

# CONSUMER MANIPULATION THROUGH BEHAVIORAL ADVERTISING: REGULATORY PROPOSAL BY THE DATA SERVICES ACT

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**Abstract:** In the contemporary era marked by technological advancements and pervasive use of social media, there has been a notable surge in the collection and subsequent processing of personal data, transforming them into economic assets exploited by corporations. This phenomenon gives rise to a "surveillance society" or "mental capitalism," prominently characterized by the customization of advertisements based on users' consumption profiles and behaviors. Despite its focus on personalized advertising, this practice frequently employs persuasive techniques that possess the potential to influence consumer decisions, prompting concerns about user manipulation and the erosion of decision-making autonomy. This study employs the exploratory deductive method to scrutinize the provisions of one of the European Union's latest regulations tailored for digital platforms, namely the Data Services Act, and its efficacy in addressing the prevailing issues. The research identifies ambiguity within the regulation, particularly regarding its applicability to operations involving the processing of personal data and dark patterns. Additionally, findings emphasize the necessity for active supervision, especially concerning the profiling of children and adolescents. In conclusion, this study underscores the urgency of implementing regulatory measures to ensure more effective protection, mitigating persuasive and obscure practices on social media. Such efforts aim to preserve consumer autonomy and rights in an increasingly digital and data-driven world.

**Keywords:** surveillance society; mental capitalism; personalized advertising; Data Services Act; regulatory measures.

## INTRODUCTION

This paper delves into the contemporary societal milieu characterized by the convergence of technological advancements, data exploitation, and the burgeoning attention economy. Employing terminologies such as surveillance capitalism<sup>1</sup>, cognitive capitalism<sup>2</sup>, and the attention economy<sup>3</sup>,

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<sup>1</sup> Zuboff, Shoshana. *A era do capitalismo de vigilância: a luta por um futuro humano na nova fronteira do poder*. 1<sup>st</sup> ed. Rio de Janeiro: Intrínseca, 2020.

<sup>2</sup> Boutang, Yan. *Le capitalisme cognitif: la nouvelle grande transformation*. Ed. Amsterdam, 2008.

<sup>3</sup> Wu, Tim. *The Attention Merchants: The Epic Scramble to Get Inside our Heads*.

this analysis elucidates the transformative impact of evolving data collection methodologies and the proliferation of artificial intelligence tools. The ascendancy of these technologies has resulted in a qualitative and quantitative augmentation in the processing of personal data, establishing a paradigm where power and wealth derive not from material possessions but from information possession<sup>4</sup>.

The scope of data analysis has transcended conventional metrics, encompassing not only basic identifiers like names and email addresses but also extending to the scrutiny of individuals' emotions through sophisticated artificial intelligence tools. These tools operationalize behavioral surplus into predictive products, forecasting user sentiments, thoughts, and actions. This emergent market, exclusively dealing in prognostic behaviors, further extends its reach through the metaverse, integrating technologies into diverse facets of physical life, including wearable devices, motion sensors, microphones, and physiological monitors.

The primary objectives of this expansive data collection paradigm revolve around emotion detection, subsequent emotion analysis for behavioral prediction, and the generation of novel emotions and behaviors through mechanisms such as nudges<sup>5</sup>. The unilateral assertion of human experience as raw material for behavioral data, denominated as instrumentalism<sup>6</sup>, is a fundamental tenet of surveillance capitalism, signifying the ability to influence individual objectives based on an intimate understanding of their behavior.

Organizations, cognizant of the intrinsic value in deciphering individual preferences and tastes, have engendered fields such as neuromarketing to optimize the capture of user attention during the utilization of applications, social media, and online platforms. This dynamic is encapsulated by the term "Attention Economy," where companies vie for user attention, presenting a shift from traditional monetary exchange to the monetization of attention itself.

The historical antecedents of the Attention Economy trace back to the early 1970s, with Herbert Simon<sup>7</sup> highlighting the imperative for systems to efficiently allocate attention amid burgeoning communication channels.

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International Journal of Communication, v. 11, September 2017.

<sup>4</sup> Basan, Arthur. *Publicidade digital e a proteção de dados pessoais: o direito ao sossego*. Indaiatuba: Editora Foco, 2021. p. 25.

<sup>5</sup> Thaler, Richard R., and Cass R. Sunstein. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. London: Penguin Books, 2009.

<sup>6</sup> Zuboff, Shoshana. *A era do capitalismo de vigilância: a luta por um futuro humano na nova fronteira do poder*. 1<sup>st</sup> ed. Rio de Janeiro: Intrínseca, 2020.

<sup>7</sup> Simon, Herbert. "Designing Organizations for an Information-Rich World." *Computers, Communications, and the Public Interest*. Baltimore: Johns Hopkins University Press, 1971.

Michael Goldhaber<sup>8</sup>, in 1997, officially introduced the term as a facet of the new internet economy, envisaging its ascendancy over traditional monetary economies. However, subsequent critiques have highlighted the limitations of Goldhaber's prognostications, underscoring the evolving role of attention as a monetizable resource.

This economic framework, exemplified by the digital advertising duopoly wielded by Meta and Google, engenders ethical concerns when leveraged to modify user purchasing behaviors. In a study released by the Competition and Markets Authority<sup>9</sup> in the United Kingdom in July 2020, the digital advertising sector reported a staggering expenditure of £14 billion. Google dominated with an impressive market share of over 90% in the search advertising segment, valued at approximately £7 billion. Concurrently, Facebook commanded a significant position, holding over 50% of the market share in the display advertising sector, with a valuation of around £5.5 billion. The British digital advertising landscape revealed a striking concentration, with roughly 80% of search and display advertising jointly controlled by these two industry giants. The research findings further highlighted Facebook's remarkable financial performance, showcasing a substantial surge in annual revenue per user. The metric escalated from less than £5 in 2011 to an impressive £50 in 2019. Moreover, Facebook's return on invested capital exceeded 50%, a figure more than five times higher than its cost of capital. The involuntary extraction of attention during network usage raises ethical questions surrounding the potential manipulation of individual behaviors.

