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Online behavioural advertising, consumer empowerment and fair competition: Are the DSA transparency obligations the right answer?

Elena Izyumenko,^a Martin Senftleben,^b Nynke Schutte,^c Edith G. Smit,^d Guda van Noort^e and Lieselotte van Velzen^f

Abstract

This paper explores the legal implications of one of the most prevalent forms of modern advertising practices: online behavioural advertising (OBA). It specifically focuses on the normative implications and potential risks associated with OBA-induced ‘information bubbles’: OBA leading to a situation where consumers are primarily exposed to products and services aligned with their past preferences, potentially limiting their choices and autonomy, and also harming market competition more generally, by limiting the spectrum of information on offers available in the marketplace, thus impacting the regulation of supply and demand that is essential to a well-functioning market economy. To address these challenges posed by OBA, enhanced transparency has been proposed as a means to empower consumers and ensure undistorted, fair competition. This approach, codified at EU level in the Digital Services Act, aims to make consumers more aware of the information bubbles they find themselves in, presumably encouraging them to actively explore alternative products on the market. Building on the findings of a collaborative study with communication science specialists, this paper investigates whether enhanced transparency can, indeed, effectively mitigate OBA-induced information bubbles. The analysis also discusses alternative solutions, such as active ‘information enrichment’ by platforms and OBA service providers, that may remedy shortcomings of the current regulatory approach relying on transparency obligations.

Keywords: Behavioural Advertising, DSA, Consumer Empowerment, Fair Competition, Transparency, Filter Bubbles, Information Enrichment

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1. Introduction

Advertising used to revolve around reach and frequency: how many people saw the ad and how often? It would thus be profitable to be able to show an ad for example in the break of a very popular TV series. In this case, all people watching the series would be exposed to the same ad.¹ Today, however, advertisers have more possibilities than reach and frequency to target their audiences: they can seek personalization by targeting customers with advertisements tailored to those customers’ interests. By targeting consumers, brands do not seek a maximum reach, but focus on a smaller subset of consumers who are more likely to be a good match with the advertiser’s products. Depending on the level of accuracy, this is supposed to increase the firm’s profit² and save money on irrelevant advertising. The personalization of ads is based upon the collection of data. Think about socio-demographic data (e.g., age, gender, location, education) and online behavioural data (e.g., clicked ads, likes, website visits, search history, online purchases).³ Advertising based on the latter is called online behavioural advertising (OBA). OBA is one of the most important ways of reaching targeted audiences in the digital society. It is supposed to tailor the ads in a way they become more personally relevant for consumers.⁴

Despite its seeming advantages for both businesses and consumers, OBA raises several regulatory concerns, including its potential to create the so-called personalized information or filter ‘bubbles’.⁵ In these bubbles, consumers predominantly encounter products and services

¹ T. Araujo et al., ‘From Purchasing Exposure to Fostering Engagement: Brand-Consumer Experiences in the Emerging Computational Advertising Landscape’ (2020) 49(4) *Journal of Advertising*, available at: <https://doi.org/10.1080/00913367.2020.1795756>.

² J. Shin and J. Yu, ‘Targeted advertising and consumer inference’ (2021) 40(5) *Marketing Science* 900, 914.

³ Id., 900; N. Bol et al., ‘Vulnerability in a tracked society: Combining tracking and survey data to understand who gets targeted with what content’ (2020) 22(11) *New Media & Society* 1997.

⁴ S.C. Boerman, S. Kruikemeier and F.J. Zuiderveen Borgesius, ‘Online Behavioral Advertising: A Literature Review and Research Agenda’ (2017) 46(3) *Journal of Advertising* 363, 364.

⁵ E. Pariser, *The filter bubble: What the Internet is hiding from you* (London, England; New York, New York: Penguin Books, 2012); F.J. Zuiderveen Borgesius et al., ‘Should we worry about filter bubbles?’ (2016) 5(1)

aligned with their prior preferences, potentially limiting their exposure to new options and hiding the full spectrum of offers available in the marketplace. Consequently, consumers might overlook a wider range of purchase choices and only be aware of a limited set of sellers, even in competitive markets.

The objective of this paper is to investigate the normative implications and potential risks of this phenomenon, assess the effectiveness of transparency obligations as a potential regulatory countermeasure and, finally, explore alternative avenues that may complement transparency-based interventions. In order to achieve this aim, the paper first explains the technical aspects of OBA and how these technical features contribute, potentially, to the formation of filter bubbles (2). It then examines three primary issues arising from OBA-induced information bubbles: first, the reduction of consumer choice, empowerment, and autonomy (3.1); second, the implications for unfair competition law (3.2); and, third, the effects on more general policy considerations, such as the establishment of well-functioning markets (supply and demand), and European borderless internal market goals (3.3). After identifying challenges arising from OBA, the paper explores potential solutions. Drawing on the findings of a collaborative study with communication science specialists, it first focuses on the potential of enhanced transparency obligations, recently codified at EU level in the Digital Services Act (DSA),⁶ to ‘burst’ the filter bubble by encouraging consumers to actively explore alternative products on the market (4.1). Second, it investigates whether additional interventions, such as active ‘information enrichment’ by platforms and OBA service providers, may be necessary (4.2). The paper concludes with closing remarks (5).

2. Online behavioural advertising (OBA): Technical features and the filter bubble phenomenon

Understanding the technical features of OBA is essential for assessing the normative implications of this widespread advertising practice. First of all, the question arises how an OBA is matched with the right consumer. This is mostly done through real-time-bidding (RTB). RTB is a form of programmatic advertising.⁷ This means that instead of through human intervention, algorithms match the ad with the individual.⁸ RTB is an algorithmic system where advertising spaces (e.g., the ad banners you see on platforms, such as Facebook), are sold to the highest bidder through an automated auction process.⁹ It is called ‘real time’, because the

Internet Policy Review, available at: <https://doi.org/10.14763/2016.1.401>; A. Ross Arguedas et al., *Echo Chambers, Filter Bubbles, and Polarization: A Literature Review* (Reuters Institute for the Study of Journalism, 2022), available at: <https://reutersinstitute.politics.ox.ac.uk/echo-chambers-filter-bubbles-and-polarisation-literature-review>.

⁶ Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act or DSA) (Text with EEA relevance), PE/30/2022/REV/1, OJ L 277, 27.10.2022, p. 1.

⁷ M. Vaele and F.J. Zuiderveen Borgesius, ‘Adtech and Real-Time Bidding under European Data Protection Law’ (2022) 23 *German Law Journal* 226, 231.

⁸ Id.

⁹ Id., 227.

moment someone visits the website, the auction starts and the ad space gets sold.¹⁰ RTB is a complex process, with various parties involved: a visitor, supply-side platform (SSP), advertising exchange (AdX) demand-side platform (DSP) and data management platform (DMP).¹¹

The process gets triggered when someone (the visitor) clicks on a webpage. That webpage (the publisher) has various ad spaces. Those are in principle just blank banners, which are sold to the highest bidder of the auction (the advertiser). Both the SSP and DSP are fully technical and automatic intermediaries. The former represent the publishers and the latter the advertisers. The AdX can be seen as the auction house.¹² What is actually being sold is called the ‘bid request’. The bid request contains data of the visitor. Vaele and Zuiderveen Borgesius list as examples *inter alia*: the website visited, device, operating system, who the user is, year of birth, gender, interests, geography, postal code and more.¹³

Since the bids are being placed automatically, the determination of the ad value can be a bit opaque and depends on various factors. Roughly speaking, the valuation is typically based on the prediction of the visitor’s likelihood to purchase the advertiser’s product and the value of that purchase.¹⁴ To calculate this, a lot of data about the visitor is needed, in order to determine whether it is worth to make a bid and how high that bid should be. If for example a visitor’s browsing history shows earlier interest in the advertiser’s brand, the advertiser would like to place a higher bid.¹⁵ It is important to make an accurate calculation to both improve the user experience, but also to increase the firm’s profit.¹⁶ That is where the DMPs come in. DSPs can send the bid request to the DMPs, who enrich the request with even more data about the visitor by using different data sources. Google is an example of a company that also runs DMPs.¹⁷

To target accurately it is important to have sufficient amounts of data. How that data are collected can vary. To track consumer’s browsing behaviour, companies often use cookies.¹⁸ A cookie is a small piece of text that is stored in a user’s web browser the first time the user visits the website. That way, every time the user visits the website the browser sends the cookie to

¹⁰ J. Wang, W. Zhang and S. Yuan, *Display Advertising with Real-Time Bidding (RTB) and Behavioural Targeting* (Now Publishers Inc., 2017), 4, available at: <https://doi.org/10.48550/arXiv.1610.03013>.

¹¹ M. Vaele and F.J. Zuiderveen Borgesius, ‘Adtech and Real-Time Bidding under European Data Protection Law’ (2022) 23 *German Law Journal* 226, 231, 232.

¹² Id., 231, footnote 32: it is not as simple as there being various publishers represented by one SSP seeking an advertising represented by one DSP, all on the same Adx. In reality publishers use multiple SSPs, starting auctions on different AdXs simultaneously. Therefore, the SSPs can choose from different bids.

¹³ M. Vaele and F.J. Zuiderveen Borgesius, ‘Adtech and Real-Time Bidding under European Data Protection Law’ (2022) 23 *German Law Journal* 226, 232.

¹⁴ J. Wang, W. Zhang and S. Yuan, *Display Advertising with Real-Time Bidding (RTB) and Behavioural Targeting* (Now Publishers Inc., 2017), 16 and 17.

¹⁵ Id., 10.

¹⁶ Id., 27.

¹⁷ M. Vaele and F.J. Zuiderveen Borgesius, ‘Adtech and Real-Time Bidding under European Data Protection Law’ (2022) 23 *German Law Journal* 226, 232.

¹⁸ S.C. Boerman, S. Kruikemeier and F.J. Zuiderveen Borgesius, ‘Online Behavioral Advertising: A Literature Review and Research Agenda’ (2017) 46(3) *Journal of Advertising* 363, 364.

the server to identify the user.¹⁹ As a result an online shop can remember what a user had in their basket for example.²⁰ As long as those cookies are from the website itself, they are called first-party cookies. However when you are visiting a website, not all elements are owned by that website. Some elements, such as ad spaces, are owned by third parties. It is therefore possible that those parties also place cookies on the website. This is called a third-party cookie.²¹ Thus when you think you are only visiting one webpage, you are actually querying other servers that can track you as well.²²

The tracking of users often happens covertly.²³ This practice involves a lot of personal data, which users are often not aware of.²⁴ Because of the privacy concerns associated with the deployment of third party cookies, their use is increasingly getting reduced.²⁵ Therefore, first party data is starting to play a more important role in advertising.

