FINAL TECHNICAL REPORT_INICIATIVA LATINOAMERICANA POR LOS DATOS ABIERTOS

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Innovations to monitor knowledge sharing results – Exploring the Overton platform to track policy influence

Final Report

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Innovations to monitor knowledge sharing results – Exploring the Overton platform to track policy influence **Final Report**

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Executive Summary

This report presents the findings of a research project led by the Iniciativa Latinoamericana por los Datos Abiertos (ILDA) that explored the use of data and novel online metrics to understand the influence of Research for Development (R4D) on policy and practice in the Global South. The project aimed to address the gap in understanding how these tools can be effectively leveraged to support monitoring, evaluation, and learning (MEL) efforts for knowledge uptake and policy influence in the R4D space. In this report, we focus broadly on *how research outputs may influence policy formulation and decisions in specific contexts*. The research project had three specific objectives: (1) to identify opportunities and challenges of using policy research metrics, such as the Overton solution, to understand the influence of R4D in the Global South; (2) to understand whether online policy research metrics are capturing useful information and to inform potential improvements to the Overton solutions and others alike; and (3) to consolidate learning and offer practical guidance on how policy metrics can best be leveraged to support MEL for use by R4D funders, knowledge brokers, researchers, and evaluators in the Global South.

The project employed a mixed-methods research approach, including extensive literature reviews, 15 in-depth interviews with R4D experts, and three case studies covering Latin America and Africa. The project also incorporated a gender perspective, exploring how policy research metrics capture gender debates and issues, and whether there is any bias on the data and/or in the working of the algorithms. The following are the main takeaways from the report.

Chapter 2: Tracking research influence on policy: trends, methodologies, and tools. It provides a comprehensive review of the literature on tracking research influence on policy, trends, methodologies, and tools. The chapter aims to understand what research influence on policy is, why tracking research influence on policy matters in R4D, how it is currently pursued, and what are extant examples of tools and methodologies in use. The review of the literature confirms that influencing policy is a complex and diverse process with no straightforward paths, posing significant methodological challenges in assessing research-policy linkages. The chapter also highlights the importance of bridging cultural gaps and setting adequate incentives to involve researchers and evaluators in MEL activities, and the indispensable role of context in MEL, required for a nuanced understanding of the research problem and its implications.

Chapter 3:The data ecosystem to track research influence on policy. This chapter maps the incipient data ecosystem to track research influence on policy. We identify the existing data tools, categorize them, and display their interconnections. Looking forward, the potential for using new and online data repositories and generative AI tools for MEL in research influence on policy is still incipient, with several challenges. The latter include: i) a fragmented and incipient data ecosystem supporting research assessment efforts; ii) the need for diverse data sources and its integration; iii) the need for open access to data, as most

data tools connecting research to its influence we identified are closed or proprietary; iv) the underlying divide in coverage and availability of data tools for the Global South.

Chapter 4. Overton's assessment. This chapter provides an in-depth analysis of the Overton tool, a specialized digital solution that provides metrics for understanding the influence of scientific work on policy and practice. The chapter reviews the main strengths and potential weaknesses of the tool from a data science perspective, combining an extensive review of the tool's documentation and specialized conversations with the organization. The platform has three key concepts: policy documents, people, and scientific articles. Our findings suggest that, while powerful with notable potential, its main advantages may be better suited for the Global North context. We note idiosyncratic differences in how research may be used in policy, impacting representation and coverage in the Global South. The chapter delineates the methodology to conduct three case exploratory studies of relevant topics in the Global South.

Chapter 5. Case studies summary: tracking research influence on policy in the Global South. This chapter provides an in-depth analysis of the use of online policy research metrics to track the influence of research on policy in the Global South. The cases focused on *feminicide* in Latin America, gender-based violence in West Africa and Latin America, and education policies in Latin America. The main findings of the case studies include the dominance of Global North research in policy documents, the lack of relevant policy documents in the Global South, the importance of language in capturing policy documents and research, and gender imbalance in cited research. The case studies demonstrate that online policy research metrics can provide useful insights but need to be complemented with other data sources and a deep understanding of the regional context.

Chapter 6. Learnings and Recommendations. The final chapter summarizes the key findings and learnings from the research project and provides explicit recommendations for R4D funders, knowledge brokers, researchers, and evaluators in the Global South.

- Tracking research influence on policy is a complex process that requires a nuanced approach. Online metrics such as Overton can provide valuable insights, but they are not sufficient when used as a unique data source.
- The coverage of policy documents and research on the studied topics originating from the Global South is relatively scarce in Overton. This limited coverage may perpetuate the dominance of the Global North in research and policy.
- Assessing research-policy linkages through machine learning tools cannot be performed in disconnection with the wider context in which research is embedded. Expert knowledge and contextual understanding are crucial when analyzing a particular topic.
- The data ecosystem supporting research influence assessment efforts is still incipient and fragmented, with structural weaknesses that need to be addressed.

Based on these findings, the following **recommendations** are made:

1. Design and promote an Open, Low-Cost Tool for Tracking Research Influence on Policy in the Global South.
2. Collaborative Mapping of Policy Cycles in the Global South to Enhance Tools like Overton
3. Promotions and capacity building for MEL activities in the Global South, targetted to research influence on policy.

1. Introduction to final report

The **Canadian International Development Research Centre (IDRC)** has long been committed to supporting research for development (R4D) initiatives that aim to bring about positive policy changes in the Global South. Understanding how, when and to which degree research may influence policy remains a complex and challenging task, not just to the IDRC but for other funders, governments, grantees as well as researchers alike.

Novel **data** combined with new developments in **machine learning** present an **opportunity** to enhance **monitoring, evaluating, and learning (MEL)** processes, provided they are used correctly. However, there is a **significant gap** in understanding how these tools can be effectively leveraged to support MEL efforts for knowledge uptake and policy influence in the R4D space, particularly in the Global South.

To address this gap, a team of researchers from the *Iniciativa Latinoamericana por los Datos Abiertos* (ILDA) led this research project that explored the **use of online, digital, and machine learning-based metrics to understand the influence of R4D on policy and practice**. The project initially focused on the Overton platform, the world's largest searchable index of policy documents, to identify opportunities and challenges in using policy research metrics to track the impact of R4D in the Global South.

About ILDA *The Iniciativa Latinoamericana por los Datos Abiertos* (ILDA)'s core mission is to understand how evidence can shape better policies. The organization has led projects such as the Regional Open Data Barometer and the Global Data Barometer that are designed to understand the state of data landscape regionally and globally and to use that evidence to create better public policies. Furthermore, ILDA has also explored through Empatia- and IDRC-supported research projects the use of machine learning for the public good, trying to influence the regional AI policy environment.

1.1. Research Objectives

The general objective of this research project was to **understand how funders, knowledge brokers, and researchers in the Global South could leverage new, digital, and machine learning-enabled metrics to support MEL** of **research uptake and use in policy objectives**. The specific objectives of the project were:

1. To identify **opportunities and challenges** of using **policy research metrics**, such as the Overton solution, to understand **the influence of R4D in the Global South**, and to explore **how these metrics may complement** other applications and data sources.

2. To understand whether **online policy research metrics** are capturing useful information and to inform **potential improvements** to the Overton solutions and others alike.

3. To consolidate learning and offer **practical guidance on how policy metrics can best be leveraged** to support MEL for use by **R4D funders, knowledge brokers, researchers,** and **evaluators** in the **Global South.**

Main research questions

In light of the objectives, these were the main research questions that guided our work:

- What's the state of affairs in tracking policy influence in R4D? What are the advantages of using online policy research metrics to help assess the policy impact of research? What are the challenges? Are there gaps in the Global South coverage?
- What do online policy research metrics, such as the Overton tool, track regarding the uptake and use of research for policy change? How effective are they in tracking research in the Global South in policy documents? Are there research use gaps in certain areas that these metrics help to identify?
- What is the data accessibility rate of R4D funders, knowledge brokers, researchers, and evaluators? How best could IDRC support increased access to online policy research metrics by research users? What lessons or guidance emerge that could help researchers and funders of R4D to leverage solutions like Overton?

The research project **employed a mixed-methods approach** to address specific questions related to the effectiveness of online policy research metrics in tracking R4D, the advantages and disadvantages of using these metrics, and the data accessibility of R4D stakeholders. The project also incorporated a **gender perspective**, exploring how policy research metrics capture gender debates and issues, and whether there is any bias on the data and/or in the working of the algorithms.

1.2. Document overview

This **final report** presents the findings of the completed research project, offering practical guidance and recommendations to R4D funders, knowledge brokers, researchers, and evaluators in the Global South on how to best leverage policy metrics to support MEL efforts

for research influence on policy. The report is structured around the three specific objectives of the project and their research questions, with each section providing a detailed analysis of the opportunities and challenges in using machine learning-based metrics to enhance MEL processes in the R4D space. The next table summarizes how the document is organized, the main questions each addresses and the main methodologies used.

Table 1.1: Summary of report, chapter titles, main question each addresses and main methods.

