinions (Himelboim *et al.*, 2013).

2.4 Gatekeepers which control critical intermediary resources

In contrast to gatekeepers which control access to and supply of information, the influence of gatekeepers which control critical resources is of a more structural nature. By controlling certain critical technical, legal or logistical resources required for information to travel between sender and receiver, these gatekeepers are able to influence the structure of information markets and competition, either directly or indirectly.

2.4.1 Monopolisation of information access? Survey results in several countries indicate that consumers' use of news outlets is varied and they choose from many outlets. Trilling (2013) gathered survey data in The Netherlands that shows that 14 per cent of the population consume news from Google News. Considering all possible news outlets, there are 23 outlets that are used more often than Google News. If we consider only websites, Google News ranks fifth. In Germany, a fifth of the population turns to search engines to form opinions on political topics, while a quarter relies on access portals of mail providers (i.e. news aggregators, Hasebrink and Schmidt, 2013). A comparative study in eight countries reports similar figures for social media, which are considered to be an important news source for approximately a fifth (Japan, France, Germany, UK) to a quarter (Italy, Spain, USA, Denmark) of the population (Nielsen and Schrøder, 2014). Still, traditional news outlets such as television, the online news sites of traditional outlets and print newspapers remain by far the dominant sources of information. The picture that emerges, therefore, is that the informational intermediaries are not truly gatekeepers in the traditional sense of controlling a resource to which it is necessary to have access in order to reach the audience: consumers can obtain news and information without them.

2.4.2 Generating network effects. Another, more structural consideration is that of market power and opinion power. Network effects play a role in platforms: consumers prefer to use the social network that many other consumers use. App users want to use the platform that features a large number of app sellers and vice versa. Social networks and app stores are therefore known as "two-sided markets". It is well established in the literature that an equilibrium can sustain only a small number of such intermediaries and a concentrated market structure is thus expected (Belleflamme and Peitz, 2010). In fact, from the perspective of most users, there are no or very limited alternatives to the social network or app store that they use, which makes those intermediaries monopolies. The situation is different for search engines. Consumers care about the results they get, but arguably not about the types and number of other users using the search engine. Website owners care about being included in search results, but typically all websites are included in the

algorithms of all search engines in the market (put differently, website owners multi-home). The market power of a search engine such as Google results from its investments in the search engine and the accumulated base of users and data. Rival search engines cannot easily match that search power. Users therefore may lack the incentive to switch to another search engine.

2.4.3 Encouraging and facilitating production of news content? But there are also potentially positive structural factors. For example, the infrastructure provided by the new information intermediaries undoubtedly encourages the production of news content by non-professional journalists. Search engines can increase the findability of independent news sites or blogs that lack the funds or reputation to generate enough traffic on their own. In this way, formerly passive news consumers are encouraged to create their own commentary and content (Singer *et al.*, 2011), thus becoming "producers" (Bruns, 2008) or "citizen journalists" (Gillmor, 2004). Social networks provide a framework in which people outside of traditional news organisations can create and distribute their own news content. In addition, the collaborative filtering on social media platforms can assist new voices without the support of large news or political organisations to gain popularity and visibility. For this reason, social networks are sometimes credited with being able to create an alternative news agenda, e.g. during the Arab Spring (Newman, 2011; Papacharissi and de Fatima Oliveira, 2012).

The question remains, however, as to how far these opportunities actually contribute to increased diversity of supply and exposure compared to traditional media outlets. Even though the new information intermediaries may have made it easier for a broader range of people to produce news and editorial content, significant barriers still exist, ranging from internet access and the necessary technical equipment to the required computer skills (Larsson, 2012). In addition, confusing intellectual property rights may impede citizens from taking the initiative to contribute (Lessig, 2008). Here, the new information intermediaries on the whole provide no assistance to lay users, either through publishing guidelines or by protecting them from prosecution by copyright lawyers.