Throughout the year 2022, we conducted a comprehensive study on consumer reactions to OBA. Based on desk research and semi-structured stakeholder interviews, our study measured consumers' perceptions of parameter transparency in algorithmic advertising, in an online consumer panel involving almost two thousand participants.²⁶ From the interviews we held, it appeared that 'lookalike' audiences have emerged as an important ad targeting tool. With this method brands can upload their (hashed) customer list on, e.g., Facebook. Facebook then uses its own data to search for similar customers. As an advertiser you can specify to which extent you want the new audience to resemble your own customer list. For example, you want 100% lookalikes, then you get a narrow new audience, but it is also possible to opt for a smaller matching percentage, only 20% for instance.²⁷

Privacy is not the only concern surrounding these ad practices. The proliferation of OBA raises questions regarding its impact on the information flow reaching consumers. Notably, as mentioned already, personalised advertising practices are said to be susceptible of creating

¹⁹ J. Wang, W. Zhang and S. Yuan, *Display Advertising with Real-Time Bidding (RTB) and Behavioural Targeting* (Now Publishers Inc., 2017), 11.

²⁰ M. Vaele and F.J. Zuiderveen Borgesius, 'Adtech and Real-Time Bidding under European Data Protection Law' (2022) 23 *German Law Journal* 226, 227.

²¹ *Id.*, 228.

²² *Id.*, 228.

²³ S.C. Boerman, S. Kruikemeier and F.J. Zuiderveen Borgesius, 'Online Behavioral Advertising: A Literature Review and Research Agenda' (2017) 46(3) *Journal of Advertising* 363, 364.

²⁴ *Id.*, 363.

²⁵ B.B. Duivenvoorde, 'Datagedreven marketing en de toekomst van het consumentenrecht: tijd voor een nieuwe beschermingsgedachte?' (2022) 4 *TvC* 193.

²⁶ See further E. Smit et al., 'Towards Transparency in Algorithmic Advertising' (forthcoming 2024).

²⁷ K. Sudhir, S.Y. and Lee and S. Roy, 'Lookalike Targeting on Others' Journeys: Brand Versus Performance Marketing' (2022) *Cowles Foundation Discussion Paper No. 2302*, available at: <https://ssrn.com/abstract=3927976> or <http://dx.doi.org/10.2139/ssrn.3927976>.

personalised information or filter bubbles,²⁸ or targeting pockets,²⁹ wherein consumers are primarily exposed to products and services aligned with their prior preferences, possibly limited to products and services they have previously shown interest in.

Whereas, so far, an information or filter bubble phenomenon has primarily been studied in the context of news recommender systems and political discussion on the Internet,³⁰ it may have significant implications in the area of online market practices and related commercial communication as well. Because of their enclosure potential, filter bubbles can restrict not only the individual's exposure to alternative political opinions and news items, but also interfere with their awareness of a wider array of available purchase options. This, in turn, can have serious implications on consumer choice, autonomy, empowerment, fair competition, and the general well-functioning of markets, as discussed in more detail below. As Laux et al. show, '[c]onstellations are possible in which a market is generally open to competition, but the targeted consumer is only made aware of one possible seller'.³¹ This phenomenon is further exacerbated not only by the fact that consumers are getting increasingly tailored advertisements but also by the relatively small number of market players acting as driving forces behind this personalization.³²

²⁸ E. Pariser, *The filter bubble: What the Internet is hiding from you* (London, England; New York, New York: Penguin Books, 2012); F.J. Zuiderveen Borgesius et al., 'Should we worry about filter bubbles?' (2016) 5(1) *Internet Policy Review*, available at: <https://doi.org/10.14763/2016.1.401>; A. Ross Arguedas et al., *Echo Chambers, Filter Bubbles, and Polarization: A Literature Review* (Reuters Institute for the Study of Journalism, 2022), available at: <https://reutersinstitute.politics.ox.ac.uk/echo-chambers-filter-bubbles-and-polarisation-literature-review>.

²⁹ J. Laux et al., 'The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising' (2022) 9(2) *Big data & society* 1.

³⁰ See e.g. E. Pariser, *The filter bubble: What the Internet is hiding from you* (London, England; New York, New York: Penguin Books, 2012); L. Harris and P. Harrigan, 'Social Media in Politics: The Ultimate Voter Engagement Tool or Simply an Echo Chamber?' (2015) 14(3) *Journal of Political Marketing* 251; E. Bozdag and J. van den Hoven, 'Breaking the Filter Bubble: Democracy and Design' (2015) 17(4) *Ethics and information technology* 249; S. Flaxman, S. Goel and J.M. Rao, 'Filter Bubbles, Echo Chambers, and Online News Consumption' (2016) 80(1) *Public Opinion Quarterly* 298; D. Spohr, 'Fake News and Ideological Polarization: Filter Bubbles and Selective Exposure on Social Media' (2017) 34(3) *Business Information Review* 150; M. Haim, A. Graefe and H.-B. Brosius, 'Burst of the Filter Bubble?: Effects of Personalization on the Diversity of Google News' (2018) 6(3) *Digital journalism* 330; J. Harambam, N. Helberger and J. van Hoboken, 'Democratizing algorithmic news recommenders: how to materialize voice in a technologically saturated media ecosystem' (2018) 376(2133) *Philosophical Transactions Royal Society A* 1; S. Milan and C. Agosti, 'Personalisation Algorithms and Elections: Breaking Free of the Filter Bubble' (2019) *Internet Policy Review*, available at: <https://policyreview.info/articles/news/personalisation-algorithms-and-elections-breaking-free-filter-bubble/1385>; A.S. Cardenal et al., 'Echo-chambers in online news consumption: evidence from survey and navigation data in Spain' (2019) 34(4) *European Journal of Communication* 360; A.S. Cardenal, et al., 'Digital Technologies and Selective Exposure: How Choice and Filter Bubbles Shape News Media Exposure' (2019) 24(4) *The International Journal of Press/Politics* 465; G. Eady et al., 'How Many People Live in Political Bubbles on Social Media? Evidence From Linked Survey and Twitter Data' (2019) *SAGE Open* 1; E. Nechushtai and S.C. Lewis, 'What Kind of News Gatekeepers Do We Want Machines to Be? Filter Bubbles, Fragmentation, and the Normative Dimensions of Algorithmic Recommendations' (2019) 90 *Computers in human behavior* 298; J. Januškevičiūtė, 'Threats to the Process of Receiving Political News from Echo Chambers and Filter Bubbles on Social Media' (2022) 94 *Information & Media* 39; S.C. Rhodes, 'Filter Bubbles, Echo Chambers, and Fake News: How Social Media Conditions Individuals to Be Less Critical of Political Misinformation' (2022) 39(1) *Political Communication* 1.

³¹ J. Laux et al., 'The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising' (2022) 9(2) *Big data & society* 1, 2.

³² J. Laux, S. Wachter and B. Mittelstadt, 'Neutralising online behavioural advertising: Algorithmic targeting with market power as an unfair commercial practice' (2021) 58(3) *Common Market Law Review* 719, 735.

In the course of our study, we tested, among others, whether transparency information on the parameters of OBA encourages consumers to leave their algorithmic ‘bubbles’ and actively seek additional information on alternative offers. The data we gathered confirmed, however, the risk of consumers staying in their information bubbles.³³ This was primarily due to consumers’ tendency to be somewhat passive and simply accept OBA-generated choices, as they are often unwilling to proactively search for alternative offers beyond those suggested to them through personalized ads.

It is thus essential to study more closely the normative implications of personalized advertising practices, including the potential risks they create associated with information bubbles.³⁴

3. The effects of OBA filter bubbles

As mentioned already, OBA-induced filter bubbles can prove problematic in three principal ways: from the perspective of reduction of consumer choice, consumer autonomy and empowerment (3.1), from the standpoint of unfair competition law (3.2), and from more general policy considerations, such as the public interest in well-functioning markets (supply and demand), and the European borderless internal market goals (3.3).

3.1 The effects on consumer choice, consumer autonomy, and empowerment

Market information fragmentation created by filter bubbles can negatively impact, first and foremost, consumer autonomy and free choices.³⁵ Consumer protection, meanwhile, forms one of the cornerstones of the EU single market commitment. Article 12 of the Treaty on the Functioning of the European Union (TFEU), for example, states explicitly that ‘[c]onsumer protection requirements shall be taken into account in defining and implementing [...] Union policies and activities’.³⁶ In addition, Article 38 of the EU Charter of Fundamental Rights sets the requirement of a ‘high level of consumer protection’ in Union policies.

Consumers’ personal autonomy is eroded when technology intrudes individual choices and ‘overconfirms’ personal preferences, instead of enhancing the spectrum of market-related information and empowering individuals to make informed decisions and form their unique preferences.³⁷ Helberger et al. point out how algorithms can decrease consumer power by ‘reducing choice and awareness of competing products and services that are not being

³³ E. Smit et al., ‘Towards Transparency in Algorithmic Advertising’ (forthcoming 2024).

³⁴ J. Laux et al., ‘The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising’ (2022) 9(2) *Big data & society* 1, 4.

³⁵ N. Helberger et al., ‘Macro and Exogenous Factors in Computational Advertising: Key Issues and New Research Directions’ (2020) 49(4) *Journal of Advertising* 377, 382.

³⁶ See also Articles 4(2)(f), 114 and 169 of the Treaty on the Functioning of the European Union (TFEU).

³⁷ E. Mik, ‘The Erosion of Autonomy in Online Consumer Transactions’ (2016) 8(1) *Law, innovation and technology* 1, 2.

recommended'.³⁸ Along the same lines, Sevastianova observes that basing purchasing predictions on past experiences can generate 'a lock-in effect' wherein consumers are bound by products they bought earlier, 'with limited opportunities for second-order desires, or "preferences over preferences", which are key elements of autonomy'.³⁹ Laux, Wachter and Mittelstadt additionally illustrate how the distribution of market influence within ad tech allows OBA to limit consumers to a smaller range of behaviourally chosen options, leading to adverse effects on informed consumer decision-making.⁴⁰ When a few dominant ad intermediaries rely on algorithmically inferred consumer profiles, non-profile-based options in the market diminish in visibility and the consumers' choice shrinks.⁴¹

Admittedly, on the one hand, a certain degree of information personalisation can be beneficial to consumers. Personalized advertising may initially seem to enhance personal relevance by allowing individuals to determine the content and trade offers they receive based on their previous choices and interests.⁴² Indeed, it is simply impossible for a human being of flesh and blood – due to both time and limited cognitive abilities – to assess all the goods and services the Internet has to offer.⁴³ Some information personalisation is hence crucial for consumer empowerment – in the sense of enabling consumers to find the right offer in the limited time they have available for identifying appropriate products and services in the marketplace.⁴⁴ On the other hand, however, when personalized advertising becomes too restrictive giving rise to filter bubbles, it jeopardizes the very same consumer autonomy and empowerment it aims to boost. When algorithms present content based exclusively on past behaviour, they can reinforce existing preferences and viewpoints, potentially limiting exposure to a wider range of options and hindering independent decision-making for consumers. Along these lines, Helberger et al. demonstrate that '[t]he increased focus on individual consumers, and their growing influence on the algorithmic advertising process [...] does not automatically translate to enhanced agency, as many of these processes operate on the basis of inferred data, and users are able to control

³⁸ N. Helberger et al., 'Macro and Exogenous Factors in Computational Advertising: Key Issues and New Research Directions' (2020) 49(4) *Journal of Advertising* 377, 380.

