TikTok and Transparency Obligations in the EU Digital Services Act (DSA) – A Scoping Review

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Contents

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Abstract

The Digital Services Act (DSA) entered into force in November 2022 and is directly applicable across the European Union since the beginning of 2024.[1] The DSA imposes special rules on very large online platforms (VLOPs) such as TikTok. This study examines the transparency obligations for VLOPs set forth in various articles of the DSA. A scoping review identified three key issues related to TikTok's adherence to transparency: content moderation, advertisement and terms and conditions. A comparative analysis was conducted between these identified issues and the specific obligations outlined in the DSA. The main finding of this study reveals distinct dimensions of transparency that have been addressed in the existing literature. The first layer includes the disclosure of information, but the information disclosed is often incomprehensible to the public. Therefore, calls have intensified for transparency at the second layer that includes comprehensibility of the disclosed information. The forthcoming DSA is expected to address this second dimension of transparency by requiring TikTok to provide more precise information regarding their content moderation, advertising, and terms and conditions. Finally, the literature indicates the emergence of a third layer of transparency, wherein information made public should also be tailored to the kind of audience it is made transparent to. In terms of ensuring the clarity and comprehensibility of the conditions and restrictions of the platform for children, the DSA also appears to advocate for enhanced transparency at level 3.

Keywords: Transparency, Digital Services Act, Content Moderation, TikTok, Very Large Online Platforms, Advertisement, Terms and Conditions, Surveillance, Privacy, Internet Governance

A. Introduction

TikTok is a social media platform where users can create, view, and share short videos.[2] Recently, European governments in countries such as the Netherlands,[3] or the United Kingdom have decided that TikTok will be banned on work phones of civil servants.[4] This follows an intense discussion on the use of the popular smart-

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1 *European Commission*, 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).
2 *Sarwatay/Lee/Kaye*, Media International Australia 2023/1, p. 49.
3 *NOS*, Kabinet Verbiedt TikTok Op Werktelefoons van Rijksambtenaren, available at: https://nos.nl/artikel/2468306-kabinet-verbiedt-tiktok-op-werktelefoons-van-rijksambtenaren (12/1/2024).
4 *Hern*, TikTok to Be Banned from UK Parliamentary Devices, available at: https://www.theguardian.com/technology/2023/mar/23/tiktok-to-be-banned-from-uk-parliamentary-devices (12/1/2024).

phone app in the United States.[5] In May 2023, the governor of Montana signed a bill with the intention of prohibiting the use of TikTok within the state.[6] The decision seems to be motivated by apprehension regarding the potential vulnerability of sensitive user data, which could be accessed by the Chinese government due to existing legislation enabling Beijing to covertly request data from Chinese corporations for intelligence collection objectives. If such access is possible, TikTok would provide the Chinese government a powerful tool to understand the sentiment in foreign countries such as the United States in real-time, and potentially spread propaganda, or destabilizing political messages. TikTok, however, has opposed to this announced ban and the legal resolution of this matter is still pending at the time of writing.[7] Notwithstanding, TikTok is engaged in an initiative to ensure the localization of data. For Europe this means that data relating to European users remains within European territories as of the end of 2024.[8]

It should be noted that data protection concerns are not exclusive to TikTok, as other major platforms such as Facebook (owned by Meta) also face criticism.[9] Nevertheless, this article will specifically focus on TikTok due to its recent surge in popularity and its predominant usage among younger user generations. Additionally, it is of interest due to the platform's unique algorithm, which continually endeavours to discern the content most appealing to individual users.[10] This holds significance as TikTok has faced scrutiny for purportedly enticing minors towards addictive and detrimental patterns of engagement with the app.[11]

Despite all political concerns relating to international data flows and covert surveillance, TikTok is currently used in many countries by a vast range of users.[12] Keeping this in mind, it is interesting to find out how TikTok will be regulated, especially with regard to the new Digital Services Act (DSA).[13] The DSA is a Euro-

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5 *McCabe*, White House Said to Consider Pushing Congress on Dealing With TikTok, available at: https://www.nytimes.com/2023/03/06/technology/white-house-congress-on -tiktok.html (12/1/2024).
6 *Maheshwari*, Montana Governor Signs Total Ban of TikTok in the State, available at: https://www.nytimes.com/2023/05/17/business/montana-tiktok-ban.html (12/1/2024).
7 *McCabe/Maheshwari*, TikTok Sues Montana, Calling State Ban Unconstitutional, available at: https://www.nytimes.com/2023/05/22/technology/tiktok-montana-ban-lawsuit. html (12/1/2024).
8 *Kasteleijn,* TikTok lanceert charmeoffensief, maar stuit op kritische Tweede Kamer, available at: https://nos.nl/artikel/2489471-tiktok-lanceert-charmeoffensief-maar-stuit-op-krit ische-tweede-kamer (12/1/2024); *Farah*, TikTok opens datacentre in Dublin in bid to combat European privacy concerns, available at: TikTok opens datacentre in Dublin in bid to combat European privacy concerns | TikTok | The Guardian (12/1/2024).
9 *Criddle*, TikTok spied on me. Why?, available at: https://www.ft.com/content/0c0f9670- 2e3a-4af8-bcd5-85e314f6ac5e (12/1/2024).
10 Ibid.
11 *Gruver*, Utah sues TikTok, alleging it lures children into addictive and destructive social media habits, available at: Utah sues TikTok, alleging it lures children into addictive and destructive social media habits (qz.com) (11/11/2023).
12 *Clarke*, TikTok: How the West Has Turned on Gen Z's Favourite App, available at: https://www.theguardian.com/technology/2023/feb/05/tiktok-how-west-turned-on-gen- z-favourite-app (12/1/2024).
13 *Buri/van Hoboken*, p. 10.

pean Union (EU) Regulation aimed at ensuring security in the digital environment and enhancing the fundamental rights of all users of digital services.[14] The DSA entered into force on 16 November 2022 and is directly applicable across the EU since the beginning of 2024.[15] The DSA covers "intermediary services encompassing: internet access providers, domain name registrars, and hosting services".[16] In turn, hosting services encompass online platforms that "bring together sellers and consumers such as online marketplaces, app stores, collaborative economy platforms and social media platforms".[17] These differentiations hold significance as special regulations are imposed by the DSA on specific types of online platforms, specifically referred to as very large online platforms (VLOPs). VLOPs are online platforms with a user base exceeding 45 million recipients.[18]

TikTok has over more than 45 million monthly active users in the EU and will be subject to the more stringent rules imposed by the DSA on VLOPs.[19] VLOPs not only have to fulfil special obligations, but also "all due diligence: universal, basic, and advanced obligations" as set forth in the DSA.[20] This study specifically addresses the transparency obligations for VLOPs that are laid down in several articles of the DSA.[21] In light of these developments, the research question central to this article is: Which concerns can be identified in the literature available relating to TikTok and transparency, and how are they addressed by the EU Digital Service Act? First, we present the methodology of a scoping review. Through a scoping review, we identify the concerns raised in the available literature and highlight possible improvements suggested for TikTok to comply with its transparency obligations. Second, the legal framework providing the transparency obligations applicable under the DSA will be discussed. Based on this information, the concerns identified in the literature are compared with the obligations in the DSA to determine whether the current legal concerns regarding TikTok are addressed by the transparency obligations in the DSA.

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14 *Husovec/Roche Laguna*; *European Comission*, The Digital Services Act Package, available at: https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package (12/1/2024).
15 Ibid.
16 *European Comission*, The Digital Services Act: Ensuring a Safe and Accountable Online Environment, available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act-ensuring-safe-and-accountable-online-environment_en#what-is-the-impact-of-new-obligations (12/1/2024).
17 *European Commission*, The Digital Services Act: Ensuring a Safe and Accountable Online Environment, available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act-ensuring-safe-and-accountable-online-environment_en#what-is-the-impact-of-new-obligations (12/1/2024).
18 Digital Services Act, recital 76 and Article 33.
19 Ibid.; *Woo*, TikTok Commits to Two New Data Centers in Europe, available at: https://www.wsj.com/articles/tiktok-commits-to-two-new-data-centers-in-europe-6cda18b2 (12/1/2024).
20 *Husovec/Roche Laguna*.
21 Digital Services Act, Article 14, 15, 20, 22, 26, 28, 34, 39, 42.

B. Methodology

I. Scoping review

The subsequent sections include the stages of a scoping review as proposed by *Arksey* and *O'Malley*,[22] supported by the article of *Levac*, *Colquhoun* and *O'Brien*.[23] To answer the research question, the key priorities regarding transparency issues and TikTok in the current literature need to be identified. To identify the transparency concerns from the literature, a scoping review is the most suitable method for a variety of reasons. First, a systematic literature review was not applied due to the emerging nature of the chosen topic and the amount and quality of available literature at the time of writing. It is not only TikTok that is at the center of the debate, but the legal framework is also in development and currently in implementation.[24] Besides, the DSA and related legislation such as the 2016 EU General Data Protection Regulation (GDPR), or the proposal for the Artificial Intelligence Act could eventually overlap in terms of the use of Artificial Intelligence (AI) systems.[25]

Second, the research question at hand is characterized by its broad and exploratory nature. To effectively address this question, a scoping review was conducted to identify and analyze the main themes prevalent in the discourse surrounding transparency and TikTok.[26] This scoping review encompassed a diverse range of sources pertaining to the topic, enabling a comprehensive examination of the field, which has not been extensively explored.[27] Unlike a systematic literature review, a scoping review does not involve evaluating the quality of the included studies, but focuses on extracting and synthesizing the key information and findings from diverse sources, without critically appraising the methods used in each individual study. This will provide a broader understanding of the general information available on transparency issues related to TikTok.[28] By employing this approach, this study aims to categorize the existing literature and provide valuable insights into the transparency issues associated with TikTok.