A number of empirical studies on "new" content producers point to a persistent digital divide in the production of online editorial content, with significant variations between different platforms and formats (as well as in different countries). In most countries, only a small minority of the population contributes political content via social networks, discussion fora or weblogs (Austria: Vonbun and Schönbach, 2014; NL: Bakker, 2013; USA: Baek *et al.*, 2012).

Analyses of citizen journalists' contributions have criticised their focus on soft news (Örnebring, 2008; Pantti and Bakker, 2009) or on personal, non-political issues (Papacharissi, 2009) but also highlighted an overall greater diversity of topics and outside sources (Carpenter, 2010). By contrast, on social networks, the proportion of original news content is rather limited. The majority of political "news", in fact, comprises links to the content of major news outlets, with Facebook emerging as the second to third most important driver of traffic to US news sites (Olmstead *et al.*, 2011). Similarly, journalists successfully promote their work on Twitter and generate traffic to their news websites (Ju *et al.*, 2013) – 75 per cent of shared news on Twitter in the UK links to traditional news outlets (Newman, 2009).

2.4.4 Wider influences on structure and practice of media markets. Information intermediaries can affect the future economic models for the media, by impacting business models or entering into direct competition (Foster, 2012; Hoppner, 2013). On the other hand, they also directly support and affect media practice through their use by journalists. Studies of journalists' work habits in Germany have shown that they heavily rely on search engines for a number of purposes, including searching for counter-arguments. In the journalists' perception, search engines greatly facilitate their work (Neuberger *et al.*, 2009; Machill and Beiler, 2009). However, most of them use one search engine exclusively (Google) and moreover do not display any more sophisticated use of search engines than

the average user, rarely going beyond the first entries on the search list. They therefore do not take full advantage of the diversity of supply offered by these intermediaries. In a similar manner, journalists only use a very small range of news aggregators (mainly Google News, Springer and Wolling, 2008).

Social networks, in particular Twitter, are also increasingly used by journalists as news sources in themselves or gateways to news sources. A comparative analysis of the use of Twitter in the coverage of British and Dutch elections indicates that the impact on diversity of supply is strongly dependent on the national Twittersphere and its political discourse culture. In The Netherlands, politicians could increase their chances of being quoted in the media, while British media used Twitter more to give voice to ordinary voters (Broersma and Graham, 2013).

Finally, there are wider concerns that are not directly related to the generation, accessibility, findability, etc., of diverse and plural content, but to the conditions imposed by intermediaries and how these affect users' fundamental rights and freedoms. For example, this can refer to the impact of personalisation and targeting strategies on user freedom and autonomy (Zarsky, 2003), shared cultures and values (Schönbach, 2007), democratic participation (Sunstein, 2007) and diversity of media consumption (the filter bubble argument) (Pariser, 2011) but also social sorting and discrimination (Zarsky, 2003). With regard to social networks, concerns have also been raised that they are the property of companies which may act as "quasi-governmental regulators" who "govern citizenship rights in their respective online territories" and can exclude specific users or user groups (Busch and Sheperd, 2014).

Summing up, a look into the existing empirical research on the impact of the new information intermediaries on media diversity reveals some important points: first, the new information intermediaries exercise editorial control to comply with local legislation or sensibilities. Though their interventions are not likely to be politically motivated, their staff members lack the journalistic training, professional norms and control structures to be able to reflect on the impact of these editorial decisions, making them susceptible to outside influences aiming to reduce diversity. In seeking to avoid conflict with political authorities, they seem unlikely to fulfil the role of professional journalists by stimulating public debate. This seems particularly problematic, as Facebook is now making deals with news agencies and news publishers to provide its own news content.

Second, although we still lack the necessary systematic, independent research to determine the impact of indirect editorial control exercised through ranking and personalisation features, the existing preliminary research seems to indicate that the filter bubble concern, as one of the most prominent that is advanced in public policy discourse, is not a major threat to media diversity, although more research in this area is clearly needed. Furthermore, media diversity may conflict with what consumers actually want, e.g. relevance and information overload. Nevertheless, it could become problematic that the new information intermediaries lack the will or incentives to provide diverse content while functioning as main portals for media access and defining choice parameters for users.