The pervasive presence of digital technology, coupled with persuasive strategies, manifests diverse implications on user concentration, inducing compulsive digital platform use, truncated task durations, and a perpetual state of attentional vigilance. Consequently, the need arises for legislative interventions to navigate the challenges posed by the Attention Economy, emphasizing consumer protection, competition oversight, and ethical considerations.

This paper concludes by scrutinizing the practice of behavioral advertising, elucidating its impact on user attention, and subsequently delving into the provisions of the European Union's Data Services Act. A brief examination reveals ambiguities within the regulatory framework, particularly concerning its applicability to operations involving the processing of personal data and dark patterns. Additionally, active supervision is underscored as imperative, particularly concerning the

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<sup>8</sup> Goldhaber, Michael H. "The attention economy and the net." *First Monday* 2, no. 4 (1997). Accessed October 9, 2023. <https://doi.org/10.5210/fm.v2i4.519>.

<sup>9</sup> Competition and Markets Authority. *Online platforms and digital advertising Market study final report*. London: Crown, 2020.

profiling of vulnerable demographics. In essence, this study underscores the urgency of regulatory measures to fortify consumer protection against persuasive and opaque practices in the digital and data-driven landscape.

### I. BEHAVIORAL ADVERTISING ON SOCIAL MEDIA

Exploring the provisions of the recital 13<sup>th</sup> of the Data Services Act (DSA), the term "digital platforms" encompasses entities like social networks that enable consumers to enter into remote contracts with merchants. These platforms, classified as "providers of virtual hosting services," not only store information provided by users but also share it with the public at the users' request, excluding platforms primarily engaged in transmitting information to the public. Article L. 111-7 of the French Consumer Code, amended by the Digital Republic Act of 2016<sup>10</sup>, defines an online platform operator as any individual or legal entity offering a professional online public communication service. This service relies on algorithmic referencing of goods and services placed online by third parties or the assembly of different parties for the sale, provision, or exchange of content, goods, or services.

For this study, digital platforms include applications such as Google, Facebook, X, Instagram, YouTube, LinkedIn, Snapchat, Tinder, and TikTok. According to the Organisation for Economic Co-operation and Development - OECD<sup>11</sup>, these platforms share commonalities in using information and communication technologies to facilitate user interactions, collect and leverage data from these interactions, and contribute to network effects. They play a crucial role in fostering innovation and shaping digital economies and societies. Consequently, "online platforms are digital services facilitating interactions between two or more distinct yet independent groups of users, be they businesses or individuals, interacting through the service via the internet."<sup>12</sup>

While various entities capitalize on user data, digital platforms stand out due to their unparalleled access to a wealth of information. This information can be leveraged in diverse ways, including personalizing products and services, notably through behavioral advertising. Within the realm of digital platforms, there exist subcategories such as social media.

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<sup>10</sup> This study is part of research conducted within the IJRS (Université Paris 1), with the reference being the French and European Union legislation.

<sup>11</sup> Organisation for Economic Co-operation and Development – OECD. *An introduction to online platforms and their role in the digital transformation*. Paris: OECD Publishing, 2019. p. 21.

<sup>12</sup> Organisation for Economic Co-operation and Development – OECD. *An introduction to online platforms and their role in the digital transformation*. Paris: OECD Publishing, 2019. p. 23.

According to a European Commission<sup>13</sup> study on marketing practices on social media, online social media providers are online platforms that meet specific criteria. These include the accessibility, publication, and sharing of content (user-generated content), a fundamental role of the "social" aspect in the platform's configuration and operation, and the presence of at least one identifiable commercial practice. This categorization encompasses social media networks and content-sharing sites. Hence, the Commission defines "Online Social Media Providers" as platforms that host, enable, and encourage the exchange of user-generated content and other types of content among individuals through social interaction.

Users of social media assume dual roles as producers and recipients of content. While personalized campaigns are directed at them, their online activities and navigation allow for the collection and processing of personal data, ensuring individualization through algorithms. This tool has undergone significant refinement to reach a broader audience, optimize advertising campaign costs, and ensure a higher click-through rate for return on investment. The use of user-collected data has propelled advertising from a mass-oriented tool to a personalized medium<sup>14</sup>.

As per the definition in the DSA, advertising, as outlined in Article 3, r, refers to information designed to promote the message of a natural or legal person, presented by a digital platform for specific remuneration.

Various actors operate within this ecosystem<sup>15</sup>, and the online advertising ecosystem involves Publisher's Ad Servers, Supply-Side Platforms (SSPs), Demand-Side Platforms (DSPs), and Advertiser's Ad Servers, each playing a specific role in purchasing, selling, and delivering advertising spaces. In essence, the collected data traverse a path until advertising targeting is executed, involving other relevant actors. The publisher collects and provides this data to sell advertising spaces, and a third party, often referred to as a Data Management Platform (DMP), filters and segments the received data through cookies. Subsequently, other actors, including SSPs, DSPs, and

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<sup>13</sup> European Commission. *Consumers, Health, Agriculture and Food Executive Agency, Behavioural study on advertising and marketing practices in online social media – Final report*. Publications Office, 2018. Accessed October 16, 2023. <https://data.europa.eu/doi/10.2818/290217>.

<sup>14</sup> Galbraith, John Kenneth. *The affluent society*. 40th anniversary, New York: Mariner Book, 1998. Accessed September 26, 2023. [https://archive.org/stream/JohnKennethGalbraithTheAffluentSociety1998MarinerBooks/John%20Kenneth%20Galbraith%20-%20The%20Affluent%20Society%20%281998%2C%20Mariner%20Books%29\\_djvu.txt](https://archive.org/stream/JohnKennethGalbraithTheAffluentSociety1998MarinerBooks/John%20Kenneth%20Galbraith%20-%20The%20Affluent%20Society%20%281998%2C%20Mariner%20Books%29_djvu.txt).

<sup>15</sup> European Commission. *Final Report. Expert Group for the Observatory on the Online Platform Economy Market power and transparency in open display advertising – a case study*, February 26, 2021. Accessed October 9, 2023. <https://digital-strategy.ec.europa.eu/en/library/expert-group-eu-observatory-online-platform-economy-final-reports>.