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22 *Arksey/O'Malley*, International Journal of Social Research Methodology 2005/1, pp. 19–32.
23 *Levac/Colquhoun/O'Brien*, Implementation Science 2010/1.
24 Digital Services Act; *European Commission,* Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union legislative acts, COM(2021) 206 final.
25 *Mazzini/Scalzo*.
26 *Arksey/O'Malley*, International Journal of Social Research Methodology 2005/1, p. 19–32.
27 Ibid.
28 *Levac/Colquhoun/O'Brien*, Implementation Science 2010/1, p. 1.

II. Identifying relevant studies

As proposed by *Arksey* and *O'Malley*, electronic databases were used to gather relevant sources.[29] The search for articles was performed at the end of March 2023 in two commonly used multidisciplinary databases for researchers, namely Web of Science and Scopus.[30] To decide which articles were relevant, specific key words were used that are central to the posed research question. For the search string in the databases, it is evident that the term TikTok needs to be included. In addition, the word transparency and synonyms of this word were included. Finally, the DSA includes transparency obligations for VLOPs on content moderation, advertisement, and transparency reports. Therefore, articles that discussed these topics were included in the search. The obligations for VLOPs will be elaborated upon in section C. Moreover, the complete process of the selection of keywords and the chosen search string is specified in Appendix A. The next section further details the criteria on which the articles emerging from the relevant studies in the databases were selected.

III. Study selection

The utilization of specific keywords within databases has yielded a compilation of articles. However, it is imperative to discern and select articles that are pertinent to the research inquiry. The assessment of relevancy was predicted upon predetermined criteria. Initially, certain articles necessitated exclusion from consideration. Articles composed in languages other than English were omitted due to limited linguistic proficiency in those languages. Moreover, subsequent exclusion criteria were implemented post hoc after an extensive review of the relevant studies. In the same manner as suggested by *Arksey* and *O'Malley*, different rounds were conducted.[31]

The first round involved a thorough examination of the titles and abstracts of the articles, leading to the elimination of a few articles. The second round comprised a more comprehensive evaluation, which entailed reading the introduction, method and conclusion sections of the remaining articles. Ultimately, the remaining articles that had successfully passed the two previous rounds underwent a careful reading of their entire contents. As such, only articles directly pertinent to the study were retained. Articles were excluded if they merely made passing reference to TikTok without delving into a thorough investigation of the subject matter. Additionally, numerous articles were disregarded as they failed to address transparency concerns in relation to TikTok. The inclusion of articles was determined retrospectively, employing the sequential rounds. The inclusion criteria were based on articles that covered aspects related to transparency obligations within the context of the DSA

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29 *Arksey/O'Malley*, International Journal of Social Research Methodology 2005/1, pp. 19–32.
30 *Xiao/Watson*, Journal of Planning Education and Research 2019/1, p. 93.
31 *Arksey/O'Malley*, International Journal of Social Research Methodology 2005/1, pp. 19–32.

and TikTok. Thus, articles discussing transparency, content moderation, advertisements, commercials, and transparency reports were deemed relevant and included. Further details regarding the article selection process and the successive rounds are presented in Appendix B.

Despite the numerous strengths associated with a scoping review, it is important to acknowledge certain limitations. In this specific research, a limited number of individuals conducted the entire process, including the selection of studies and formulation of the search strategy. Consequently, there exists a potential for selection bias in the search strategy, search string, and the selection of articles.

C. Legal framework

The DSA imposes stricter transparency obligations on digital services, which can be seen as positive developments. Therefore, certain articles within the DSA are briefly introduced to highlight the specific requirements. This section will provide a concise overview of the articles and the main theme of the articles related to transparency. Article 15(1) DSA includes transparency reporting obligations for providers who "shall make publicly available, at least once a year, clear, easily comprehensible reports on any content moderation that they engaged in during the relevant period".[32] Article 24 specifically addresses transparency reporting obligations for providers of online platforms.[33] In addition to the requirements outlined in Article 15, online platforms are required to provide additional information such as "the number of disputes submitted and suspensions imposed".[34] According to Article 14 DSA, the terms and conditions "shall include information on any policies, procedures, measures and tools used for the purpose of content moderation, including algorithmic decision-making and human review, as well as the rules of procedure of their internal complaint handling system".[35] Furthermore, Article 27 DSA stipulates that "providers of online platforms that use recommender systems shall set out in their terms and conditions, in plan and intelligible language, the main parameters used in their recommender systems, as well as any options for the recipients of the service to modify or influence those main parameters".[36]

Articles 26 and 39 DSA establish stringent rules that impose transparency obligations for providers of online platforms concerning online advertising.[37] Finally, Article 42(2) provides that VLOPs – in addition to the reports in Articles 15 and 24(1) – "shall specify: (a) the human resources that the provider of very large online platforms dedicates to content moderation; (b) the qualifications and linguistic expertise of the persons carrying out the activities referred to in point (a), as well as the training and support given to such staff; (c) the indicators of accuracy and related infor-

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32 Digital Services Act, Article 15, pp. 49, 50.
33 Digital Services Act, Article 24, p. 58.
34 Ibid.
35 Digital Services Act, Article 14(1), p. 49.
36 Digital Services Act, Article 27(1), p. 59.
37 Digital Services Act, Articles 26, 39, pp. 59, 69, 70.

mation referred to in Article 15(1)".[38] Since TikTok is a VLOP, all these provisions came into effect when the DSA became directly applicable in January 2024.

D. Analysis

The purpose of this section is to identify transparency issues that have been discussed in the current literature in relation to TikTok and that are addressed in the DSA. This analysis has four main components. First, we examine general aspects related to the fundamental characteristics of the platform. This is followed by three distinct sections focusing on specific issues identified in the articles analysed. It is expected that the issues identified will have an impact on TikTok's operations as the DSA is fully implemented and enforced within the EU.

Prior to the analysis, it is imperative to establish a foundational understanding of the concept of transparency. Within the context of the DSA, an examination of the text reveals a recurring utilization of the term "transparency", albeit without the provision of a singular, all-encompassing definition.[39] Upon closer scrutiny of the DSA, the nuanced employment of the term appears linked to the objectives of making information either publicly accessible or comprehensible. Several articles within the DSA expound upon the specific facets of information that are expected to be made accessible in the pursuit of transparency.[40] This underscores the significance of integrating a legal analysis with the extant literature on the subject by harmoniously juxtaposing legal provisions with the existing scholarly interpretation. The aim is to discern the precise nature of transparency that is aspired towards within the framework of the DSA.

I. Relevant general aspects

On TikTok, users of the platform are commonly referred to as producers or creators, a terminology that is also utilized in this article.[41] The literature reviewed also emphasizes that TikTok has gained significant popularity among younger user groups when compared to most other VLOPs.[42] The prominence of a younger user base is a salient factor that needs to be considered, since specific challenges related to transparency emerge. To name two specific examples, this includes the danger of covert advertising, or the comprehensibility of privacy policies. The following sections elaborate on several issues that have surfaced from a scoping review of the literature on transparency and TikTok. Prior to this, some fundamental aspects regarding the operational mechanics of TikTok are mentioned.

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38 Digital Services Act, Article 42(2), p. 73.
39 Digital Services Act, recital 64, 65, 94, 100, 107.
40 Digital Services Act, Articles 14, 15, 24, 39, 42, 46.
41 *Devito*, Proceedings of the ACM on Human-Computer Interaction 2022, pp. 1–6; *Peterson-Salahuddin*, New Media and Society 2022, p. 5.
42 *Gillett/Stardust/Burgess*, Social Media + Society 2022/4, p. 3; *Zeng/Kaye,* Policy & Internet 2022, p. 80.

The most distinguishing feature of TikTok compared to other platforms is the For You Page (FYP).[43] The FYP is a personalized page offering content based on a selection done through a proprietary algorithm. The page shows and suggests short videos that are attempted to be of interest to the user.[44] By leveraging various factors such as likes, user location, and hashtags, the FYP generates an infinite amount of engaging content when scrolling through, thereby fostering user engagement.[45] When a user expresses interest in a particular topic, a series of recommended videos with similar content are presented, resembling the snowball sampling technique commonly employed in qualitative research.[46] Although the platform took initiatives to be transparent about the algorithm underlying the FYP, the actual workings of this algorithm remain confidential, leading many users to speculate about its operation.[47]

II. Content moderation

A significant number of articles have highlighted concerns pertaining to content moderation on TikTok. The initial part of this section will provide a comprehensive exploration of the diverse modalities of content moderation on TikTok, offering a brief explication of their respective functionalities. Subsequently, this section will delve into the overarching challenges inherent in the content moderation techniques of TikTok.

Content moderation consists of the "process in which platforms shape information exchange and user activity through deciding and filtering what is appropriate according to policies, legal requirements and cultural norms".[48] TikTok employs different content moderation techniques. First, machine learning algorithms determine which forms of content go against the rules.[49] Second, flagging "allows other users to mark your content as inappropriate".[50] Upon the flagging of content, an initial review is conducted to ascertain whether said content indeed contravenes TikTok's community guidelines.[51] This review can be accomplished either through the utilization of the first method outlined or via editorial review. Third, editorial review is utilized that includes humans who review the flagged and automated content in light of the platforms' set guidelines.[52] Fourth, TikTok makes use of content removals and suspensions of accounts when users do not adhere to TikTok's com-

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43 *Sarwatay/Lee/ Kaye*, Media International Australia 2023, p. 51.
44 *Peterson-Salahuddin*, New Media and Society 2022, p. 5; *Zeng/Kaye,* Policy & Internet 2022, p. 83.
45 *Slater*, p. 162; *Sarwatay/Lee/ Kaye*, Media International Australia 2023, p. 54.
46 *Cox/Gibbs/Turnock*, Drugs: Education, Prevention and Policy 2023, p. 3.
47 *Peterson-Salahuddin*, New Media and Society 2022, p. 5.
48 *Zeng/Kaye,* Policy & Internet 2022, p. 81.
49 *Are*, Media, Culture and Society 2022, p. 4; *Slater*, p. 163; *Urman and Makhortykh*, Telecommunications Policy 2023, p. 2.
50 *Peterson-Salahuddin*, New Media and Society 2022, p. 6.
51 *Are/Briggs*, Social Media and Society 2023/1, p. 2.
52 *Peterson-Salahuddin*, New Media and Society 2022, p. 6.

munity guidelines.[53] Finally, TikTok employs a content moderation technique called 'shadow banning', which is "hiding users from the apps' main feeds without their knowledge and de facto limiting their visibility and reach".[54] In other words, from the perspective of the users the platform works as usual, but their content is much less visible to other users than usual.