Third, although search engines and social networks can play an important role in access to and choice of media content, users do not actually need to use them to access media content – the content is available in any event. Therefore, neither search engines nor social networks are likely to be structural gateways or bottlenecks in the traditional economic sense. App platforms, on the other hand, are bottlenecks since users/developers cannot work around them.

From the research discussed above, it emerges that a major obstacle to greater exposure diversity through the new information intermediaries is the users themselves, namely, in situations where users do not attach much importance to diversity of information. This is not a new phenomenon; however, both the indirect editorial and structural control of the new information intermediaries may compound this tendency and turn it into a significant

problem. Algorithms will continuously narrow down the information choices available to them according to their past usage – and most users will probably not even notice this. They also lack the knowledge, skills and options to "turn off" this functionality should the need for more diverse information arise.

3. Applying traditional gatekeeper concepts: pros and cons

3.1 The limited usefulness of traditional forms of gatekeeper regulation

Having provided an overview of the various concerns with respect to new information intermediaries and the empirical evidence to date, this section will consider the wisdom of applying traditional gatekeeper concepts and remedies to the new intermediaries. It will also develop the first contours of an alternative or complementary approach.

3.1.1 What exactly is the problem? Perhaps the most striking conclusion from the ongoing discussion, but also from the empirical research reviewed in Section 2, is that there is still considerable ambiguity and uncertainty surrounding whether, and possibly even more importantly, under which conditions search engines, social networks and app platforms are indeed "gatekeepers" to accessing diverse information. As shown in Section 2.3.2, the much-cited filter bubble problem is far from proven and diverts attention from, for example, the fact that search engines can also have positive effects by increasing choices and findability, as well as offering new opportunities for bottom-up editors and news producers. The new information intermediaries have no incentive to display diverse content (in a normative sense), but then this is neither the purpose of their services nor the reason users use and value them. All three are popular means for users to access news content and yet, at least for media content on social networks and search engines, users commonly have alternatives to that particular intermediary for accessing the content it provides. That is, the information intermediary does not limit access for users who know what they want, where to find it and who are willing to invest the necessary energy.

The potential for gatekeeping lies much more in affecting the choices made by users who do not yet know what content to consume or where to find it. Having said that, whether this amounts to a problem for media diversity ultimately depends on whether users' choices are "sufficiently diverse". This is a question, however, that cannot be decided with the traditional measurements of media diversity, which focus on the supply rather than the demand side of information markets, i.e. the aspect of exposure diversity. At present, we lack normative conceptualisations of exposure diversity that would allow us to identify a critical threat to media diversity, if there indeed is one. Ofcom was, to the authors' knowledge, one of the first regulatory authorities to at least consider some more detailed suggestions for more comprehensive benchmarks to measure not only the state of media diversity but also whether both overall output and consumption are sufficiently plural, thus addressing the question of both content and exposure diversity (Ofcom, 2012). The lack of any conceptualisation of exposure diversity touches upon another, related problem – namely, the limited role that user preferences have played in the discussion so far. For example, more diverse search results could conflict with their quality (Van Hoboken, 2012): instead of receiving the most relevant search result in relation to a query, users would be presented with possibly less relevant but more diverse suggestions. In other words, media diversity is not the only and also not automatically the dominant value to consider. It would also be important to look into users' preferences, and the reasons why they use a particular search engine or social network.

3.1.2 Falling outside existing legal gatekeeper concepts. Apart from the need for evidence that there is an actual problem in relation to (exposure) diversity, the above analysis has also made it clear that the new information intermediaries do not fit easily into the existing gatekeeper categories, at least not the legal ones. From the legal perspective, search engines, social networks and app platforms have so far been deemed to be so-called "information society services". As such, they have benefited from relative immunity with regard to more content-related obligations (such as ensuring a diverse representation of

supply) as a result of the e-commerce safe harbour provisions for hosts. More recently, however, there have been calls for increased "algorithmic governance in the public interest" (Napoli, 2014; see also Laidlaw, 2010) and for imposing editor-like obligations on the societal quality of their output. In the recent scholarly and policy debate, various suggestions have been made to impose some form of diversity safeguards on (selected) information intermediaries (including suggestions for objective point systems, prominent display of public interest or diverse news sources, internal diversity safeguards or diversification of search queries (Danckert and Mayer, 2010; Foster, 2012). Probably the most extreme proposition so far has been advanced by Kreile and Thalhofer (2014), who essentially suggest applying media law and its diversity safeguards to search engines.