Chapter(s)/Anex	Research Objective/Questions	Methodology
Chapter 2 - Tracking research influence on policy: trends, methodologies, and tools	What is research influence on policy? Why does tracking research influence policy matters in R4D? How is it currently pursued? What are extant examples of tools and methodologies in use?	Extensive literature review on MEL and impact assessments in the R4D field. 10 in-depth interviews with R4D experts in the field.
Chapter 3 - The data ecosystem to track research influence on policy globally	How is the current data ecosystem for tracking research influence on policy? What is the data accessibility rate of R4D funders, knowledge brokers, researchers, and evaluators?	Scanning of available tools and methodologies (online search), combined with insights from 10 in-depth interviews with R4D experts in the field (chapter 2), and focused literature review on data-related MEL
Chapter 4 - Data and machine learning for tracking research influence on policy: Overton's assessment	How does Overton track research influence on policy? How's the coverage of the platform for the Global South? How can it be used to leverage for cases in R4D?	An expert, qualitative analysis of the overton platform; main features, advantages and opportunities for R4D
Chapter 5 - Case studies summary: tracking research influence on policy in the Global South	How effective is Overton to track research influence on policy documents in specific cases of the Global South? Are there research use gaps in certain areas that these metrics help to identify? What can we learn from work on open data and feminicides, gender based violence and education policies in Latin America and Africa?	Systematizes findings and learning in key research topics: open data and feminicides in Latin America, Gender-based violence in Latin America and Africa, and education policies in Latin America.
Chapter 6 - Summary of findings and key learnings	What are the main learnings from the project? How can online policy metrics be leveraged to support MEL activities by all relevant stakeholders in R4D?	Synthesis of key learnings during the different phases of the project; includes participatory sessions by multiple team members and commissioned case studies, and feedback sessions during project presentations.

Chapter(s)/Anex	Research Objective/Questions	Methodology
Annexes - Three case studies - Feminicides Policy in Latin America - Gender-based violence in West Africa and Latin America - Education Policy in Latin America	What evidence exists on research influence on a specific topic/region? Where is the cited research coming from? To which degree do online policy research metrics capture gender debates or relevant contextual issues? What are the main learnings, advantages and challenges of using online policy research metrics to assess the research influence on policy?	Three commissioned in-depth case studies conducted on Overton, which followed a specific methodology developed by the research team (chapter 4).

Source: authors.

In conclusion, this report provides a thorough understanding of the current landscape of MEL in the R4D sector, with a particular focus on the use of machine learning-based metrics to enhance MEL processes. The report is organized into **six chapters**, each addressing a specific research objective and question, and employing a range of methodologies, including literature reviews, in-depth interviews with R4D experts, and case studies. The next chapter, Chapter 2, delves into the concept of research influence on policy, its significance in R4D, and the existing methodologies and tools in use.

2. Tracking research influence on policy: trends, methodologies, and tools

This chapter explores the **current state of affairs in MEL** in the field of research for development. Particularly, we focus on a **narrow set of MEL**, which is tracking policy influence from (scientific) research. In simple terms, we **define research influence on policy** as the impact that **scientific or academic research has on the decisions, actions, and formulation of policies by policymakers**. It involves using evidence-based information to shape, guide, or support the development, implementation, and evaluation of policies for better decision-making and outcomes.

In this framing, this chapter aims to understand these related research **questions**:

I. *What is policy influence in the context of MEL?*

II. *Why does tracking research influence on policy matters in R4D?*

III. *How is research influence on policy currently pursued? What are extant examples of tools and methodologies in use?*

To answer these questions, we conducted an **extensive review of literature**, spanning relevant reports, academic material and tools available, combined with an analysis of **10 in-depth interviews** with experts in the field.

Our review of the literature confirms that influencing policy is a complex and diverse process with no straightforward paths, posing significant methodological challenges in assessing research-policy linkages. Despite difficulties, research influence on policy is gaining attention globally, especially in the Global North.

The next section briefly discusses how policy influence is understood, what different types of influences can be recognized, and the different ways in which research influences policy. In section 2, we highlight the main reasons why tracking research influence on public policy is important. Section 3 reviews the main methodologies and approaches used to track research influence on policy, the key challenges involved, and provides examples of how some well-established organizations assess the policy impact of the research activities they fund.

2.1. Brief on policy influence in monitoring and evaluation

To understand how research may influence policy, it is essential to first clarify the terms and definitions used. **Policy** can be understood as a **means of governing action** towards desired goals by outlining rules, providing principles that guide action, setting roles and responsibilities, reflecting values and principles, and stating intentions (Steinberg et al., 2015). It is often considered a **complex and dynamic process**, involving various decision points and influenced by contextual factors, institutional structures, and multiple information sources, including research (Jones, 2011). The typical **stages of the policy** or decision-making process include environmental scanning, agenda setting, problem identification, development of policy options, consultation, decision-making, implementation, and evaluation, any of which can, in turn, be affected by the environment and by multiple actors (CHSPRA, 2018).

In this context, **policy influence** can be defined as "*the ability to partially or significantly affect the processes of decision making through the introduction of new ideas or concepts, the contribution of significant data or evidence, the construction of new knowledge or the strengthening of the existing*." (Aquilino & Estévez, 2015).

The **process of influencing policy** is complex and diverse, with a wide range of activities that can affect policy decisions. One way to categorize these activities is to distinguish between cooperative approaches, which involve working closely with decision-makers, and pressure and confrontational approaches, which seek to influence change through advocacy and direct action. Additionally, there is a **distinction** between **evidence and research-led approaches versus** those that primarily rely on **values and interests** (Jones, 2011; Start & Hovland, 2004). This categorization by the UK's Overseas Development Institute (Jones, 2011; Start & Hovland, 2004), configures **four possible approaches to policy influencing:**

- Cooperative and evidence-based through advising (e.g. providing advisory support, developing and piloting new policy approaches),
- Cooperative and interest-based by lobbying (e.g. direct incentives and diplomacy),
- Confrontative and evidence-based through advocacy (e.g. public advocacy and messaging), and
- Confrontative and interest-based through activism (e.g. public communications and campaigns).

Policy influence can be distinguished by the **various types of effects it can have on policy** (Aquilino & Estévez, 2015; Jones, 2011). This encompasses first framing debates and broadening policy horizons, which entails provoking attitudinal shifts, directing attention to emerging issues, and shaping the perceptions of key stakeholders. Another facet involves influencing language and rhetoric, for example by fostering discursive commitments from states and other policy actors. Crucially, policy influence also extends to shaping the behavior

and capacities of key actors, which can be facilitated for example by supporting public officials in developing innovative ideas or cultivating new talents for investigation and analysis. Finally, policy influence extends to impacting policy content, encompassing legislative adjustments, and redesigning policies and programs.

Research is **one** of **many activities and sources that can influence policy**. To influence policy, researchers need to make their research agenda and findings relevant to policy-making, influencing how policy is formed, implemented, and understood. Likewise, by being closer to policy-making processes, researchers can identify policy-relevant research questions (Mitton et al., 2007; Newson et al., 2018)(Boswell & Smith, 2017). Researchers can thus influence policy through agenda setting, expert moderation, or providing substantive advice by drawing on an established body of evidence (Cambridge Public Policy Strategic Research Initiative, 2017).

Box 1: Example of research informing policy design

AI regulation is being discussed globally and is informed by research on the current and potential harms associated with the use of these technologies - and risk assessment and mitigation - such as how research on the evolution of variants of COVID-19 helped public health authorities define vaccination roll-out strategies.

The UK's system for assessing the excellence of research in the UK higher education sector (the Research Excellence Framework, REF), **recognizes eight different types of influences research can have on policy**:

Policy decisions or changes to legislation, regulations or guidelines informed by research evidence

- Informing and influencing policy debate and practice
- Changing the delivery of public services (e.g. accessibility, cost-effectiveness)
- Changing public understanding of a policy issue or challenge
- Change in policy direction, implementation or withdrawal as a result of research evidence
- New technology or process adopted in public policy and public services
- Measures of improved public services
- Improvements to policy outcomes such as health, environment or development indicators

In this report, we focus broadly on *how research activities influence the decision-making of the relevant actors involved in policy making* as the key path through which research activities achieve desired outcomes (Graham et al., 2018; Guthrie et al., 2013). We note that research's influence on policy can take various forms, **directly or indirectly affecting policy**, according to the field of study and the type of policy and policy-making authority.

2.2. Why tracking research influence on public policy matters

Research plays a pivotal role in **addressing societal grand challenges** and advancing development goals. By driving economic growth, research introduces new products and services, optimizes production processes, and enhances competitiveness (European Commission, 2017). Further, innovation requires the acquisition of new skills, fostering job growth and the emergence of novel industries. The significance of research further amplifies as our economies evolve into knowledge-based entities, increasingly reliant on intangible assets (Lundvall et al., 2011). **Research investments** become indispensable not only for economic prosperity but also for tackling key societal challenges and enhancing overall well-being. These investments can contribute to improving health outcomes, combating climate change, and fostering the development of more inclusive and resilient societies (European Commission, 2017).

Current trends **suggest research activities** and their investments should ensure an **impact beyond the academic community**. Notably, the introduction of the **"Impact" component** in the UK's **Research Excellence Framework** (**REF**) in 2014 marked a significant shift in the evaluation of research in the UK, influencing research assessment systems in other countries, although with notable **differences** in its use (Sivertsen, 2017). The UK's **REF** is a system used to evaluate the quality of research in UK higher education institutions, and it plays a significant role in determining funding allocations. The **Impact component** specifically focuses on how research conducted in universities has made a positive difference in the wider world. This impact can take various forms, such as influencing policy development, improving professional practices, contributing to the economy, enhancing societal well-being, and more.

