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Structural Indicators of the Code of Practice on Disinformation: The 2nd EDMO report

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EXECUTIVE SUMMARY

This second report prepared by the Centre for Media Pluralism and Media Freedom (CMPF) for EDMO offers a summary of the iterative process of developing structural indicators for the Code of Practice on Disinformation (the Code). It contains a strengthened proposal for structural indicators, including implementation challenges. The report also includes a record of the overall process around structural indicators, as well as the specific process employed by EDMO in contributing to it. While the initial EDMO proposal for structural indicators is [publicly available](#), it is also briefly outlined in Annex II of this report. The main novelties in the new proposal consist in an adjustment of metrics – based on expert feedback and the experiences of a first beta assessment by a third-party – a shift from an analysis of large datasets to data collection based on API-access, as well as an initial assessment of the feasibility of additional structural indicators.

The core indicators in the new proposal are all based on the initial set of indicators: prevalence, sources, and audiences of disinformation, as well as collaboration and investments in fact-checking – but their metrics are improved and adapted to provide a fuller picture of the problem. Further, limited metrics are provided to assess the monetisation of disinformation, the cross-platforms spread of disinformation, as well as cooperation across platforms – but these need to be further assessed and debated by stakeholders and experts – especially in the case of the (de)monetisation of disinformation. Finally, we looked at the possibilities of proposing indicators that assess algorithmic amplification and the resilience of audiences; while the former we see better served in the context of service level indicators, self-reported by platforms, the latter requires further research by technology experts – thus, the only metric on algorithms (recommendation of content) we found feasible in the current context is incorporated in the proposed indicator on prevalence of disinformation.

For a fuller picture, we propose to complement the data collection with surveys and ask platforms and researchers to provide updates on data access, collaboration with researchers, the state of disinformation research in the EU, as well as platforms' investment in fulfilling the Code's commitments. As the first structural indicators were tested and the existing proposal is being strengthened, it is important that the scope of assessments increases – both in terms of indicators and the number of countries covered – with every new pilot. Various methodologies and approaches still need to be tested towards a more stable and comprehensive set of Indicators. We argue that, in the long-run, a systematic implementation of structural indicators, which would include their testing, reporting and improvements, is best placed in a multi-year research project that is adequately financed and assures the independence of the researchers in the process. From our perspective and based on extensive consultations with experts, this emerges as the only viable solution to secure a robust implementation. Such a pan-European research project would also be beneficial for the enforcement of the Digital Services Act, especially in relation to the systemic risks assessment.

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1. INTRODUCTION

The Policy Research and Analysis task of the European Digital Media Observatory (EDMO), coordinated by the Centre for Media Pluralism and Media Freedom (CMPF) at the European University Institute, has been asked by the European Commission to assist the permanent Task-force of the 2022 Code of Practice on Disinformation (CoP or the Code) in developing a set of Structural Indicators. These indicators aim to measure the Code's impact in addressing disinformation, facilitating a more comprehensive, objective, and longitudinal evaluation across various dimensions of the phenomenon. The goal is to assess the overall effectiveness of the Code in reducing disinformation through its implementation.

The concept of Structural Indicators was initially introduced in the European Commission Guidance on Strengthening the Code of Practice on Disinformation (2021). This was in response to the shortcomings (EC, 2020; ERGA, 2020) identified in the initial edition of the Code (2018), specifically addressing its lack of measurable objectives and key performance indicators (KPIs). The Guidance suggested that there should be two classes of KPIs in the Strengthened Code: (i) service-level indicators, which measure the results and impact of the policies implemented by signatories to fulfil their commitments under the Code, and (ii) structural indicators, which measure the overall impact of the Code on disinformation in the EU and Member States.

Together with service-level indicators, which were immediately adopted within the 2022 Code, the Structural Indicators became a specific commitment (41)¹ of the new Code. The Signatories committed to work within the Task-force towards developing Structural Indicators, publishing a first set of them and an initial measurement within 9 months from the signature of the new Code, meaning spring 2023. The Task-force was as well established with the 2022 CoP, “as an important forum of exchange among Signatories, the Commission, the EEAS², ERGA, EDMO and other invited third-parties”. Relevant Signatories committed to work together within the Task-force and with EDMO, ERGA, and relevant third-party experts to develop a first set of Structural Indicators, and then to continue to work with the Task-force, EDMO, ERGA and relevant third-party experts to test and where necessary adjust these indicators over time. More specifically, the Signatories committed to putting forward data points to be provided by Platform Signatories, and a methodology to measure Structural Indicators on the base of these data points, to be executed by non-Platform Signatories (Measure 41.1.).

To support and inform the process of adopting the Structural Indicators for the CoP, as the central instrument of the EU's policy against disinformation (see: EC, 2018; Nenadić, 2019), EDMO prepared a proposal for an initial set of approaches and metrics towards building such structural indicators (the initial proposal is available [here](#) and summarised in Annex II to this

¹ Code of Practice on Disinformation, Commitment 41: *Signatories commit to work within the Taskforce to develop Structural Indicators, designed to assess the effectiveness of the Code in reducing the spread of online disinformation for each relevant Signatory and for the entire online ecosystem in the EU and at the Member State level.*

² European External Action Service

report). The EDMO initial proposal explored the potential of engaging the existing networks and resources within the Code (i.e. various signatories) and EDMO (i.e. fact-checking community and the EDMO Hubs). The EDMO proposal strived to be comprehensive, in order to reflect the fact that disinformation is a multifaceted and complex phenomenon. It envisioned access to platform data as a key precondition for effective monitoring of disinformation in that environment but insisted on comprehensive evaluation that would also take into account peculiarities of each Member State context.

Structural indicators, as employed in different areas, commonly use socio-demographic variables and key structural components for longitudinal measurements, with the objective of observing structural transformations. As such, Structural Indicators of the Code should enable understanding dimensions of disinformation online and how they evolve over time. In order to achieve such purpose, Structural Indicators should be designed and implemented in a way that allows them to serve as an element of transparency and public scrutiny. This becomes especially important now when the Code of Practice on Disinformation is announced to become a Code of Conduct under the Digital Services Act. With this transition, the Code may be considered as an ‘appropriate risk mitigating measure’. However, the DSA further highlights that ‘mere fact of participating in and implementing a given code of conduct should not in itself presume compliance with this Regulation’. Therefore, it is a prime moment to reconsider and reconceptualise the Structural Indicators within this evolving framework. From the initial conceptualisation by which the SIs are a commitment within the Code, whereby platform-signatories should provide access to data and non-platform signatories should conduct the measurement, Structural Indicators should as well evolve in both their conceptual frameworks and methodology to serve the DSA. Under the DSA, such Structural Indicators could serve the public oversight and evaluation of the implementation of the Code (of conduct).