The problem with these suggestions is obvious. The applicability of the previously established safeguards is usually triggered when a search engine or social network qualifies as an "editor" in the legal sense (which is not identical to the more flexible ways in which the notion is used, e.g. in communication sciences). Although no common legal definition of an "editor" exists, the Audiovisual Media Services Directive gives an indication of what editorial control means in the legal sense: "the exercise of effective control both over the selection of the programmes and over their organisation either in a chronological schedule, in the case of television broadcasts, or in a catalogue, in the case of on-demand audiovisual media services". It is already questionable to what extent such an activity is at all compatible with the business model of a general purpose search engine; what impact this would have on the overall structure of and competition within media markets; but also what the other legal implications would be.

Another important and as yet undecided question in this context is to what extent algorithmic, technologically mediated control can be classified as editorial or editor-like control at all, as they are largely automated processes. From all this, it is already clear that the emergence of new information intermediaries questions established concepts of editorial control as a central criterion for applying traditional rules regarding media regulation and information diversity.

At the other end of the scale of possible regulatory measures under discussion are structural remedies seeking to regulate gatekeepers which control critical resources, especially to control the amount of power they are able to exercise over information markets. One possible avenue that has been discussed is access and due prominence obligations, similar to those that apply to cable networks, pay-TV platforms and EPGs (Foster, 2012; Danckert and Mayer, 2010; Schulz *et al.*, 2011; Paal, 2012). But again, search engines, social networks and app platforms do not fit easily into the definition of controllers of electronic communications services – an associated facility which would, however, be necessary to qualify for the application of the access obligations pursuant to the Access Directive (European Commission, 2013; Helberger, 2005). The question is then to what extent the existing definitions could and should be extended to cover the new information intermediaries (Kreile and Thalhofer's suggestion, 2014, p. 636) – a question of enormous relevance in the upcoming revision of the Audiovisual Media Service Directive, for example. Much will depend on whether there is sufficient empirical evidence to support the need for such an inclusion (critical Section 2.3 and 2.4) because there actually is a threat to media diversity.

Even if such a threat exists, it is important to realize that, although search engines, social networks and app platforms may share certain characteristics with more traditional gatekeepers (such as editors and controllers of pay-TV platforms), they also differ from those gatekeepers in several ways. The differences are best explained with the aid of the theoretical conceptualisation of "gatekeeper". Many of the existing conceptualisations vary according to the discipline in question and most were not devised with the digital networked environment in mind. One exemption is Barzilai-Nahon 's Theory of Network Gatekeeping (2008), which was inspired precisely by the lack of a comprehensive theory of network gatekeepers.

3.1.3 Static concepts where more dynamic ones are required. Barzilai analysed various conceptualisations of gatekeepers, as developed in communication science, information science and management literature. Most conceptualisations still focus primarily on the role of the gatekeeper, rather than the question of how networks, such as the Internet or social networks, affect the relationship between gatekeepers and those who are subject to gatekeeping: the "gated" (e.g. users) (Barzilai-Nahon, 2008, pp. 1,494-1,495). As demonstrated earlier, however, in a networked environment, it is exactly this relationship between gatekeepers and the gated that accounts much for the dynamics, influence and salience of online gatekeepers. Consequently, existing conceptualisations are of little use in identifying gatekeeper situations online. Laidlaw (2010, p. 266) arrived at a similar conclusion and criticised the "one-way approach of traditional gatekeeping theory" and further observed that in "a Web 2.0 world the gated are not static, but rather dynamic players in creating and managing the Internet environment". These observations are certainly also relevant to the traditional legal conceptualisation of gatekeepers which do not take any account of the role of users – where neither users nor the gatekeepers' relationship to the users plays any significant role in imposing legal obligations or diversity requirements.