Funding organizations have addressed the problem of demonstrating the effectiveness of research investment by developing research impact frameworks (Donovan, 2011). These impact assessments serve as comprehensive tools that synthesize and evaluate the evidence surrounding both intended and unintended changes associated with interventions, whether in the form of projects, programs, or policies (Gertler et al., 2016).[1] Tracking research influence on policy matters is particularly important for several reasons:

[1] These frameworks often follow related aims, captured under the idea of the "4A's" of impact assessment: Accountability, Advocacy, Allocation and Analysis (Graham et. al. 2018, Adam et. al. 2018).

- **Demonstrating Societal Relevance.** Assessing the influence of research on policy demonstrates that academic work is not conducted in isolation but is directly relevant to societal needs. It helps to highlight the public benefits and real-world applications of academic research.

- **Accountability and Funding Allocation.** Using frameworks to identify the effectiveness of funds allocation to guide organizations in strategically directing resources where they can yield optimal impact (Adam et al., 2018; Graham et al., 2018). For example, in the UK, government funding for higher education institutions is often tied to research performance, as evaluated by the UK REF. Institutions that can demonstrate tangible impacts on policy are more likely to receive funding, reflecting accountability for the public investment in research.

- **Strengthening the Research-Policy Interface.** By tracking how research influences policy, stronger collaboration and communication between academia and policymakers can be encouraged and fostered. This interaction can lead to more informed and evidence-based policy decisions, improving the overall quality of influential research (Cambridge Public Policy Strategic Research Initiative, 2017; Mitton et al., 2007).

- **Global Relevance.** The influence of research on policy not only benefits a specific context but can contribute to global knowledge. As grand societal challenges tend to be transnational, research with an impact on policy can have relevance and applicability beyond national borders.

2.3. Main tools and methodologies to track research influence on policy

Tracking and assessing research influence on policy poses an enduring methodological challenge. The conditions for generating this evidence greatly vary, depending on the type of influence and the type of research being carried out. In this section, we discuss the key challenges to overcome and the main approaches and methods used for the assessment of research influence on policy.

2.3.1. Challenges for assessing research influence on policy

The primary challenge lies in the **inherent complexity and dynamic nature** of both research and policy-making processes, which intricately intersect with each other. Firstly, the research process is characterized by its nonlinear nature and the absence of clearly defined

boundaries, making it challenging to discern its limits, especially in relation to its impact (Graham et al., 2018). Research plays a multifaceted role in influencing decision-making at various levels, encompassing individual, organizational, and systemic dimensions. Its initiation can stem from the endeavors of researchers, demands from decision-makers, or through ongoing exchanges between them (CHSPRA, 2018). Moreover, researchers may find their work used in unforeseen ways (Cambridge Public Policy Strategic Research Initiative, 2017). Conversely, policy decision-making is a complex and iterative process unfolding on unpredictable time horizons. At its core, policy decision-making exhibits substantial variability and inherent dynamism (Cambridge Public Policy Strategic Research Initiative, 2017). It is prone to spontaneous changes due to its involvement with overlapping processes and diverse stakeholders, susceptibility to the policy environment's nuances, and susceptibility to motivations driven by political and emotional factors, alongside evidence from research (CHSPRA, 2018; Jones, 2011).

These factors configure an inherent difficulty in establishing causality, in what has been summarized as the **“attribution problem”,** e.g.: being able to isolate the impact of a particular research study on a decision process (Cambridge Public Policy Strategic Research Initiative, 2017; Jones, 2011). The complexity deepens as policy influences are shaped by **overlapping factors and intricate processes influenced** by a multitude of interacting forces (Bornmann, 2017; Jones, 2011). Even when the influencing agents are identifiable, they often operate within coalitions and networks, complicating the assessment of a research organization or outcome's specific contribution to a policy change (Jones, 2011). Furthermore, the outcomes of research endeavors typically unfold over extended periods, spanning years or even decades, adding an additional layer of difficulty in attributing policy changes to specific research outcomes (Graham et al., 2018; Cambridge Public Policy Strategic Research Initiative, 2017).

In addition, the process of **impact assessment** is likely to be affected by the specific characteristics of the research evaluated. Different **research disciplines and methodologies** yield diverse outcomes: Engineering and scientific research typically result in technologies, applications, or bodies of data. Conversely, social science outputs often take a conceptual form, and frequently involve ideas that must be further contextualized, such as well-being or justice (Cambridge Public Policy Strategic Research Initiative, 2017). Additionally, beyond the scientific evidence itself, the effectiveness of researchers in influencing policy is also shaped by the chosen engagement characteristics. Emphasizing the imperative for researchers to comprehend the policy-making process, Court and Young (2006) highlight the importance of having a tailored policy influence strategy for different audiences and issues. This strategy should encompass considerations such as considering the technical quality requirements and the use of appropriate language for each audience (Aquilino and Estévez, 2015).

Box 2: What are the main challenges to monitoring and evaluation in research for development?

Our interviewees outline two key dimensions of what represent long standing challenges to conduct MEL activities in research

i) Incentives and cultural barriers

- There needs to be an adequate set of incentives leading both researchers and evaluators to record research impact and to correctly attribute the evidence used
- There is a cultural gap to be bridged between researchers (academic writing) and evaluators (policy-oriented). Learning the skills to move from academic writing to impact cases takes time and training.

ii) Technical challenges

- Correctly attributing outcomes to research activities is a technical problem to address. The existence of "false positives" (wrongly identifying the producers of the evidence) requires improving the current techniques of entity recognition
- Recording and gathering evidence of impact is particularly challenging in the public domain. Data "dark-matter" (information not recorded or reflected in the data, but highly influential) abounds in policy circles, since policy- makers tend to go to trusted sources
- The language of the sources also poses technical challenges, both for identifying and gathering evidence data, as well as when running analysis. For example, running text mining analysis in the same evidence but expressed in different languages and alphabets will likely return different results.

Quote Highlight "***The cultural change is fundamental. I had bosses that said 'we do evaluation here because it is elegant***". *- Research evaluation expert*

2.3.2. Methodologies and tools

In our review and interviews, we find a diverse set of strategies, centered on identifying the main pathways that link research and policy change (Cambridge Public Policy Strategic Research Initiative, 2017). In general, we find three: i) recognizing how and to what extent research findings are included in the decisional processes **(instrumental use)**; ii) when research is used to meet organizational, legislative or funding requirements (**imposed use**),

and iii) when it is used to more generally enlighten or justify a course of action (**conceptual and symbolic use**) (Banzi et al., 2011).

Assessment efforts resume these different impact pathways into models that summarize how the policy-influencing activities are envisaged to result in the desired changes in policy. A 'theory of change' approach is a usual strategy followed in MEL. Theories of change typically take the form of a causal chain, delineating the progression of elements and the logical or causal connections between them. Such theories encompass inputs, activities, outputs, outcomes, and impacts, wherein each element triggers or leads to the next, contingent on specific assumptions (Jones, 2011). Theories of change tailored for assessing research influence on policy usually encompass components like the identification of needs and opportunities, the research investment process, the enhancement of evidence through research, and the engagement or influencing of decision-makers (Graham et al., 2018). In addition to casual chains, other types of theories of change look at the different dimensions of change, involving a set of areas of outcomes, each of which is presumed to create the conditions and contribute towards policy influence (Jones, 2011).

In Table 2.1 we summarize the most common approaches to identify and measure research influence on policy, based on Jones (2011) and CIPPEC (2012). Each one has a different focus and comprises different time framings, which is why they are often used combined. The first approach focuses on how research activities lead to tangible outputs, and assesses the characteristics of this output (quality, credibility, relevance, accessibility) to judge its capacity to influence policy. The second focuses on the research output's 'uptake', looking at the extent to which research or advice is visibly 'picked up' and used by others. This is typically done by computing when and where the research's output is referenced, such as in policy documents and media, and also by surveying users and audiences of interest to ascertain how much, and in what way they use and value the outputs provided. The third approach is backward-looking and focused on recognizing and explicating the influence. It uses in-depth studies aimed at recognizing the set of interactions leading research to influence policy change and building a narrative of how the change happened.

Table 2.1: Main approaches to identify and measure research influence on policy

Focus	Time frame	What is assessed	How it is done
Research outputs	Short run	Tangible products of research (publications, reports, seminars)	Evaluating the outputs' relevant characteristics to influence policy (quality, credibility, relevance, accessibility)
Research uptake and use	Short and medium-run	Referencing and users' valuation of research's outputs	Citation analysis (covering academic journals, policy documents, and media), user surveys (questionnaires, focus groups)
Research influence	Medium and	Set of interactions leading to research use in the policy	In-depth studies (Episode studies, Most Significant Change studies) based on

Focus	Time frame	What is assessed	How it is done
	long-run	process	interviews and participatory exercises with key stakeholders to build a narrative of the research's influence on policy change.