EDMO continues to support the process towards comprehensive and complete Structural Indicators whose measurement involves all EU member states and their languages. To this end, in the spring of 2023, an [EDMO Expert Group on Structural Indicators](#) was established, where more than 20 experts, on a voluntary basis, contribute to advancing the methodology and designing a desirable framework for a regular, independent and sustainable implementation of the Structural Indicators. This report presents an updated EDMO proposal for the Structural Indicators, which is a result of ongoing research and consultations with experts and stakeholders. In this process, EDMO acts as a platform: engaging and discussing with a number of policy and technology experts, academic researchers, non-profit and civil society organisations, members of the EDMO Executive Board and Advisory Council, and the European Regulators Group for Audiovisual Media Services (ERGA), collecting their input, ideas, experiences and suggestions on how Structural Indicators for this purpose and within the specific framework should be developed and implemented. Additionally, EDMO has also established collaboration with the [Integrity Institute](#).

2. A STRENGTHENED PROPOSAL FOR STRUCTURAL INDICATORS

In addition to initiating discussions within the Task-force of the CoP regarding the adoption of Structural Indicators, the initial proposal put forth by EDMO also served as a publicly shared reference point. This proposal has been instrumental in academic, expert, and policy deliberations surrounding monitoring mechanisms for the Code and broader methodologies aiming to measure the evolution of disinformation over time across various EU countries. Such measurement and insights are key both for informing and evaluating policies.

To update the initial proposal for Structural Indicators, we have undertaken a series of initiatives, from individual experts' feedback to workshops and academic conferences. The exchanges that took place under the SI working groups of the Code's Task-force have also been very informative for this process, as well as the initial pilot implementation of a set of indicators carried out by [Trust Lab](#) in 2023. More details on the process are available in Annex I to this report. In this section, we present the strengthened proposal for Structural Indicators. The list starts with the four indicators (numbered) that are ready to be tested, while additional indicators (not numbered) are proposed to be further discussed and refined for a more comprehensive assessment in the long run. The list of indicators can be further expanded, based on research, new proposals, and newly emerging technologies, as well as challenges.

First, minimum set of indicators:

- SI-1: Prevalence of disinformation
- SI-2: Sources of disinformation
- SI-3: Audience of disinformation
- SI-4: Collaboration and investments in fact-checking

Expanded list of indicators:

- Users' resilience
- Demonetisation of disinformation
- Cross-platform disinformation and cross-industry collaboration
- Algorithmic amplification

2.1. Rationale behind the Structural Indicators

- SI-1: Prevalence of disinformation

This indicator aims to measure how widespread is disinformation across platforms. As such, the share of content identified as disinformation in a selected sample of random content should be measured, as well as the characteristics of disinformation—, including the ways in which online audiences interact with and platforms react to this kind of content. To fully make sense of this measurement, this indicator should be linked with the Transparency Centre where the signatories explain, in an accessible way, how they define disinformation and how they identify sources and content of disinformation (some methods may be legitimately kept from the public, not to provide too much information to bad actors – however, these decisions need to be justified and methods are still to be shared with the evaluators).

- SI-2: Sources of disinformation

This indicator aims to measure key characteristics and behaviours of the accounts that spread disinformation, including so-called superspreaders who are seen as disproportionately active

or impactful in spreading disinformation. Similarly to SI-1, this indicator should be linked with the Transparency Centre where the signatories explain, in an accessible way, how they define disinformation and how they identify/detect sources/purveyors of disinformation. The signatories should make it possible for researchers to distinguish between accounts and the users, as some users can operate multiple accounts. The numbers found should be contextualised with the total number of accounts on the sample.

- SI-3: Audience of disinformation

This indicator aims to measure the audience that has been exposed and has engaged with disinformation, to better understand what characteristics make users more vulnerable or more resilient to disinformation and to see what share of social media users is actively engaged with disinformation. These are sensitive measures and therefore are expected to be under specific framework compliant with privacy and data protection rules.

- SI-4: Collaboration and investments in fact-checking

The indicator aims to understand what resources are invested into fact-checking on platforms and what is their impact. For this aim, this indicator monitors the overall availability of fact-checking organisations in a member state; the extent to which platform signatories collaborate with fact-checking organisations per a member state; and the extent of funding by platform signatories for fact-checking per member state in a monitored period.

- Users' resilience

This is an important indication of the ability of audiences to identify and report disinformation. The indicator can be considered a proxy of media and information literacy in each country. It contributes to the holistic assessment, beyond just the Code. Furthermore, it can be combined with the relevant metrics of user empowerment covered through service-level indicators. A panel of citizens in each country could be used to evaluate and test their capacity and skills to detect false information and misleading narratives, together with their news habits and media and social media use.

- Demonetisation

This indicator aims to monitor monetisation strategies used by purveyors of disinformation and, eventually, platform measures to demonetise them. A viable approach would assess the share of purveyors of disinformation participating in monetisation programmes and the revenues generated by disinformation content. To gain a fuller understanding of the problem, it would also need to assess the revenues that spread of disinformation generates to online platforms, including the amounts spent by sources of disinformation to advertise or to increase the reach of their content on platforms.

- Cross-platform disinformation and cross-industry collaboration

No platform is immune to disinformation, and there is evidence that shows that sources of disinformation are active on multiple platforms, while disinformation messages travel across services. This indicator is thus meant to assess the effort and effectiveness of platforms to respond collaboratively to sources and content of disinformation.

- Algorithmic amplification

The role of algorithms in amplifying disinformation and its visibility is important to explore, both in relation to organic content and paid-for advertising. It includes among others, examining whether an audience member saw a piece of content because it was shared by someone they follow/are friends with, someone they are friends with engaged with it or because platforms recommended it (within their content ranking policies, including policies on prominence of

advertising). For the time being, we recommend that a question on content recommended by platforms be included in the indicator on prevalence.