Barzilai goes on to develop a more nuanced conceptualisation of gatekeepers, in which she differentiates gates, gatekeeping, the gated, gatekeeping mechanisms and network gatekeepers. One of her important observations is that not only the gates can differ but also, for example, the different gatekeeping mechanisms – another observation that is not yet reflected either in law or public policy discourse surrounding information intermediaries and their potential role as gatekeepers or bottlenecks for access to diverse media.

An operator of a pay-TV platform, for example, exercises gatekeeping power via what Barzilai termed the "infrastructure mechanism": through utilising infrastructure components, a pay-TV provider controls information and the behaviour of the gated (which could be both content providers and consumers), as well as cost-effect mechanisms, e.g. controlling the costs of joining, using and exiting the platform. Arguably, something similar could be said of an app platform, which through its control of the platform and its technical infrastructure is able to decide who has access and at what price. This creates monopoly power (Belleflamme and Peitz, 2010). In this respect, an argument could be and has been made (see above) in favour of applying similar access rules to app platforms. However, as explained in Sections 2.3 and 2.4, the particular gatekeeping mechanism that characterises the activities of a social network or search engine, for example, is the high level of interaction between the platform and users. Examples include providing value-added services – such as personalisation features – offering enhanced possibilities for interacting with other users of the network (e.g. through "like" buttons, "tagging", commenting on each others' timelines, etc.) and defining different levels of connectedness for different sorts of "friends". Here, in terms of gateway control and potential influences on media diversity, access to the platform is probably a far less significant issue. Rather, it is the possibility of influencing and manipulating individual choices.

Similarly, access to the search engine is probably less characteristic to the search engines' influence on (exposure) diversity than the ability to determine the criteria for selection and diverse exposure (Section 2.3.2), to channel attention and increase users' loyalty by offering ever-more personalised and fine-tuned search results. These examples also demonstrate that one of the challenges (or opportunities) for the realisation of media diversity in both cases is the organisation of and control over the gated. Access obligations will do little to mitigate this problem.

The dynamics between gatekeepers and the gated are another factors that set traditional editors apart from, for example, search engines or social networks. Whereas in the traditional media it is primarily the editor who determines the agenda and thereby, at least indirectly, information consumption, this is very different for search engines and social networks. Here, the gated have a far more active role – one that is built into the system –

in determining the information they get to see. This is in terms of the diversity of choices, e.g. by means of the search terms that they feed into the system, or whom they add as friends (see Section 2.3.2). Because of the intensified interactivity with and active involvement of users, it is very difficult to maintain one-directional conceptualisations of editorial control.

This also questions the wisdom of applying editor-like obligations to, *inter alia*, search engines and social networks. The question already arises to what extent such interferences are actually needed and justified so long as there is no demonstrable negative effect on media diversity (and exposure diversity in particular). The current lack of any concrete benchmarks for identifying potential threats to exposure diversity does not make this assessment easier. But even if there was such a need, unlike traditional editorial content, the actual output (e.g. search results) very much depends on the interaction with and input from the users. What is more, one salient feature of social networks is that they "empower" users to discover and recommend content to others, thereby contributing to new forms of (exposure) diversity. More proactive, editorial involvement from social networks could have an inhibiting effect on such forms of "bottom-up" diversity. Finally, imposing editorial responsibility on information intermediaries may even increase, rather than decrease, the impact and opinion power of such intermediaries. In view of the enormous reach of leading social networks and search engines, it could be even rather disconcerting to know that they are legally mandated to actively influence user choices, diverse or not.