As such, content moderation serves to ensure safety within the platform, countering misinformation, hate speech, and all kinds of other harmful behaviour.[55] Notwithstanding the potentially affirmative implications associated with the implementation of content moderation, numerous articles highlight concerns to this practice that will be elaborated upon. Foremost among these concerns is the issue of TikTok's community guidelines, which explicitly define the permissible content. This includes content moderation of hateful behaviour towards specific groups based on factors such as "race, ethnicity, national origin, religion, caste, and immigration status".[56] Criticism is being voiced relating to the perceived flexibility of the implementation of those community guidelines. For instance, content can be flagged by users for moderation even if it is not explicitly linked to a specific criterion. The delegation of flag assessment to algorithmic systems is a practice predicated upon the pivotal role that algorithmic decision-making assumes in the evaluation of content appropriateness.[57] Consequently, concerns have been raised regarding the over-reliance on an algorithmic system for content moderation.[58] In this way "decisions" may be made without clear grounding in specific guidelines or criteria.[59]

Hence, several examples of flaws were found in TikTok's content moderation. Despite TikTok's community guidelines prohibiting political advertisements, researchers discovered numerous occurrences of political content being shared.[60] Moreover, concerns pertaining to content flagging were identified. In this regard, the concept of 'user-generated warfare' has emerged, encompassing the collective action of individuals flagging and seeking the removal of content from those with whom they disagree.[61] However, TikTok's current content moderation policies do not consider malicious flagging as a form of internet abuse or as a form of established practice.[62] Finally, TikTok also de-platforms content that does fulfil its community guidelines, but the opacity of such actions creates unclarity on what exactly

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53 *Are*, Media, Culture and Society 2022, p. 5; *Duffy/Meisner*, Media, Culture & Society 2023/2, p. 291.
54 *Are*, Media, Culture and Society 2022, p. 3.
55 *Gillett/Stardust/Burgess*, Social Media + Society 2022/4, pp. 1–5; *Thomas* et al., Conference on Human Factors in Computing Systems – Proceedings 2022.
56 *Jaramillo-Dent/Contreras-Pulido/Pérez Rodríguez*, Media and Communication 2022, p. 210.
57 *Duffy/Meisner*, Media, Culture & Society 2023, p. 294.
58 Ibid.
59 Ibid.; *Slater*, pp. 158–163.
60 *Papakyriakopoulos* et al., AIES 2022, p. 534.
61 *Are*, Media, Culture and Society 2022, p. 6; *Duffy/Meisner*, Media, Culture & Society 2023/2, p. 293.
62 *Are*, Media, Culture and Society 2022, p. 15.

leads to deletion.[63] The ambiguity in content deplatforming arises from a lack of knowledge of users regarding the underlying motivation for such actions. Users are often unaware of whether removal results from a single post, multiple posts, or if external user input contributes to the decision.[64] Moreover, in particular instances, users are not even provided with notification or information about the removal or deplatforming.[65]

Another conundrum articulated in several articles about content moderation revolves around the issue of editorial review. Frequently, individuals, often third-party contractors not directly employed, are tasked with the responsibility of moderating content on TikTok in accordance with the platform's community guidelines for low wages.[66] It is known that this task is burdensome and potentially psychologically harmful, as these individuals are required to review the most horrible and distressing content.[67] While doing so, it becomes challenging to draw a clear demarcation between content that raises legitimate concerns and content which is covered by the freedom of expression.[68]

In sum, the imperative of legislative intervention in content moderation on TikTok is already underscored by the multitude of issues that can potentially arise in its absence. While general concerns have been listed, the following sections delineate three distinct topics related to content moderation that serve to fortify the argument that comprehensive content moderation practices hold substantial significance, particularly within the context of enhancing transparency.

1. Ethnic discrimination and suppression of groups

The first topic addressed concerns discrimination, suppression, and bias in relation to content moderation.[69] Multiple articles pointed out that the algorithm for content moderation is discriminating 'Black' and 'Brown' creators.[70] Primarily, this pertains to content moderation in the context of community guidelines, which encompass provisions aimed at safeguarding against the proliferation of hate-based group behaviour.[71] Nonetheless, this approach to content moderation inadvertently

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63 Ibid., p. 5.
64 Ibid., pp. 5, 6.
65 Ibid., pp. 5, 6.
66 Ibid., p. 4; *Duffy/Meisner*, Media, Culture & Society 2023/2, pp. 287–293; *Grandinetti*, AI and Society 2021; *Zeng/Kaye,* Policy & Internet 2022, p. 80.
67 *Are*, Media, Culture and Society 2022, p. 4.
68 Ibid.; *Matamoros-Fernández/Rodriguez/Wikström*, Media and Communication 2022/2, pp. 181–187.
69 *Are*, Media, Culture and Society 2022, p. 3; *Gillett/Stardust/Burgess*, Social Media + Society 2022/4; *Thomas* et al., Conference on Human Factors in Computing Systems – Proceedings 2022.
70 *Duffy/Meisner*, Media, Culture & Society 2023/2, pp. 286–287; *Jaramillo-Dent/Contreras-Pulido/Pérez Rodríguez*, Media and Communication 2022/1, p. 210; *Peterson-Salahuddin*, New Media and Society 2022, p. 6; *Zeng/Kaye,* Policy & Internet 2022, p. 90.
71 *Jaramillo-Dent/Contreras-Pulido/Pérez Rodríguez*, Media and Communication 2022/1, p. 210.

results in the discrimination of specific groups, as substantiated in the subsequent statements. The terms 'Black' and 'Black support' cannot be used on the platform, whereas 'white supremacy' is accepted.[72] Not only the 'Black' community, but also transgender communities encounter such challenges. TikTok has admitted suppressing content from "Black, disabled, and LGBTQ creators".[73] The platform adopted a perspective that content created by transgender individuals carries a "high risk for receiving hateful feedback".[74] As a result, security measures are enabled to limit distribution of such content, which can be seen as a form of paternalistic suppression.[75]

Similar concerns arise regarding flagging as 'Black' creators encountered instances of report bombing.[76] An example is a video supporting the BLM movement, which received multiple flags alleging a violation of community guidelines, despite lacking any content violating the guidelines.[77] Besides, the human review can also be biased as marginalized groups might be excluded, determined by attributes such as skin color, disability, belonging to the LGBTIQ+ community, or simply having a particular body shape or size.[78] Therefore, despite its primary objective of enforcing policy-based filtration, content moderation can inadvertently contribute to underrepresentation and marginalization. For this reason, there exists an unequal implementation of community guidelines as well as an uneven enforcement.[79] Despite these challenges, marginalized groups are actively creating counter-movements to discrimination and suppression. Therefore, the next section will discuss the importance for marginalized groups to be visible together with some countermeasures against the algorithm of TikTok.

2. Visibility, digital dark sousveillance and folk theorization

It is of great importance for creators to have visibility on TikTok, primarily due to the pivotal role played by the recommendation algorithm.[80] Being visible on the FYP is essential for exposure, and this can be achieved through the strategic utilization of hashtags.[81] Visibility holds even greater significance for marginalized groups, who face additional challenges as highlighted in the preceding section. These are

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72 Ibid.; *Peterson-Salahuddin*, New Media and Society 2022, p. 6.
73 *Grandinetti,* AI and Society 2021; *Gillett/Stardust/Burgess*, Social Media + Society 2022/4, p. 9.
74 *Devito*, Proceedings of the ACM on Human-Computer Interaction 2022, p. 20.
75 Ibid., pp. 20–25.
76 *Zeng/Kaye,* Policy & Internet 2022, p. 90.
77 Ibid.
78 *Gillett/Stardust/Burgess*, Social Media + Society 2022/4; *Grandinetti,* AI and Society 2021; *Jaramillo-Dent/Contreras-Pulido/Pérez Rodríguez*, Media and Communication 2022/1, p. 210; *Peterson-Salahuddin*, New Media and Society 2022, pp. 2, 6.
79 *Duffy/Meisner*, Media, Culture & Society 2023/2, p. 296–297.
80 *Duffy/Meisner*, Media, Culture & Society 2023/2, pp. 289–294; *Zeng/Kaye,* Policy & Internet 2022, pp. 91–92.
81 *Zeng/Kaye,* Policy & Internet 2022, p. 87.

faced with the option to either engage in self-censorship, as they attempt to conform to the algorithms preferences and thus restrain their expression, or to employ strategies aimed at outwitting the algorithm.[82]

Within this context, *Chelsea Peterson-Salahuddin* refers to this dynamic as 'digital dark sousveillance', which can be described as "digital tactics employed to evade detection and inverse structures of power under systems of racializing surveillance".[83] *Peterson-Salahuddin* contends based on literature that the development of historical perspectives has given rise to particular ideas, which in turn have formed the creation of biased algorithms.[84] Hence, the design of an algorithm can include biases by those who decide which data is used to train the algorithm.[85] So, creators gain knowledge about the working of the algorithm and try to circumvent it,[86] by "using hashtags, effects, remixed audio, and visually impactful content".[87]

In contrast, the intricate nature of the opaque algorithm used to curate the FYP makes understanding it, as well as the subsequent task of devising effective strategies to overcome its operation, a considerable challenge.[88] Therefore, greater transparency around de-platforming, shadow banning and other forms of content moderation could serve as a means to address the automated powerlessness experienced by marginalized groups.[89] Conversely, one might question whether TikTok will indeed provide greater transparency regarding the algorithm in use, as it seeks to counter algorithmic circumvention. Furthermore, enhanced transparency in these algorithms presents dual possibilities, empowerment for marginalized communities and the potential for the dissemination of divisive ideologies. Consequently, the efficacy of increased transparency in TikTok's content moderation algorithm is open to debate. Obviously, another alternative would be that TikTok ends the controversial practices itself.