Sources: own elaboration based on Jones (2011) and CIPPEC (2012)

Moving from the assessment approaches to the tools used, **efforts to systematize research evaluation tools** have found that they typically fall into one of **two groups** (Guthrie et al., 2013):

- **Qualitative tools**, such as in-depth studies and impact narratives, which focus on learning and improvement rather than assessing the current status. They are flexible and able to deal with cross-disciplinary and multidisciplinary assessments
- **Quantitative tools**, such as metrics based on outputs and activities, which do not require expert judgment or interpretation. These are comparably more scalable and suitable for comparison and for high-frequency longitudinal use.

Assessment framework may use one or the other or a combination, noting the trade-offs between the tools and its suitability.

Box 3: What are the general trends in how donors approach impact evaluations/MEL in Research for Development?

In our **interviews**, we asked experts to reflect on the general trends donors approach MEL in the research for development setting. These are general trends we find:

- Our interviewees note the **increasing requirements** researchers face to measure their research's influence on policy. In turn, this is leading to a higher usage of tools to record and show this influence
- Most interviewees shared that there is an **inherent complexity in MEL**, and that the fundamental task is to correctly identify and understand the question to answer, to then assess which approach is adequate for which research and for which problem.
- Because evaluation requires **understanding the context** and the field to ask relevant questions and produce valuable learning, there seems to be a trend in moving from quantitative to qualitative approaches, or to combine both. The importance of context and the differences across disciplines highlight the limitations of automated reports and the widespread use of standardized metrics.
- Impact evaluation, while seems to be the trend, is **very expensive** and to be meaningful the questions and methodologies have to be very specific and context-sensitive.

- **Impact happens in a longitudinal** manner, so measuring progress to impact seems to be the best strategy. In line with this, the goal should be to have robust and organic tools to report longitudinally.

Quotes - Highlight

"It is more important to have the right mindset and design thinking than the tool itself" *- Research funding organization officer*

*"**The only way to assess impact is through narratives**" - Research evaluation expert*

2.4. Synthesis of main approaches to track research influence on policy

In Table 2.2 we provide examples of how some well-established organizations assess the policy impact of the research activities they fund. This sample illustrates the significant diversity in the approaches, methods, variables and sources used to assess research policy impact. For example, while most organizations use citations as an indicator of research output, these are combined with other metrics reflecting the specific paths to impact of interest for the organization. In addition, these quantitative tools are combined in most cases with impact narratives and other qualitative assessment tools.

In this chapter we have reviewed the current state of MEL in the field of research for development, focusing on a narrow set of impact: tracking policy influence from research. We reviewed the main methods and approaches used, and their key challenges. We highlighted the importance of bridging cultural gaps and setting adequate incentives to involve researchers and evaluators in MEL activities. We also underscored the indispensable role of context in MEL, required for a nuanced understanding of the research problem and its implications. In the next chapter, we explore the data sources and digital tools available to track research influence on policy.

Table 2.2: Synthesis of relevant approaches to assess research influence on policy

Institution	Policy Tracking		
	Approach	Variables used	Sources
Inter American Development Bank (IADB)	Measure the influence of IADB knowledge products by capturing their effective use in policy and academic documents and the intention to apply it to policies and country program interventions.	Citations in official documents, such as policy briefings, legislation, strategies, and budgets. Current metric: IADB knowledge products citations in Google Scholar	Google Scholar
Medical Research Council (UK)	Recognizes the existence of multiple routes but focuses on the different types of engagement between researchers, the public and policymakers. Combines quantitative variables with short impact narratives of selected cases.	Citations (in clinical guidelines, in other policy documents, and reviews), participation in advisory committees, influence in training of practitioners or researchers, membership of a guideline committee, participation in a national consultation, giving evidence to a government review, implementation letter to health authorities.	Quantitative variables are collected through Researchfish, and impact narratives are prepared by researchers.
Alberta Innovation Health Solutions (Canada)	Complex and non-linear progression from the production of research to its impact on policy decision-making. Combines outcome variables with impact narratives	In addition to the outcome variables included in *Researchfish* to track policy impact , it shows the geographic reach of the influence, and the broader social impact such as improvements in health quality, economic impact, efficiency of public service, improved regulatory environment, and change in public attitudes.	Dimensions, Researchfish, and case-specific surveys and studies
World Bank	Includes the policymakers' perspective from design, including how the impact of the project is evaluated from a life-cycle perspective. This is combined with outcome variables collected through a proprietary system (MyIE)	Projects reported to have influenced a) policy design, b) data systems and monitoring, c) policy discussion and decisions, and d) projects scaled up	Metrics are self-reported from ongoing projects, complemented with surveys to internal and external clients
UK Research	Identifies paths to impact through a	Identifies and categorizes the type of impact	REF impact cases

Excellence Framework (special report)	computational qualitative exploration (text-mining, topic modeling and information extraction) of REF case studies. It further explores the clusters around policy with qualitative methods to identify paths to impact	research has on policy (provided written evidence, acted as an advisor, research cited in policy report, research used by third party in evidence, gave oral evidence)	

Source: own elaboration based on interviews, and various reports (Association of Medical Research Charities (AMRC), 2021; Barrio Sarmiento et al., 2023; CHSPRA, 2018; King's College London & Digital Science, 2015; Medical Research Council, 2018; OTT Consulting, 2021; World Bank, 2022).

3. The data ecosystem to track research influence on policy

One of the key enduring challenges in the approaches and tools used to assess **research influence on policy is the lack of recorded evidence of this impact**. While advancing the identification of the multiple research impact pathways is the first step for assessment, its quality will ultimately depend on the universe of data effectively available. In this chapter, we explore the data sources and digital tools available to track research influence on policy, mapping the existing data tool ecosystem and analyzing its characteristics.

3.1. Data and tools to track research influence on policy: Mapping the data ecosystem

To map the ecosystem we combined three search strategies to first identify the existing data tools:

I. We asked our expert informants about tools and resources they used or were aware of.
II. We conducted a broad and extensive desk research, using different search engines and exploring specialized forums and evaluation-focused sites.
III. We explored with different prompts in numerous Large Language Models (LLM) chat based tools, including ChatGPT, Elicit, Perplexity, Lumina, Scopus AI, and Mistral. We prompted these tools to provide examples of databases and data tools containing different types of research influence evidence.

Box 4. Data sources and digital tools to track policy influence from research

From our interviews: What data sources and tools are available? How are they used to measure impact?

On the one hand, the advance of digitalization has brought overall more abundant and accessible data and more and better data management and analysis capabilities. Three fundamental changes contribute to measuring research impact:

- How we collect data, including mobile, geo-located, scrapping, imagery, etc.

- Advances in data management (warehouses, data combination through computational capacity, etc.)
- Advances in analysis techniques (text analysis, Deep Learning, inclusion of image and text data, uses of big data, etc.).

  These changes bring new possibilities such as exploring large volumes of text to detect patterns of meaning, or using images to recognize exactly where change is happening.

On the other hand, these new tools and increased data abundance does not necessarily lead to better evaluation practices and outcomes:

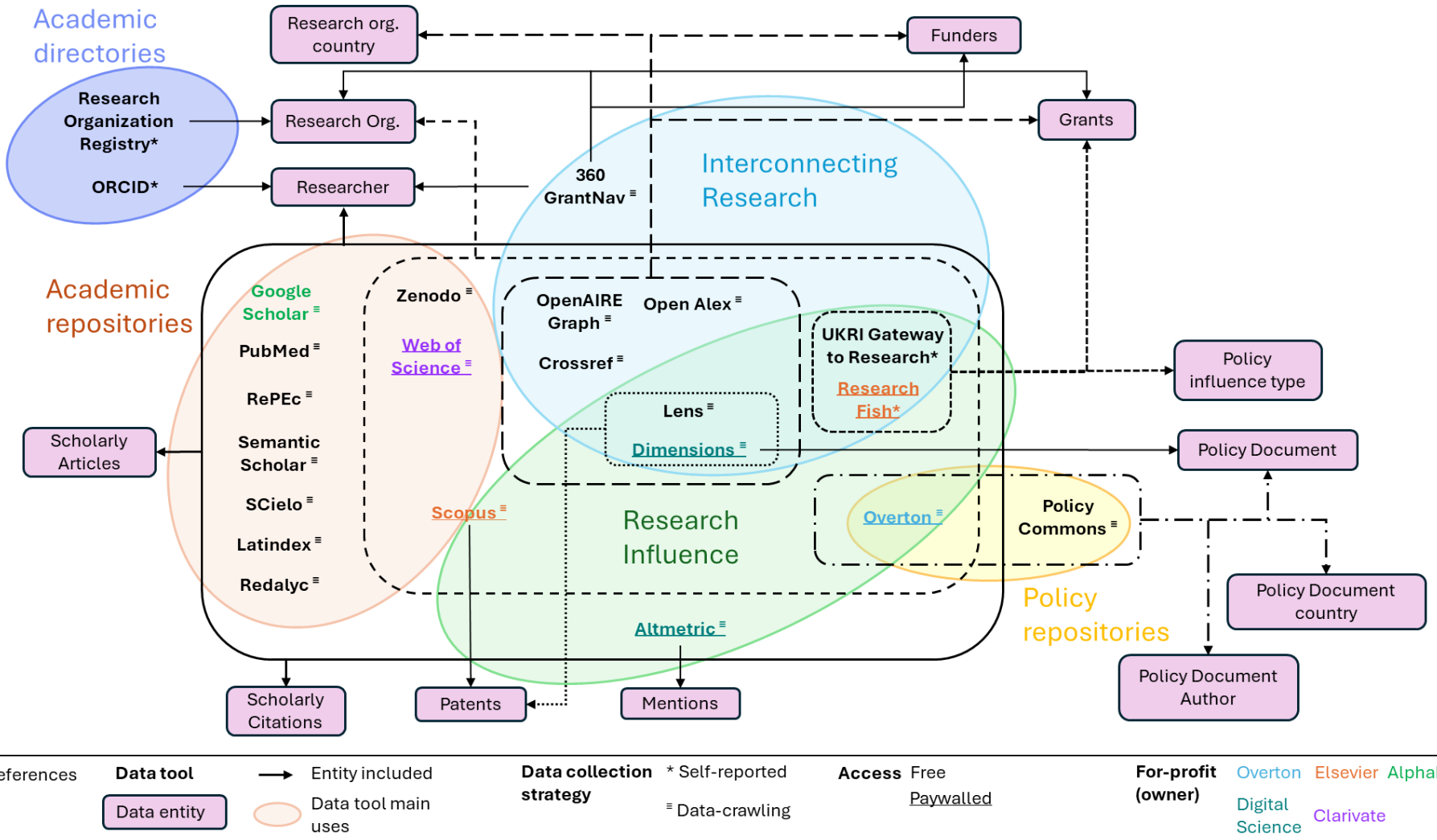
- As data becomes increasingly abundant, having a clear question to answer is fundamental, especially to balance between leaving out information and dealing with the noise.
- Funders' data usage is highly variable and uneven, based on the type and resources of the funder, and the type of evaluation to conduct.
- Data on the policy space remains an art of synthesis and triangulation.