To conclude, in light of the insights into the importance of the dynamics between gatekeepers and the gated, arguing in favour of editor-like access obligations shifts attention away from the real threat to the realisation of diverse supply and consumption. Arguably, this is not so much the ability or inability of a search engine to ensure that the search results reflect a certain diversity of information, but rather the ability to influence, on the basis of the accumulated knowledge of and interaction with users, their informational choices. In this respect, as Laidlaw (2010) also argues, there is a need for a more human rights-driven conceptualisation of gatekeepers; for more attention to be paid to the relationship between gatekeepers and the gated, as demonstrated by Helberger (2005); and for legal safeguards in the form of user rights as a way of dealing with gatekeeper control (Helberger, 2005). Or as Tambini (2011, p. 4) so aptly observed: "Whilst regulators focus on the structural, legal and economic reasons why markets may not function effectively, they sometimes neglect the human perspective, and fail to examine the reasons why consumers may be unwilling or unable to play their part".

3.2 Towards a more user-centred approach

Barzilai's more dynamic conceptualisation of gatekeepers and gatekeeping mechanisms is also useful for another reason. She identified attributes that determine the ability of the gated to exercise influence over the gatekeeper, as follows:

- the gated's power in relation to the gatekeeper;
- their ability to produce information;
- their relationship with the gatekeeper; and
- their alternatives in the context of gatekeeping.

These attributes provide a starting point from which to reflect on a possible alternative, more user-centred approach – one that is directed towards mitigating the degree of gatekeepers' influence and power over the gated, e.g. to influence diversity of consumption.

We concluded earlier that one of the most critical issues when discussing gatekeepers and media diversity is their ability to affect user choices and diversity of exposure, much more than their ability to restrict access. The more gatekeepers are able to influence individual users' exposure to information and ultimately their consumption choices, the larger their

potential influence over media diversity (bearing in mind that this influence could be positive, negative or neutral).

We have already expressed doubts regarding to what extent requiring search engines and social networks, for example, to grant (diverse) content providers access to their platforms at fair, reasonable and non-discriminatory terms is an effective means of regulating gateway power. This is because, even if access were the problem, requiring the platform to be open will only partially pave the way for diverse exposure. Too much depends on the way in which media content is presented, in which order and context, etc. (Section 2.4). Moreover, presenting a diverse range of information is discriminatory in itself as it involves making diverse selections.

At first sight, the application of due prominence rules seems to be a step closer to acknowledging the importance of taking account of the relationship between gatekeepers and the gated, following the example of Article 6(4) of the Access Directive, which allows member states to impose additional presentational requirements on operators of EPGs (e.g. due prominence of local programming or the programmes of public interest content, in this sense, Foster, 2012; Danckert and Mayer, 2010; Schulz *et al.*, 2011; Paal, 2012). The European Commission, in its Green Paper on convergence, also seems to be pointing towards a concept of positive discriminatory access. Having addressed the potentially problematic effects of information intermediaries on the realisation of media freedom and diversity, the European Commission explicitly refers to "must carry" rules and Article 6(4) of the Access Directive.

And indeed, if research demonstrates that the framing or positioning of particular information can have an effect on exposure diversity (Section 2.3.2), this could be an argument in favour of imposing some sort of editorial or due prominence requirements. The arguments against this, however, become more evident when the solution is viewed as the perspective of users and their relationship to the information intermediary. There are, of course, operational challenges (e.g. what types of content should be presented more prominently, who determines the types of content, how to deal with the issue of national media policies versus international operation and reach, how to prevent capture and abuse, etc.). But more importantly, imposing such due prominence requirements can actually result in a situation of reduced exposure diversity. Due prominence obligations also entail partially pre-defining what the audience gets to see. Arguably, this is a route towards creating alternative, but publicly-mandated filter bubbles. At the same time, due prominence rules would increase the influence of a search engine or social network over individual information exposure by reducing the ability of individual gated users to interact with and influence the choices that are ultimately presented to them. This is the point made by Barzilai – that one of the attributes that determines the salience of the gated in relation to the gatekeeper is their ability to produce information themselves, that is, to take an active part in the production or presentation of information. In other words, instead of presenting each user with a selection of content depending on search terms used or choice of friends (and thereby creating inherent diversity of results due to the heterogeneity of the audience), certain content will receive a disproportionate share of public attention/opinion power because it is presented to all users (by turning the search engine or social network in a kind of mega, transnational "broadcaster" of messages in the public interest). Or, put differently, due prominence rules do little to alleviate the influence of gatekeepers over the gated, instead they further increase and re-emphasise such influence.