2.2. Measuring the Structural Indicators

Building on: discussions within the Code of Practice on Disinformation Task-force; stakeholder exchanges; [EDMO's efforts to establish a GDPR-compliant researcher data access](#) framework; and aligning with Chapter VI: Empowering the research community, and Chapter VII: Empowering the fact-checking community of the Strengthened CoP; and Article 40 of the Digital Services Act, we consider API access as the most feasible approach in accessing platform data for testing and implementing the structural indicators. Additionally, for the first two indicators concerning disinformation prevalence and sources, we propose that platforms provide samples of content identified as disinformation during a monitored period. To address questions related to audience characteristics and perception, we also recommend conducting a survey and panels of citizens as a complementary methodology.

SI-1: Prevalence of disinformation

- a) Through API access, the researchers should be able to conduct the following assessments:

Estimate prevalence of disinformation in a random sample of public content weighted by views (10 000 views - but to be adapted to population size of a member state) in the monitored period, per member state and language. The following metrics should be accessible:

- reach (total unique views in the monitored period per member state)
 - engagement
 - total number of interactions - depending on the service in question: i.e. comments, shares, and reactions with disinformation in the monitored period per member state
 - depth of engagement (how much time did audiences spend with the given content, if video: what proportion of the video was seen by audiences / watch-through-rate)
 - platform recommendation (breakdown that shows the share of users who saw or engaged with a piece of content through recommendations, subscriptions, and reshares)
 - modalities of content (audio, video, text or a third-party hyperlink)
- b) For each monitoring period and per member state, platform-signatories should provide samples of TOP N (indicative number: 500) pieces of disinformation in a country. The definition of disinformation is here decided internally, by each platform. To facilitate the assessment, the signatories should use the Transparency Centre to explain, in an accessible way, how they define disinformation and how they identify sources and content of disinformation. Assuming that the platforms take certain actions in relation to the content that they define and recognise as disinformation, the following information should be available with the sample:

- enforcement metrics
 - action taken: removal, labelling, demotion, other
 - type of violation (specific platform policy that warranted action)
 - reach and engagement metrics, as above, before and after action (after where applicable)
 - time of publication and time of platform action
 - total number of content subjected to platform enforcement at the time of assessment (removal, labelling, demotion, other)

API access and the samples of disinformation would allow also for the content/narratives analysis based on general coding categories that should be tested and adjusted for each country and monitoring period.

SI-2: Sources of disinformation

- a) Through API access the researchers should be able to conduct the following assessments:
 - Characteristics of sources of disinformation, divided into categories, based on the number of pieces of content identified as mis/disinformation shared by the account.
 - reach of, exposure to, and engagement with their content
 - the size of their network
 - frequency of publication
 - place of origin (i.e. geolocation/region from which disinformation originates)
 - account history (i.e. age of account and historic violations and penalties against the originating sources of disinformation).
 - Superspreaders, based on an assessment of accounts receiving the greatest reach and visibility
 - reach of, exposure to, and engagement with their content
 - the size of their network
 - frequency of publication
 - distribution (showing what percentage of exposures on disinformation come from the top X percent of spreaders of disinfo - the exact number of X to be determined based on platform characteristics)
 - superspreader relationships (i.e. links between superspreaders; possible networks they operate in. Links between identified superspreader networks; e.g., using Coordinated Inauthentic Behavior analysis to show the relationship between accounts that share similar or the same types of disinformation to unveil connection to coordinated attempts at manipulation, and using network analysis to show whether polarised communities use different or the same sources).
- b) Additionally, for each monitoring period and per member state, platform-signatories should provide information on information influence operations or coordinated inauthentic behaviour detected. The definition of this behaviour and operations is here decided internally, by each platform. To facilitate the assessment, the signatories should

use the Transparency Centre to explain, in an accessible way, how they define and operationalise information influence operations or coordinated inauthentic behaviour. Assuming that the platforms take certain actions in relation to such behaviour or networks, the following information should be provided:

- how many operations or networks were detected
- how many accounts are within a network or operation
- action taken against each subject
- type of violation (specific platform policy that warranted action)
- reach and engagement metrics, as above, before and after action (after where applicable)

SI-3: Audience of disinformation

- a) Through API access the researchers should be able to conduct the following assessment:
- Aggregated and non-identifiable characteristics of users who had at least X exposures to disinformation (value of X to be determined based on platform characteristics)
 - Aggregated and non-identifiable characteristics of users who have had at least X engagement with disinformation
 - To contextualise, aggregate and non-identifiable characteristics of users who had at least X exposure and/or engagement with the most popular news brands

Characteristics for all three metrics: socio-demographic and psychographic characteristics of such disinformation audience; geolocation; history of platform use; frequency of platform use (time spent on platform in the last 7/28 days); frequency of exposure to disinformation; the size of network (friends/followers); whether they were following the source of disinformation or not when they were exposed to the content (algorithmic recommendations); probability that it is a bot or manifesting any other inauthentic behaviour.

- b) The assessment should be complemented by surveys, which would assess their self-reported capabilities to recognise and respond to disinformation, as well as relevant characteristics of users, such as platforms they use, time they spend on social media. It should also be complemented by a possible assessment of their capabilities to identify disinformation content (see indicator on empowering users). In general, complementary ways (to analysis based on platform data) should be explored to investigate disinformation audiences such as panel-based audience measurements.

SI-4: Collaboration and investments in fact-checking

- a) Through API access the researchers should be able to conduct the following assessment:
- Amount or share of content that is fact-checked and labelled
 - Reach of and engagement with fact-checked content
- b) Additionally, where applicable, platforms should provide data on enforcement metrics of fact-checking on platforms:

- Average time passed between publication and being selected for fact-check
 - Reasons for fact-check (share of content reported by user, identified by platform algorithm, identified by fact-checker)
 - Average time used for content to be fact-checked
 - Share of false-positives among content selected for fact-check
 - Average time action was taken
 - Share of content where action was taken
 - Quality check of fact-checks (false positives, false negatives after action was taken or was assessed by fact-checkers)
- c) Relevant signatories should also report on investments in fact-checking:
- Amount of monetary resources invested in fact-checking by platform and by country
 - Number of fact-checking organisations and size of fact-checking teams working for platforms per country

This is to be contextualised with a number of fact-checking organisations and size of their teams per country.