As a reaction to the opaque algorithms, users develop folk theories or folk theorization which are "perceived understandings of an algorithm".[90] More specifically, folk theories are "intuitive, informal theories that individuals develop to explain the outcomes, effects, or consequences of technological systems, which guide reactions to and behaviour towards said systems".[91] Folk theories develop based on information from the experience users have themselves, information gleaned from news articles, and press releases or statements by TikTok.[92] Folk theory is developed by

82 *Gillett/Stardust/Burgess*, Social Media + Society 2022/4; *Jaramillo-Dent/Contreras-Puli-do/Pérez Rodríguez*, Media and Communication 2022/1.
83 *Peterson-Salahuddin*, New Media and Society 2022, p. 2.
84 *Peterson-Salahuddin*, New Media and Society 2022, p. 4.
85 *Grandinetti*, AI and Society 2021.
86 *Are/Briggs*, Social Media and Society 2023/1, p. 2; *Slater*, p. 158; *Zeng/Kaye,* Policy & Internet 2022, p. 88.
87 *Jaramillo-Dent/Contreras-Pulido/Pérez Rodríguez*, Media and Communication 20221, p. 219.
88 *Zeng/Kaye,* Policy & Internet 2022, pp. 82–85.
89 *Are*, Media, Culture and Society 2022, pp. 14, 15.
90 *Peterson-Salahuddin*, New Media and Society 2022, p. 6.
91 *Devito*, Proceedings of the ACM on Human-Computer Interaction 2022, p. 6.
92 *Peterson-Salahuddin*, New Media and Society 2022, p. 6.

users because their visibility is taken away since TikTok employs protective measures that can disproportionally impact specific communities,[93] as has been elaborated upon in the previous section. As outlined, such perceptions arise from instances where content from marginalized creators, such as those belonging to marginalized groups, is flagged or removed despite adhering to community guidelines.

3. Transparency reports

A large part of the literature addresses TikTok's transparency reports, which include insights into the amounts of legal requests for information on data storage, content moderation guidelines, moderation practices as well as the platform's algorithms.[94] The current criticism surrounding TikTok's transparency reports lies in their incomplete nature. The reports solely provide data on successful appeals leading to the reinstatement of content or accounts, categorized by country, while neglecting to include information on unsuccessful appeals, resulting in a fragmented depiction.[95] Besides, the transparency reports of TikTok include information on the overall volume of posts deleted for violation of hate speech policies, but without disaggregation by groups and characteristics.[96] Moreover, TikTok does not provide information on the total number of flags, the number of instances where content was deleted because of flagging, and does not specify the different types of actors who remove content such as "automated moderation, human moderators or admins".[97]

In addition, while TikTok provides information about the underlying machine learning mechanisms and how TikTok works in principle, the transparency reports sometimes create more confusion about the operation than clarification.[98] As is not unusual with such reports by Big Tech companies, the reports tend to focus their attention on aggregated-level data with blurred information on specific company policies, especially regarding content moderation. This lack of detailed information provides hardly any in-depth information on individual cases and fails to provide an understanding of the platform's content moderation practices.[99] For this reason, it is questionable whether the public is transparently informed about the actual practice regarding content moderation.[100]

93 *Are/Briggs*, Social Media and Society 2023/1, p. 2; *Devito*, Proceedings of the ACM on Human-Computer Interaction 2022, p. 24.
94 *Grandinetti,* AI and Society 2021.
95 *Urman and Makhortykh*, Telecommunications Policy 2023, p. 6.
96 Ibid.
97 Ibid., pp. 6, 10.
98 *Grandinetti,* AI and Society 2021.
99 *Urman and Makhortykh*, Telecommunications Policy 2023, p. 3.
100 Ibid.

III. Advertisement

Another issue identified in relation to transparency obligations and the forthcoming DSA is advertising on TikTok. The primary concern here centres around the spread of misinformation, especially regarding advertising products or disseminating information that could have a negative impact on health. For instance, one article expressed concerns with the validity and interpretation of results by people who are not health care professionals in relation to direct-to-consumer genetic tests, also referred to as DTC DNA testing.[101] Only a quarter of the articles that promoted DTC DNA testing addressed potential concerns relating to the accuracy of such tests, misinformation, and privacy issues connected to the reuse of the provided genetical information.[102] Similarly, an investigation into the portrayal of substance use revealed that a predominantly positive connotation was associated with substance use in 58% of instances within TikTok content and content expressing a negative sentiment towards substance-related themes was discerned in merely 8.6% of the cases.[103] Therefore, researchers call for a clearer indication of the potential risks of substance use, also highlighting potential undesirable effects.[104]

Likewise, concern was expressed about fibroblast pens that are used in a manner that is discouraged by professional dermatologists.[105] In only 6.5% of the posts about the pens, a disclaimer was included on their potential harms.[106] Besides, these worries were also expressed regarding marketing of unhealthy foods, dental implant treatments, and anabolic androgenic steroids.[107] The study on dental implants demonstrated that the information on TikTok is not always accurate.[108] Particularly, videos of influencers are watched and liked more often than videos of experts. In other words, influencers reach a broader audience,[109] while not being more accurate and potentially promoting misleading information.[110] In the case of anabolic androgenic steroids (AAS), it was found that TikTok contributes to an increasing availability of AAS, even though measures were taken to challenge the illicit sale of these drugs as TikTok forbade the word 'steroids'.[111] However, it was still possible to search on TikTok for the word 'steroid', which uncovers a flaw in the algorithm of TikTok.[112] On top of this, AAS vendors also come up with terms to get around

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101 *Basch/Fera/Quinones*, Journal of Community Genetics 2021/3, pp. 489–492.
102 Ibid.
103 *Rutherford* et al., Addiction 2023/2, p. 211.
104 Ibid., pp. 212–213.
105 *Hernandez* et al., Journal of Cosmetic Dermatology 2022/10, p. 4251.
106 Ibid.
107 *Aljefree/Alhothali*, International Journal of Environmental Research and Public Health 2022/10; *Cox/Gibbs/Turnock*, Drugs: Education, Prevention and Policy 2023, pp. 1–14.
108 *Paksoy* et al., Journal of Stomatology, Oral and Maxillofacial Surgery 2023/1.
109 Ibid., pp. 7–8.
110 *Rogers*, Frontiers in Big Data 2021, pp. 2–8.
111 *Cox/Gibbs/Turnock*, Drugs: Education, Prevention and Policy 2023, pp. 1–14.
112 Ibid., p. 6.

the restrictions.[113] Therefore, experts call for measures to protect young, vulnerable, and less informed individuals.[114]

The above-mentioned examples are case studies, yet exemplify a broader phenomenon within the platform itself and its marketing dynamics. A lot of the literature focuses on the algorithm of TikTok. What makes TikTok attractive as opposed to other social media platforms is the FYP, which can be used to target consumers and influence consumer engagement behaviour.[115] However, a noteworthy concern lies in the concealed nature of the advertisements.[116] A study found that few participants exposed to covert advertising could correctly identify it as a form of advertising.[117] This finding highlights the need to examine the transparency and disclosure practices of advertising on the platform, particularly in the context of the DSA.

IV. Vague terms and conditions

Finally, a lack of clarity of the terms and conditions of TikTok has been identified.[118] When delving into the discussion about TikTok's security features, it becomes evident that some protections are included in the app – such as making a profile private and the option to block other users.[119] Nevertheless, some authors strongly advocate for enhanced safeguarding of children's privacy, while referencing Article 29 Working Party Guidelines on transparency now relating to EU Regulation 2016/679, also known as the General Data Protection Regulation (GDPR).[120] Article 29 Working Party — a body of EU Member State data protection enforcement authorities delivering guidance on privacy issues – specifies in these guidelines that information should be transparent to children. Hence, controllers collecting personal data should consider how to tailor information to children. This could lead to the inclusion of pictures, animations, or pictograms.[121] Currently, solely textual information is being made available by TikTok.[122] However, there is evidence that TikTok is being used by children,[123] despite its terms and conditions stating that the app can only be used by children older than 13 years.[124]

Finally, there are ambiguities in the terms and conditions regarding automated individual decision making, a decision made exclusively by automated means.[125] Men-

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113 Ibid.
114 Ibid.
115 *Xiao/Li/Zhang,* Journal of Retailing and Consumer Services 2023; *Zhao/Huang*, ICDS-BA 2021, pp. 214–220.
116 *Chen/Ren*, LNCS 2022, pp. 224–227.
117 *Li/Chow/Cheong*, SAGE Open 2022/4, p. 2.
118 *Grandinetti,* AI and Society 2021.
119 *Sarwatay/Lee/ Kaye*, Media International Australia 2023, p. 57.
120 *Milkaite/Lievens*, Journal of Children and Media 2020/1, pp. 6–19.
121 Ibid., p. 6; *Article 29 Working Party*, Guidelines on transparency under Regulation 2016/679, WP260 rev.01 § (2017).
122 *Milkaite/Lievens*, Journal of Children and Media 2020/1, pp. 5–9.
123 Ibid., pp. 7–10.
124 *Milkaite/Lievens*, Journal of Children and Media 2020/1, p. 10.
125 Digital Services Act, recital 54.

tioned as a possibility earlier in this article, this is a case where the discussion around the implementation of measures promoting transparency in the context of the DSA overlaps with the GDPR. TikTok highlights the right not to be subject to automated individual decision making but does not make clear if and how this form of decision making is used on the platform.[126] Articles 13 and 22 of the GDPR require the provision of relevant information to data subjects as soon as personal data is collected.[127]

E. Discussion

I. Content moderation and the DSA

In short, the literature shows a lack of transparency in TikTok's community guidelines regarding content moderation techniques, which are further subject to multiple interpretations. Besides, evidence exists that certain marginalized groups face discrimination due to the opaque implementation of various content moderation techniques. In the following, these problems will be juxtaposed with provisions in the DSA.