AdExchanges, engage in transactions to buy and sell advertising spaces.

In the open display market, publishers and content providers engage in competition to vend advertising inventory through a diverse array of third-party intermediaries. Google, a key player in the open display arena, wields three sources of market power: its extensive advertiser base, user data, and a robust position in intermediation, notably as the largest publisher's ad server, initially achieved through the acquisition of DoubleClick and other intermediaries. While vertical integration can yield technical efficiencies, it may also introduce conflicts of interest. Google's dominant position across the intermediation value chain raises clear conflict of interest concerns, prompting a range of apprehensions regarding self-preference<sup>16</sup>.

It's worth noting that the distinction between contextual and behavioral advertising lies in the fact that the former does not always utilize personal data and, when it does, does so in a limited manner. Contextual advertising relies on real-time parameters such as search terms, device, location, and language rather than an analysis of an individual's history and behavior. A straightforward example of contextual advertising is displaying a running shoe ad on a sports website, requiring no user tracking.

Behavioral advertising can be categorized as retargeting and personalized<sup>17</sup>. Regardless, it employs specific user data to target ads. Retargeting can be viewed as a form of "micro-tracking" or "micro-targeting" where ads appear on the internet after a user search for a particular item at a specific moment. There is not necessarily a creation of a user profile. On the other hand, personalized behavioral advertising allows advertisers, publishers, and platforms to combine data collected over time from various sources, based on the aforementioned consumption and behavior profiles. Moreover, social media enables advertisers to select the specific traits of their target audience, with the platforms themselves often making these determinations through algorithms.

Market participants use various techniques and technologies to identify consumers, assign identifiers to them (such as cookie ID or mobile advertising ID), associate these identifiers (if necessary) with identifiers used by other participants, and share these identifiers among themselves, establishing a common and mutually understood way of referring to each individual consumer.

Voluntary, observed, and inferred data are recorded in user profiles, and market participants can enhance their first-party data about consumers by

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<sup>16</sup> Competition and Markets Authority. *Online platforms and digital advertising Market study final report*. London: Crown, 2020.

<sup>17</sup> One among various classification methods for types of advertising was chosen.

buying and selling third-party data. Significant transfers of personal data occur throughout the advertising ecosystem to create a more comprehensive image of individuals, aiding in targeted advertising and measuring advertising effects. Various segmentation types explore different data types and volumes, as well as levels of granularity, with advertisers selecting the most suitable based on their campaign objectives and key performance indicators. Certain categories of data are considered more valuable than others, although this may vary by industry. For instance, McDonald's perspective is that data such as age, interests, and gender can be mapped to the intended target audience of a specific campaign, while location allows targeting based on the proximity to a restaurant<sup>18</sup>. Generally, a combination of data points is used in all campaigns, with demographic segmentation being the most crucial.

User information is stored on the computer's hard drive through connection or navigation cookies, essential for the functioning of behavioral advertising (even if only for retargeting). As explained by Benabou and Rochfeld<sup>19</sup>, during users' internet navigation, cookies about their preferences and interests are stored, managed by specialized companies that analyze and allow content to be quickly adapted, directing advertising to the user. Similarly, the physical reality is becoming increasingly connected, enabling the collection of such user information and specific targeting. For example, a smartphone can indicate an individual's location, suggesting products and services from that region. Internet of Things devices will increasingly allow the collection of such information and customization of targeted content.

Other existing user identification techniques besides cookies include fingerprinting, which aims to uniquely identify a user on a website or mobile app using technical information from the user's browser but operates similarly to cookies; internal cookies, as previously explained; Single Sign-On, allowing the user to log in to various sites, apps, or services using a single user account and authentication; and unique identifiers, developed analogously to advertising identifiers found on mobile devices, enabling user tracking through the use of deterministic hashed data collected during their site navigation.

In a manner analogous to the operational principles of cookies or alternative identifier mechanisms, behavioral advertising has the potential to progressively refine its alignment with individual interests and behaviors. Within the domain of behavioral advertising, distinct typologies emerge, each leveraging diverse categories of personal data for the purpose of content

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<sup>18</sup> Competition and Markets Authority. *Online platforms and digital advertising Market study final report*. London: Crown, 2020.

<sup>19</sup> Benabou, Valérie-Laure, and Judith Rochfeld. *À qui profite le clic ? le partage de la valeur à l'ère du numérique*. Paris: Odile Jacob, 2015.

targeting. These classifications encompass demographic target audiences, interest-based target audiences, retargeting, and lookalike audiences.

The demographic target audience category is typically invoked in scenarios where advertisers harbor expansive campaign objectives or where direct insights into user interests are lacking. Despite the involvement of some personal data in the analysis, this targeting method allows advertisers to concentrate on population segments characterized by common traits such as age, gender, and educational background. For instance, a specific cohort comprising individuals aged 18 to 25, female, enrolled in a private higher education institution in an affluent district of São Paulo, can be precisely targeted with high-end fashion brands tailored for this demographic, excluding audiences of a different gender or age group.

Interest-based target audiences are meticulously crafted by aggregating individuals into distinct interest groups predicated on data assimilated and inferred by platforms, encompassing user behavior. Meta, for instance, subdivides individuals based on their engagement within its applications, including likes and clicks on ads. Amazon employs a plethora of information, including product or service searches, order history, device configurations and usage, location data, IP addresses, downloaded and streamed content, and account information. This refined type of target audience ensures a more nuanced prediction of consumer interests and their probable response to advertising, translating into heightened click-through rates and sales.

Retargeting, as previously elucidated, entails presenting ads to individuals identified as potential customers by advertisers. This transpires when advertisers furnish platforms with encrypted customer data, acquired either from pre-existing datasets (e.g., contact lists, emails) or data directly gleaned from their websites using SDKs, cookies, and pixel tags. Platforms subsequently cross-reference this data with their own reservoir of information, disclosing to advertisers the number of successful matches without divulging the specific identities of matched individuals. This allows advertisers to meticulously tailor their ads, offering disparate pricing or product versions, and even excluding certain segments from targeted advertising. This cohort of consumers can be strategically harnessed to engage a similar audience, constituting yet another category within the ambit of personalized advertising.