Demonetisation

Demonetisation is a complicated indicator which raises too many questions at this point to be included in an effective measurement of the Structural Indicators, among other things because only a subset of disinformation is monetised in ways that can be measured as part of this exercise. Moreover, monetisation is a two-way street: while purveyors of disinformation can generate revenues through widely popular and widely shared disinformation content, platforms themselves can profit from the involvement of purveyors of disinformation in their monetisation programmes, as well as from the traffic generated by these accounts and contents. In the current context, we see the only feasible (but still very limited, and thus not recommended) approach to assess this indicator on the basis of a random sample of monetised content a random sample of public content weighted by views (1 000 views - but to be adapted to population size of a member state).

- Share of disinformation content in the sample of monetised content
- Share of known purveyors of disinformation in the sample of monetised content
- Share of disinformation in sample of ads
- Share of known purveyors of disinformation in sample of ads
- Share of disinformation in sample of boosted content
- Share of known purveyors of disinformation in boosted content
- Based on the metrics highlighted, revenues could also be estimated (E.g., how much revenue was made by the identified posts, and what share is it of overall income generated / how is the revenue shared between purveyor of disinformation and platforms, if applicable)
-

Measuring (de)monetisation of disinformation by both platforms and purveyors of disinformation should be a priority area and one of the key Structural Indicators. Given the complexity of finding

the right balance and optimal metrics for this indicator, and considering that there is a specific and expert subgroup of the Taskforce working on this issue, we suggest finalising this indicator based on the subgroup's proposal and a wider discussion with relevant stakeholders, including those beyond the Code of Practice.

Cross-platform disinformation and cross-industry collaboration

Through API access the researchers should be able to conduct the following assessment:

- Cross-platform prevalence of disinformation
 - Existence of disinformation content on other platforms (based on disinformation content identified in the sample, researchers should cross-check whether the same content was also published on other platforms relevant to this assessment)
 - Linking to other platforms (with a breakdown of the platforms whose URLs were included in disinformation posts)
- Cross-platform sources of disinformation
 - Existence of disinformation sources on other platforms (based on users/accounts that were identified as sources of disinformation in the sample, researchers should cross-check whether the same users/accounts were also active on other platforms relevant to this assessment)
- Cross-platform collaboration
 - Number of fact-checks that were sourced from another platform (signatory)? (based on sample, numbers provided by platforms)
 - Number of take-downs or demotions of accounts as a product of coordination with one or more other platforms (or platform signatories)? (based on sample, numbers provided by platforms)
 - Qualitative information to be reported by platforms on shared definition and areas of collaboration

The above proposed approach and methodology should be seen as a working framework that needs testing and refinements based on the testing results and indications. Furthermore, any methodology for Structural Indicators should evolve over time reflecting the evolution of the disinformation phenomenon and a wider information environment. This kind of longitudinal monitoring is key to understanding dimensions of disinformation online and how they evolve over time in order to be able to assess the effectiveness of the Code in addressing it. A research based on platform data is the first, but not the only step. For the adequate reading of the results, it should be complemented with audience studies and an assessment of contextual factors in the local context such as availability and effectiveness of national strategies in tackling disinformation, levels of media literacy, levels of trust in news, media, and journalism, political and other relevant context. That way Structural Indicators could really become an element of transparency and public scrutiny, an instrument to inform policies and to evaluate their effectiveness.

Since access to platform data is one of the basic prerequisites for effective implementation of the Structural Indicators, and any implementation of Structural Indicators is in itself a test of data access, we propose this experience to be adequately monitored and reported alongside the Structural Indicators.³

Investments in the overall implementation of the Code of Practice on Disinformation should also be reported alongside the Structural Indicators as a contextual element to evaluate the commitment to implementing the policy by examining the resources, both human and financial, invested by the signatories in each EU member state and in different languages.

3. IMPLEMENTING STRUCTURAL INDICATORS: THE STEPS AHEAD

Over the past years, since the adoption of the Strengthened Code of Practice on Disinformation, and since the initial EDMO proposal for Structural Indicators was tabled, EDMO has mobilised a large number of researchers and other stakeholders in the process of supporting the adoption of sound and comprehensive Structural Indicators. Seeing it as a part of our remit to act as a hub that facilitates an engagement and exchanges with multidisciplinary community around a phenomenon that is multifaceted and constantly evolving, EDMO has organised a series of events, workshops and activities to support the process of designing Structural Indicators for the Code of Practice on Disinformation. Such exchanges, especially with experts that are external to the Code of Practice implementation and evaluation, were extremely informative for reflecting on both the process and the progress regarding the adoption of Structural Indicators, and appreciated for contributing with objectivity to a pioneering discussion on issues that are for the first time discussed in a policy perspective.

Based on the experience of developing and testing structural indicators within the CoP Taskforce and taking into account the evolution of the policy framework from self-regulation to regulation, hereby we propose the key steps ahead for structural indicators to serve a purpose of independent oversight and performance indication:

1. **Re-conceptualising the structural indicators to serve the DSA:** As mentioned in the introduction, the structural indicators are conceived as KPIs to the Code of Practice, adopted by the Signatories of the Code (with support of ERGA and EDMO), and, following the text of the Code, should also be implemented by the Signatories of the Code, whereby the platform-signatories should provide access to data and non-platform signatories should conduct the measurement. The process has already proved that such conceptualisation is deficient and hardly implementable. There is an inherent conflict of

³ There is a stream of EDMO work focusing specifically on data access by designing guidelines to facilitate the access to platform data for all sides in the process. Furthermore, there is a stream of work and exercise that is being done by EDMO in monitoring the implementation of the CoP and assessing key areas in the reports, including research empowerment. Within that task, a systematic monitoring is envisioned to assess characteristics of data access provided, as self-reported by the platform-signatories of the Code, complemented with a survey of the EDMO research network to examine the number of applicants for data access frameworks of platforms, the number of accepted applications, the time it took to make a decision about one's application, satisfaction with data access frameworks available to researchers, etc. These insights, together with insights gathered in the Structural Indicators exercise may form a useful indication of the compliance both within the CoP and the systemic risk-related data access foreseen by the DSA.

interest in signatories evaluating effectiveness of their own instrument. Furthermore, there has been a lasting confusion around the existence of two types of KPIs for the CoP, namely, the service-level and structural indicators. In various expert and academic events on SIs facilitated by EDMO it frequently surfaced that the relationship between service-level (SL) and structural indicators (SI) is still not entirely clear, including the way these two could or should communicate. Also, having the SL indicators internal to the Code, it would make sense to externalise the SIs so as to allow them to be a mechanism of independent oversight and effectiveness monitoring. That way the SIs could aid the implementation of the Digital Services Act in overseeing effectiveness of the Code of Conduct, as a risk mitigating measures (Art. 34 & Art. 35). SIs conceptualised in that way could also serve the independent audit (Art. 37) and oversight of the implementation of data access and scrutiny provisions (Art. 40).