³⁹ V.N. Sevastianova, 'Trademarks in the Age of Automated Commerce: Consumer Choice and Autonomy' (2023) 54(10) *IIC* 1561, 1568. The issue might become even more complicated because, as Sevastianova observes, 'when consumers' shopping behaviour is "predicted" by machines (more correctly "pre-empted"), people are not even given a chance to start a process of deliberation in their minds, and thus fail to exercise their autonomy.' Id.

⁴⁰ J. Laux, S. Wachter and B. Mittelstadt, 'Neutralising online behavioural advertising: Algorithmic targeting with market power as an unfair commercial practice' (2021) 58(3) *Common Market Law Review* 719, 735.

⁴¹ Id., 737.

⁴² See e.g. N. Helberger et al., 'Macro and Exogenous Factors in Computational Advertising: Key Issues and New Research Directions' (2020) 49(4) *Journal of Advertising* 377, 380; J. Laux et al., 'The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising' (2022) 9(2) *Big data & society* 1, 4, 5; N. Helberger et al., 'Choice Architectures in the Digital Economy: Towards a New Understanding of Digital Vulnerability' (2022) 45 *Journal of Consumer Policy* 175, 176; F. Saurwein and C. Spencer-Smith, 'Automated Trouble: The Role of Algorithmic Selection in Harms on Social Media Platforms' (2021) 9(4) *Media and Communication* 222, 224; N. Helberger, K. Karppinen and L. D'Acunto, 'Exposure diversity as a design principle for recommender systems' (2018) 21(2) *Information, Communication & Society* 191, 192.

⁴³ E. Mik, 'The Erosion of Autonomy in Online Consumer Transactions' (2016) 8(1) *Law, Innovation and Technology* 1, 19-20.

⁴⁴ Id.

data flow only to a limited extent’.⁴⁵ Analogously, Onitiu highlights that consumers simply ‘might not be aware of the extent of the filtering process, which influences their agency and choice.’⁴⁶ It is also important to remember that the main goal of personalization is to enhance online business profits, rather than aiding consumers in their decision-making.⁴⁷

The effects of information bubbles on consumer empowerment and autonomy have, among others, significant implications for online users’ enjoyment of their fundamental rights, particularly their right to private life as protected by Article 8 of the European Convention on Human Rights (ECHR)⁴⁸ and Article 7 of the EU Charter of Fundamental Rights.⁴⁹ Importantly, however, the impact of information bubbles associated with OBA extends beyond the ‘privacy’ dimension of these provisions that is often discussed in relation to online targeted advertising. The European Court of Human Rights (ECtHR) has consistently emphasized that the term ‘private life’ as defined in Article 8 of the Convention is a comprehensive concept. It encompasses various aspects, including the right to personal autonomy and personal development.⁵⁰ In the context of personalized advertising and filter bubbles, this notion of personal autonomy becomes particularly significant. When a consumer is trapped in a filter bubble, her ability to exercise personal autonomy in the sense of Article 8 is compromised. Consumers may no longer be able to make choices and decisions about their own life, free from external manipulation or undue influence. Filter bubbles may thus subtly erode personal autonomy by narrowing the scope of decisions one can make, potentially influencing an individual’s purchasing decisions and even broader perspectives.

In addition to the personal autonomy aspect of Article 8 ECHR, OBA-induced information bubbles and the market fragmentation information they create can also present challenges from the perspective of the right to freedom of expression protected by Article 10 ECHR and Article 11 of the EU Charter. Crucially, the right to freedom of expression safeguards not only the freedom to express oneself but also the freedoms to impart and receive information. Furthermore, it is well established that it extends to the commercial context, including various advertising practices.⁵¹ In the context of OBA, freedom of information translates into the

⁴⁵ N. Helberger et al., ‘Macro and Exogenous Factors in Computational Advertising: Key Issues and New Research Directions’ (2020) 49(4) *Journal of Advertising* 377, 380.

⁴⁶ D. Onitiu, ‘Fashion, Filter Bubbles and Echo Chambers: Questions of Privacy, Identity, and Governance’ (2022) 14(2) *Law, innovation and technology* 395, 403.

⁴⁷ E. Mik, ‘The Erosion of Autonomy in Online Consumer Transactions’ (2016) 8(1) *Law, Innovation and Technology* 1, 20.

⁴⁸ European Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols 11, 14 and 15, and 7 other protocols (4 November 1950, ETS 5).

⁴⁹ Charter of Fundamental Rights of the European Union (26 October 2012, 2012/C 326/02).

⁵⁰ See, among many other authorities, ECtHR, *Pretty v. The United Kingdom*, no. 2346/02, 29 April 2002, para. 61, ECLI:CE:ECHR:2002:0429JUD000234602; *A, B and C v. Ireland* [GC], no. 25579/05, 16 December 2010, para. 212, ECLI:CE:ECHR:2010:1216JUD002557905. See also Registry of the European Court of Human Rights, *Guide on Article 8 of the European Convention on Human Rights – Right to respect for private and family life, home and correspondence* (Council of Europe/European Court of Human Rights, updated on 31 August 2022), paras. 252–53, available at: https://www.echr.coe.int/documents/d/echr/guide_art_8_eng.

⁵¹ See e.g. ECtHR, *Sekmadienis Ltd. v. Lithuania*, no. 69317/14, 30 January 2018, ECLI:CE:ECHR:2018:0130JUD006931714; ECtHR, *Markt Intern Verlag GmbH and Klaus Beermann v. Federal Republic of Germany*, no. 10572/83, 20 November 1989, ECLI:CE:ECHR:1989:1120JUD001057283; ECtHR, *Dor v. Romania* (dec.), no. 55153/12, 25 August 2015, ECLI:CE:ECHR:2015:0825DEC005515312.

consumers' freedom to receive a wide range of alternative offers and the traders' and other relevant actors' (such as advertising platforms) corresponding obligation to deliver those offers impartially. Filter bubbles, hence, due to their inherent potential to limit such information flows, pose a significant concern for the preservation of freedom of information in the online sphere. Prioritizing certain information while making other information less accessible cuts information flows to consumers reducing the likelihood that they will discover alternative options.⁵² Although the 'concealed' information, such as products, services, or vendors, remains accessible, it may be challenging to locate unless the consumer is already aware of what they are seeking.⁵³ This can practically hinder the consumer from receiving relevant information on the most cost-effective solution or the product that aligns best with their preferences.⁵⁴ In this line, the recent study by Schnadower Mustri, Adjerid and Acquisti demonstrated, for example, that targeted ads often tend to be linked with vendors of lower quality and elevated prices for similar products in contrast to competing options discoverable in organic search results.⁵⁵

Interestingly, the argument that information bubbles interfere with freedom of commercial expression brings us back to consumer autonomy considerations, as personal autonomy constitutes, indeed, a primary justification for the protection of commercial expression, with the emphasis on the rights of the listener or receiver of information rather than of the speaker.⁵⁶ In the EU, Advocate General Fennelly, for example, has held that 'individuals' freedom to promote commercial activities derives not only from their right to engage in economic activities and the general commitment, in the Community context, to a market economy based upon undistorted, free competition, but also from their inherent entitlement as human beings freely to express and receive views on *any* topic, including the merits of the goods or services which

⁵² E. Mik, 'The Erosion of Autonomy in Online Consumer Transactions' (2016) 8(1) *Law, Innovation and Technology* 1, 21.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ E. Schnadower Mustri, I. Adjerid and A. Acquisti, 'Behavioral Advertising and Consumer Welfare: An Empirical Investigation' (2023) SSRN, available at: <https://ssrn.com/abstract=4398428> or <http://dx.doi.org/10.2139/ssrn.4398428>.

⁵⁶ Indeed, in the realm of commercial speech, it is a longstanding tradition to prioritize the protection of the interests of information recipients as a primary rationale for granting legal safeguards. As stated famously by the US Supreme Court, 'the extension of First Amendment protection to commercial speech is justified principally by the value to consumers of the information such speech provides.' (US Supreme Court, *Zauderer v. Office of Disciplinary Counsel*, 471 U.S. 626, 651 (28 May 1985) (citing US Supreme Court, *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 425 U.S. 748 (24 May 1976)). In relation to Article 10 ECHR, analogously, it was observed that, "more often than not, the protection [for commercial speech] is discussed [by the ECtHR] from the consumer's perspective, not the speaker's." (B.E.H. Johnson and K.H. Youm, 'Commercial Speech and Free Expression: The United States and Europe Compared' (2009) 2 *Journal of International Media & Entertainment Law* 159, 196). The ECtHR stresses, for example, the positive effects of commercial expression and its core, advertising, on the information position of consumers when it holds that "[f]or the citizen, advertising is a means of discovering the characteristics of services and goods offered to him." (ECtHR, *Casado Coca v. Spain*, no. 15450/89, 24 February 1994, para. 51, ECLI:CE:ECHR:1994:0224JUD001545089). In the US, analogously, the Supreme Court ruled that '[a]dvertising, however tasteless and excessive it sometimes may seem, is nonetheless dissemination of information as to who is producing and selling what product, for what reason, and at what price. So long as we preserve a predominantly free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions. It is a matter of public interest that those decisions, in the aggregate, be intelligent and well-informed. To this end, the free flow of commercial information is indispensable [...]' (US Supreme Court, *Virginia State Board of Pharmacy*, *id.*, 765).

they market or purchase.’⁵⁷ Such an entitlement, according to the Advocate General, is based on ‘the autonomy, dignity and personal development of individuals.’⁵⁸ On the other side of the Atlantic, the Supreme Court of Canada likewise relied on personal autonomy as a justification for commercial speech protection when stating that, ‘over and above its intrinsic value as expression, commercial expression which [...] protects listeners as well as speakers plays a significant role in enabling individuals to make informed economic choices, an important aspect of individual self-fulfilment and personal autonomy.’⁵⁹

3.2 The effects on fair competition

The reduction of consumer choice and autonomy, along with corresponding fundamental rights considerations, is not the sole concern regarding OBA-produced filter bubbles. From the perspective of fair competition, as recognized directly in the Preamble to the TFEU, filter bubbles that significantly distort consumers’ ability to make informed choices by narrowing their exposure to a limited range of products or services, can also prove problematic. More specifically, such bubbles could be deemed unfair under both the general unfair competition clause in Article 5 of the EU Unfair Commercial Practices Directive (UCPD)⁶⁰ and the more specific provisions in Article 6 (‘misleading actions’) and Article 8 (‘aggressive commercial practices’).