Primarily, Article 14 DSA imposes obligations upon providers of intermediary services to include information pertaining to content moderation in their terms and conditions. This stipulation further underscores the imperative of such information to be articulated in a manner characterized by clarity, plainness, comprehensibility, user-friendliness, and unambiguous language.[128] As mentioned, Article 15 DSA imposes an obligation on TikTok to not only provide comprehensible reports on content moderation, but also to offer detailed information about the specific content moderation methods employed.[129] These two provisions address concerns raised in the existing literature regarding the lack of understandability surrounding content moderation practices within the platform. However, it is important to note that increased transparency alone might not effectively tackle oppression experienced by marginalized groups. TikTok acknowledges its practice of limiting the distribution of content from marginalized communities and legitimises this policy by citing security reasons. This acknowledgement raises questions about the permissibility and ethical implications of limiting visibility for such reasons. Consequently, marginalized groups are deprived of the opportunity to present themselves to a wider audience, hindering their ability to have their voices heard. Although TikTok openly acknowledges this content moderation method, it remains uncertain whether Article 15 or other provisions in the DSA can effectively resolve this problem.

Accordingly, Article 15 DSA requires to provide information on the content moderation engaged in. It is worth noting that TikTok already issues transparency

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126 *Milkaite/Lievens*, Journal of Children and Media 2020/1, p. 15.
127 Ibid.
128 Digital Services Act, Article 14(1), p. 49.
129 Digital Services Act, Article 15, pp. 49, 50.

reports that contain roughly the same content. However, these reports often fail to provide an understanding of the applied content moderation techniques to the public. The inclusion of Article 15 DSA holds the potential to rectify this issue by explicitly requiring TikTok to disclose automated means used for content moderation, "the measures taken to provide training and assistance to persons in charge of content moderation, the number and type of measures taken that affect the availability, visibility and accessibility of information provided by the recipients of the service and the recipients' ability to provide information through the service, and other related restrictions of the service".[130] By providing more detailed and explicit information, this provision aims to allow users and the general public to gain a better understanding of the mechanisms underlying the moderation, thereby alleviating concerns regarding the lack of clarity and understanding surrounding all content moderation practices of TikTok. Therefore, the inclusion of Article 15 DSA appears to be a step in the right direction towards promoting greater transparency within TikTok's content moderation framework.

In addition, the analyzed literature indicates the presence of bias not only in the algorithms, but also in the human review process. Significantly, the DSA mandates the provision of the measures addressing the facilitation of training and assistance to persons in charge of content moderation.[131] The measure represents a noteworthy advancement by imparting guidance to those engaged in moderating objectionable content. However, it is crucial to recognize that the issue of discrimination extends beyond the reach of training initiatives. The societal formation of ideas can lead to individuals having preferences or prejudices for certain groups, which can translate into algorithms. As a result, it becomes challenging to prevent the algorithm from targeting marginalized groups, as the bias seems to be deeply rooted in the system and it is difficult to determine how targeting marginalized groups does not become the logic followed by the algorithm. This reveals a more profound, underlying root cause that the regulation might not be able to solve. In addition, this problem is not easily detectable, considering that it is an inherent bias in humans which is automated through algorithms. Therefore, when humans review the flagged, removed, or de-platformed content, this might not necessarily rectify the issue of unfair treatment towards marginalized groups.

Nevertheless, human review is essential in addressing discrimination as it serves as an additional check to the algorithm's decision-making and provides an opportunity for contextual understanding and nuanced evaluation.[132] Besides, promoting transparency by providing justifications for de-platforming, shadow banning, flagging, or removing content on a case-by-case basis can allow users to resist biased content moderation.[133] In the end, one might contemplate whether the DSA ought to accord greater attention to this aspect, given that existing literature articulates discernible apprehension concerning human review.

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130 Digital Services Act, Article 15(c), p. 50.
131 Ibid.
132 Digital Services Act, Articles 14(1), 15(1)(c), pp. 49, 50.
133 *Are*, Media, Culture and Society 2022, p. 15.

In addition, the literature has highlighted the occurrence of malicious flagging on TikTok. Users engage in deliberate reporting of content for unjustified reasons. The issue of malicious flagging might be effectively remedied through the provisions outlined in Articles 20 and 22 of the DSA.[134] These provisions impose stricter requirements to provide additional information about why certain content is flagged and request proper review.[135] The inclusion of Articles 20 and 22 DSA signifies a positive development in mitigating the impact of malicious flagging.

II. Advertising and its regulation in the DSA

The second concern examined pertains to covert advertisement and the dissemination of misinformation regarding advertisement on TikTok. Addressing this issue, Articles 26 and 39 DSA entail obligations for online advertising transparency.[136] Article 26 DSA requires platforms like TikTok to provide clear notices to recipients, such as labelling videos as advertisements with clear notice that it contains commercial communications and "information about the main parameters used to determine the recipient to whom the advertisement is presented".[137] Article 26 aims to address covert advertising, but practical application might not render it effective in the realm of influencer marketing. Evidence indicates that obligatory information disclosures tend to have limited impact on empowering consumers, as they often do not read, utilize, or comprehend the provided information.[138] Besides, uncertainties persist regarding Article 26 DSA even if consumers engage with disclosure as it obliges "meaningful information about the main parameters".[139] This raises doubts about whether consumers can grasp the targeting of their vulnerabilities as Article 26 requires that platforms merely inform consumers about the characteristics in the platform's databases used for targeting, without necessarily disclosing the rationale behind selecting these specific traits.[140]

Specifically, Article 39 DSA requires VLOPs such as TikTok to store information on the advertising displayed up to one year after it has been displayed, thereby creating more data on the used advertisements within the platform.[141] On top of that, the repository should also clarify "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".[142] Providing an overview of the advertisement practices on platforms like TikTok, as mandated by Article 39 DSA, is vital as it enables stakeholders to gain insight into the extent of covert ad-

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134 Digital Services Act, Articles 20 and 22, pp. 53–57.
135 Digital Services Act, Articles 20 and 22, pp. 53–57.
136 Digital Services Act, Articles 26, 39, pp. 59, 69, 70.
137 Digital Services Act, Article 26(1)(d), p. 59.
138 *Duivenvoorde/Goanta*, Computer Law & Security Review, 2023/51.
139 Digital Services Act, Article 26(1)(d), p. 59.
140 *Duivenvoorde/Goanta*, Computer Law & Security Review, 2023/51, p. 8.
141 Digital Services Act, Article 39, pp. 69, 70.
142 Digital Services Act, Article 39(2)(e), p. 69.

vertisement and misinformation, facilitating potential interventions to address the issue.

The literature also highlights another concern regarding advertising, primarily centered around the danger of misinformation and the exclusion of risk indications regarding health-related topics. Compounding this issue is the prevalence of nonexperts and influencers with a wide reach, but who lack expertise on the subjects they discuss.[143] To address these challenges, Article 34 DSA mandates VLOPs to make a risk assessment on "the design of algorithmic systems, their content moderation systems, terms and conditions and their enforcement, systems for selecting and presenting advertisement, and data related to practices of the provider".[144] This assessment specifically includes the identification of "illegal content, any actual or foreseeable negative effects for the exercise of fundamental rights, and any actual and foreseeable negative effects in relation to gender-based violence, the protection of public health and minors and serious negative consequences to the person's physical and mental well-being".[145] Thus, Article 34 DSA serves as a vital regulatory measure. VLOPs are being held accountable for assessing and mitigating risks associated with misinformation and its potential impact on the spread of illegal content, as well as content that may adversely affect public health.[146]

Finally, under article 37 DSA, a notable requirement is the obligation for VLOPs to conduct audits. This aims to evaluate and ensure adherence to the prescribed obligations. Additionally, in accordance with Article 34 DSA, such audits are an essential mechanism for assessing the compliance of VLOPs with the set of obligations encompassing responsibilities related to risk assessments and risk mitigation measures.[147] By conducting these audits, VLOPs are also ensuring the overall objective of the DSA, which is to establish a safer and more accountable digital environment. However, the practical execution of this endeavour remains an area of interest, considering the existing uncertainties on the implementation front. Notably, an absence of established industry benchmarks for algorithmic auditing seems to be lacking and a reasonable level of assurance to fulfil the diverse obligations in the DSA is also requested.[148]

III. Vague terms and conditions

As already highlighted earlier, Article 14 DSA aims to address issues relating to vague terms and conditions. Notably, the provision prescribes that such terms must be formulated in "clear, plain, intelligible, user-friendly and unambiguous language,

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143 *Chen/Ren*, LNCS 2022, p. 226; *Zenone/Ow/Barbic*, BMJ Global Health 2021/11.
144 Digital Services Act, Article 34(2), p. 64.
145 Digital Services Act, Article 34(1), p. 64.
146 Digital Services Act, Article 34, p. 64.
147 Digital Services Act, Articles 34, 37, pp. 64, 67–69.
148 *Bertuzzi,* Europe enters patchy road to audit online platforms' algorithms, available at: https://www.euractiv.com/section/platforms/news/europe-enters-patchy-road-to-audit -online-platforms-algorithms/ (12/1/2024).

and shall be publicly available in an easily accessible and machine-readable for-mat".[149] It states that they "shall include information on any policies, procedures, measures, and tools used for the purpose of content moderation, including algorithmic decision-making and human review".[150] Of particular interest is paragraph 3, stipulating that "when an intermediary service is primarily directed at minors or is predominantly used by them, the provider of that intermediary service shall explain the conditions for, and any restrictions on, the use of the service in a way that minors can understand".[151] On top of this, Article 28 DSA also underscores the significance of safeguarding young individuals.[152] Nevertheless, a potential concern arises. Literature suggests that TikTok predominantly caters to a user demographic comprised mainly of young people, including children. Paradoxically, TikTok's terms and conditions expressly prohibit users under the age of 13. This incongruity presents a significant challenge, as it introduces a potential gap between the protective aspirations articulated in Articles 14 and 28 and the practical efficacy of its implementation.