From our exploration we identified a total of 23 relevant tools. We compiled them in a database, and recorded multiple variables for each, including the tools' main use and a detail of the type of content each tool includes and allows to explore (such as scholarly articles, researchers' names and organizations, grants, patents, policy documents, etc.), and how many items for each type of content were available at the time of consultation (if this information was available). We also noted how the tools collected the data, the access options and pricing structure, and whether it belongs to a non-for-profit or a for-profit organization (in which case we noted the owner/group).

To map the ecosystem we focused on identifying similarities and differences among the data tools, emphasizing what type of content each included, and focusing on identifying opportunities for combining the tools. We also identified three useful characteristics to group the tools: the type of data collection strategy, the main uses of the data tool, and the accessibility options for researchers.

Figure 3.1 depicts a representation of the ecosystem, including all the tool characteristics and the classification we created to group them. In the next section, we describe the ecosystem, decomposing each of the variables used to group the tools.

Figure 3.1 Representation of the data ecosystem to track research influence on policy and other related data tools

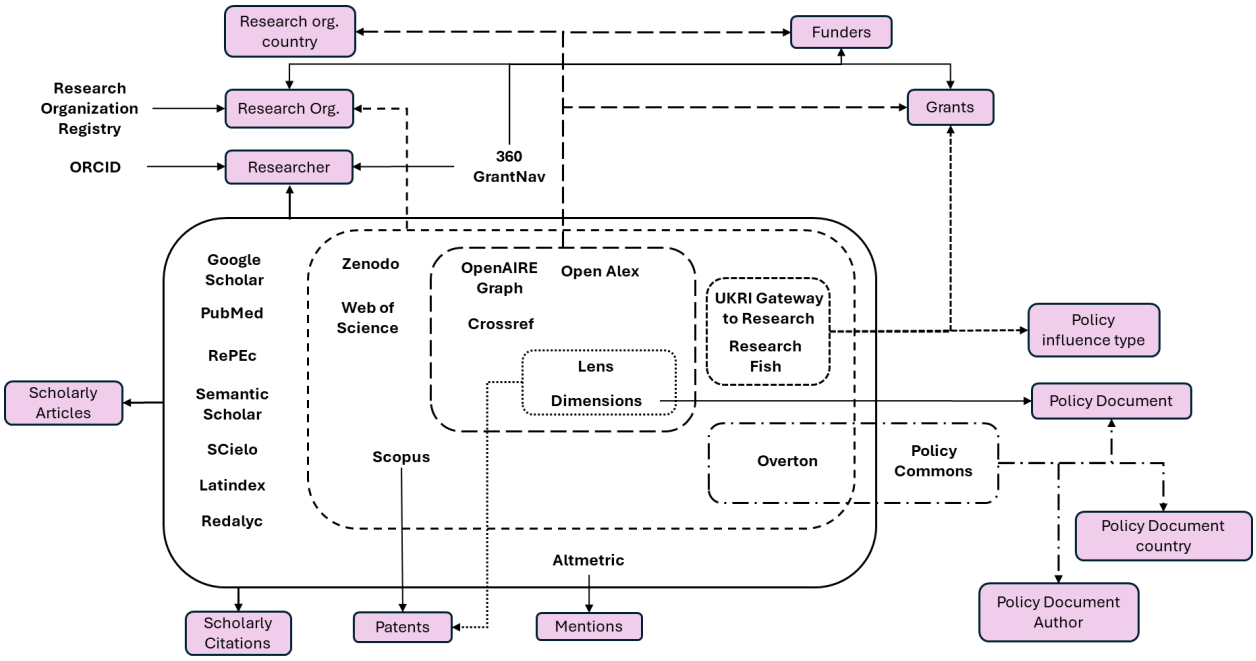


Source: Authors based on desk research and interviews.

3.2. Characteristics of the data ecosystem: source types, uses, accessibility and linkages between tools

The first criterion to organize the selected data tools was the type of data content each provided, whether it was related to research, to its creators and enablers, to its influence, or to policy. This criterium was very helpful to easily locate tools sharing similar information and uses, and position them each to each other. In Figure 3.2 we map the data tools depicting their content: To facilitate the legibility, we grouped the data tools according to the content they include. For each group we used a different line style to more easily distinguish among them. The data tools located in the center of the map, such as Lens and Dimensions, are the ones that combine a higher number of different content types.

Figure 3.2: Main data entities used by the data tools included in the study



Source: Authors based on desk research and interviews.

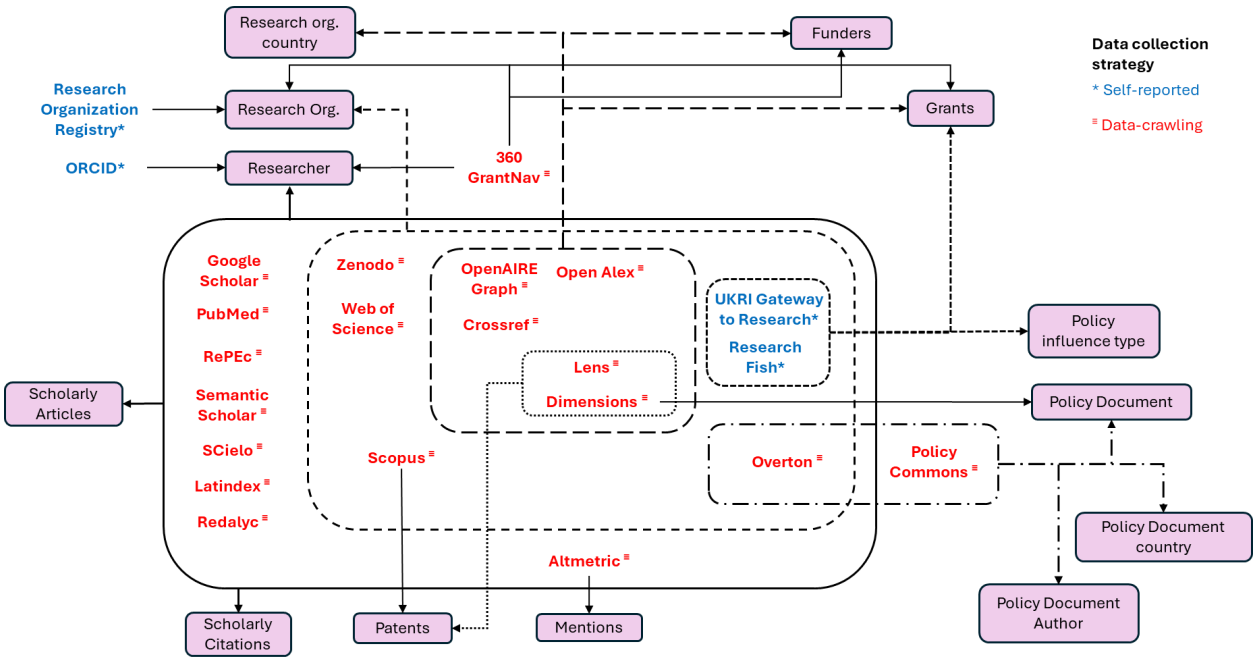
Next, we **distinguished the data tools** based on the main **data collection** strategies they use. On the one hand, we identified **self-reported systems**, such as Researchfish and ORCID, which are based on the researchers' periodical updating of the information reported. On the other, we found **data-crawling repositories**, such as Overton and Dimensions, that identify, capture and catalog variables of interest based on online content uploaded to curated sources. Some tools, such as Crossref and RePEc, combine both methods. From our research, we find that most data tools fundamentally rely on data-crawling strategies, which centralizes the efforts required to gather the data, and facilitates creating large and integrated datasets. At the same time, this strategy is more prone to errors since it is **automated**, even when the information is gathered from curated sources. In particular, these types of errors are more likely to appear when connecting different data sources and data types. Self-reported systems, on the other hand, typically have less coverage and are more resource demanding as they require manually inputting the data. However, precisely because the data is recorded by the researchers, it can capture richer and more precise information about research influence and interconnections among the contents, in addition to being less likely to incur duplicated or ambiguous information.