With regards to ‘misleading actions’ under Article 6 UCPD, Laux, Wachter, and Mittelstadt observe, for instance, that, when the visibility of non-personalized alternatives is lowered by advertising intermediaries, there is a higher probability that certain consumers will make transactional choices they would not otherwise make, resulting in a distortion of their economic decision-making in violation of Article 6 UCPD.⁶¹ Laux, Wachter, and Mittelstadt reference in this context the European Commission’s decision in *Google Shopping*, which recognised the harmful effects on competition of diminishing the prominence of rival comparison-shopping services.⁶²

Additionally, when OBA is coupled with market dominance, it can potentially be viewed as an aggressive commercial practice under Article 8 of the UCPD, notably through the concept of ‘undue influence’ as defined in Article 9 of the UCPD.⁶³ As Helberger demonstrates, it might

⁵⁷ CJEU, Opinion of AG Fennelly in *Germany v. Parliament and Council and Imperial Tobacco and Others*, C-376/98 and C-74/99, 15 June 2000, para. 154, ECLI:EU:C:2000:324 (emphasis in original).

⁵⁸ Id.

⁵⁹ Supreme Court of Canada, *Ford v. Quebec (A.G.)* [1988] 2 SCR 712, 767.

⁶⁰ Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council (‘Unfair Commercial Practices Directive’), OJ L 149, 11.6.2005, p. 22.

⁶¹ J. Laux, S. Wachter and B. Mittelstadt, ‘Neutralising online behavioural advertising: Algorithmic targeting with market power as an unfair commercial practice’ (2021) 58(3) *Common Market Law Review* 719, 744-45.

⁶² Id.

⁶³ See in this sense N. Helberger, ‘Profiling and targeting consumers in the internet of things’, in: R. Schulze and D. Staudenmayer (eds.) *Digital Revolution* (Nomos, 2016), p. 135, 157; J. Laux, S. Wachter and B. Mittelstadt, ‘Neutralising online behavioural advertising: Algorithmic targeting with market power as an unfair commercial

at times be difficult to draw a line between ‘legitimate, albeit technologically sophisticated persuasion and the exercise of undue influence’ in terms of Article 9 UCPD in the behavioural advertising context.⁶⁴ Due to the asymmetry in the commercial relationship between digital advertisers and online consumers, where advertising platforms possess detailed knowledge of consumer behaviours while consumers remain unaware of the entities behind targeted advertising, traders are in a position to exercise ‘undue influence’ over consumers by significantly restricting their choices to a limited selection of predetermined products.⁶⁵

On a more general level, the importance of alternative marketing information reaching consumers was specifically recognised by the Court of Justice of the European Union (CJEU) in a trademark context, in its judgment in *Interflora/Marks & Spencer*.⁶⁶ The Court went as far as establishing a due cause defence for the purpose of informing consumers about alternative offers in the marketplace.⁶⁷ From this judgment, it can be derived that information bubbles are problematic when they reduce the spectrum of offers that is brought to the attention of consumers. The judgment also emphasizes the importance of preserving consumers’ freedom of choice and the necessity of providing them with a sufficiently broad spectrum of offers in the marketplace.

3.3 The effects on the general well-functioning of the market

Finally, it can be said that the effects of OBA-induced filter bubbles extend beyond individual autonomy and competition law, resonating deeply with broader policy considerations surrounding well-functioning markets and the European borderless internal market. These policy considerations include balanced trade mentioned explicitly in the Preamble to the Treaty on the Functioning of the European Union and ‘the need to promote trade between Member States and third countries’ proclaimed in Article 32 TFEU.

By restricting users’ exposure to a limited set of information and products, filter bubbles can impact demand for certain products and services, causing disruptions in the market and affecting the delicate balance between supply and demand. This can further impede the introduction of new products and services, hindering innovation and contributing to market stagnation.

practice’ (2021) 58(3) *Common Market Law Review* 719, 746; P. Hacker, ‘Manipulation by Algorithms. Exploring the Triangle of Unfair Commercial Practice, Data Protection, and Privacy Law’ (2021) *European Law Journal* 1, 9-10.

⁶⁴ N. Helberger, ‘Profiling and targeting consumers in the internet of things’, in: R. Schulze and D. Staudenmayer (eds.) *Digital Revolution* (Nomos, 2016), p. 135, 157.

⁶⁵ F. Galli, ‘Online Behavioural Advertising and Unfair Manipulation Between the GDPR and the UCPD’, in: M. Ebers and M. Cantero Gamito (eds.), *Algorithmic Governance and Governance of Algorithms: Legal and Ethical Challenges* (Cham: Springer International Publishing, 2020), p. 109, 124.

⁶⁶ CJEU, 22 September 2011, Case C-323/09, *Interflora/Marks & Spencer*, para. 91.

⁶⁷ Id. Further on this, see M. Senfleben, ‘Trademark Law, AI-Driven Behavioural Advertising and the Digital Services Act – Towards Source and Parameter Transparency for Consumers, Brand Owners and Competitors’, in: R. Abbott (ed.), *Research Handbook on Intellectual Property and Artificial Intelligence* (Cheltenham: Edward Elgar 2022), p. 309.

Furthermore, there is also the risk of echo chambers – the phenomenon where individuals are exposed to personalized advertising offers that continuously reinforce and amplify their existing preferences but do not bring new ones.⁶⁸ From the perspective of the European borderless internal market, this can translate into the situation, when, instead of receiving offers from other Member States, consumers may be limited to offers from their more localized community, such as their home country or region. This potential localization effect of OBA may undermine the cross-border success of offers from other Member States, potentially impeding the free flow of goods and services across borders and hindering the European Union’s aspirations for a truly interconnected and borderless internal market.

Finally, there might be additional obstacles for smaller businesses in terms of market entry. For new businesses attempting to enter a market, filter bubbles can pose a significant barrier as algorithms may prioritize established players, making it challenging for newcomers to gain visibility and compete effectively.⁶⁹ Such a reduction of chances of competitors to reach consumers and compete for products and services can, in turn, prove problematic from the perspective of the freedom to conduct a business recognized in Article 16 of the EU Charter⁷⁰ and the prohibition of discrimination in Article 14 ECHR and Article 21 of the EU Charter.

4. Bursting the bubble: Exploring possible solutions

Given the issues identified above, it prompts us to consider the tools that could be provided to tackle these challenges. In what follows, we examine whether regulatory measures – enhanced transparency obligations – could help to ‘burst’ the filter bubble and bring more alternatives on the online market to the attention of consumers, thereby empowering consumers and creating a more level playing field for traders (4.1). We then explore the question of whether, in addition to transparency, some alternative solutions may be necessary, such as active ‘information enrichment’ by platforms and OBA services providers (4.2).

4.1 Enhanced transparency

In literature, the proposal was advanced that more transparency can offer a solution to the above-identified problems linked to consumer autonomy and fair competition by making consumers more aware of the information bubbles they are in and by stimulating them, as a

⁶⁸ J. Möller, ‘Filter bubbles and digital echo chambers’, in: H. Tumber and S. Waisbord (eds.), *The routledge companion to media disinformation and populism* (Routledge, 2021), p. 92; C. Thi Nguyen, ‘Echo Chambers and Epistemic Bubbles’ (2020) 17(2) *Episteme* 141; S. Flaxman, S. Goel, and J.M. Rao, ‘Filter bubbles, echo chambers, and online news consumption’ (2016) 80(1) *Public Opinion Quarterly* 298.

⁶⁹ More generally on the behavioural advertising practices affecting SMEs in their capacity as ad purchasers, see N. Fourberg et al., *Online advertising: the impact of targeted advertising on advertisers, market access and consumer choice* (Publication for the committee on the Internal Market and Consumer Protection, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, 2021), 38-41.

⁷⁰ Further on the scope of the freedom to conduct a business under the EU Charter, see X. Groussot, G.T. Pétursson and J. Pierce, ‘Weak Right, Strong Court – The Freedom to Conduct Business and the EU Charter of Fundamental Rights’, in: S. Douglas-Scott and N. Hatzis (eds.), *Research Handbook on EU Human Rights Law* (Edward Elgar, 2017), p. 326.

result, to actively search for alternative products on the market. Helberger et al., for instance, highlighted the need for transparency to empower consumers and strengthen their ability to understand computational advertising mechanisms and processes.⁷¹

EU policy-makers responded to this type of transparency concerns and, in December 2020, the European Commission introduced a proposal for the so-called Digital Services Act aimed at modernising the rules governing online platforms and making the digital space safer for users.⁷² In April 2022, a political agreement on the DSA was reached, and, on the 1st of November 2022, the DSA came into effect.⁷³

The DSA introduced, among others, transparency obligations regarding recommender systems (Article 27 DSA) and online advertising for platforms (Article 26 DSA) in order to enhance consumer empowerment in case of targeted advertising. Article 26 DSA explicitly addresses the issue of online advertising transparency by stating that online platforms displaying advertising on their online interfaces:

shall ensure that, for each specific advertisement presented to each individual recipient, the recipients of the service are able to identify, in a clear, concise and unambiguous manner and in real time, the following:

- (a) that the information is an advertisement, including through prominent markings [...];*
- (b) the natural or legal person on whose behalf the advertisement is presented;*
- (c) the natural or legal person who paid for the advertisement if that person is different from the natural or legal person referred to in point (b);*
- (d) meaningful information directly and easily accessible from the advertisement about the main parameters used to determine the recipient to whom the advertisement is presented and, where applicable, about how to change those parameters.*

Expanding beyond mere source transparency (sub (b) and (c): ‘Who sent this?’), this provision explicitly demands parameter transparency (sub (d): ‘Why me?’). The accompanying Recital 68 DSA clarifies that consumers should receive not only information on the main parameters used to target them, but also ‘meaningful explanations of the logic used to that end, including when this is based on profiling.’ Hence, the new transparency obligations are intended to capture the principles and criteria underlying automated processes of directing specific advertising to targeted consumers.