IV. Three layers of transparency

It needs be emphasised, once more, that the DSA lacks a comprehensive, overarching definition of transparency. The literature rightly highlights that transparency transcends mere public disclosure and comprehension, as the act of information disclosure does not inherently ensure its understanding. The criterion for determining such understandability remains contingent upon the intended target audience.

Three layers of transparency have been identified, which can also be recognized in the DSA. This underscores the inherent ambiguity surrounding the concept of transparency within the framework. The first layer of transparency involves the disclosure of information. The second layer consists of ensuring that the information disclosed is also understandable to the broader public. Lastly, a third layer of transparency includes tailoring the explanation of information to the different types of users of the platform. The following paragraphs will provide additional examples and further illustrate these layers.

An analysis of the literature suggests that TikTok currently addresses the first layer of transparency. Users are provided with information, but this information is often unclear because the forms of content moderation and algorithms underlying TikTok are not explained. Consequently, the literature analysed frequently focuses on the second layer of transparency, criticizing TikTok for its opacity and demanding clarification regarding its operational practices and actions. Furthermore, the literature reveals a conspicuous desire for a third layer of transparency. Given the platform's young user base, it is emphasised that information and explanations of

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149 Digital Services Act, Article 14(1), p. 49.
150 Digital Services Act, Article 14(1), p. 49.
151 Digital Services Act, Article 14(3), p. 49.
152 Digital Services Act, Article 28, p. 60.

the terms and conditions should be made understandable to children. To accomplish this, employing visual aids such as icons, pictures, or animations, rather than relying solely on lengthy textual explanations, is suggested as an effective approach.

The DSA provides a step toward achieving transparency at layer 2 and some provisions also step in the direction of transparency at layer 3. This is substantiated by the provisions outlined in the DSA, which demand a more precise delineation by TikTok regarding the content moderation reports, terms and conditions which should also be clear to a young user base, as well as ensuring greater clarity for users by means of the language used. Moreover, the DSA's provisions pertaining to advertising and transparency clarify the specific information that must be provided about the advertisements, and further necessitate clear communication to users when they are subjected to advertising.

However, it is worth contemplating whether information should ultimately be transparent in relation to layer 3. Transparency extends beyond the mere act of making information publicly accessible. Although information disclosure is commonly associated with transparency, it does not inherently ensure comprehension for a wide range of individuals. Hence, transparency should encompass not only the availability of information but also its clarity to users. Platforms – especially VLOPs – should acknowledge that users have diverse demands for comprehending disclosed information. Additionally, platforms should prioritize the dissemination of comprehensible disclosures, providing users with the necessary context, explanations, and supporting materials to facilitate their understanding. By embracing all three dimensions of transparency, platforms could bridge the gap between information availability and user comprehension, thereby establishing a foundation for genuine transparency and empowering users to make well-informed decisions.

F. Conclusion

This scoping review has revealed several transparency-related challenges associated with the platform TikTok. TikTok makes use of various forms of content moderation. However, the community guidelines governing these practices exhibit a lack of stringency and the algorithms behind the moderation techniques are opaque. Consequently, the literature highlights issues surrounding malicious flagging, discriminatory practices, and suppression of marginalized groups. Furthermore, the scoping review has identified the issue of misinformation prevalent in advertisements and the covert nature of advertising on TikTok. Lastly, the scoping review identified that the current terms and conditions of TikTok are vague, resulting in ambiguities for users.

This study found that three layers of transparency exist and are being addressed in literature. At present, transparency exists at layer 1, as TikTok shares information on how the platform is being governed. However, the information is often incomprehensible to the public. Consequently, the literature criticises TikTok and stresses the significance of attaining transparency at the second layer. It is being argued that achieving transparency at the second layer necessitates ensuring that the informa-

tion disseminated by TikTok is not only shared, but also presented in a manner that is accessible and understandable to both users and the wider public. Finally, the literature hints at the existence of a third layer of transparency, which involves customizing the comprehensibility of information dissemination to the type of user. In this sense, information should not only be made accessible to the public, but also be presented in a manner that is tailored towards specific user groups. Given that TikTok primarily attracts a relatively young user base, ensuring understandability of terms and conditions for this demographic assumes particular importance. Achieving transparency at layer 3 mandates the consideration of the needs of divergent user groups.

Since the DSA became directly applicable across the EU in early 2024, major implications for TikTok can be anticipated. In terms of content moderation, TikTok will be required to include detailed information about measures taken to achieve compliance. Furthermore, improved notification mechanisms should be implemented to inform users if a video constitutes an advertisement. TikTok must also exercise greater attentiveness to address illegal and harmful content. Similarly, the DSA sets more specific requirements for the information to be included in terms and conditions. Hence, we argue that the DSA represents a big step towards achieving layer 2 – and in a few instances layer 3 – transparency. It seems fair to conclude that the DSA contributes to enhancing transparency by mandating concrete measures. Nevertheless, when considering both the scholarly literature and the regulatory framework it remains ultimately unclear for whom transparency is being achieved, and in pursuit of which overarching objective. This manifests in the lack of a general definition of the concept.

Our findings hold significant implications for the regulation of TikTok, but it should be indicated that this research has limitations. First, it is crucial to note that not all relevant literature and legislation were analysed, thereby potentially leaving out relevant concerns regarding transparency and TikTok. Second, potential bias exists in the selection of articles and the identification of problems within the literature, as these tasks were undertaken by a limited number of authors.[153] Thirdly, it seems evident that this research is conducted in a rapidly evolving field, therefore susceptible to becoming swiftly outdated as new developments constantly emerge. Consequently, a more thorough examination involving more researchers could enhance the validity and reliability of the findings.[154]

Further research could investigate whether the implementation of the DSA can effectively address the issues raised, especially with regards to layer 3 transparency. It also seems crucial to investigate if the same concerns exist for VLOPs beyond TikTok. Finally, it would be of great interest to determine whether the DSA will effectively ensure greater transparency and comprehensibility for TikTok users with respect to content moderation, advertising practices, and terms and conditions of platform use. Such research could shed light on the potential effectiveness of

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153 *Verhoeven*, p. 36.
154 *Boeije*, p. 174.

regulatory measures in promoting a more transparent and user-friendly environment on TikTok and similar platforms.

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Appendix A: Search strings

<u>Final search string Scopus</u>

(TITLE-ABS-KEY (TikTok) AND TITLE-ABS-KEY ("transparency" OR "transparent" OR "transparence" OR "content moderation" OR "advertisement"))

(Limit language to English = total 48 articles)

<u>Final search string Web of Science</u>

(TS=(TikTok)) AND TS=("transparency" OR "transparent" OR "transparence" OR "content moderation" OR "advertisement" OR "commercial")

(Limit language to English = 23 articles in total)

TS= Searches: title, abstract, author, keywords. TS corresponds with the search term in Scopus which entails: title, abstract, keywords. For this reason, the search strings were thus the same in both databases.

Eventually only 3 articles differed between the two databases based on the applied search strings.

<u>Alternative strings that were employed and the reason why they are not being used</u>

<u>Scopus</u>

- (TITLE-ABS-KEY (TikTok) AND TITLE-ABS-KEY ("transparency" OR "transparent" OR "transparence" OR "content moderation" OR "user-generated content" OR "advertisement" OR "commercial")) → results were too broad because of the word user. As a result, every article where the word user was in the title, abstract or keywords came up in the results.
- (TITLE-ABS-KEY (TikTok) AND TITLE-ABS-KEY (transparency)) → Fewer suitable results when only using Transparency and no Synonyms.
- (ALL (TikTok) AND ALL(transparency OR transparent OR transparence)) → 310 results, this is too many as the word TikTok and Transparency are not found back in the title, abstract or keywords due to which you have to go through 310 articles to find out whether it covers the topic you want to investigate.

<u>Web of Science:</u>

- (TS=(TikTok)) AND TS=("transparency" OR "transparent" OR "transparence" OR "content moderation" OR "user-generated content" OR "advertisement" OR "commercial") → the results were too broad because of the word user.
- (ALL=(TikTok)) AND ALL=(Transparency) → only 6 articles. Fewer suitable results when only using Transparency and no Synonyms.
- (TS=(TikTok)) AND TS=(transparency OR transparent OR transparence OR advertising OR Marketing) → Search string provides only results in articles relating to advertising and marketing, without relation to transparency.