- 2. An independent institution or a research project to implement the SIs:** Structural indicators can position as an independent monitoring mechanism only if they are implemented in an independent way. This entails establishing or dedicating an independent, ideally research, institution, or a project to carry out testing and implementing methodologies for Structural Indicators. Such project should have a pluriannual stability in funding that would safeguard its independence. These conditions are key in establishing a network with adequate capabilities and sound methodology that can carry out a long-term measurement of structural indicators, understanding numerous challenges of measuring disinformation especially for policy purposes. Over the past three years, EDMO has grown to a network composed of EDMO.eu and 14 EDMO Hubs, whose partnerships and activities cover the entire EU. EDMO.eu and the Hubs form a European multidisciplinary community gathering academic researchers, fact-checkers, media practitioners, digital literacy experts and other relevant actors in order to actively detect, analyse and expose disinformation campaigns across Europe. With its enormous potential for cross-country comparative research and coordination in fact-checking and media literacy activities, EDMO could be an excellent and natural choice for the implementation of indicators that regularly assess disinformation and measure effectiveness of the EU policy instrument to tackle it. However, EDMO in its current configuration lacks sufficient resources needed for such exercise. More specifically, EDMO is not an entity. It is a project composed of EDMO.eu, under a service contract, and individual projects carried out by the Hubs under different levels of co-financing and in different time frames. Such fragmentation of projects and their timelines under the umbrella of EDMO are an obstacle that should be overcome in order for EDMO to fully engage in testing and the implementation of Structural Indicators. Any implementation of Structural Indicators will rely on exchange with platforms and other signatories of the Code for data access, for regular reviews of such indicators, and for discussing their findings.

3. **Funding model:** If conducted in a comprehensive and sound manner encompassing entire EU, Structural Indicators are a costly exercise. Funding model must be designed in a way that does not compromise the independence of the endeavour. A more systematic implementation of structural indicators, which would include their testing, reporting and improvements, is to define a multi-year research project that would be adequately financed in a way that does not threaten the independence of the researchers in the process and ensures sound, objective and sustainable implementation of the Structural Indicators. One avenue could be an EU pilot project trajectory. Another avenue could be to create a collective fund for the implementation of Structural Indicators, where all relevant signatories contribute with a defined amount on a regular basis, and in accordance with their general commitment to support the implementation of Structural Indicators (CoP, Commitment 41). This could be seen as being in line with the DSA approach that conditions very large online platforms and very large online search engines to regular independent audit at their own expense. Additionally, the penalties collected under the DSA could also be explored as an avenue to finance this exercise.

As an intermediate solution, EDMO has provided an updated Scientific Focus to the European Media and Information Fund (EMIF) which, on this basis, has published a call on 30 January 2024 to support independent research projects aimed at:

- reviewing, elaborating on, and testing across multiple EU countries the structural indicators identified in EDMO's first proposal;
- developing and testing specific methodologies to reliably measure the reach and impact of various disinformation narratives on different audiences within the EU;
- developing and testing methodologies, including relevant metrics, for tracing the mechanisms used to monetise disinformation content (both on online platforms' services and on third-party websites) and/or spread disinformation paid-for content through online platforms.

Moreover, considering that the 2024 European Parliament elections may represent an opportunity for purveyors of disinformation to exploit election-related topics for monetisation purposes, EMIF published a fast-track call on 22 December 2023, aimed at supporting investigations on the mechanisms that enable the placement of advertisements either on online platforms interfaces next to disinformation content (e.g. near to social media posts or on audiovisual content distributed by video-sharing platforms) or on third-party websites that systematically purvey disinformation. The objective of such investigations should be to build an evidence base regarding the impact of current demonetisation policies in the context of the EP elections,

- 4. Frequency of measurement:** According to the agreement of the CoP Task-force's Working-group, Structural Indicators are planned to be measured and reported bi-annually. Our recommendation is to maintain such a pace with the possibility of combining standard monitoring period with specific measurements carried out in high intensity events (such as elections, wars, emergencies) to understand how the nature of the monitoring period affects the results. Based on the Centre for Media Pluralism and Media Freedom's extensive experience in developing and implementing a holistic but feasible methodology in assessing the state of play of media pluralism in all EU member states and candidate countries on a regular basis, we remain convinced that similar monitoring of online disinformation is needed. Structural Indicators should be comprehensive in a way that includes insights based on platform data and other research, and contextualised with the assessment of local social, political and policy context. Various methodologies and approaches need to be tested towards a more stable and comprehensive set of Indicators.

4. ANNEX I. EDMO PROPOSAL UPDATE PROCESS

In June 2022, following the launch of the Strengthened Code, the signatories established a Working Group on Structural Indicators and the European Commission requested EDMO to create a first proposal for such Indicators to initiate discussions within the Working Group. EDMO presented its first proposal at the beginning of September 2022. Due to the comprehensiveness of EDMO's proposal, on one hand, and the fact that datasets and data points tabled by platforms did not allow for satisfactory cross-platform Structural Indicators, on the other, a third, short-term solution was sought. To that end, in January 2023, platforms committed to evaluating whether one or more third parties should be selected to assist in delivering the first set of Structural Indicators. TrustLab was ultimately selected for this first pilot (published in September 2023) but in longer term both platform- and non-platform signatories, as well as the European Commission and ERGA, expressed a preference for Structural Indicators to be implemented by an independent academic organisation or a network. As attested in the Working group on Structural Indicators January 19th Update and Agreement, "Signatories agree that EDMO is one of the best candidates to be the third-party body coordinating the evaluation of Structural Indicators in the long term". Additionally: "Signatories understand that EDMO will be in a position to agree to take such a role only when methodologies, timelines, data and resources available will be defined".

To update the initial proposal for Structural Indicators, we have undertaken a series of initiatives, from individual experts' feedback to workshops and academic conferences. In this section, we briefly report on the main processes and their outcomes. Furthermore, the exchanges that took place under the SI working groups of the Code's Task-force have been very informative for this process.