With regard to advertising systems used by very large online platforms and very large online search engines, Recital 95 DSA highlights particular risks that may arise from the scale of advertising activities – reaching more than 45 million active recipients of the service – and the ‘ability to target and reach recipients of the service based on their behaviour within and outside

⁷¹ N. Helberger et al., ‘Macro and Exogenous Factors in Computational Advertising: Key Issues and New Research Directions’ (2020) 49 *Journal of Advertising* 377, 382 and 386.

⁷² European Commission, *Shaping Europe’s digital future: The Digital Services Act package*, available at: <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package>.

⁷³ Id.

that platform's or search engine's online interface.' In the light of this risk dimension, Recital 95 DSA identifies a need for 'further public and regulatory supervision.' In this vein, Article 39(1) DSA obliges very large online platforms to ensure public access, through application programming interfaces, to repositories of advertisements displayed on their online interfaces until one year after the last use of the advertising. With this additional transparency measure, the DSA seeks to facilitate supervision and research into emerging risks of online advertising, including (as Recital 95 indicates) exposure to 'illegal advertisements or manipulative techniques and disinformation with a real and foreseeable negative impact on public health, public security, civil discourse, political participation and equality.' In line with Article 39(2) DSA, the repository must include at least the following information:

- (a) the content of the advertisement, including the name of the product, service or brand and the subject matter of the advertisement;*
- (b) the natural or legal person on whose behalf the advertisement is presented;*
- (c) the natural or legal person who paid for the advertisement, if that person is different from the person referred to in point (b);*
- (d) the period during which the advertisement was presented;*
- (e) whether the advertisement was intended to be presented specifically to one or more particular groups of recipients of the service and if so, the main parameters used for that purpose including where applicable the main parameters used to exclude one or more of such particular groups;*
- (f) the commercial communications published on the very large online platforms [...];*
- (g) the total number of recipients of the service reached and, where applicable, aggregate numbers broken down by Member State for the group or groups of recipients that the advertisement specifically targeted.*

Importantly, the DSA is not the first piece of legislation that deals with transparency for online advertising: In the EU, the General Data Protection Regulation (GDPR)⁷⁴ already sets forth obligations to inform consumers not only about the collection of personal data but also about the underlying purpose and logic of automated profiling, and potential consequences for consumers.⁷⁵ A number of GDPR Recitals refer to the principles of fair and transparent processing⁷⁶ and state further that those principles 'require that the data subject be informed of the existence of the processing operation and its purposes' and be provided with 'any further information necessary to ensure fair and transparent processing taking into account the specific circumstances and context in which the personal data are processed.'⁷⁷ In addition, consumers are to be informed of both the existence and consequences of profiling applied to them.⁷⁸ Apart

⁷⁴ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L 119, 4.5.2016, p. 1.

⁷⁵ N. Helberger et al., 'Macro and Exogenous Factors in Computational Advertising: Key Issues and New Research Directions' (2020) 49 *Journal of Advertising* 377, 382 and 386.

⁷⁶ Recitals 39, 58, 60, 71, 78 GDPR.

⁷⁷ Recital 60 GDPR.

⁷⁸ Id.

from Recitals, Article 12 GDPR, most notably, requires data controllers to provide individuals with transparent and easily accessible information about how their personal data is processed.

The amendments to the UCPD, introduced by the Directive on the better enforcement and modernization of Union consumer protection rules, also include requirements ‘to ensure adequate transparency towards the consumers’.⁷⁹ More specifically, the UCPD was enriched with a provision that mandates to provide to online consumers, when those search for products using keywords or other inputs, essential information on product ranking factors and their relative importance.⁸⁰

Further measures are being taken at the EU level with the aim of strengthening transparency obligations surrounding personalized online advertising practices. Notably, in November 2021, the European Commission unveiled a proposal for a Regulation on the transparency and targeting of political advertising.⁸¹ The Regulation aims to enhance transparency in political advertising and regulate the use of personal data for political microtargeting.⁸² Most importantly, Article 12 of the Regulation lays down specific requirements related to targeting and amplification, which include, among others, an obligation to ‘provide, together with the political advertisement, additional information necessary to allow the individual concerned to understand the logic involved and the main parameters of the technique used, and the use of third-party data and additional analytical techniques.’

Apart from legislative initiatives, certain other measures are taken on the EU level in order to increase transparency, such as the Strengthened Code of Practice on Disinformation signed in 2022 by a number of platforms, tech companies and civil society,⁸³ that builds, in turn, on the earlier version of the Code first introduced in 2018.⁸⁴ The Strengthened Code puts in place enhanced transparency measures in the field of political advertising and in relation to recommender systems more broadly.⁸⁵ It acknowledges, for instance, ‘the significant impact that recommender systems have on the information diet of users, and therefore recognise[s] that

⁷⁹ Recital 21 to the Directive (EU) 2019/2161 of the European Parliament and of the Council of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as regards the better enforcement and modernisation of Union consumer protection rules, PE/83/2019/REV/1, OJ L 328, 18.12.2019, p. 7.

⁸⁰ Article 7(4a) of the UCPD.

⁸¹ Proposal for a Regulation of the European Parliament and of the Council on the transparency and targeting of political advertising, COM(2021) 731 final, 25 November 2021, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0731>.

⁸² For further discussion, see R. Ó Fathaigh, ‘Proposal for a Regulation on the Transparency and Targeting of Political Advertising’ (2022) 1 *IRIS* 2022 1.

⁸³ The Strengthened Code of Practice on Disinformation 2022, available at: <https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation>.

⁸⁴ European Commission, ‘Disinformation: Commission welcomes the new stronger and more comprehensive Code of Practice on disinformation’ (Press release, 16 June 2022), available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3664.

⁸⁵ European Commission, *Shaping Europe’s digital future: The 2022 Code of Practice on Disinformation*, available at: <https://digital-strategy.ec.europa.eu/en/policies/code-practice-disinformation>.

recommender systems should be transparent and provide users with the possibility to modify at any time their preferred options for the way that information is recommended to them.’⁸⁶

As mentioned earlier, transparency was put forth as a potential remedy for mitigating the risks associated with OBA information bubbles. In order to determine whether, indeed, increased transparency in personalized advertising would motivate consumers to actively seek out alternative products in the market, we conducted, as mentioned already, a comprehensive study on consumer reactions to parameter transparency in algorithmic advertising. Based on desk research and semi-structured stakeholder interviews that explored the policy background to the proposed DSA transparency rules, our online study measured the reactions to the disclosure of common algorithmic practices, in an online consumer panel involving almost two thousand participants (N = 1,743).⁸⁷

The overarching objective of the online study was to examine how parameter transparency in algorithmic advertising could be communicated to consumers in an effective way. With individual subquestions, our study measured consumers’ perceptions of parameter transparency in algorithmic advertising and reactions to the disclosure of common algorithmic practices. More specifically, we examined whether transparency information was indeed perceived as transparent. In addition, we tested whether transparency information led to desirable effects of trust. Finally – and most importantly for the purposes of the present inquiry – our research design included the question whether transparency information was likely to encourage consumers to leave the algorithmic “bubble” and actively seek information on alternative goods and services in the marketplace. This latter aspect – which we labelled “effective coping strategies” – shed light on the spectrum of information about goods and services which, as a result of the advertising system and own initiatives, may finally reach consumers.

The study was fielded in October 2022. Participants (18+ years of age) of an online consumer panel in the Netherlands were approached to join our survey on advertising on social media, like Facebook, Twitter, Instagram, and YouTube. We explained to the participants that these platforms used a sort of formula (algorithm) to determine which advertisement one would see and that we were interested in their opinions on the explanations these platforms provided with regard to the targeting strategies underlying the algorithmic advertisement.

After consent, the following questions were asked before we showed one of ten disclosure scenarios: which online platforms the participants sometimes used (if none, they ended the questionnaire), whether they trusted these platforms, and whether they interacted with online advertisements displayed on these platforms. The participants were then shown one of ten disclosure scenarios and asked about their perception of its transparency, impact on the trust they had in the platform, and their anticipated reaction, including potential initiatives to actively seek further information. We ended the questionnaire with demographics and a debriefing.

⁸⁶ The Strengthened Code of Practice on Disinformation 2022, 18, available at: <https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation>.

⁸⁷ E. Smit et al., ‘Towards Transparency in Algorithmic Advertising’ (forthcoming 2024).

As already indicated, a total of 1,743 respondents completed the questionnaire of which 48% were female. With an average age of 60.04 (standard deviation = 14.98), the sample was rather old compared to the population of the Netherlands. Most respondents completed a medium-level education (41.48%) or a higher-level education (34.14%). Dividing respondents randomly over the ten disclosure scenarios, we arrived at about 170 respondents per scenario (varying between 166 to 183 persons). These subgroups did not differ in terms of demographics and their social media use. As pointed out above, we used social media use as a filter question (in the sense of a gatekeeper criterion: if no social media use, no participation in the panel). Hence, all respondents in our sample used one or more social media platform(s) at least “sometimes”. The top 5 platforms mentioned by the respondents were Facebook (80.15%), YouTube (66.32%), Instagram (41.71%), LinkedIn (33.16%) and Pinterest (29.15%).

Turning to the dimension that is of particular relevance to the current inquiry – the issue of effective coping strategies and respondents’ inclination to actively seek additional product information – the response categories accompanying the ten transparency scenarios varied in terms of the employed algorithmic advertising technique (classification; prioritizing; association; filtering)⁸⁸ and the type of consumer information fuelling the algorithm. More concretely, the ten scenarios covered four different types of ad disclosure:

- first (RTB disclosure, no detail): respondents (n=530) received the information that they see a particular ad because the advertiser has made the highest bid to show this ad to them;
- second (parameter disclosure, demographic detail): respondents (n=513) received the information that they see a particular ad because they have certain personal characteristics that the advertiser is looking for, namely a specific gender, age, place of residence and language skill;
- third (look-a-like data disclosure, platform activity detail): respondents (n=517) received the information that they see a particular ad because their profile, to a certain extent, matches the profile of persons on the customer list which the advertiser uploaded to the platform. Respondents in this category were also informed about the following matching factors: personal interests determined on the basis of previous platform activity; “friends” of the respondent and persons the respondent is following; the respondent’s interaction with previous advertisements and content on the platform; frequency of platform visits;
- fourth (filtering disclosure, no detail): respondents (n=183) received the information that they are seeing a particular ad because it has been controlled and approved by the platform as being in conformity with the platform’s advertising rules.

After receiving one of these ad disclosures, the respondents were asked about their behavioural reactions. To indicate their anticipated reactions, they could use a five-point scale ranging from

⁸⁸ B. Zarouali et al., ‘The algorithmic persuasion framework in online communication: conceptualization and a future research agenda’ (2022) 32(4) *Internet Research* 1076.

