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Request for Information on Federal Priorities for Information Integrity Research and Development

Partnership for Countering Influence Operations, Carnegie Endowment for International Peace (PCIO-CEIP)

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Subject: RFI Response: Information Integrity R&D

Date: 2 May 2022

To: NCO

From: Researcher from The Partnership for Countering Influence Operations, Carnegie Endowment for International Peace

Protecting information integrity in any substantial way first requires a comprehensive understanding of the information environment. The information environment is the space where humans and machines make sense of the world using information, which can be anything from ideas to words to videos. This information moves through a complex and dynamic system via channels like television and digital media, but also through people face-to-face. Disparate fields study aspects of the information environment but lack a systematization of any resulting knowledge. As this system increases in complexity, so too do challenges for understanding it, as the demands for engineering resources become more costly and thereby scarce for academic and policy research. Significant resources are urgently required to advance understanding of the information environment and threats within it, specifically through investments for shared, multistakeholder scientific infrastructure to power policy-relevant research.

WHAT ARE THE GAPS?

Little is known about how the information environment works as a system. Most research on threats within the information environment, such as disinformation, focuses on specific examples of activity often in isolation from the audience it targets or the ecosystem in which it spreads. Put another way, researchers know little about the flow of information between different types of online platforms, as well as through influencers, and into other types of media. Furthermore, research tends to focus on single platforms, most often Twitter, whose monthly active users are fewer than [platforms such as Snapchat](#).¹

Knowledge about the effects of influence operations also remains limited. Most research on the [effects of influence operations](#) focuses on traditional mass media.² Where social media is the focus of measuring the effects of disinformation, most work explores short-

¹ Statista Research Department, "Global social networks ranked by number of users 2022", *Statista*, (March 8, 2022). <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>

² Courchesne, Laura, Jacob N. Shapiro, and Isra M. Thange. "Review of Social Science Research on the Effects of Influence Operations," *Carnegie Endowment for International Peace*, (2021). <https://carnegieendowment.org/2021/06/28/measuring-effects-of-influence-operations-key-findings-and-gaps-from-empirical-research-pub-84824>

term effects only. Little is known about the longer-term effects of disinformation conducted over social media although some of the top platforms today launched almost 20 years ago. How does engagement with digital media change user beliefs or views over time? Does repeated exposure to anti-vaccination disinformation make people more or less likely to get inoculated, and how long do those views last? Are there other impacts from such exposure, like a reduced trust in media or government, and what do those potential shifts mean for civic engagement, such as voting or compromising with others who hold different views?

Even less is known about the [efficacy of common countermeasures](#).³ Most research assessing the impact of interventions focuses on disclosures by social media companies to users potentially exposed to influence operations, fact-checking, and content labeling. Results are promising for fact-checking as an immediate countermeasure, reducing the impact of false information on beliefs as well as on subjects' tendency to share disinformation with others. However, very few researchers have studied interventions by social media companies, such as deplatforming, algorithmic downranking, or content moderation. While social media platforms have introduced new [policies](#) and experimented with interventions to counter threats like disinformation, there is little publicly available information on whether those measures work—in fact, one count from early 2021 [found](#) that platforms provided efficacy measurements for interventions in only 8 percent of cases.⁴

Part of the problem is a lack of access for researchers to data held by private companies. Yet, even if data-sharing challenges could be solved, the fact that academic research is seldom designed with policy development in mind means that critical learnings are not being translated and used systematically to support evidence-based policy development. Moreover, conducting measurements related to disinformation, especially over time, requires the cooperation of the platform studied, if for no other reason than to keep the research team informed of changes made to it that could affect the research. This suggests that data access alone will not solve this problem, but also a mechanism to facilitate independent research with access to researchers working inside the platforms is necessary too.

The research community's approach to producing work is also wildly inefficient. Each project runs its own small data processing pipeline, not designed with an eye to re-useability across multiple studies. Often these studies are conducted by graduate

³ Courchesne, Laura, Julia Ilhardt, and Jacob N. Shapiro. "Review of social science research on the impact of countermeasures against influence operations". *Harvard Kennedy School (HKS) Misinformation Review* (13 September 2021). <https://doi.org/10.37016/mr-2020-79>

⁴ Bateman, Jon, Natalie Thompson and Victoria Smith. "How Social Media Platforms' Community Standards Address Influence Operations," *Carnegie Endowment for International Peace*, (01 April 2021) <https://carnegieendowment.org/2021/04/01/how-social-media-platforms-community-standards-address-influence-operations-pub-84201> and Yadav, Kamyra. "Platform Interventions: How Social Media Counters Influence Operations," *Carnegie Endowment for International Peace*, (25 January 2021) <https://carnegieendowment.org/2021/01/25/platform-interventions-how-social-media-counters-influence-operations-pub-83698>

students or post-docs with little training or experience. In effect, the status quo entails future social scientists building bespoke data science pipelines, instead of doing social science research. This lack of proven research designs puts the community perpetually behind the curve in understanding things such as the impact of interventions to disinformation.