The Trustlab Pilot Test (September 26, 2023)

A little more than a year after an updated version of the Code of Practice on Disinformation was adopted, the first pilot measurement of Structural Indicators was published by TrustLab on September 26, 2023. By providing a systematic cross-platform measurement - albeit limited in scope - this study further contributed to stimulating critical cross-sector discussion. Due to a very short timeframe and resources negotiated with platform-signatories, who were funding this exercise, the TrustLab pilot has been limited to 2 indicators (prevalence, sources) and 3 countries (Poland, Slovakia, Spain). The analysis encompassed 6 platforms (Facebook, Instagram, LinkedIn, TikTok, Twitter (X), YouTube) and provided the first empirical analysis and evaluation of mis- and dis-information on online platforms, thus also testing the Code of Practice.

TrustLab's pilot was framed and inspired by the [EDMO proposal for Structural Indicators](#), but is a completely independent implementation that uses its own methodology and metrics. While measurements on absolute and relative mis/disinformation post engagements, as well as the ratio of disinformation actors and their characteristics, perform along the lines of the EDMO proposal, the discoverability metric is a novelty put forward by TrustLab. Discoverability reflects

a ratio of mis/disinformation posts among pieces of ‘sensitive content’. More specifically, it is a share of mis/disinformation content in selected results of an active search for specific keywords (related to disinformation claims), using each platform’s native search function. While there seems to be a general agreement on the key structural areas (indicators) to examine, this departure between the EDMO proposal and the TrustLab pilot confirms our earlier remark that there is no one approach to sampling and metrics. At this stage, various approaches are valid to explore. Each will have its limitations but may also offer insightful perspectives on a dimension of mis/disinformation.

The Expert Group and the Expert Feedback Report (September, 2023)

To support the process towards comprehensive and sound Structural Indicators whose measurement involves all EU member states, during spring 2023 EDMO has established an [Expert Group on Structural Indicators](#) for the Code of Practice on Disinformation. More than 20 experts, on a voluntary basis, contributed to advancing the methodology and discussed a desirable framework for a regular, independent and sustainable implementation of the Structural Indicators. Further to collective meetings and discussions, EDMO conducted a series of interviews with 17 members of the Group between 11 June and 19 September 2023, and collected experts’ feedback in the report [EDMO Experts’ Feedback on Structural Indicators](#). Overall, the experts highly rated the proposal put forward by EDMO, remarking especially on the comprehensive literature review, and analytical rigour of the working paper. They found the set of indicators to be a good starting point, although some expressed concerns about it being overly cautious. Almost 60 new measures or alterations of existing ones have been put forward across the 6 original dimensions of monitoring, and 5 newly proposed areas have been identified and discussed: media literacy, access to data/empowerment of researchers, user empowerment, content analysis, and cross-industry collaboration. This confirmed how broad and multifaceted the issue of disinformation is, as well as any attempt to evaluate the effectiveness of the Code as a policy instrument to tackle disinformation. The experts raised concerns especially in relation to the availability and validity of platform data for the Structural Indicators, the challenge of coordination between several layers of monitoring of the Code, namely the relationship between the Structural Indicators based monitoring, Service-Level Indicators based monitoring and assessments of the signatories reports that are delivered bi-annually. Furthermore, insufficient resources for comprehensive and systematic monitoring were emphasised, as well as regional discrepancies in resources, capacities and capabilities to provide harmonised monitoring across the EU.

EDMO Hubs Meeting and the Scientific Conference in Dubrovnik (September 28-29, 2023)

EDMO gathered with the fourteen EDMO Hubs in Dubrovnik on 28-29 September 2023. Hosted by the Adria Digital Media Observatory (ADMO) at the University of Dubrovnik. This two-day hybrid meeting has brought together the multidisciplinary EDMO network of fact-checkers, media literacy experts, and academic researchers active across the EU to unpack and tackle online disinformation. The meeting aimed at future cooperation within the EDMO network and

a particular focus has been placed on extremely important topics such as disinformation in the upcoming elections, the influence of generative artificial intelligence and monitoring the application of the Code. A specific workshop at the meeting was dedicated to Structural Indicators, serving thus as an excellent occasion for a wide exchange on the proposal, progress, and the future steps.

The meeting was followed by an international scientific conference 16th Dubrovnik Media Days, where the EDMO initial proposal was discussed with a wider academic community and valuable feedback was gathered.

The Workshop on Data Access for Research (October 6, 2023)

The issue of data access for research is paramount to the development of Structural Indicators. This is why on October 6th an online workshop was conducted by EDMO's policy working group to discuss the challenges and opportunities of data access for research under the Digital Services Act (DSA) and the Code of Practice on Disinformation. This workshop built up on the work of a specific pillar of EDMO, led by Prof. Rebekah Tromble, which, since the beginning of EDMO, has been intensively developing frameworks and guidelines that should help eliminate risks and facilitate access to platform data. The discussion encompassed the three core regulatory mechanisms for data access at the European level (the CoP (Chapter VI, VII), Art. 40.12 DSA⁴ and Art. 40.4 DSA⁵) highlighting future challenges and opportunities. Other topics that have been discussed include vetting requirements, charging data access, unfair treatment in data access requests, tracking data across multiple platforms, real-time collective access to data (i.e., "research sandboxes") and data auditing (i.e., "data pipeline audits"). While the data access frameworks established under the DSA would require online platforms to provide data to researchers who wish to conduct research related to the "detection, identification and understanding of systemic risks" on these services, the feedback EDMO received from researchers in the last months implies that the data currently available do not meet the needs of the Structural Indicators.

The Integrity Institute Survey (October, 2023)

The Integrity Institute⁶ survey has been designed on the basis of the Expert Feedback report and administered to 10 experts within the Integrity Institute's network. The questions have been

⁴ "Providers of very large online platforms or of very large online search engines shall give access without undue delay to data, including, where technically possible, to real-time data, provided that the data is publicly accessible in their online interface by researchers, including those affiliated to not for profit bodies, organisations and associations, who comply with the conditions set out in paragraph 8, points (b), (c), (d) and (e), and who use the data solely for performing research that contributes to the detection, identification and understanding of systemic risks in the Union pursuant to Article 34(1)."

⁵ "Upon a reasoned request from the Digital Services Coordinator of establishment, providers of very large online platforms or of very large online search engines shall, within a reasonable period, as specified in the request, provide access to data to vetted researchers who meet the requirements in paragraph 8 of this Article, for the sole purpose of conducting research that contributes to the detection, identification and understanding of systemic risks in the Union, as set out pursuant to Article 34(1), and to the assessment of the adequacy, efficiency and impacts of the risk mitigation measures pursuant to Article 35."