“very unlikely” to “very likely”. With regard to coping strategies, they could indicate the likelihood of proactive reactions, such as “clicking on the ad”, “looking for more information about the product in the ad” and “looking for more information on comparable products and services of other brands”.

The results of our research revealed that, although transparency with regard to the mechanisms underlying OBA increases trust,⁸⁹ consumers were not more inclined to explore alternative product options beyond those already suggested to them through the advertising system. All four types of ad disclosure led to a similar level of active coping strategies. In the first category (RTB disclosure, no detail), the mean score of the 530 responses on the five-point scale was 2.58 (standard deviation: 0.94), indicating that a proactive coping reaction, including a search for alternative products or services, was not particularly likely to happen. With a 2.58 result, the average reaction was very close to the midpoint of the scale: the point where the answer options “likely to happen” and “unlikely to happen” meet. The fourth answer category (filtering, no detail, 183 responses), reached a very similar mean score of 2.50 (standard deviation 0.96).

Considering the emphasis on parameter transparency in Article 26(1)(d) DSA, the two remaining categories – disclosing targeting based on demographic detail (personal characteristics) or platform activity detail (personal interests, “friends”, previous interactions with ads) – were of particular importance. As explained above, Article 26(1)(d) DSA requires “meaningful information” about advertisements that explains the “main parameters used to determine the recipient to whom the advertisement is presented...” Quite clearly, the legislator seeks to empower consumers by obliging platforms to provide information on the criteria that are used to direct a given advertisement to them. To achieve a well-functioning market, it would be desirable that this information on personal characteristics and interests used to create an advertising bubble triggers proactive coping strategies and induces consumers to actively seek information on alternative goods and services.

The results of our panel study, however, point in a different direction. In the second category disclosing targeting on the basis of personal characteristics (parameter disclosure, demographic detail), the 513 responses did not lead to results that differ significantly from the results for the first and the fourth category (providing transparency information not indicating any use of personal characteristics). The mean score in the second category was 2.44 (standard deviation: 0.94). Hence, as in the categories without any personal detail, our study revealed a consumer reaction that was very close to the midpoint, meaning that a proactive reaction, including the search for product alternatives, was neither particularly likely nor particularly unlikely. In the remaining third category – disclosing a targeting strategy based on personal interests, information about “friends” and previous interactions with advertisements – the mean score resulting from 517 responses was 2.52 (standard deviation: 0.92). Again, the result, thus, did not reflect any particular inclination to react in a proactive manner and seek information on alternative products.

⁸⁹ Id. See also T. Morey, T. Forbath and A. Schoop, ‘Customer Data: Designing for Transparency and Trust’ (2015), available at: <https://hbr.org/2015/05/customer-data-designing-for-transparency-and-trust>.

In sum, the ad disclosures admitting the use of personal characteristics or personal interests for targeting purposes did not enhance the likelihood of proactive coping reactions, including the search for alternative goods or services in the marketplace. The results did not differ from the results for disclosure categories not indicating any use of data reflecting personal traits or attitudes. Across all four disclosure categories, an effective coping strategy that could lead to active searches for alternative products and improve the regulation of supply and demand in the marketplace was, on average, a little unlikely to happen. All mean scores were close to the midpoint of the five-point scale. Indications of a clear inclination to actively look for additional product information could not be found. Our study did not produce any evidence that transparency around personalized advertising would encourage consumers to proactively seek alternative offers, effectively bursting the filter bubble.

Defensive coping reactions, such as “hiding the ad on the social medium feed”, “changing my advertising preferences on the platform” and “using the social media platform on which this advertisement is displayed less often”, were on average more likely to happen. With mean scores of 3.33 (first category), 3.28 (second category), 3.37 (third category) and 3.21 (fourth category), the responses were a little above the midpoint of the five-point scale. Respondents who saw the disclosure description that the ad was shown to them based on look-a-like data (third category: use of information on personal interests) were significantly more inclined to show defensive coping behaviours than the respondents who saw the explanation that the ad was based on filtering (fourth category: application of platform advertising rules, no use of personal interest data).

Evaluating these results, it should be recalled that, with an average age of 60.04 (standard deviation = 14.98), the sample for our study was rather old compared to the population of the Netherlands. It cannot be ruled out that a younger sample would yield somewhat different results. However, it must not be overlooked that most respondents completed a medium-level education (41.48%) or a higher-level education (34.14%). Hence, the lack of proactive reactions was not due to a relatively low level of education.

On balance, the striking similarity of the results across all four ad disclosure categories shows clearly that the parameter transparency obligations laid down in Article 26(1)(d) DSA can hardly be expected to trigger proactive coping strategies. Information disclosing the use of data reflecting personal characteristics, personal interests, “friend” networks or reactions to previous advertisements will not necessarily lead to consumer reactions that are effective in the sense of inducing consumers to actively seek information on alternative offers in the marketplace.

4.2 Active ‘information enrichment’ by platforms

Considering the ineffectiveness of enhanced transparency in addressing the issue of OBA filter bubbles as mentioned above, it appears necessary to explore alternative solutions. One viable option would be for advertising platforms to engage in so-called active ‘information enrichment’. The latter could be achieved by imposing on online platforms an obligation to

broaden the spectrum of online advertisements generated by OBA processes with products from alternative brands not captured by personalisation.

The primary objective of imposing an information enrichment obligation would be to empower consumers by bringing a broader spectrum of choices to their attention. By actively introducing alternative brand advertisements, consumers will be exposed to a wider range of products, services, quality, and prices that advertisers would not otherwise provide due to their specific consumer profiles.⁹⁰ Additionally, such an exposure would allow consumers to view advertisements intended for different consumer groups, thereby enhancing public awareness and oversight.⁹¹ Arguably, this would not only foster a healthier and more competitive market but would also elevate the consumers' freedom of choice bursting the filter bubbles they had been placed in.⁹²

Of course, imposing obligations on online platforms to enrich advertisements is not without its challenges. Striking a balance between regulatory intervention and a free-market approach is crucial. The objective is not to stifle free competition but rather to provide consumers with a more diverse array of options while allowing advertisers to reach their target audiences. To achieve this goal, brand owners may need to be more tolerant of alternative products shown to consumers on the basis of consumer preferences concerning their goods and services. This was, indeed, the message in the aforementioned *Interflora/Marks & Spencer* judgment where the CJEU made it clear that, when an online ad uses a keyword related to a well-known trademark and suggests, without causing confusion and without imitating or harming the trademark owner's reputation, an alternative to that trademark's products or services, it is generally considered fair competition in that sector and is thus not without 'due cause'.⁹³

The importance of enriching recommender systems with non-personalized alternative options was acknowledged by the DSA and formalized in Article 38. This provision states explicitly that, in addition to recommender system transparency, and insofar as providers of very large online platforms and of very large online search engines are concerned, 'at least one option for each of their recommender systems which is not based on profiling' shall be provided.⁹⁴ Article 38 DSA leaves, however, at least three uncertainties regarding its applicability to OBA.

⁹⁰ J. Laux et al. 'The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising' (2022) 9(2) *Big data & society* 1, 9. See also J. Laux, S. Wachter and B. Mittelstadt, 'Neutralising online behavioural advertising: Algorithmic targeting with market power as an unfair commercial practice' (2021) 58(3) *Common Market Law Review* 719, 723.

⁹¹ J. Laux et al. 'The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising' (2022) 9(2) *Big data & society* 1, 9.

⁹² J. Laux, S. Wachter and B. Mittelstadt, 'Neutralising online behavioural advertising: Algorithmic targeting with market power as an unfair commercial practice' (2021) 58(3) *Common Market Law Review* 719, 723 (arguing that the protection of 'non-personalized outside options' is 'paramount to safeguarding consumer choice in the digital age, as consumers risk being siloed in their market choices based on their inferred cognitive and behavioural dispositions.').

⁹³ CJEU, 22 September 2011, Case C-323/09, *Interflora/Marks & Spencer*, para. 91.

⁹⁴ This provision is complemented and clarified by Recital 94 of the DSA, which states as follows: 'In addition, and complementing the transparency obligations applicable to online platforms as regards their recommender systems, providers of very large online platforms and of very large online search engines should consistently ensure

First, it is not clear whether OBA falls within Article 38's notion of a 'recommender system' and hence whether it is captured by Article 38 at all. This uncertainty is exacerbated by the fact that, while the DSA establishes transparency obligations separately for recommender systems on the one hand (Article 27 of the DSA) and advertising on online platforms on the other (Article 26 of the DSA), an obligation to enrich online spaces with non-personalized alternative options is developed in relation to recommender systems only (Article 38 of the DSA). Such an asymmetry might leave the impression that the obligation of information enrichment applies exclusively to recommender systems, to the exclusion of online advertising more generally and OBA more specifically.

However, this interpretation is only viable if the concepts of a recommender system and online advertising are considered mutually exclusive, rather than one encompassing the other in certain contexts. Such a mutually exclusive understanding seems unlikely, nevertheless, in light of the DSA's own definitions of both 'recommender system' and 'advertising'. The former is described in Article 3(s) DSA as 'a fully or partially automated system used by an online platform to suggest in its online interface specific information to recipients of the service or prioritise that information, including as a result of a search initiated by the recipient of the service or otherwise determining the relative order or prominence of information displayed'. 'Advertising', in turn, is defined in Article 3(r) DSA as 'information designed to promote the message of a legal or natural person, irrespective of whether to achieve commercial or non-commercial purposes, and presented by an online platform on its online interface against remuneration specifically for promoting that information'. The kind of 'information' encompassed by the DSA definition of 'advertising' in Article 3(r) seems to align, in the online context, with the concept of 'information' outlined in Article 3(s)'s DSA definition of a 'recommender system'. This is so at least insofar as targeted forms of online advertisements are concerned. Just like targeted advertisements, recommender systems, in a general sense, focus on providing personalized recommendations. It hence can be argued that the term 'recommender system' encompasses targeted online advertising, including OBA as a form of the latter.

Second, even if a certain degree of clarity is established regarding whether OBA is covered by the notion of a 'recommender system', it remains uncertain whether the type of personalization inherent to OBA is encompassed by Article 38's definition of 'profiling'. In contrast to 'recommender system' and 'advertising', one searches in vain in the DSA for the legislative explanation of 'profiling'. Turning, in quest for clarity, to other legal texts, one can find the relevant definition in the GDPR. Article 4(4) thereof describes 'profiling' as 'any form of automated processing of personal data consisting of the use of personal data to evaluate certain personal aspects relating to a natural person, in particular to analyse or predict aspects concerning that natural person's performance at work, economic situation, health, personal

that recipients of their service enjoy alternative options which are not based on profiling [...]. Such choices should be directly accessible from the online interface where the recommendations are presented.'

preferences, interests, reliability, behaviour, location or movements’.⁹⁵ Given that OBA is a type of advertising based on the online user’s *behavioural data*,⁹⁶ it appears to well match Article 4(4)’s GDPR definition of ‘profiling’, notably in its aspect of the ‘analys[is] or predict[ion] [...] concerning [the] natural person’s [...] *behaviour*’.⁹⁷ In the case of OBA, it can be added that the behavioural data also reflect a consumer’s preference for certain goods or services.