Table 3.1: Type of data tools based on their data collection strategy

Data tool	Data collection strategy	Examples
Self-reported system	Based on the researchers' periodical reporting on the research progress and impact.	ResearchFish, Research Organization Registry, ORCID
Data-crawling repository	Identification, capturing and cataloging of variables of interest based on online content uploaded to curated sources.	Overton, Dimensions, Lens, Open Alex

Source: authors.

Figure 3.3: Main data collection strategies used by the data tools included in the study



Source: Authors based on desk research and interviews.

In **third** place, we **grouped the data tools** according to their **main uses**, identifying five relevant groups: *Academic directories*, *academic repositories*, *policy repositories*, *tools for interconnecting research*, and t*ools to explore research influence*.

This grouping highlights important differences in development, complexity, and type of functionality among the tools. For example, while some tools have a very narrow use, such as ORCID -which is oriented to create a unique registry of researchers-, others combine multiple data types and support exploring and connecting this data through numerous functionalities, such as Open Alex or Altmetric. We also find some overlapping in the categories identified, which highlights tools that have a higher potential to contribute to advance towards a more integrated data ecosystem.

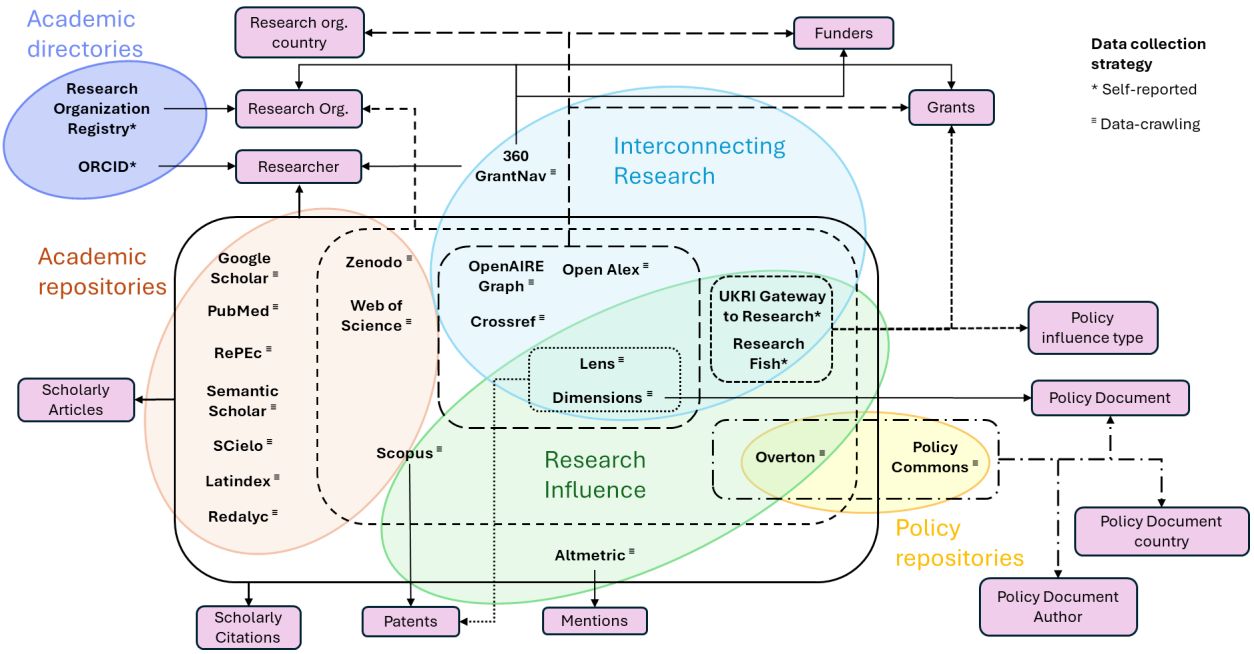
Table 3.2: Type of data tools based on their main use

Data tool use	Description of main use	Examples
Academic directories	Listing researchers or research organizations, usually oriented to avoid ambiguity and duplications	Research Organization Registry, ORCID
Academic repositories	Listing scholarly articles, its authors, and the articles' scholarly citations. Some	Google Scholar, Semantic Scholar,

	tools also index the researchers' organization.	Latindex.
Policy repositories	Listing policy documents, its authors (which includes national and subnational government offices and other organizations), and the issuing country.	Overton, Policy Commons
Interconnecting research	These tools expand on the functionalities of Academic repositories and create multiple linkages between different aspects of research. They typically identify the researcher's organization country, and connect scholarly articles and researchers with grants and funders.	Open Alex, Crossref, 360 Grant Nav
Research influence	Tools oriented to connect scholarly research with evidence of its influence, in the form of mentions in media, citations in policy documents, and linkages with patents.	Lens, Dimensions, Overton

Source: authors.

Figure 3.4: Classification of the main uses of the data tools included in the study



Source: Authors based on desk research and interviews.

We also **distinguished the tools based on the accessibility options for researchers**. On the one hand, we grouped the tools that are either **completely free to access** (such as Open

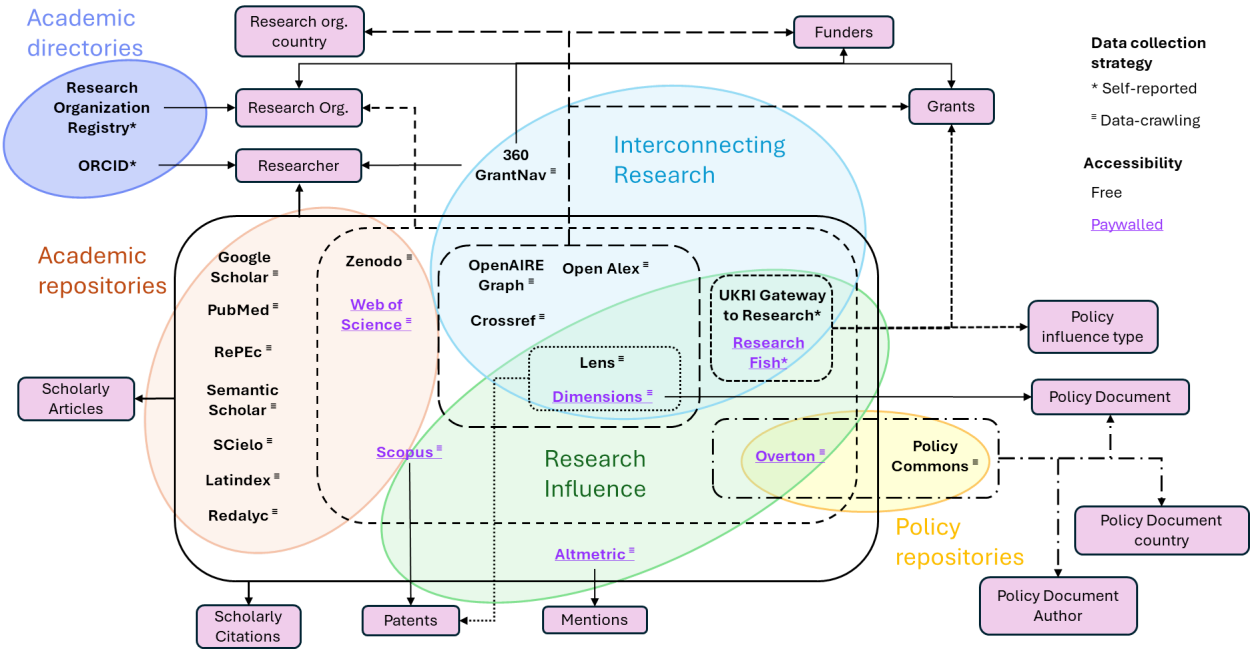
Alex, and Zenodo), or **free to access for individuals** (such as Lens and Policy Commons). On the other, we grouped the tools where full access requires the researcher **paying a fee**, either through a Freemium model (which grants free access to a limited set of functionalities and charges a fee for the full access, such as Web of Science and Dimensions), or a full Subscription scheme (such as ResearchFish and Overton. At the same time, several tools that charge for access typically include special licenses for non-commercial research (such as Overton and Dimensions). We did not include this aspect in the mapping as it is assessed on a case-by-case basis.

Table 3.3: Type of data tools based on their accessibility options for researchers

Data tool	Accessibility	Examples
Free	Tools that are either completely freely to access, or free to access for individuals	Open Alex, Zenodo, Lens
Paywalled	Tools based on a Freemium business model or that requires a Subscription to access the content.	ResearchFish, Overton, Dimensions

Source: authors.