⁶ The Integrity Institute is a think tank powered by a community of integrity professionals: tech workers with experience in integrity roles. They are collaborators of EDMO.eu on the Policy Research and Analysis task.

divided in four sections: (1) Response to the original EDMO Proposal, (2) Questions about Data, (3) Particular methodological Challenges, and (4) the New Monitoring Areas proposed by the Experts Feedback Report. The experts provided extensive written answers, and further elaborated their responses in an online workshop. The responses revealed a range of perspectives. Generally, experts expressed support for the EDMO proposal on Structural Indicators, highlighting some key challenges, among other things, in measuring and distinguishing disinformation from misinformation. Suggestions for improvement included enhancing representativeness, robustness, and comparability, and clarifying the goals of reporting disinformation. Concerns about consistent definitions and platforms' cooperation have also been raised. Overall, the proposal is seen as a positive step to understand and address disinformation, but improvements are sought for greater comprehensiveness and accountability in the long-term implementation framework. The survey has eventually enriched a critical understanding of Structural Indicators by providing new perspectives as well as valuable insights and suggestions.

Structural Indicators Stakeholder and Expert Events

On 2 May 2023, EDMO organised the expert and stakeholder event titled “Structural Indicators for the Code of Practice: towards a sound, adjustable, and feasible methodology”. The event hosted a workshop with the EDMO Expert Group on Structural Indicators, signatories of the Code of Practice on Disinformation, the European Commission, and Trust Lab as the company selected to implement a short-term pilot solution to Structural Indicators. On 9 November 2023, the European Commission organised a stakeholder event to present the work done on Structural Indicators, engage with stakeholders, and collect their feedback (as foreseen in Commitment 41 of the Code). This event was attended approximately 100 people, representing civil society, academia, media organisations, consulting, and trade organisations. The Commission highlighted the need to consolidate and expand the Structural Indicator assessment, by increasing both the number of indicators assessed and the countries covered, while coming up with a stable methodology. The feedback from stakeholders on the methodology and Trustlab’s pilot was largely positive; understanding that this is a pioneering effort that needs rounds of piloting and polishing. Several researchers asked for greater transparency and access to the data collected through the assessment process. Signatories of the Code agreed to discuss the issue of data access.

By analysing all these inputs and meetings in the iterative process above explained, we have gained critical insights to further elaborate Structural Indicators.

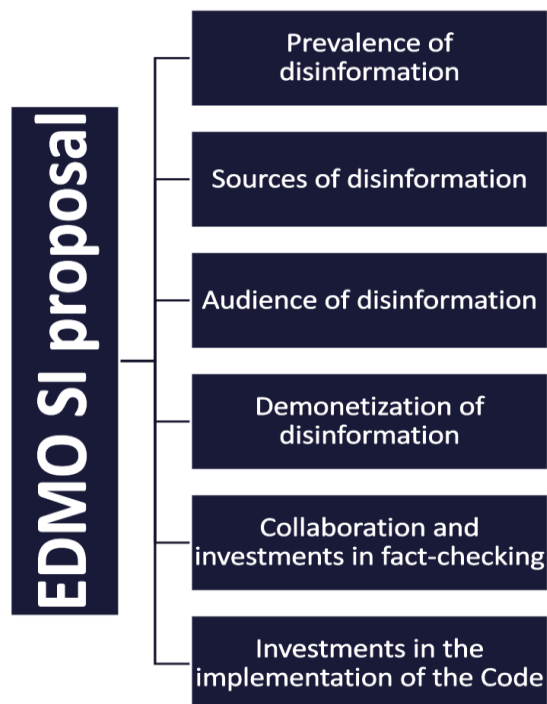
5. ANNEX II. EDMO FIRST PROPOSAL

The first EDMO proposal for Structural Indicators included six areas of measurement: prevalence, sources, audiences, demonetization of disinformation, collaboration and investments in fact-checking and the effectiveness of fact-checking, and investment in the implementation of the Code (see Figure 3). These indicators are meant to be measured based on platform data collected in each monitoring period, ideally both per member state (MS) and per official languages of the EU, but at minimum per member state. The indicators are proposed in a way that enables them to evolve with time and based on piloting results. In addition, to enable a comprehensive assessment, where possible, indicators are triangulated: the reach of and engagement with disinformation is contextualised with the reach of and engagement with most popular news brands in a country, as well as with the reach of and engagement with fact-checks. A similar triangulation is applied to the understanding of audiences of disinformation, where the audiences of the most popular news brands and audiences of fact-checks are included in the assessment. The data are to be sourced from major online platforms – who are signatories of the Code of Practice on Disinformation – and should be analysed by independent researchers.

While there can and should be other relevant data sources and methodological approaches to Structural Indicators, such as audience studies, this initial proposal focuses on platform data. There are two main reasons for that. First, the Structural Indicators are tied to the Code of Practice, which contains an explicit commitment by platform-signatories to provide access to data to researchers and to provide data points needed for the Structural Indicators. Second, at the moment there is no implementation framework beyond the Code of Practice in place that would enable additional methodologies, including audience studies, in a systematic way, considering also that such studies if implemented across countries are costly.

To make the Structural Indicators transparent, reliable and effective, the role of third parties is essential. First, defining disinformation, as an object of measurement, should be done externally, by the researchers carrying out the implementation, and potentially informed by the work of fact-checking organisations. Similarly, the designation of who to consider a purveyor of disinformation should also be made by agreed and objective criteria or in collaboration with neutral third parties. Third parties could further engage in validating Structural Indicators and their results. The process should be opened up to the independent authorities and qualified and vetted external researchers.

Figure 3. First EDMO Proposal for Structural Indicators.