WHAT NEEDS TO BE DONE?

REVISIT FUNDING MODELS AND COLLABORATION

Stable funding and more coordination between stakeholders are required to counter threats within the information environment. The field is fragile and fragmented. Funding tends to be project-based, meaning most initiatives [lack the resources to fund ongoing operations](#).⁵ Likewise, the need to show results and success to donors encourages initiatives to overinflate their effectiveness as they seek continued funding. While the disparate community of researchers increasingly connects through professional convenings, collaboration between experts is still ad hoc. For example, experts don't tend to build on each other's work, as demonstrated [by a lack of citations](#) between them in drafting similar policy recommendations. Between sectors there are significant disconnects, with academics, civil society, industry, and government often operating within their own communities, diminishing their ability to understand each other and their respective roles.⁶

A CERN FOR THE INFORMATION ENVIRONMENT

Longer-term research collaboration must be facilitated. A permanent mechanism is needed for sharing data and managing collaborations that ensures the independence and credibility of researchers. Given the costs associated with and expertise required to conduct measurements research, an international model whereby several governments, philanthropists, and companies cooperatively support an independently governed research enterprise is needed.

One model is a [multi-stakeholder research development center](#), which would enable cross-sector collaboration with an emphasis on facilitating information-sharing to test hypotheses and design countermeasures and intervention strategies.⁷ Another follows

⁵ Smith, Victoria and Natalie Thompson. "Survey on Countering Influence Operations Highlights Steep Challenges, Great Opportunities," *Carnegie Endowment for International Peace*, (7 December 2020)

<https://carnegieendowment.org/2020/12/07/survey-on-countering-influence-operations-highlights-steep-challenges-great-opportunities-pub-83370> and Yadav, Kanya. "Countering Influence Operations: A Review of Policy Proposals Since 2016," *Carnegie Endowment for International Peace*, (30 November 2020) <https://carnegieendowment.org/2020/11/30/countering-influence-operations-review-of-policy-proposals-since-2016-pub-83333>

⁶ Yadav, Kanya. "Countering Influence Operations: A Review of Policy Proposals Since 2016," *Carnegie Endowment for International Peace*, (30 November 2020) <https://carnegieendowment.org/2020/11/30/countering-influence-operations-review-of-policy-proposals-since-2016-pub-83333>

⁷ Shapiro, Jacob N., Natalie Thompson, and Alicia Wanless. "Research Collaboration on Influence Operations Between Industry and Academia: A Way Forward," *Carnegie Endowment for International Peace* (3 December 2020)

the European Organization for Nuclear Research, or [CERN, model](#), supported by several countries working with multiple research organizations to create an international network, thus fostering a wider field.⁸ This could include a fellowship model where multiple stakeholders including members from platforms, government, academics, and civil society organizations, come together to propose a specific policy-related solution. An international approach would help address the imbalance in available research that skews toward the Global North, thus helping those in countries where malign influence operations are often a matter of life and death. Another benefit of an international model is that it bakes in a fail-safe should any single member country slide into autocracy, ensuring that such a center cannot be abused.

Such an institute could support the research community studying how the modern information environment is impacting society, by building shared scientific infrastructure. An institute offering shared engineering infrastructure, could fill gaps such as collecting representative samples across multiple countries, so that scholars can quickly test their ideas in many settings, without having to learn each anew. Or it could create standardized datasets of labeled posts, which would speed development of tools to make sense of the conversation.

Finally, in systematizing research, such an institute could lead on the development of theory that helps connect myriad fields applying their respective methods to analyzing aspects of the information environment, establishing an information ecology. Such an institute could act as the center of gravity to articulate definitions and frameworks for understanding the information environment, providing much needed foundational knowledge and consilience, and [overcoming yet another persistent challenge](#) in protecting information integrity – speaking a common language about the problem.

<https://carnegieendowment.org/2020/12/03/research-collaboration-on-influence-operations-between-industry-and-academia-way-forward-pub-83332>

⁸ Lewandowski, Stephan, Laura Smillie, David Garcia, Ralph Hertwig, Jim Weatherall, Stefanie Egidy, Ronald E. Robertson, Cailin O’connor, Anastasia Kozyreva, Philipp Lorenz-Spreen, Yannic Blaschke, and Mark Leiser. “Technology and Democracy: Understanding the influence of online technologies on political behaviour and decision-making.” *JRC Science for Policy Report*, European Commission, (2020) <https://publications.jrc.ec.europa.eu/repository/handle/JRC122023> and * Wanless, Alicia. “What’s Working and What Isn’t in Researching Influence Operations?”, *Lawfare*, (22 September 2021). <https://www.lawfareblog.com/whats-working-and-what-isnt-researching-influence-operations>