There is hence nothing in the combined reading of the relevant legislative provisions of both the DSA and the GDPR to suggest that OBA falls outside the scope of Article 38’s DSA obligation of information enrichment.

In regard to the third uncertainty raised by Article 38 DSA, it pertains to the interpretation of ‘one option [...] not based on profiling’ that providers of very large online platforms and search engines, utilizing recommender systems, are obligated to offer. Does it imply that users should have the choice to exclude only a specific level of personalization, or does it mean they can opt out of any personalization altogether? Arguably, the former is the type of information enrichment that is more beneficial for consumers, individual traders, and the regulation of supply and demand in a well-functioning market more generally, whereas the latter might have negative consequences for online trading practices. Indeed, at least in the context of OBA, fostering consumers’ autonomy, fair competition, and a well-functioning market more generally does not entail opting out of personalized ads altogether. Instead, it involves enriching OBA with *some* non-personalized options. As mentioned earlier, a certain degree of personalization benefits consumers, providing them with product offers more likely to align with their purchasing interests, and individual sellers, making ads more engaging and efficient and hence optimizing, by extension, advertising budgets. Moreover, some level of personalization contributes to the overall functioning of the market by ensuring that supply and demand are not distorted, and relevant information on product offers reaches consumers. By contrast, choosing to opt out of any personalization in online advertising may lead to less relevant and engaging advertisements. This, in turn, could result in missed opportunities for both consumers and traders, as well as a higher frequency of irrelevant generic ads.

Despite the above considerations, it seems that Article 38 of the DSA is not necessarily aimed at offering (a specific percentage of) non-personalized recommendations alongside tailored ones. Instead, its main objective appears to provide customers with the option to opt out of all tailored recommendations altogether. At least this was the understanding of this provision advanced recently by Amazon and endorsed by the General Court in response to Amazon’s request for interim measures.⁹⁸ These measures, pending a decision on the broader legal challenge, sought to suspend specific requirements under the DSA, including those stemming

⁹⁵ Confirming that the GDPR’s definition of profiling is the one to inform Article 38 DSA, see CJEU, Order of the President of the General Court, T-367/23 R, *Amazon Services Europe v. Commission*, 27 September 2023, para. 4, ECLI:EU:T:2023:589.

⁹⁶ See the discussion on OBA in the Introduction.

⁹⁷ Emphasis added.

⁹⁸ CJEU, Order of the President of the General Court, T-367/23 R, *Amazon Services Europe v. Commission*, 27 September 2023, ECLI:EU:T:2023:589.

from Article 38. According to Amazon, an opt-out option for recommender systems under Article 38 meant no ‘ability to customise’, which would pose significant challenges in meeting customer expectations.⁹⁹ This was because, instead of showing products of potential interest, it would display products with little relevance to customers, meaning that it would not be able to help them discover new, relevant and useful items.¹⁰⁰ According to Amazon, this would undermine the core function of marketplaces, namely, to facilitate transactions, and would result in a bad shopping experience for the customers using the opt-out.¹⁰¹ Although dismissing Amazon’s request to suspend the application of Article 38 DSA to it, the General Court appeared to accept Amazon’s reading of Article 38 obligation in terms of ‘requir[ing] the platforms concerned to provide an opt-out for recommender systems without the possibility to customise.’¹⁰² The Court added further that it was then for the consumer to decide whether he or she wishes to make use of this opt-out option.¹⁰³

In view of all the above, it may therefore be advantageous to improve the clarity surrounding the different aspects of Article 38 DSA. First, the applicability of the obligation in Article 38 regarding the enrichment of recommender systems with non-personalized alternative options should be specified within the specific context of OBA. Second, the obligation in Article 38, requiring the provision of ‘at least one option for each of [the] recommender systems which is not based on profiling’, should be interpreted in the OBA context as a requirement to augment OBA with non-personalized options rather than as an obligation to offer consumers the possibility of opting out of personalization altogether.¹⁰⁴

Admittedly, as the DSA has just been passed, achieving the described clarity through legislative amendments is an unlikely option, at least in the near future. The most efficient way to establish legal certainty regarding the relationship between Article 38 DSA and OBA would hence be through judicial interpretation. When the opportunity arises, it might be beneficial for the CJEU to provide some clarity in this regard.

As mentioned already, more refined solutions tailored specifically to the online advertising context may be necessary. Such solutions could, in contrast to the current General Court’s reading of Article 38 DSA, combine personalized and non-tailored recommendations for individual customers. They also do not need to rely solely on the customer’s discretion. In certain specific contexts (e.g., political advertising, disinformation, hate speech) where algorithms are used to determine the information supply, online platforms are already encouraged to facilitate content discovery, access to different news sources with alternative viewpoints and invest in tools that make it easier for people to find diverse perspectives about

⁹⁹ Id., para. 30.

¹⁰⁰ Id.

¹⁰¹ Id.

¹⁰² Id., para. 35 (emphasis added).

¹⁰³ Id.

¹⁰⁴ See also, demonstrating that the opt-out function remains mostly unused by consumers in the context of personalized advertising, J. Strycharz et al., ‘Protective behavior against personalized ads: Motivation to turn personalization off’ (2019) 13(2) *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 1.

topics of public interest.¹⁰⁵ The 2022 Strengthened Code of Practice on Disinformation, for example, includes the introduction of ‘warning labels from other authoritative sources’ as one of the crucial tools to combat disinformation.¹⁰⁶ The Code’s signatories also undertake to implement ‘recommender systems designed to improve the prominence of authoritative information and reduce the prominence of [d]isinformation’.¹⁰⁷ Similarly, the EU Code of conduct on countering illegal hate speech online agreed upon in 2016 by the European Commission and a number of largest online platforms such as YouTube and Facebook envisages the need for measures to ‘encourage counter and alternative narratives’.¹⁰⁸

These and similar measures to enrich and diversify online platform content can inspire analogous, more tailored initiatives in the field of OBA as well. Some related proposals have already been introduced in literature. For example, Laux et al. suggest adding noise to targeting, that is, exposing consumers to randomly distributed non-personalised adverts¹⁰⁹ – the practice that can, according to them, ‘dilute the potential harm of overly concentrated personalisation.’¹¹⁰ Milano et al., analogously, propose ‘noisy targeting’ as a means of tackling filter bubbles.¹¹¹ It is important to note, however, that, while it is, indeed, crucial that online targeting is enriched with alternative offers, mere ‘annoyance’ or ‘noise’ without meaningful alternatives might not effectively counter the potential harms of personalized advertising. To provide a genuine choice for consumers, mechanisms ensuring that proposed alternatives align sufficiently with individual preferences are imperative. Such mechanisms could be built, for example, on ‘algorithmic recommender personae’¹¹² or lookalike users. Both of these mechanisms are explored in greater detail later in this section within the context of a discussion on the practical implementation of the information enrichment obligation.

In terms of its design, information enrichment could be construed in a manner similar to the must-carry obligation in the context of broadcasting and telecommunications regulations. Must-carry requires cable TV operators to include selected broadcasters’ programs on their systems, aiming to preserve information circulation and cultural diversity by ensuring access to key TV

¹⁰⁵ The Strengthened Code of Practice on Disinformation 2022, available at: <https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation>; The Strengthened Code of Practice on Disinformation 2018, available at: <https://digital-strategy.ec.europa.eu/en/library/2018-code-practice-disinformation>.

¹⁰⁶ The Strengthened Code of Practice on Disinformation 2022, 18, available at: <https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation>.

¹⁰⁷ Id., 20.

¹⁰⁸ The EU Code of Conduct on Countering Illegal Hate Speech Online 2016, 3, available at: https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/combating-discrimination/racism-and-xenophobia/eu-code-conduct-countering-illegal-hate-speech-online_en#theeucodeofconduct.

¹⁰⁹ J. Laux et al. ‘The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising’ (2022) 9(2) *Big data & society* 1, 8.

¹¹⁰ Id., 1.

¹¹¹ S. Milano et al., ‘Epistemic fragmentation poses a threat to the governance of online targeting’ (2021) 3(6) *Nature Machine Intelligence* 466, 469–70.

¹¹² J. Harambam, N. Helberger and J. van Hoboken, ‘Democratizing algorithmic news recommenders: How to materialize voice in a technologically saturated media ecosystem’ (2018) 376(2133) *Philosophical Transactions Royal Society A* 1.

channels, including national public and major private ones.¹¹³ This practice, which is widespread in various countries, while limiting platform operators' economic freedom, is justified by the aim of serving the public's access to vital content.¹¹⁴ The parallel between the 'must-carry' obligation in broadcasting and the proposed 'information enrichment' concept in online behavioural advertising lies in their shared goal of ensuring content diversity and promoting public interest. Whereas 'must-carry' rules mandate the inclusion of specific content on broadcast platforms, 'information enrichment' would require digital platforms to actively diversify online ads users encounter, both aiming to combat information bubbles and serve the broader public good through regulation.

In relation to the practical implementation of the information enrichment obligation, particularly the issue of determining the appropriate number of non-personalized alternatives to present to consumers, Laux et al. argue, for instance, that there exists an optimal level of added noise in targeting, relative to the normative goals of safeguarding consumer choice and the economic interests of advertisers.¹¹⁵ They propose quantifying this optimal noise level using a novel metric called the Concentration-after-Personalisation Index (CAPI), which builds upon the Herfindahl-Hirschman Index (HHI), commonly employed in competition law in order to measure the concentration on the market.¹¹⁶ The latter, as Laux et al. persuasively demonstrate, may not, however, be capable of detecting information bubbles produced by OBA.¹¹⁷ This is because, in the realm of online advertising, even when multiple sellers exist for a product or service, each individual consumer may be limited to receiving ads from only one seller or significantly fewer sellers than would be the case without targeting.¹¹⁸ CAPI, in contrast, provides a metric to evaluate this concentration at the individual consumer level by treating each consumer as a unique 'market'.¹¹⁹ It calculates a measure similar to HHI for each consumer to evaluate concentration in their exposure to personalized offers and services.¹²⁰

Another concrete way of practical implementation of information enrichment can draw on the idea of 'algorithmic recommender personae' initially formulated within the context of news recommender systems.¹²¹ Harambam, Helberger, and van Hoboken explain 'algorithmic recommender personae' as 'pre-configured and anthropomorphized *types of recommendation*

¹¹³ T. Targosz, 'Must Carry – Must Offer – Must Infringe' [Blog post], *Kluwer Copyright Blog*, 4 July 2013, available at: <https://copyrightblog.kluweriplaw.com/2013/07/04/must-carry-must-offer-must-infringe/#:~:text=Must%2Dcarry%20has%20been%20usually,on%20a%20cable%20provider's%20system.>

¹¹⁴ Id.