This is why we would like to suggest here a more user-centred approach to dealing with gatekeeper control, that is, mitigating the influence and improper bias (financial, advertiser, partisan, user-history etc.) that search engines, social networks and app platforms have on users and the diversity of their choices. We will do so alongside the four attributes that, according to Barzilai, characterise the relationship between gatekeepers and the gated.

3.2.1 Power in relation to the gatekeeper. The first factor here is political power: that is, a party's ability to influence and get another party to do what the first party wants. Barzilai helpfully further differentiates between having the ability to decide between alternative models of action, controlling the agenda and not presenting certain choices and using the bias of the system to influence choices, e.g. to choose more diversity or to switch to another service/speaker.

One such inherent system bias is the creation of individual "lock-ins" or path dependencies, particularly through the implicit personalisation of choices (as shown in Section 2.3.2, explicit personalisation affects, if any, only the small number of users who actively engage in personalising their news supply). In this respect, the suggestions put forward to enable users to switch off personalisation or reduce personalisation levels could be one building block in increasing the power of the gated in relation to the gatekeeper. This is because, as explained in Section 2.3.2, without such a possibility of exercising power over the personalisation process, users are unable to reverse it if they are interested in receiving a more diverse, non-personalised overview of certain topics.

Beyond having (diverse) choices and being aware of them, because of the level of interactivity and their very detailed knowledge of users, search engines, social networks and app platforms have far-reaching possibilities of influencing individual choices. This is what Calo (2014) referred to as "digital market manipulation". Essentially, digital market manipulation describes how algorithmic profiling enables online media players to identify and use personal preferences and biases to advance their own motives and, often commercial, agenda. In this respect, users experience in their relationship with an app platform or social network, for example, a new form of power asymmetry that they do not experience with traditional media. While the company knows a lot about the user, the user knows little about the company – how much and what kind of information it collects about the user, with whom this information is shared, how this influences the selection of content and information the user is exposed to, etc. What is more, due to the "black box" nature of information intermediaries, bias is a significant concern. This is why aspects such as protecting users' privacy, the right to fair data processing and protection from "unfair commercial media practices" will gain more relevance also for the realisation of public policy objectives, such as media diversity – aspects that so far have played only a very marginal role in media diversity discourse.

3.2.2 Information production. Alternative means of producing information are most obviously relevant when challenging gatekeepers with editor-like ambitions. But it is also worth considering as an element of mitigating the influence and power of gatekeepers in the case of indirect editorial or structural influences. This is obvious from the perspective of news producers *vis-à-vis* search engines, social networks and app platforms. But users, too, can generate information or create meaning – if not in the form of user-generated content, then in the form of collaborative filtering and alternative, social and potentially more diverse recommendations. This is why we have expressed concern regarding suggestions to impose editor-like requirements on search engines or social networks – precisely because they can have a detrimental effect on the freedom of users to produce information and construct meaning.

But the aspect of information production has another side to it. As we have demonstrated, search engines, social networks and app platforms can enable users (including professional journalists) to produce information. The quality or overall diversity of such information, however, does not depend solely on the information intermediary. It also depends on the users, be they amateurs or professionals. In Section 2.4, for example, we explained that both users and journalists, when using search engines to produce information, tend to focus only on a very small selection of search results (the first few entries) as well as only a limited choice of information intermediaries. In other words, the production and consumption of diverse information, even with the assistance of new information intermediaries, is also the outcome of how users use those intermediaries. This

is another insight from a more dynamic understanding of gatekeepers, and one that merits the question as to whether part of the solution to any concerns regarding media diversity and new information intermediaries should (also) be sought at user level, e.g. by promoting media literacy and increasing the usability of information intermediaries for less experienced users.