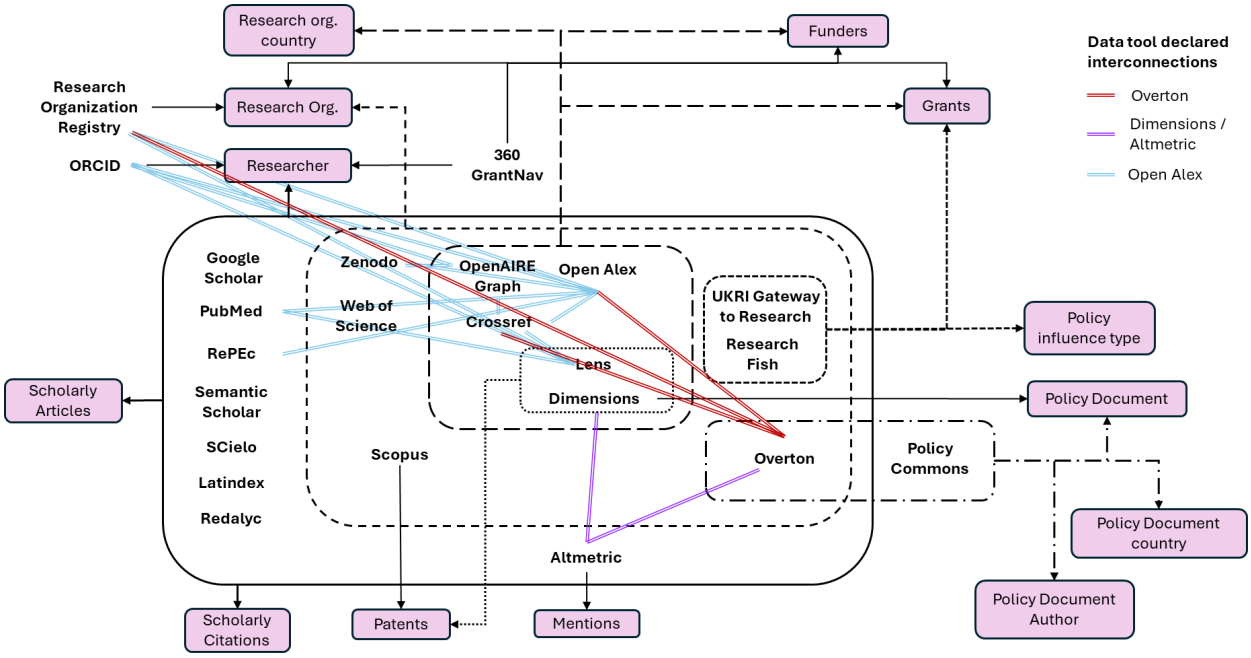
Figure 3.5: Accessibility for researchers of the data tools included in the study



Source: Authors based on desk research and interviews.

Finally, we mapped the **interconnections** between the data tools. We searched in the tools' documentation pages for information about which sources they used and noted the linkages with other data tools. The tools most used by others are Open Data initiatives such as ORCID, the Research Organization Registry, and Crossref. These tools provide unique identification information for individual researchers and organizations, and rich research content metadata. We also find that Open Data tools are the ones with more interconnections between each other. In Figure 3.6 we show the information we found about interconnections, highlighting the open data group of tools, and the tools oriented to assessing research influence, corresponding to Overton, Dimensions, and Altmetric.

Figure 3.6: Declared interconnections between the data tools included in the study



Source: Authors based on desk research and interviews.

3.3. A fragmented (and biased) data ecosystem

From our exploration and consultation to experts, we extract some preliminary conclusions about the data ecosystem:

1. The **data ecosystem** supporting research influence assessment efforts is **still incipient and fragmented**, with some structural weaknesses to address:
    a. There are no dominant or widely-used systems, with a high degree of fragmentation and lack of integration/portability
    b. Influence data lacks a standardized structure, which leads to a limited decision support tool development
    c. There is so far a lack of clear incentives to produce good research influence data
2. There are **only three tools** that can be used to assess **research influence on policy**: Overton, Dimensions, and Researchfish.
    a. Researchfish is the only tool to explicitly showcase linkages between research and policy influence, and further categorizing the type of influence. However, as it uses information reported by the researchers, the coverage is limited by the institutions adopting the tool.
    b. Overton and Dimensions use a data crawling data collection strategy, which means that it can track the influence without requiring reporting by the researchers. While Dimensions maps research linkages with more variables (such as patents, grants, funders), Overton is specialized in policy, including 13M policy documents, against 2M mapped in Dimensions.
3. A significant part of the research-oriented tools are **free to use**. This is true for directories, repositories, and interestingly for tools interconnecting research. However, the tools available to assess **research influence** are typically **paywalled**, or a limited version of the tools can be accessed for free.
4. The tools focused on research from **the Global South are much less developed** and include fewer functionalities. The only tools we could find oriented to research from Latin America (SCielo, Latindex, and Redalyc) are academic repositories, lacking information about researchers' affiliations and country, grants, funders, or patents, and provide no tools to track research influence.

Box 5. How can impact data become more systematic, sustainable and responsible?

Our interviewees highlighted the existence of **fundamental inequalities** to address in this regard, particularly relevant when considering the Global South:

- There is a digital divide, expressed in terms of skills and even internet access
- There is also a data divide, marked by the uneven and undemocratic access to the data collected.
- Biases of the underlying data, under- or miss-representing the realities under study

Advancing in linking different data sources and building data ecosystems was also mentioned as a priority in our interviews. Monitoring and evaluation tend to create unique datasets that are not accessible or easy to connect. A traditional challenge is divergences in how metrics are defined.

4. Data and machine learning for tracking research influence on policy: Overton's assessment

This chapter explores online, digital and machine-learning-based metrics to help us understand the influence on policy and practice in R4D, focusing on the **Overton** tool. Specifically, in this chapter we explore how Overton gathers, analyses and delivers metrics for research influence on policy, focusing on R4D and the Global South. Specifically, we aim to:

1. Review the main strengths and potential weaknesses of the tool,
2. Assess the potential uses in the Global South,
3. Delineate the methodology to conduct three case exploratory studies of relevant topics in the Global South.

About Overton www.overton.io

Overton (Szomszor and Adie, 2022) is an extensive searchable index of policy documents, including research, briefs, reviews or reports written with the goal of influencing or changing policy in some way. It gathers **data from over 180 countries** and analyzes millions of documents, identifying references and key concepts and **linking them** to **news**, **research**, and **policy outputs**. Overton offers a wide range of stakeholders, including researchers, funders, think tanks and governments, to track citations of scientific work in policy documents to reveal its impact on real-world practices.

Methodologically, we led this exercise from a data science approach that combined an extensive review of the tool's documentation and publicly available reports, with specialized conversations we held with the organization.

We **find that Overton** is a **powerful tool** that relies on a relatively robust design from a data science perspective, with the potential to answer useful questions in the MEL domain. From a general analysis, we note that, as is, the data may be incomplete and its main advantages may work best for the Global North context. We also note that there are idiosyncratic differences on how research may be used in policy that affect the representation and coverage in the Global South.

The chapter is divided into two sections. The following section presents a description of Overton, and analyzes its three main components: policy, people and scientific research. Using the entire Overton's database, we present a high-level analysis of the current metrics, geographic coverage, and possible opportunities, and we present a conceptual map of the

tool. In the following section, and based on our exploratory work, we set out a methodology to apply in a selection of three in depth case studies.

4.1. What is Overton?

Overton claims to be the world's most extensive searchable index of policy documents (research, briefs, reviews or reports written with the goal of influencing or changing policy in some way). The platform aggregates information from over a **thousand sources** across more than 180 countries and keeps its database up-to-date. It analyzes each document to identify references, individuals, and key concepts, connecting them to relevant news stories, academic research, think tank publications, and other policy-related content.

Users can search and explore this extensive database to gain insights into where their ideas, papers, reports, and staff are cited or mentioned. Overton offers **powerful filters** that allow users to focus on policies from specific countries and government sources or filter by think tank, publisher, journal, or institution, among others. The web-based application enables data export to Excel, integration with other systems via an API, and the ability to tag, organise, and save searches within the platform.

The platform has **three key concepts**: **policy documents**, **people**, and **scientific articles**. These three concepts are the main gateways for searches, which are performed with text fields on the contents of documents (either policy or articles) or by names of persons. Keyword-based scanning allows retrieving data in the platform containing these search terms.

It is crucial to define these concepts clearly and understand the processes of selecting data sources and acquiring and extracting information to populate the platform. These processes finally produce the data and metadata stored in the platform and condition the results obtained through its use.