Appendix B

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
Social Commerce Mobile Application Enhancement: a hybrid text clustering-topic modelling business model analysis	Abkenar, S.P.; Vanani, I.R.; Sohrabi, B.; Manian, A.	2022	Scopus and Web of Science - Round 2: Introduction, method, conclusion = **Excluded**: Article mentions TikTok a few times, not topics related to the transparency obligations in the DSA.
Exposure to Food Marketing via Social Media and Obesity among University Students in Saudi Arabia	Aljefree, N.M.; Alhothali, G.T.	02-05-2022	Scopus - Round 3: Extensive read = **Included**: Article focuses on advertising as amusement by TikTok, the DSA imposes more stringent rules on advertising for VLOPs.
The Emotional and Financial Impact of De-Platforming on Creators at the Margins	Are, C.; Briggs, P.	Jan 2023	Scopus and Web of Science - Round 3: Extensive read = **Included**: impact of de-platforming, platform governance and marginalized groups on TikTok, of relevance in relation to the DSA.
An autoethnography of automated powerlessness: lacking platform affordances in Instagram and TikTok account deletion	Are, C.	Dec 2022	Scopus and Web of Science - Round 3: Extensive read = **Included**: The paper investigates content moderation that is of relevance in relation to the DSA.
A Proposed Model of Self-Perceived Authenticity of Social Media Influencers	Balaban, D.C.; Szambolics, J.	2022	Scopus - Round 1: Title and abstract = **Excluded**: goes into how content creators can be authentic and how social media influencers perceive their authenticity. Not a topic addressed regarding transparency obligations in de DSA.
Inspecting Algorithmic Flows: Ethics, Transparency, and Accountability for Digital Mass Communication Platforms	Brandy, J.	03-2018	Scopus and Web of Science - Round 1: Title and abstract = **Excluded**: This is not a complete article, but an abstract that only mentions the word TikTok once.
A content analysis of direct-to-consumer DNA testing on TikTok	Basch, C.H.; Fera, J.; Quinones, N.	July 2021	Scopus - Round 3: extensive read = **Included**: Article addresses advertisement on TikTok and the implications of not mentioning the risks associated with DTC DNA testing. This topic will be regulated by the DSA.
TikTok use and body dissatisfaction: Examining direct, indirect, and moderated relations	Bissonette Mink, D.; Szymanski, D.M.	Dec 2022	Scopus - Round 2: introduction, method, conclusion = **Excluded**: mentions commercial media literacy and body acceptance, not related to transparency obligations in the DSA.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
The Role of Communications in Managing a Disaster: The Case of COVID-19 in Vietnam	Bacutariu, L.	01-01-2020	Scopus - Round 2: introduction, method, conclusion = **Excluded**: Research about use of social media about Covid-19 by government in Vietnam, not about transparency obligations in the DSA.
Data (r)evolution: the economics of algorithmic search and recommender services	Budzinski,O.; Gaenssle, S.; Lindstädt-Dreusicke, N.	01-01-2022	Scopus Round 3 extensive read = **Excluded**: only mentions TikTok once and focuses on Search and Recommendation services but in relation to other digital platforms.
DermTok: How TikTok Is Changing the Landscape of Dermatology Patient Education	Campbell, J.; Williams, K.; Woolery-Lloyd, H.	01-03-2023	Scopus - Round 1: Title and abstract = **Excluded**: Focuses on the need for Dermatologic content but no information on the specific transparency obligations in the DSA.
The Effect of Influencer Persona on Consumer Decision-Making Towards Short-Form Video Ads—From the Angle of Narrative Persuasion	Chen, H.; Ren, J.	26-06-2022	Scopus - Round 3: extensive read = **Included**: Relation between influencers and advertisement, relates to the transparency obligations of advertisement in the DSA.
Research on the Functions of Users' Emotions in Social Media Product Design	Chen, K.	25-04-2021	Scopus - Round 3: extensive read = **Excluded**: use of emotions by different social media platforms and consumer preference, no interfaces with transparency obligations DSA.
Factors driving citizen engagement with government TikTok accounts during the COVID-19 pandemic: Model development and analysis	Chen, Q.; Min, C.; Zhang, W.; Ma, X.; Evans, R.	04-02-2021	Scopus and Web of Science - Round 2: introduction, method, conclusion = **Excluded**: Enhancing citizens engagement by government social media, does not provide information or intersection with the transparency obligations in the DSA.
A Survey Study on Successful Marketing Factors for Douyin (Tik-Tok)	Chen Z.; Zhang, Q.	29-07-2021	Scopus- Round 3: extensive read = **Excluded**: focus on Douyin that is different from TikTok (Chinese variant of Tik-Tok). Since we focus on the DSA this article is excluded.
Emerging anabolic androgenic steroid markets; the prominence of social media	Cox, L.; Gibbs, N.; Turnock, L.A.	02-2023	Web of Science - Round 3: extensive read = **Included**: advertisement and possible dangers when the risks are not mentioned. This topic will be regulated in the DSA.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
Unravelling the power of social media influencers: A qualitative study on teenage influencers as commercial content creators on social media	De Veirman, M.; De Jans, S.; Van Den Abeele, E.; Hudders, L.	01-01-2020	Scopus - Round 1: title and abstract = **Excluded:** the process of becoming an influencer based on interviews with content creators. No relation with transparency obligations and the DSA.
How Transfeminine TikTok Creators Navigate the Algorithmic Trap of Visibility Via Folk Theorization	Devito, M.A.	11-11-2022	Scopus - Round 3: Extensive read = **Included**: examines content moderation systems and TikTok. This is also a subject in the DSA regarding transparency obligations.
How Portuguese adolescents relate to influencers and brands on TikTok	Dias, P.; Duarte, A.	Summer 2022	Scopus - Round 2: title and abstract = **Excluded**: the manner of collaboration between influencers and brands. Does not relate to the transparency obligations in the DSA.
Platform governance at the margins: Social media creators' experiences with algorithmic (in)visibility	Duffy, B.E.; Meisner, C.	March 2023	Scopus and Web of Science - Round 3: extensive read = **Included**: investigates how uneven governance of platforms are created, relevant for the DSA and the obligations regarding transparency.
Safety for Whom? Investigating How Platforms Frame and Perform Safety and Harm Interventions	Gillett, R.;Stardust, Z.; Burgess, J;	October-December 2022	Scopus and Web of Science - Round 3: extensive read = **Included:** The topic of intervention regarding specific content relates to the transparency obligations in the DSA.
Authorized, clear and timely communication of risk to guide public perception and action: lessons of COVID-19 from China	Gong, N.;Jin, X.; Liao, J.; Cheng, Y; Xu, D.	December 2021	Scopus and Web of Science - Round 1: title and abstract = **Excluded**: COVID-19 and the risk perceptions of Chinese citizens. Not relevant for transparency requirements in the DSA.
Examining embedded apparatuses of AI in Facebook and TikTok	Grandinetti, J.	2021	Scopus and Web of science - Round 3: extensive read = **Included**: transparency initiatives of TikTok and the content moderation and AI that underly these systems. Of relevance for the transparency obligations in the DSA.
Transparent communication under Article 12 of the GDPR: Advocating a standardised approach for universal understandability	Gupta, I.; Naithani, P.	Spring 2022	Scopus - Round 2: Introduction, Method, conclusion = **Excluded**: does not focus on TikTok. Only an example of a case is mentioned that relates to TikTok.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
Provenance Navigator: Towards More Usable Privacy and Data Management Strategies for Smart Apps	Gupta, S.; Camilli, M.; Papaioannou, M.	2022	Scopus - Round 3: extensive read = **Excluded**: provenance navigator conceptual model to increase transparency in data collection. Mentions TikTok briefly, but does not investigate TikTok so cannot be used for the research.
Prospects for the advancement of the TikTok in the age of 5G communication	Han, M.; Zhang, X.	27-11-2020	Scopus - Round 1: Title and abstract = **Excluded**: the advent of a 5G network and also a technology acceptance model, not relevant for transparency obligations in the DSA.
Humour and TikTok memes during the 2020 pandemic lockdown: Tensions of gender and care faced by Chinese mothers working from home	Han, X.; Kuipers, G.	11-2021	Scopus and Web of Science - Round 1: Title and abstract = **Excluded:** humour techniques during COVID-19, does not address transparency obligations in the DSA.
Analysis of fibroblast pen usage amongst TikTok social media users	Hernandez, L.E; Frech, F.; Mohsin, N.; Dreyfuss, I.; Nouri, K.	10-2022	Scopus and Web of Science - Round 3: Extensive read = **Included**: addresses issues with advertisement on TikTok. This is going to be regulated in the upcoming DSA.
Video streaming, how social video platforms condition users' behavior and expressive uses of their apps	Higueras, A.C.; Pérez-Rufí, J.P.; Martín, J.L.T.; Camacho M.R.C.; Moyano, M.A.	2022	Scopus - Round 1: title and abstract = **Excluded**: Was eventually only available in Spanish although the articles were filtered on the English language.
A text-to-dynamic image generation method using feature information video	Hong, T.;Kim, K.; Lim, K.; Kim, P.	2020	Scopus - Round 1: Title and Abstract = **Excluded**: short conference proceeding, not helpful as it does not present findings from a research.
Rapid local image style transfer method based on residual convolutional neutral network	Huang, L.; Wang, P.; Yang, C-F.; Tseng, H,-W.	2021	Scopus and Web of Science - Round 1: Title and abstract = **Excluded**: proposes a new algorithm and only mentions the word TikTok once.
Immigrant Influencers on TikTok: Diverse Microcelebrity Profiles and Algorithmic (In)Visibility	Jaramillo-Dent, D.; Contreras-Pulido, P.; Perez-Rodrigues, A.	2022	Scopus and web of science - Round 3: extensive read = **Included:** focuses on algorithmic invisibility and moderation of content. A topic that is also included in the DSA and transparency labilities.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
A Critical Genre Analysis of Covert Advertising Through Short-Videos in Douyin: The Chinese Version of Tik-Tok	Li, D.; Chow, U.T.; Cheong, C.Y.M.	2022	Scopus and web of science - Round 3: Extensive read = **Included**: focus on advertising and TikTok, is of relevance regarding the transparency obligations in the DSA and advertisement.
CTR Prediction with user behavior: An Augmented Method of Deep Factorization Machines	Li, Y.; Wang, Y.; Chen, C.; Huang, J.	2019	Scopus - Round 1: Title and abstract = **Excluded**: conducts a research into Click-Through-Rates. Does not cover the proposed transparency obligations in the DSA.
The end of social media? How data attraction model in the algorithmic media reshapes the attention economy	Liang, M.	29-03-2022	Scopus and Web of Science - Round 1: title and abstract = **Excluded**: focuses on Douyin the Chinese version of TikTok.
Is TikTok a Public Sphere for democracy in China? A Political Economy Approach	Lin, H.	2022	Scopus - Round 2: introduction, method, conclusion = **Excluded**: investigates how TikTok can be a public sphere but does not encompass transparency liabilities in the DSA.
"I am not a YouTuber who can make whatever video I want. I have to keep appeasing algorithms": Bureaucracy of Creator Moderation on YouTube	Ma, R.; Kou, Y.	2022	Scopus - Round 3: extensive read = **Excluded**: Mentions TikTok in general a few times, but the research itself is focused on other platforms.
Are social media matter for the football club finance?	Majewska, A.	2022	Scopus - Round 1: title and abstract = **Excluded**: Football clubs and mention of the word TikTok but not the relation between TikTok and the topic.
The Youtube Companion to Film Education	Malhotra, S.	2022	Scopus - Round 1: abstract and title = **Excluded**: Mentions TikTok, but investigates YouTube.
Social Networks and Digital Footprint in the Digitalization Process	Manas, Ş.	2021	Scopus - Round 1: Title and abstract = **Excluded**: no access to this article.
Humor That Harms? Examining Racist Audio-Visual Memetic Media on TikTok During Covid-19	Matamoros-Fernández, A.; Rodriguez, A.; Wikström, P.	20-06-2022	Scopus and Web of science - Round 3: extensive read = **Included:** investigates a lack of transparency in content moderation. Content moderation will be regulated in the DSA.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
Influence of Electronic Word Of Mouth (e-WOM), Hedonic Motivation, and Price Value On Consumer's Purchase Intention Using Social Commerce 'TikTok Shop'	Maulida, M.; Sari, Y.; Rohmah, S.	2022	Web of science - Round 1: abstract and title = **Excluded:** Focus on TikTok Shop and consumers motivations. Not addressing TikTok and the transparency obligations of the DSA
Child-friendly transparency of data processing in the EU: from legal requirements to platform policies	Milkaite, I.; Lievens, E.	01-02-2020	Scopus and Web of Science - Round 3: extensive read = **Included:** transparency issues of TikTok especially regarding children. This will be regulated in the DSA and is the topic of this research.
Persuasive Language in ELT-Related Ads on Social Media	Morady Moghaddam, M.; Esmaeilpour, F.	Feb 2023	Scopus and Web of Science - Round 1: abstract and title = **Excluded:** examines English language teaching and does not focus on the transparency liabilities in the DSA.
What do TikTok videos offer us about dental implants treatment?	Paksoy, T.; Ceylan Şen, S.; Ustaoğlu, G.; Bulut, D.G.	2023	Scopus - Round 3: extensive read = **Included:** dental implant advertisement. The issues with the advertisement of among other things dental implants will be regulated in the DSA.
How algorithms shape the distribution of political advertising: Case studies of facebook, google, and TikTok	Papakyriakopoulos, O.; Tessono, C.; Narayanan, A.; Kshirsagar, M.	2022	Scopus - Round 3: extensive read = **Included:** Focus also on other platforms, but also on content moderation of TikTok. Topic in the DSA regarding transparency liabilities.
"Pose": Examining moments of "digital" dark sousveillance on TikTok	Peter-Salahuddin, C.	April 2022	Scopus and Web of Science - Round 3: Extensive read = **Included:** anti-racism in relation to transparency and content moderation issues. A topic in the DSA regarding transparency obligations.
Use this sound: Networked ventriloquism on Yiddish TikTok	Ramati, I.; Abeliovich, R.	Nov 2022	Scopus and Web of Science - Round 2: introduction, method, conclusion = **Excluded:** TikTok as a medium of ventriloquism, not related to the issues regarding transparency liabilities and the DSA.
A different girl, but she's nothing new: Olivia Rodrigo and posting imitation pop on TikTok	Rauchberg, J.S.	04-07-2022	Scopus and Web of Science - Round 1: abstract and title = **Excluded:** study into the way pop and social media platforms are related. Cannot be used regarding transparency liabilities and the DSA.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
General audience engagement with antismoking public health messages across multiple social media sites: Comparative analysis	Reuter, K.; Wilson, M.L.; Moran, M.; Kaiser, E.M.; Unger, J.B.	2021	Scopus - Round 2: introduction, method, conclusion = **Excluded**: Focuses only on other platforms and mentions that future research should suggest TikTok.
TikTok and Twitch: New Media and Formulas to Impact the Generation Z	Rivero, A.G.; Estrella, E.C.M.; Daimiel, G.B.	2022	Scopus - Round 1: abstract and title = **Excluded**: focused on usability of the app and not the transparency liabilities DSA
Marginalizing the Mainstream: How Social Media Privilege Political Information	Rogers, R.	06-07-2021	Scopus and Web of Science - Round 3: extensive read = **Included**: Focuses on content moderation, and misinformation. This will be regulated with the DSA.
#TurntTrending: a systematic review of substance use portrayals on social media platforms	Rutherford, B.N.;Lim, C.C.W.; Johnson, B.; Stjepanović, D.; Chan, G.C.K.	2023	Scopus - Round 3: extensive read = **Included**: Looks into advertisement of substance use on TikTok. This kind of advertisement will be regulated in the DSA.
Exploring children's TikTok cultures in India: Negotiating access, uses, and experiences under restrictive parental mediation	Sarwatay, D.; Lee, J.; Kaye, D.B.V	Feb 2023	Scopus and Web of Science - Round 3: extensive read = **Included**: Reports of TikTok and regulation regarding children. Of relevance for transparency obligations in the DSA.
THEORIZING CULTURES OF OVERSHARING ON TIKTOK	Slater, K.	2022	Scopus - Round 3: extensive read = **Included:** Content moderation and TikTok. Of relevance to the transparency obligations in the DSA.
COVID-19 Vaccines on TikTok: A Big-Data Analysis of Entangled Discourses	Sun, S.; Liu, Z.; Zhai, Y.; Wang, F.	Oct 2022	Scopus and Web of Science - Round 1: Title and abstract = **Excluded**: focused on COVID-19 and China, not on transparency issues DSA.
CT 2.0	Tedre, M.; Denning, P.; Toivonen, T.	2021	Scopus - Round 2: introduction, method, conclusion = **Excluded**: mentions TikTok, but does not go into detail.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
"It's common and a part of being a content creator": Understanding How Creators Experience and Cope with Hate and Harassment Online	Thomas, K.; Kelley, P.G.; Consolvo, S.; Samermit, P.; Bursztein, E.	2022	Scopus - Round 3: extensive read = **Included**: hate and harassment and the way content moderation of TikTok works. Of relevance regarding transparency obligations in the DSA.
Shelter in Place, Connect Online: Trending TikTok Content During the Early Days of the U.S. COVID-19 Pandemic	Unni, Z.; Weinstein, E.	2021	Scopus - Round 1: title and abstract = **Excluded**: information in relation to COVID but mainly focused on human experience. It does not provide information related to the transparency requirements in the DSA.
How transparent are transparency reports? Comparative analysis of transparency reporting across online platforms	Urman, A.; Makhortykh, M.	2023	Scopus - Round 3: extensive read = **Included**: the transparency issues of different platforms also with the topic content moderation which are all also issues proposed by the DSA.
The Impact of SNS Advertisements on Online Purchase Intention of Generation Z: An Empirical Study of TikTok in Vietnam	Ngo, TTA; Le, TMT; Nguyen, TH; Le, TG; Ngo, GT; Nguyen, TD.	May 2022	Web of Science - Round 2: introduction, method, conclusion = **Excluded**: intention of consumers, the behavior of people to buy or not. Not related to the transparency obligations DSA.
The Impact of the Digital Age and Social Media on Connecting the Clubfoot Community	Tonkovic, N; Baskar, D; Frick, S.	31-07-2021	Web of Science - Round 1: Title and abstract = **Excluded**: disease clubfoot and the connection with platforms to form communities. Does not discuss the transparency obligations of the DSA.
Will You Ever Become Popular? Learning to Predict Virality of Dance Clips	Wang, J.H.; Wang, Y.H.;Weng, N.N.; Chai, T.R.; Li, A.N.; Zhang, F.X.; Yu, S.S.	14-04-2022	Scopus and Web of Science - Round 1: title and abstract = **Excluded**: dance challenges and virality of dance video's. Does not relate to the DSA transparency obligations.
Exploring the factors influencing consumer engagement behavior regarding short-form video advertising: A big data perspective	Xiao, L.; Li, X.; Zhang, Y.	Jan 2023	Scopus and Web of Science - Round 3: extensive read = **Included**: short-form video advertisement used by TikTok. By knowing the implications this can be of relevance for the obligations posed by the DSA.