¹¹⁵ J. Laux et al. 'The Concentration-after-Personalisation Index (CAPI): Governing Effects of Personalisation Using the Example of Targeted Online Advertising' (2022) 9(2) *Big data & society* 1, 3.

¹¹⁶ Id.

¹¹⁷ Id., 2.

¹¹⁸ Id.

¹¹⁹ Id..

¹²⁰ Id., 2, 6-7.

¹²¹ J. Harambam, N. Helberger and J. van Hoboken, 'Democratizing algorithmic news recommenders: How to materialize voice in a technologically saturated media ecosystem' (2018) 376(2133) *Philosophical Transactions Royal Society A* 1. For the follow up on this idea, see L. Van den Bogaert, D. Geerts, and J. Harambam, 'Putting a Human Face on the Algorithm: Co-Designing Recommender Personae to Democratize News Recommender Systems' (2022) *Digital Journalism* 1.

algorithms from which people can choose from when browsing (news) sites'.¹²² The idea was put forth as a practical method to incorporate voice into the domain of algorithmic news recommendations¹²³ by providing users with a single-click solution for tailoring personalized news suggestions according to their momentary news mood and purpose.¹²⁴ Harambam, Helberger, and van Hoboken link this one-click solution to five distinct types of algorithmic recommender personae (although the list is not intended to be exhaustive¹²⁵): the Explorer (allowing to receive news from unexplored territory), the Diplomat (providing news 'from the other side'), the Wizard (tailored at 'surprising news'), the Moral Vacationer (focused on the supply of 'guilty pleasures' news), and the Expert (furnishing specialized news based on previous consumption).¹²⁶ By clicking on any of these five types of personae, the user is to be provided with an opportunity to quickly switch from one type of news recommendation algorithm to another depending on her current needs.¹²⁷ Importantly, this news recommendation algorithm is to be implemented on top of and *in addition to* recommendations personalized for each individual user on the basis of her previous online reading behaviour and news consumption history.¹²⁸ As a result, online users are empowered with very concrete ways to influence their online news recommendations, deploying them for the specific purposes they have in mind.¹²⁹

Building upon the example of an 'algorithmic recommender personae' in the online news context, personalization in online advertising can be structured around the same logic. An online customer would continue to receive behavioural advertisements tailored to her specific purchasing history and profile, but, *in addition to* these advertisements, she would also have the option to saturate her ad recommendations with product proposals linked to different 'purchaser personae'.¹³⁰ This would enable users to diversify the suggestions they receive and, equally importantly, play an active role in such diversification. The result should enhance users' overall online shopping experience and break through the filter bubbles that might be formed based solely on the users' past purchasing behaviour.

To provide just a couple of examples of what such 'purchaser personae' could look like, these may include: the Fashionista (tailored for clothing and other fashion items such as shoes, bags, and accessories), the Techy (providing gadgets, computers, software, or other technical items recommendations), the Sporty (designed for those more interested, at the moment, in sports

¹²² J. Harambam, N. Helberger and J. van Hoboken, 'Democratizing algorithmic news recommenders: How to materialize voice in a technologically saturated media ecosystem' (2018) 376(2133) *Philosophical Transactions Royal Society A* 1, 13 (emphasis in the original).

¹²³ *Id.*

¹²⁴ *Id.*, 13-14.

¹²⁵ *Id.*, 16.

¹²⁶ *Id.*, 14.

¹²⁷ *Id.*

¹²⁸ *Id.*, 15, 16.

¹²⁹ *Id.*, 16.

¹³⁰ Cf. the concept of 'buyer personae' developed, by contrast to 'algorithmic recommender personae', not from the perspective of a user, but from the perspective of marketing strategies, A. Revella, *Buyer personas: how to gain insight into your customer's expectations, align your marketing strategies, and win more business* (Hoboken, NJ: John Wiley & Sons, 2015).

equipment, activewear, athletic shoes, and related accessories), the Young Parent (custom-tailored for those willing to purchase baby and child care products, parenting books, and family-friendly home items), and so on. Just as in the case of an ‘algorithmic recommender personae’ developed for the digital news context, an online customer would then be able to switch momentarily between these and other purchasing personas, depending on their current buying needs and preferences.

Another potential approach to enhance the information provided to users through online advertising, while still ensuring its relevance to them, is to consider basing online purchase recommendations not only on a certain customer’s past buying history but also on the relevant online purchasing histories of similar (lookalike) users.¹³¹

It is acknowledged that the detailed planning of the practical implementation of ‘information enrichment’, including a more in-depth development of online purchaser personas and/or optimal proportion of alternative non-personalized offers on the market, may require a separate research effort. What can be already asserted with certainty, however, is that the system should aim to maximize diversity as a precaution against the formation of information bubbles in online advertisement spaces.

Importantly, obliging an advertiser to ensure that consumers receive diversified product information is aligned with the fundamental rights requirements, and, notably, with the State’s positive obligation under Article 10 (freedom of expression) ECHR to be ‘the ultimate guarantor of pluralism’.¹³² Of notice is that this obligation extends to commercial speech. As mentioned already, it is widely recognized, both in Europe and elsewhere, that commercial expression, including commercial advertising as one of its prominent forms, is protected by the free speech guarantee.¹³³ One of the reasons for granting protection to commercial expression (apart from the mentioned above personal autonomy rationale) is that commercial speech, despite not being part of public discourse itself, still ‘conveys information of relevance for democratic decision-making’.¹³⁴ For this reason, commercial speech has to be accorded some level of protection, albeit lower than that of political or other public interest expression.¹³⁵ In

¹³¹ Cf., from the advertisers’ perspective, A. Popov and D. Iakovleva, ‘Adaptive look-alike targeting in social networks advertising’ (2018) 136 *Procedia computer science* 255; B. Ratner, ‘Identifying the best customers: Descriptive, predictive and look-alike profiling’ (2001) 10(1) *Journal of targeting, measurement and analysis for marketing* 66.

¹³² ECtHR, *Manole and Others v. Moldova*, no. 13936/02, 17 September 2009, para. 99, ECLI:CE:ECHR:2009:0917JUD001393602.

¹³³ See, for the first decisions recognising the free speech protection of commercial expression, in Europe, ECommHR, *X. and Church of Scientology v. Sweden* (dec.), no. 7805/77, 5 May 1979, para. 5, ECLI:CE:ECHR:1979:0505DEC000780577, and, in the US, US Supreme Court, *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 425 U.S. 748 (24 May 1976).

¹³⁴ R. Post, ‘The Constitutional Status of Commercial Speech’ (2000) 48 *UCLA Law Review* 1, 15.

¹³⁵ See e.g. ECtHR, *Markt Intern Verlag GmbH and Klaus Beermann v. Federal Republic of Germany*, no. 10572/83, 20 November 1989, para. 33, ECLI:CE:ECHR:1989:1120JUD001057283; ECtHR, *Casado Coca v. Spain*, no. 15450/89, 24 February 1994, para. 50, ECLI:CE:ECHR:1994:0224JUD001545089; ECtHR, *Demuth v. Switzerland*, no. 38743/97, 5 November 2002, para. 42, ECLI:CE:ECHR:2002:1105JUD003874397; and ECtHR, *Mouvement raëlien suisse v. Switzerland* [GC], no. 16354/06, 13 July 2012, para. 61, ECLI:CE:ECHR:2012:0713JUD001635406. A similar distinction between the low-value commercial speech and other types of expression is drawn also in the US: see, e.g., US Supreme Court, *Virginia State Board of Pharmacy*

view of this coverage of advertisements by freedom of expression, the State's positive obligation to be the ultimate guarantor of pluralism includes also an obligation to ensure that a diverse range of online offers reaches consumers. It is, however, important to emphasize in this context that the State itself must actively fulfil this human rights obligation and cannot merely outsource it to online platforms, by contrast to what was done recently in the context of the DSA-introduced obligation on online platforms to proactively filter their users' content in order to prevent copyright infringement.¹³⁶

5. Conclusion

This paper has explored the legal implications of online behavioural advertising and its potential to create information bubbles. While designed to cater to consumer preferences, these bubbles raise significant normative concerns by limiting consumer choice, autonomy, and market competition. Enhanced transparency, as enshrined in the Digital Services Act, has emerged as a promising tool to empower consumers and promote fair competition. However, our research has revealed that transparency alone is not particularly effective at bursting the OBA-associated information bubbles, as consumers, even when informed about the source and parameters of personalized advertising messages, do not actively seek alternative solutions, thus remaining within predetermined personalized advertising spaces. It hence has become apparent that alternative solutions are necessary to address the problem. One promising approach is imposing on advertising platforms an obligation to enrich existing online advertisements with products from alternative brands. While this approach is not without challenges, it is crucial to develop more tailored initiatives in the realm of online behavioural advertising, particularly in view of the information enrichment's alignment with fundamental rights requirements and the positive obligation to promote pluralism in commercial advertising. More tailored initiatives for OBA can draw on already existing measures in other areas, such as political advertising, countering disinformation, addressing hate speech, or mirroring 'must-carry' obligations in broadcasting.

As the landscape of online advertising continues to evolve, it is clear that regulatory frameworks must adapt to ensure a fair and competitive marketplace. This paper contributes to the ongoing discourse on OBA and filter bubbles, emphasizing the importance of balancing personalization with consumer choice, competition, and well-functioning of the market, and it sets the stage for further research and policy development in this area.

v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 772, note 24 (24 May 1976); US Supreme Court, *Central Hudson Gas & Elec. Corp. v. Public Service Commission of New York*, 447 U.S. 557, 563-66 (20 June 1980).

¹³⁶ For a comprehensive exploration of the EU legislator's tendency to outsource human rights obligations to the platform industry in this context, see M. Senftleben, J.P. Quintais, and A. Meiring, 'How the EU Outsources the Task of Human Rights Protection to Platforms and Users: The Case of UGC Monetization' (forthcoming 2024) 38(3) *Berkeley Technology Law Journal*, available at SSRN: <https://ssrn.com/abstract=4421150> or <http://dx.doi.org/10.2139/ssrn.4421150>.