1. Structural Indicator: Prevalence of disinformation (SI-1)

This indicator aimed to measure how widespread is disinformation across platforms. The proposal entailed two dimensions. First, a total number of contents identified as disinformation by platforms themselves and based on the operational definition of disinformation that each platform employs, considering that these definitions vary across platforms-signatories of the Code. To fully make sense of this measurement, this indicator should be linked with the Transparency Centre where the signatories explain, in an accessible way, how they define disinformation and how they identify sources and content of disinformation (some methods may be legitimately kept from the public, not to provide too much information to bad actors – however, these decisions need to be justified and methods are still to be shared with the evaluators). The number of disinformation contents should be contextualised with the total number of public contents disseminated on the service in the same period. Second, as an additional measure and a method of validation to the first one, platform-signatories were asked to provide the following samples of content (or APIs that would allow for sourcing such samples) to the researchers that carry out implementation of the Structural Indicators:

- 1) **A random sample of public content weighted by views** (10 000 views - but to be adapted to population size of a member state) in the monitored period, per member state and language (to estimate the prevalence of disinformation), including the metrics of:

- reach (total unique views in the monitored period per member state)
- engagement (total number of interactions - depending on the service in question: i.e. comments, shares, and reactions with disinformation in the monitored period per member state).

2) **A sample of TOP N (indicative number: 500) pieces of disinformation in a country, including the metrics of:**

- reach (total unique views in the monitored period per member state)
- engagement (total number of interactions - dependent on the service in question: i.e. comments, shares, and reactions with disinformation in the monitored period per member state).

2. Structural Indicator: Sources of disinformation (SI-2)

This indicator aimed to measure a total number of identified sources of disinformation in a monitored period and per member state. Similar to SI-1, this should be linked with the Transparency Centre where the signatories explain, in an accessible way, how they identify/detect sources/purveyors of disinformation. The signatories should distinguish the accounts and the users, as some users can create a large number of accounts for a single operation. The number should be contextualised with the total number of accounts on the service.

The main measure is to be delivered from a sample of sources of disinformation per member state, focusing on:

- 1) **The originating sources** (who was the first to publish a piece of disinformation):
 - a) reach of, exposure to, and engagement with their content
 - b) the size of their network
 - c) frequency of publication
- 2) **Superspreaders** (receiving the biggest reach/visibility):
 - a) reach of, exposure to, and engagement with their content
 - b) the size of their network
 - c) frequency of publication

Alternatively, or as a form of validation of the above, the sources of disinformation could be provided by a third-party (e.g. fact-checking organisations, organisations that rate credibility of sources). Considering GDPR related issues, this sample does not need to be public but can be made available to the vetted researchers for the analysis of characteristics of purveyors of disinformation. Furthermore, when naming individual sources, or individual pieces of content from individual sources as disinformation, there is a risk of legal action from those named so. The interest here thus is not in names but in the characteristics of such sources.

3. Structural Indicator: Audience of disinformation (SI-3)

This indicator aimed to measure the audience that has been exposed to and has engaged with disinformation. These are sensitive measures as they involve information on individual users.

This is why the request to platforms was to provide only anonymised and aggregated data that unveil the characteristics of certain groups of users, without identifying them. For each monitoring period, and per member state, relevant signatories should provide in an aggregated and anonymised way:

- 1) socio-demographic and psychographic characteristics of disinformation audience (**who have had at least X exposures to disinformation**); their geolocation; history of platform use; frequency of platform use; frequency of exposure to disinformation; the size of network (friends/followers); whether they were following the source of disinformation or not when they were exposed to the content (algorithmic recommendations); probability that it is a bot or manifesting any other inauthentic behaviour.
- 2) socio-demographic and psychographic characteristics of disinformation audience (**who have had at least X engagement with disinformation**); their geolocation; history of platform use; frequency of platform use; frequency of exposure to disinformation; the size of network (friends/followers); whether they were following the source of disinformation or not when they were exposed to the content (algorithmic recommendations); probability that it is a bot or manifesting any other inauthentic behaviour.
- 3) socio-demographic and psychographic characteristics of news brands' audience (**who have had at least X exposure and/or engagement with the most popular news brands in a country**); their geolocation; history of platform use; frequency of platform use; the size of network (friends/followers); whether they were following the news brand or not when they were exposed to its content (algorithmic recommendations). This last serve to contextualise the features of the disinformation audience.

4. Structural Indicator: Demonetization of disinformation (SI-4)

A viable approach would assess for each monitoring period, and per member state, the monetisation strategies used by purveyors of disinformation, the revenues gained in a monitored period (transaction euro amounts) with different monetisation strategies, as well as the reach of, exposure to and engagement with disinformation content that was in a monetisation program.

While acknowledging that there are multiple ways of monetising disinformation, due to concerns of feasibility, first attempts to assess this indicator might be limited to advertising. The activity could also include a list of companies that facilitate the monetisation of disinformation on online platform services, assess the total number of monetized contents identified as disinformation and their share in overall monetised contents (relying on the sample used in the first structural indicator on prevalence). Ideally, access to unredacted sellers.json files would enable the identification of purveyors of disinformation that utilise platforms advertising services. This indicator was least developed in the first EDMO proposal considering that it has also been developed within the framework of another working group of the Code's Taskforce, which was

fully focused on disinformation demonetisation in advertising. Thereby, the strategy on this indicator was to encourage collaboration between different workstreams of the Taskforce.

5. Structural Indicator: Collaboration and investments in fact-checking

This indicator aimed to monitor the overall availability of fact-checking organisations in a member state; the extent to which platform signatories collaborate with fact-checking organisations per member state; and funding by platform signatories for fact-checking per member state in a monitored period. Additionally, the effectiveness of fact-checking was also considered. Therefore, for each monitoring period, and per member state, relevant signatories were asked to provide data on:

1. Collaboration with fact-checkers to be contextualised with an overall availability of fact-checking organisations in that country.
2. Funding provided to each fact-checking organisation with which they established a collaboration.⁷
3. Reach of and engagement with fact-checks⁸.
4. Characteristics of users who have had at least X exposure and engagement with fact-checks.⁹

6. Structural Indicator: Investments in the overall implementation of the Code

For a monitoring period, and per member state, the relevant signatories should provide data on:

- 1) Total financial resources invested to meet the commitments and objectives set under the Code.
- 2) Human resources invested to meet the commitments and objectives set under the Code.

⁷ Alternatively, this can be provided as a total funding that a platform signatory invested in collaboration with fact-checking organisations in a monitored period per member state + each fact-checking organisation reporting the share of annual budget received from each platform signatories of the CoP from which they receive compensation for work.

⁸ This can be contextualised with the reach of and engagement with disinformation and with the most popular news brands in the country in the same period (SI-1).

⁹ This can be contextualised with characteristics of the audience of disinformation and the audience of the most popular news brands in the country in the same period (SI-3).