3.2.3 Relationship with the gatekeeper. This is arguably a particularly important aspect when considering ways to alleviate concerns regarding the position of new information intermediaries as gatekeepers. It also relates to the discussion of "power" earlier in this section. As Barzilai-Nahon (2008, p. 1,500) explains, the "existence of a direct connection and its endurance plays a major role by creating a venue for negotiation of stances between the gated and the gatekeeper". Such connections can be of a legal (e.g. terms of use, privacy policies), social (relationships between users, but also the degree to which intermediaries mediate and facilitate social exchange between users) or even personal nature, depending on the intermediary's knowledge of the user. Often, these relationships are characterised by considerable asymmetries. We have already mentioned the power that detailed knowledge of the user gives the intermediary in that relationship and the opportunity for "digital market manipulation".

Terms of use or knowledge of users can be means of not only establishing a direct relationship with individual users but also of managing that relationship, e.g. by creating lock-in effects and increasing the obstacles to switching. The more effort and personal data (photos, friends, posts) users have invested into a social network, the higher the cost of switching networks. This is one of the reasons why data portability plays a central role in the discussions around draft data protection regulations. Aspects of data protection law or control of contracts (in the form of terms of use) have so far played no or only a very limited role in assessing intermediaries' potential for the realisation of media diversity. A more dynamic understanding of gatekeepers helps to understand the importance of considering these aspects, also in the diversity dialogue.

3.2.4 Alternatives in the context of gatekeeping. Clearly, the power of a gatekeeper relationship also depends on the availability of reasonable alternatives. This has already been considered in the context of discussions concerning more traditional gatekeepers, e.g. pay-TV. One reason for mandating access to the conditional access system was to protect users from being forced to purchase several set-top boxes if they wanted to switch between pay-TV services. And indeed, creating alternatives has also been suggested as another approach to mitigating the new information intermediaries' influence on diverse choices. Collins and Cave (2013), for example, suggested rethinking media concentration measures with a view to lowering entry obstacles and increasing supply, rather than restricting economic or opinion power. Similar suggestions include creating incentives or funding competing search engines, so that users can get a "second opinion" (Schulz *et al.*, 2005).

But once again, when considered from the perspective of the gated and their relationship to the gatekeeper, it quickly become obvious that having alternatives is one thing and being aware of their existence is another – and possibly the more important concern in a context of digital abundance. Therefore, another relevant aspect that deserves more attention when discussing ways of mitigating gatekeeping control over diverse information exposure is the need to make users more aware of the choices available to them. Interestingly, a variety of tools has been developed to make users aware of the (narrowness) of their choices, including Bobble, Considerit or Scoopinion.

4. Conclusions

Information markets are changing and so are information intermediaries. One salient feature of the new information intermediaries, such as search engines, social networks and application platforms, is a far more interactive, dynamic and complicated relationship with users. Accordingly, many of the potential influences of these new intermediaries are related

to exposure diversity and their ability to influence information choices, or set the parameters for the way in which users make their choices. Hence, when examining to what extent the new intermediaries are indeed gatekeepers for diverse information markets and diverse exposure, a more dynamic conceptualisation of gatekeeping is needed – one that also takes into account the relationship between gatekeepers and the gated. Barzilai's Theory of Network Gatekeeping provides a useful analytical framework in that context.

Applying her theory, it becomes clear that new gatekeepers differ from the old, as well as the reasons why and on which points. One important aspect is the mechanisms used to exercise gatekeeping control which, in the case of the new intermediaries, are often related to interaction with users, the amount of knowledge and control they have over the user base and exposure to diverse information. In this article, we have suggested that this is also one reason for questioning whether applying "old" tools, which focus primarily on imposing obligations on the gatekeeper as to how to behave in relation to other content providers, is sufficient to address gateway concerns with regards to new information intermediaries. Instead, this paper has developed the outline of a more user-centred approach – an approach that takes more account of the dynamics between gatekeepers and the gated, and seeks to re-establish the opportunity for users to exercise power by ceasing use or making alternative choices.

Finally, all regulatory measures considered must keep in mind the fact that new information intermediaries are also enablers of media diversity. The question for policymakers is therefore whether policy interventions are able to optimise media diversity without deterring companies from offering their services.

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