The ultimate modality is the lookalike audience, or "lookalike" as designated by Meta. This service, proffered by major platforms, aids advertisers in identifying audiences analogous to their existing consumer base by scrutinizing a prototypical group of extant customers. In essence, instead of presenting content to an audience that has already demonstrated interest, the behavior of a target audience is analyzed, enabling third parties devoid of prior interactions with the product or service to receive analogous

content.

The analysis of the behavior of key individuals, denominated as a custom audience within the tool, is executed through data collection or sharing mechanisms. This data may be uploaded to the platform by the interested company itself (comprising a roster of active customers with email, phone, and name), sourced from websites, or derived from other outlets such as an individual's Facebook page usage (e.g., interactions with videos, posts, and shared content). However, the legality surrounding the establishment of this novel roster of potential consumers is contentious, primarily due to the absence of a legal framework that unequivocally legitimizes the sharing of personal data usually.

In any event, behavioral advertising facilitates a more precise impact on consumer decisions by steering the accessible content, circumscribing the sample space of goods and services that an individual will encounter through algorithms adjudged as appropriate (or desirable). In this vein, the assertion by Dixit and Norman<sup>20</sup> in 1978 that advertising can exert an influence on demand across diverse channels holds resonance, particularly in its capacity to heighten consumer preferences for specific goods or services.

Analogously, the rationale posited by Lemennicier, Maillard, and Scano<sup>21</sup> underscores the potency of advertising in directly shaping consumer preferences and fostering a proclivity for consumption, thereby enhancing their willingness to pay for a given item. This influence is predicated on the ability of advertising to craft a scenario wherein individuals are induced to acquire specific products and services, items they might not deem essential in the absence of exposure to corresponding advertisements, thereby engendering a form of induced dependency.

Consequently, regulatory bodies and technology platforms have initiated deliberations concerning this technology in recent years (e.g. Google Privacy Sandbox, Floc and Topics).

## II. DARK PATTERNS AND CONSUMER DECISION-MAKING

The central tenet of rationality posits that individuals, in their capacity as rational agents, deliberate with the aim of optimizing the outcomes of their decisions. This entails the acquisition of goods or services commensurate

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<sup>20</sup> Dixit, Avinash, and Victor Norman. "Advertising and Welfare." *Bell Journal of Economics* 9, no. 1 (1978): 1-17. Accessed October 20, 2023. [https://econpapers.repec.org/article/rjebellje/v\\_3a9\\_3ay\\_3a1978\\_3ai\\_3aspring\\_3ap\\_3a1-17.htm](https://econpapers.repec.org/article/rjebellje/v_3a9_3ay_3a1978_3ai_3aspring_3ap_3a1-17.htm).

<sup>21</sup> Lemennicier, Bertrand, Olivier Maillard, and Emmanuel Scano. "L'impact de la publicité sur la demande. Une application à la demande de tabac en France (1970-1994)." *Revue Économique* 49, no. 6 (1998). Accessed October 20, 2023. [https://www.persee.fr/doc/reco\\_0035-2764\\_1998\\_num\\_49\\_6\\_410054](https://www.persee.fr/doc/reco_0035-2764_1998_num_49_6_410054).

with one's financial capacity, striving for maximal benefit while maintaining a balance for optimal decision-making. Nevertheless, the homo economicus model deviates from the reality of the average human, as additional considerations influence decision-making<sup>22</sup>. Behavioral Economics scrutinizes this cognitive framework, tracing its roots back to the 18th-century influences of Adam Smith<sup>23</sup>. Smith, renowned for the "invisible hand" concept shaping economic prosperity through ostensibly "selfish" decisions, concurrently acknowledged pervasive human traits such as overconfidence, loss aversion, and a proclivity for short-term gains over long-term benefits.

In an international review of the inaugural applications of this field to political contexts, the OECD<sup>24</sup> elucidates that Behavioral Economics transcends the confines of Rational Choice Theory and Expected Utility Theory, converging towards Prospect Theory or Perspective. This paradigm shift arises from the acknowledgment of the inherent limitations in human rationality, including constraints on information accessibility and absorption. Consequently, decisions are not invariably optimized, with other factors duly considered.

Daniel Kahneman<sup>25</sup>, laureate of the 2002 Nobel Prize in Economics, is renowned for collaborative research with Amos Tversky on decision-making under uncertainty. The Prospect Theory, devised by these scholars, demonstrates that the presentation of choices and aversion to loss exert substantial influence on individuals' decision-making processes. Consequently, their studies expound upon the systematic departure of human judgment from rational choice models, attributable to cognitive shortcuts enabling rapid, involuntary, and effortless decision-making in uncertain contexts.

Kahneman expounds upon these decision-making processes in his work "Thinking, Fast and Slow," delineating two coexisting cognitive systems denoted as "System 1" or "Fast" and "System 2" or "Slow." Collectively, these systems optimize individual performance while minimizing cognitive efforts. System 1 operates automatically with swift reactions, whereas

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<sup>22</sup> Hollis, Martin, and Edward J. Nell. *O homem econômico racional: uma crítica filosófica da economia neoclássica*. Rio de Janeiro: Zahar Editores, 1977.

<sup>23</sup> Smith, Adam. *The Theory of Moral Sentiments*. Reprint edited by D.D. Raphael And A.L. Macfie. Indianapolis: Liberty Classics, 1981; Smith, Adam. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Reprint edited by RH. Campbell and A.S. Skinner. Indianapolis: Liberty Classics, 1981.

<sup>24</sup> Lunn, Pete. Regulatory Police and Behavioural Economics. *OCDE Publishing*, 2014. Accessed October 19, 2023. [read.oecd-ilibrary.org/governance/regulatory-policy-and-behavioural-economics\\_9789264207851-en#page22](https://read.oecd-ilibrary.org/governance/regulatory-policy-and-behavioural-economics_9789264207851-en#page22).

<sup>25</sup> Kahneman, Daniel. *Rápido e Devagar: duas formas de pensar*. Translated by Cássio de Arantes Leite. Rio de Janeiro: Ed. Objetiva, 2011.