Title of the article	Author(s)	Date	Databases, the different rounds conducted, included or excluded and why
Understanding the Mechanism of Social Attachment Role in Social Media: A Qualitative Analysis	Yang, M.; Zhang, W.; Ruangkanjanases, A.; Zhang, Y.	06-08-2021	Scopus and Web of Science - Round 3: extensive read = **Excluded**: focused on why people are engaged with networks in the sense of forming social connections. No connection with the transparency liabilities in the DSA.
From content moderation to visibility moderation: A case study of platform governance on TikTok	Zeng, J.; Kaye, D.V	03-2022	Scopus and Web of Science - Round 3: extensive read = **Included**: visibility and content moderation, shows the concerns and important directions for future research. Relation to the DSA.
TikTok and public health: a proposed research agenda	Zenone, M.; Ow, N., Barbic, S.	2021	Scopus - Round 3: Extensive read = **Included**: covers different topics that relate to the transparency issues in the DSA.
Driving Factors and Moderating Effects Behind Citizen Engagement With Mobile Short-Form Videos	Zhang, C.; Zheng, H.; Wang, Q.	2022	Scopus and Web of Science - Round 2: introduction, method and conclusion = **Excluded**: sentimental driven factors and citizens engagement with TikTok. Does not relate to information that could be used for transparency issues related to the DSA.
Virtual Influencers: The Effects of Controlling Entity, Appearance Realism and Product Type on Advertising Effect	Zhang, L.; Reng, J.	2022	Scopus - Round 1: Abstract and title = **Excluded**: about virtual character technology and not on transparency issues related to the DSA.
The Consumption Behaviour of Short Video Users and Its Influencing Factors	Zhao, Z.; Huang, W.	2021	Scopus - Round 3: Extensive read = **Included**: factors influencing advertisement on short video platforms such as TikTok. This is related to the transparency obligations in the DSA.
Safeguarding food heritage through social media? Between heritagization and commercialization	Zheng, S.	2023	Scopus - Round 2: introduction, method, conclusion =**Excluded**: focus on Douyin and not on TikToK.
24th International Conference on Human-Computer Interaction, HCII 2022			Scopus - Round 1: Title and abstract = **Excluded**: information on Body Posture and TikTok and no relation to the transparency obligations in the DSA.