System 2 undertakes functions necessitating attention and deliberation. Notably, System 1 governs 95% of decisions, underscoring the pertinence of strategies directly addressing its reactions.

Consequently, initial responses to advertisements and corporate interactions are orchestrated by System 1, which, through involuntary and rapid engagement, becomes amenable to facile influence and persuasion via marketing strategies. This cognitive framework, characterized by causal inference and the suppression of doubt, predisposes individuals to belief even in the absence of empirical evidence, thereby sustaining persuasive patterns and contributing to the attention economy.

Thaler and Sunstein<sup>26</sup> similarly posit the existence of two cognitive systems—automatic and reflective—mirroring the aforementioned dichotomy. These systems give rise to behavioral biases, differentiating the human decision-maker from the homo economicus model. In contexts where irrational decisions stem from imperfect information, advertisements assume the role of information providers, guiding consumers in seeking products or services while simultaneously employing persuasive tactics to stimulate purchases.

The authors exemplify this within the advertising domain, where advertisers function as choice architects, cognizant of the potent impact of social influences. Advertisers strategically leverage social dynamics to their advantage, offering products, services, and pricing structures designed to influence individual decision-making processes.

In this context, it is imperative to elucidate the pervasive techniques and persuasive patterns inherent in social media. On October 27, 1994, *Wired* magazine undertook a pioneering, albeit rudimentary, application of what is now denominated as deceptive design or "dark pattern" within its online iteration, targeting readers. A hitherto inactive section of the website spontaneously materialized atop the page, accompanied by the explicit message: "Have you clicked here? You will click." Subsequently, this thematic domain has expanded, with professionals actively seeking methodologies to redirect user attention and behavior for objectives not originally aligned with their own.

In the latter part of the 1990s, American researcher Brian Fogg<sup>27</sup> introduced the term "Captology," signifying "Computer as Persuasive Technology." This nomenclature encapsulates the manner in which digital interfaces can generate incentives for users, involving interdisciplinary research spanning information technology, communication sciences,

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<sup>26</sup> Thaler, Richard R., and Cass R. Sunstein. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. London: Penguin Books, 2009.

<sup>27</sup> Fogg, B. J. "Captology: The study of computers as persuasive technologies." Conference Summary on Human Factors in Computing Systems, 1998.

cognitive psychology, and social psychology. Persuasion, construed as a process of behavior influence through techniques and symbolic elements such as messages, inherently constitutes a form of social influence.

Delineating between macro and micro dimensions of persuasion, Fogg expounds that these are subconsciously assimilated by the individual. Serving as the director of the Behavior Design Lab, formerly the Persuasive Tech Lab at Stanford University, established in 1997, Fogg explicates that behavior (B) transpires in the presence of motivation (M), ability (A), and a trigger (T), denoting B=MAT. In the absence of any of these components, user action is not elicited.

However, Fogg's theoretical framework has encountered critique positing that the computer operates not autonomously but rather at the directive of programmers, precluding it from sole responsibility in the persuasion of individuals. Consequently, a terminological evolution has transpired, shifting towards design techniques centered on attention with the aim of persuading users through their computer utilization experiences. These scholarly pursuits have been succeeded by Nir Eyal<sup>28</sup>, who delineates a four-phase process constituting the "Hook Model," employed by enterprises to instil habitual behavior in consumers.

Dark patterns, construed as tactics deployed in social media, are designed to influence users towards unintentional and potentially deleterious decisions by capitalizing on their personal data, often conferring benefit upon the platform at the user's expense. These stratagems manipulate or deceive users into decisions they would not autonomously undertake, thereby implicating legal, policy, structural, and psychological dimensions. In essence, advertisers, through these platforms, extensively leverage personal data concomitant with user interfaces engineered to sway decision-making. Instances include the high demand or false demand technique purporting scarcity when users visit a website or establishment for product or service acquisition. Another commonplace occurrence involves the utilization of colors or images to impact user acceptance of trackers and cookies by these corporate entities.

Social media service providers are implementing surveillance and manipulation practices that scholarly discourse contends may be exploitative. Through more efficacious persuasive strategies, some of these practices may be construed as a manipulative manifestation of "hyper-nudging," thereby compromising user autonomy.

The contemporary landscape is characterized by diverse classifications and nomenclatures surrounding dark patterns, as comprehensively compiled

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<sup>28</sup> Eyal, Nir. *Hooked: como construir produtos e serviços formadores de hábitos*. Translated by Edson Furmankiewicz. 1<sup>st</sup> ed. Cascavel/PR: Editora Alfacon, 2020.

by researchers from the esteemed French institute INRIA<sup>29</sup> in their seminal work, "An Ontology of Dark Patterns". This study meticulously scrutinizes the myriad classifications and nomenclatures associated with dark patterns, all converging on identical techniques. In response, our research endeavors to systematically analyze the techniques recognized by the scientific community, with the overarching goal of categorizing and grouping them. Consequently, we delineate three overarching categories: low-, meso-, and high-level patterns, encompassing a total of 65 techniques from the 245 scrutinized.

High-level patterns, positioned as the epitome of abstract knowledge, embody strategies characterized by the inclusion of manipulative, coercive, or deceptive elements. These elements possess the potential to curtail user autonomy and influence decision-making across diverse modalities and technologies (e.g., desktop, mobile, VUIs, VR/AR) and application types (e.g., e-commerce, gaming, social media). Meso-level patterns serve as a bridge between high and low-level forms of knowledge, delineating specific approaches or angles to limit, impair, or undermine the user's capacity for autonomous and informed decision-making. These patterns remain context-independent and can be interpreted contextually based on the specific usage context or application type. Conversely, low-level patterns represent the most context-dependent form of knowledge, encompassing specific execution means that constrain or erode the user's autonomy and decision-making. These patterns are visually and/or temporally described and are likely detectable through algorithmic, manual, or other technical means.

In practical terms, an extensive study conducted by the European Commission<sup>30</sup> on 45 websites and 30 applications widely used by consumers in the European Union unveiled a startling statistic: 97% of these platforms employ deceptive practices. Commonly identified deceptive practices include the establishment of false hierarchies or the concealment of crucial information. For instance, to encourage users to accept cookies or dissuade them from deleting an account, options are accentuated with brighter colors or larger fonts. Critical information, such as prices, terms, or privacy policies, is often presented inconspicuously in small fonts or subdued colors, embedded within extensive terms and conditions. These practices predominantly manifest in the entertainment, e-commerce, social media, and transportation sectors. Notably, prevalent deceptive patterns on social media

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<sup>29</sup> Bielova, Natallia, Colin M. Gray, Thomas Mildner, and Cristiana Santos. "An Ontology of Dark Patterns: Foundations, Definitions, and a Structure for Transdisciplinary Action." *INRIA*, 2023. Accessed November 9, 2023. <https://arxiv.org/pdf/2309.09640.pdf>.

<sup>30</sup> European Commission. *Behavioural study on unfair commercial practices in the digital environment: dark patterns and manipulative personalisation - Final Report*, April 2022, Brussels.

platforms include pre-selection, hidden information, false hierarchy, and disguised advertising.

Reactivity, or user behavior without prior reflection influenced by dark patterns, emerges as a widely exploited behavioral aspect. A collaborative study conducted by Columbia University, Microsoft Research, and INRIA in 2016 revealed that a significant 60% of content on Twitter is retweeted before being read<sup>31</sup>.

Moreover, in January 2023, the European Commission<sup>32</sup>, in conjunction with national consumer protection authorities from 23 Member States, Norway, and Iceland, disclosed the results of a comprehensive survey, termed a "sweep," focusing on retail websites. The investigation encompassed 399 online stores offering a diverse range of products, from textiles to electronics.

The research's focus was directed towards three specific manipulative practices associated with guiding consumers towards decisions potentially unfavorable to their interests, commonly referred to as "dark patterns." These practices include (i) false countdown timers, (ii) web interfaces designed to channel consumers towards purchases, subscriptions, or other choices, and (iii) hidden information. Among the scrutinized websites, 148 were found to employ at least one of these three types of "dark patterns."

In tandem with the objective of identifying dark patterns in digital environments and gauging potential manipulation of consumer behavior, the European Commission<sup>33</sup> also conducted an online experiment involving 7,430 participants from six countries (Bulgaria, Germany, Italy, Poland, Spain, and Sweden). Participants were tasked with choosing between two packages of digital entertainment services. Consistency with stated preferences earned participants 10 points, while inconsistency merited 1 point. The experiment encompassed eight conditions, including three deceptive patterns, four deceptive patterns with protective measures, and a control group, facilitating an assessment of consumer behavior in the absence of deceptive practices. Results revealed that exposure to deceptive patterns increased the degree of inconsistency in preferences for both average and vulnerable consumers. This underscores the influence of deceptive patterns on online consumer interactions and decision-making.

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<sup>31</sup> Chaintreau, Augustin, Maksym Gabielkov, Arnaud Legout, and Arthi Ramachandran. "Social Clicks: What and Who Gets Read on Twitter?" *ACM SIGMETRICS / IFIP Performance 2016*, June 2016, Antibes Juan-les-Pins, France. Accessed October 11, 2023. <https://inria.hal.science/hal-01281190>.

<sup>32</sup> European Commission. "Consumer protection: Manipulative online practices found on 148 out of 399 online shops screened." January 30, 2023, Brussels. Accessed October 11, 2023. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_418](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_418).

<sup>33</sup> European Commission. "Consumer protection: Manipulative online practices found on 148 out of 399 online shops screened." January 30, 2023, Brussels. Accessed October 11, 2023. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_418](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_418).

Grimaldi and Susser<sup>34</sup> propose a method to ascertain if persuasive techniques and designs are manipulative. According to these authors, a practice can be deemed manipulative when (i) there is a deliberate intention to act against someone's presumed or known interest, (ii) it involves the distortion or omission of the truth, and (iii) it diminishes or removes the individual's freedom of choice. Legally, strategies that distort or impair a consumer's choice, leading them to make a transaction decision they would not have otherwise made, are considered illegal under the Unfair Commercial Practices Directive (UCPD).

From Annex I of the mentioned Directive, various techniques can be identified, such as (i) bait and switch, involving the offering of products at a certain price without revealing reasonable grounds for being unable to supply the product and subsequently refusing to accept orders for this article or deliver it within a reasonable time, with the intent of promoting a different product (Annex I, points 5 and 6); (ii) false urgency, falsely stating that the product will only be available for a very limited period or under special conditions for a very limited period (Annex I, point 7), utilizing false timers and claims of limited quantities; (iii) inaccurate information about market conditions or the possibility of finding the product with the intention of inducing the consumer to purchase the product under less favorable conditions than the normal market conditions (Annex I, point 18); (iv) claiming that the consumer has won a prize without delivering it (Annex I, points 19 and 31); (v) misdescribing a product as free (Annex I, point 20); and (vi) intrusions during normal interactions to lead the consumer to do or accept something (Annex I, point 26). Free trials and misleading subscriptions, inferred from Articles 6 and 7, can also be considered dark patterns.

In any case, the line between manipulation and usability remains quite delicate and must be evaluated on a case-by-case basis, especially since each individual presents particularities that can be exploited in a personalized way, resulting in decision biases, which is a challenge for regulators and authorities.

### III. BRIEF CONSIDERATIONS ON THE DSA AND THE REGULATION OF BEHAVIORAL ADVERTISING

The Digital Services Act, formally recognized as Regulation (EU) 2022/2065 by the European Parliament and Council on October 19, 2022, represents a comprehensive regulatory initiative addressing diverse aspects

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<sup>34</sup> Susser, Daniel, and Vincent Grimaldi. "Measuring Automated Influence: Between Empirical Evidence and Ethical Values." *Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society*, 2021.

of digital services. This regulation aims to tackle issues such as the dissemination of illegal or harmful content, platform accountability, and transparency in online advertising. It adapts regulatory frameworks for digital services, including those provided by online platforms.

The existing legislative framework for digital services in the European Union primarily rested on Directive 2000/31/EC, adopted in 2000. Even before this directive, EU member states had formulated national laws governing digital commerce. However, with the widespread integration of digital services into users' daily lives and the evolution of novel marketing techniques, there arose a pressing need to modernize the regulatory framework. While Directive 2000/31/EC established fundamental principles for the provision of online services, it inadequately addressed emerging concerns related to user safety, platform transparency, and the responsibilities of digital intermediaries.

Furthermore, the E-Commerce Directive provided a regime of limited liability for intermediate service providers, often referred to as the "safe harbor" provision. This absolved platforms from being held responsible for illegal or harmful content posted by third parties on their platforms, provided certain conditions were met. However, this approach faced scrutiny as concerns escalated over the proliferation of misinformation, hate speech, and illicit content on the internet.

The inception of the DSA was marked by heightened concerns about online security and the dissemination of harmful content, with major digital/platforms facing criticism for perceived inadequacies in addressing issues such as the spread of fake news and hate speech. The DSA, set to become effective throughout the European Union fifteen months after its entry into force on November 16, 2022, or from January 1, 2024, onwards, whichever is later, is poised to introduce significant changes.

Online platforms are mandated to disclose the number of active users by February 17, 2023. Platforms or search engines exceeding 45 million users (10% of the European population) will be designated as Very Large Online Platforms or Very Large Online Search Engines by the Commission. These entities must comply with DSA obligations within four months, encompassing the submission of the initial annual risk assessment.

A pivotal DSA obligation necessitates large platforms to implement effective measures for handling illegal or harmful content, involving the prompt removal of user-reported content and the deployment of preventive measures to curb the dissemination of such content.

In alignment with European data protection standards, the DSA introduces a tiered set of requirements based on the size, function, and impact of platforms in the digital realm. These classifications encompass intermediary services (providers of network infrastructure), virtual hosting

services, online platforms, and Very Large Online Platforms—the latter being those accessed by at least 10% of European consumers for commercial transactions.

As elucidated by Favro and Zolynski<sup>35</sup>, operators of Very Large Online Platforms are subjected to a cumulative set of obligations commensurate with their role, size, and impact on the online ecosystem, deviating from the principles of Directive 2000/31/EC. Consequently, operators assuming more critical service functions bear increased responsibilities, including independent audits, heightened transparency obligations, content moderation, and access to information.

The DSA introduces a suite of transparency obligations for digital platforms. For instance, intermediate service providers are obliged to furnish transparent information about their algorithms and content moderation practices, along with ensuring user data access upon request. Additionally, users are entitled to notifications explaining why they were exposed to behavioral advertising and are granted the option to opt-out of content targeting based on their profiles.

The DSA also imposes new obligations on digital platforms pertaining to online advertising, as detailed subsequently. The legislation addresses the matter of interoperability between digital platforms, facilitating easier and secure user communication across diverse platforms, potentially fostering increased competition and innovation in the market.

Concerning misinformation, the DSA underscores the imperative of implementing measures to identify and flag false or misleading information. It also reinforces rules for the removal of illegal or harmful content, specifying clear deadlines for platforms to respond to notifications and safeguarding users' right to contest.

In conclusion, analogous to the Data Markets Act, critics of the DSA contend that, while the imperative for user protection is acknowledged, due consideration must be accorded to the potential impacts on freedom of expression and innovation. As the digital landscape continues to evolve, an updated regulatory approach is imperative, one that navigates the emerging challenges and opportunities effectively. The DSA seeks to strike a delicate balance between user protection and the promotion of innovation, concurrently fortifying fair competition in the digital market.

Regarding territorial application, the rules exhibit limited extraterritorial reach. They are applicable to companies within the European Union or those targeting consumers within the bloc. Consequently, companies not physically present in the EU but providing digital services to EU users will remain

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<sup>35</sup> Favro, Karine, and Célia Zolynski. "DSA, DMA: L'Europe encore au milieu du gué: Observations sous Commission Européenne, 15 décembre 2020, COM(2020) 825 final et COM(2020) 842 final." Dalloz IP/IT no. 2 (2021).

subject to these regulatory obligations.

The Digital Services Act (DSA) is notably distinguished in the realm of behavioral advertising by its specific and comprehensive approach within the European Union, imposing substantive obligations on digital service providers. Recital 69 of the Regulation elucidates that the practice carries potential deleterious consequences, asserting that "advertisements predicated on targeting techniques optimized to align with users' interests and potentially exploit their vulnerabilities can yield particularly severe adverse effects." Consequently, one of the prominently highlighted prohibitions pertains to the practice of profiling, as delineated by the General Data Protection Regulation of the European Union, specifically in relation to sensitive personal data.

Article 26 of the DSA governs advertising on digital platforms comprehensively, reaffirming extant obligations in other regulatory frameworks. This includes stipulations requiring advertisements to encompass (i) explicit information signifying its nature as an advertisement; (ii) identification of the subject to whom the advertisement refers and disclosure of the entity financing it if distinct; and (iii) elucidation of the primary parameters instrumental in determining the ad's targeting, alongside directives on how to modify these parameters. This obligation is intended to be meticulously explored within the ambit of behavioral advertising, with the overarching objective of enhancing transparency for users regarding the rationale behind the delivery of specific content. Furthermore, Article 26 categorically prohibits the exhibition of advertising content based on automated profiles derived from sensitive personal data.

The DSA underscores the influential capacity of digital platforms and major search engines to shape public opinion, discourse, and commercial activities, given their business model predominantly driven by advertising, thereby engendering pertinent social considerations. Consequently, Recital 79 emphasizes the imperative need for "effective regulation and enforcement to identify and proficiently mitigate the social and economic risks and harms that may manifest."

The Regulation further categorizes four primary risks in Recitals 80 to 83: (i) the risk of illicit content, encompassing pornography, counterfeiting, crimes, and illegal trade of animals; (ii) adverse effects on democratic processes and public safety; (iii) manipulation with negative implications for public health, including consequences for physical or mental well-being and gender-based violence; and (iv) impacts on fundamental rights, including dignity, freedom of expression and information, non-discrimination, consumer protection, personal data protection, and privacy. These issues arise from the utilization of algorithmic systems or abusive practices in services, including the deployment of notifications with obstructive intent or to impede competition. Stringent measures are expected of major platforms to address

such risks, including ensuring transparency (Article 42), conducting systematic assessments and tests, formulating codes of conduct, and engaging in self-regulation collaboratively with competitors facing similar challenges. Dialogues with society and other stakeholders are also encouraged.

Moreover, Recital 94 introduces significant provisions pertaining to content targeting, explicitly referencing recommendation systems. Platforms are mandated to adopt measures preventing and minimizing "biases leading to the discrimination of individuals in vulnerable situations," particularly when involving the utilization of sensitive personal data.

In addition, platforms must guarantee users alternatives to profile settings for recommendation systems. An illustrative instance is the recent modification introduced by Meta in the Instagram application, affording users the option to personalize or randomize content in the explore tab based on individual preferences. This raises the pertinent inquiry of whether behavioral advertising should be construed as a form of content targeting and, if affirmative, whether all platforms should provide an alternative to personalized advertising, with considerations regarding the provision of such alternatives on a complimentary basis.

Recital 95, with specificity, reiterates the unique risks posed by advertising systems, necessitating heightened public and regulatory scrutiny owing to their high scalability rooted in user behavior.

With regard to the treatment of personal data for targeted behavioral advertising directed at children and adolescents, the DSA, in Article 28 in conjunction with Recital 71, establishes specific rules. These encompass additional protective measures and a prohibition on advertising targeting based on profiles for minors. However, the application of this prohibition is contingent upon online platform providers reasonably certifying that the recipient is indeed a child or adolescent. For instance, platforms such as YouTube Kids, catering to a younger audience, abstain from personal data collection for advertising purposes, thereby exemplifying limitations in this domain. This provision introduces interpretational nuances and potential evasions of service provision responsibilities in the absence of personalization.

The DSA also mandates a specific obligation ensuring public access to ad repositories to facilitate oversight and investigation of distribution risks. These repositories are required to feature comprehensive information, including the name of the product, service, brand, and the objective of the advertisement, alongside details about the advertiser and the entity funding the advertisement if different. This encompasses information on the display of the advertisement and explicit indications that it constitutes targeted advertising. Such details must encompass targeting and presentation criteria, with particular emphasis when advertisements are directed at vulnerable

groups such as children.

Additionally, the DSA introduces the establishment of optional codes of conduct at the Union level for entities involved in online advertising. The purpose is to ensure transparency, personal data protection, privacy, and foster fair competition. These codes must address essential information about the advertiser, sponsor, and advertisement display parameters, as per Article 46. The development of these codes is encouraged until February 2025, with implementation expected by August of the same year.

Without exhaustive treatment of the subject, another salient aspect in the DSA is articulated in Article 25, addressing dark patterns in the design and organization of online platform interfaces. The DSA categorically prohibits the conception, organization, and exploitation of interfaces that may deceive or manipulate users or substantially impair the recipients' ability to make free and informed decisions. Prohibited techniques include giving undue prominence to specific options when soliciting a decision from the service recipient, requesting repeated choices already made, and rendering the cancellation process more arduous than subscription, exemplified by challenges in revoking consent for promotional newsletters. These represent only a subset of the myriad techniques existing and applied within social media platforms.

However, it is noteworthy that Article 25 of the DSA excludes from its purview operations involving the processing of personal data governed by the GDPR, as is the case with behavioral advertising. This exclusionary provision may give rise to interpretative ambiguities, but it can be justified by extant provisions within the GDPR that proscribe deceptive practices, even when aligned with its guiding principles. Nevertheless, the subject remains under active investigation and will be subject to scrutiny by competent authorities, necessitating the issuance of decisions and guidance regarding its legality within the digital landscape.

In addition to the Digital Services Act, several other regulations within the European Union sphere may impact consumer protection related to manipulation on social media. These include the Digital Markets Act (2020), the Platform-to-Business Regulation (2019, revised in 2021), the Digital Decade Communication (2021), the European Data Strategy, the Artificial Intelligence Act, the E-Commerce Directive, the Unfair Commercial Practices Directive (UCPD), the Directive on Comparative and Misleading Advertising, and the e-Privacy Directive. It is noteworthy that some of these directives, such as the e-Privacy Directive, are scheduled for replacement in specific areas by the e-Privacy Regulation.

We see that, in the current scenario, where consumers are becoming more demanding and there are few regulations related to the subject, companies will face the challenge of adjusting their commercial and advertising

practices. It is crucial to compete effectively and gain consumer trust, considering the changing behaviors and increasing demands in the digital environment<sup>36</sup>.

## CONCLUSION

In conclusion, this study highlights the imperative for regulatory measures to effectively protect against persuasive and obscure practices on social media, preserving consumer autonomy and rights in our increasingly digital and data-driven world. An in-depth analysis of the European Union's Data Services Act (DSA) highlights its proactive approach to addressing the issue, yet leaves room for ambiguous interpretations and the collaborative development of rules and guidelines with authorities.

Moreover, as we navigate this complex landscape, it becomes crucial to underscore the significance of studying the collection of valid consent in accordance with personal data protection legislations. Ensuring that users provide informed and explicit consent for the processing of their data is fundamental in addressing ethical concerns and upholding privacy rights.

In essence, the multifaceted nature of digital platforms necessitates ongoing scrutiny, regulatory refinement, and scholarly inquiry to adapt to the evolving challenges posed by personalized advertising and data processing. By prioritizing the study of valid consent mechanisms and limitation of dark patterns and data processing activities, we can contribute to a more ethically grounded and legally compliant digital environment, fostering a balance between innovation and the protection of individual rights.

It is also important to consider other regulatory frameworks alongside the DSA to comprehensively grasp the landscape of behavioral advertising on social media, acknowledging the contextual variations across countries. The prioritization of DSA analysis, driven by its explicit reference to the subject and its anticipated impact from early 2024, aimed to shed light on crucial aspects rather than exhaustively cover the topic. This study serves as a catalyst for further exploration into the multifaceted issue of consumer manipulation through social media advertising, urging continued scholarly inquiry and regulatory scrutiny in this evolving digital terrain.

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