4.1.1. Policy documents

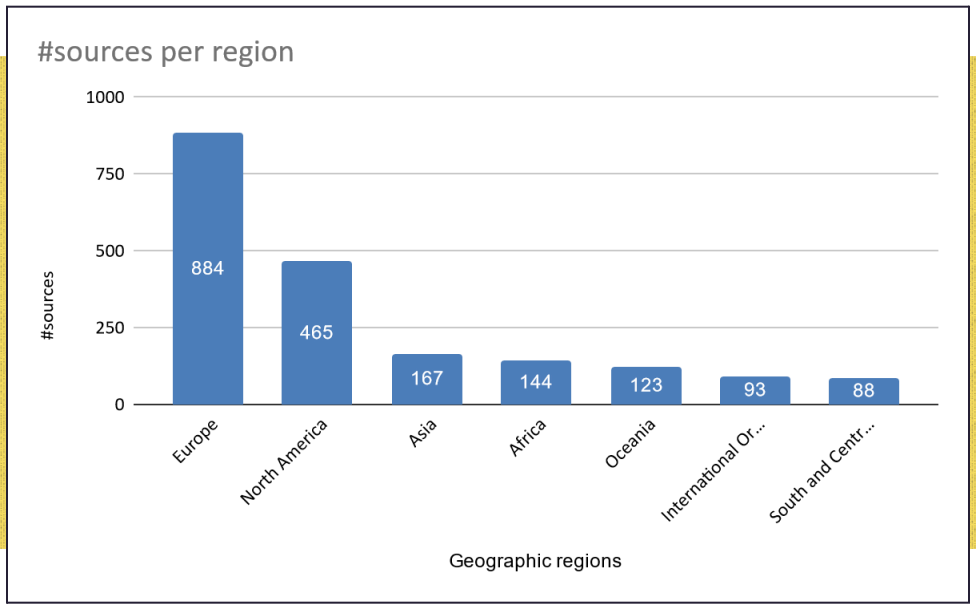
Overton broadly describes **policy documents** as "documents written primarily for or by policymakers published by a policy-focused source" (Overton, 2023a). Overton indexes **over 9 million documents** from more than 1,900 sources of policy documents at the time of writing, making it several times larger than other similar systems.

A "politicy-focused source" in this context is a website or domain from which documents are collected. Typically, a website includes documents from only one organization, but this varies from country to country.

Since we want to focus on global South issues, we pay special attention to the **coverage in the different regions** and compare their relative differences. **Figure 1** below allows us to

analyze the number of sources the platform considers and their geographical distribution. Almost **70% of the policy document sources** are in **Europe** or **North America**. The difference in the number of sources per region may be due to the platform's emphasis on local politics in some areas. In the United States and parts of Europe, they collect data at the state level, which is essential for the institutions they support (Overton, 2023b) (Overton, 2023c). In most other countries, they focus on the national government level. Analysis of the number of documents by geographical region leads to similar conclusions. The map in **Figure 2** shows that the proportion of policy documents collected from the US and Europe represents more than 70% of the total [2].

Figure 4.1: Distribution of the number of policy documents sources per geographical region.



Source: Author's elaboration based on data obtained from Overton.

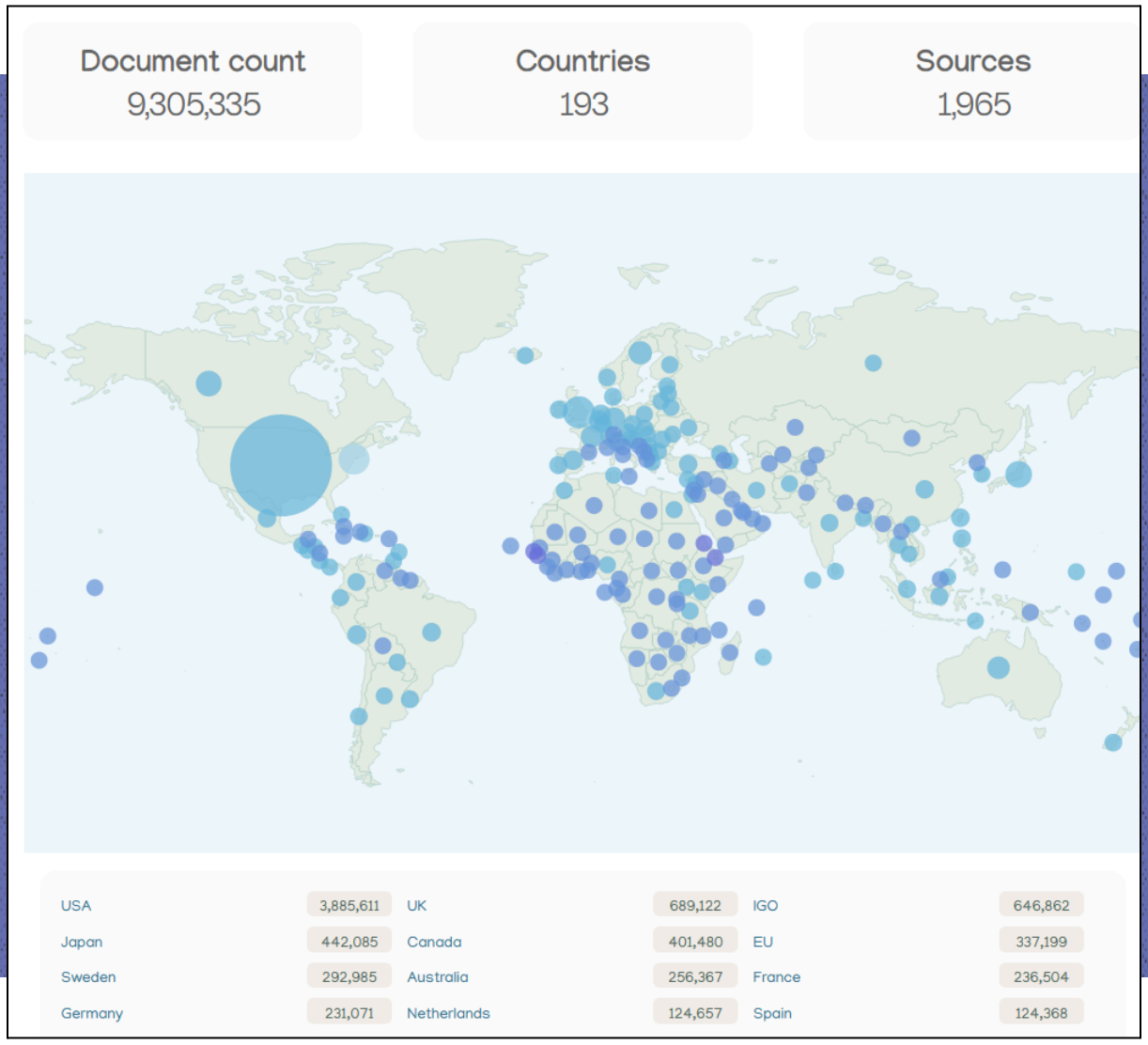
4.1.2. People

According to Overton, **identifying individuals** mentioned in policy documents is a complex process involving three stages (Overton, 2023d). The first stage consists of finding the names and variants of academic research institutions using ROR[3] as its dictionary. The system records the document, page, and paragraph where each institution name appears. In the second stage, Overton **builds a dictionary** of possible researcher names for each identified institution using affiliation metadata from cited journal articles and books.

[2] A report and complete overview of the policy documents' distribution is available here https://app.overton.io/documents.php?sort=date&format=report&api_token=5538:6389a79acfc0:36ff0b0e6f8e

[3] The Research Organization Registry (ROR), https://ror.org/

Figure 4.2: Geographical distribution of policy documents.



Source: Overton, November 2023.

It considers name variants, such as variations in initials or hyphenated surnames. The system looks for these researcher names in paragraphs associated with the relevant institution. In the third stage, Overton performs a series of heuristics to verify the accuracy of identified people's mentions. This process includes ensuring the matched institution name is correct, checking that the paragraph isn't a reference, and avoiding false positives from multiple combinations of people's names and affiliations. Once passed through these stages, researcher name/affiliation pairs are saved in the database. They can be accessed on individual policy document pages or through searches, allowing viewing mentions only on the *People* tab. The system encourages users to contact support if any mentions need to be included. It actively **works to improve the accuracy** of people's mentions by learning from examples.

The system must be able to model and store individuals' affiliations at all times. This feature is handy when indicating the authorship of a scientific paper or mentioning a person in a policy document since these are done within the context of work in a particular organization. The Overton team has decided to represent this accurately by considering pairs of (person, organization). However, according to our discussions with the Overton developers, the tool cannot integrate all instances of a person, irrespective of their affiliation.

As part of this project, we aim to **tackle gender-related issues**. Specifically, we want to investigate how much policy documents women write are considered in the results provided by policy research platforms' metrics. Our goal is to determine whether there are any biases in the results. The Overton platform **doesn't provide information about the gender of authors**. This means that it's not possible to search for authors of a specific gender using the tool.

Box 6. Gender Distribution of Top Authors Using Python Predictor

To measure the distribution of authors by gender[4], we consider the list of the **10000 most popular authors**. Then, we used the Python Global Gender Predictor library [*], which, based on the first name, predicts the person's gender. The results obtained with this library, with a threshold probability of 80%, indicate that **21% are female** and **74% are male**. The results are not conclusive regarding the gender of the remaining 6%. We also analyzed the distribution of the number of documents by gender and found that the distribution is similar.

[*] Global Gender Predictor library https://github.com/attract-ai/global-gender-predictor

4.1.3. Scientific articles

Policy documents often lack a standardized references section, which presents a **challenge** for **citation identification** and formatting. Overton uses a **flexible approach** to address this issue, breaking the text into paragraphs and assessing features like italics, author names, journal names, and common reference phrases. Each feature is scored individually, and if the cumulative score exceeds a set threshold, Overton attempts to extract and identify reference elements such as source, title, and year.

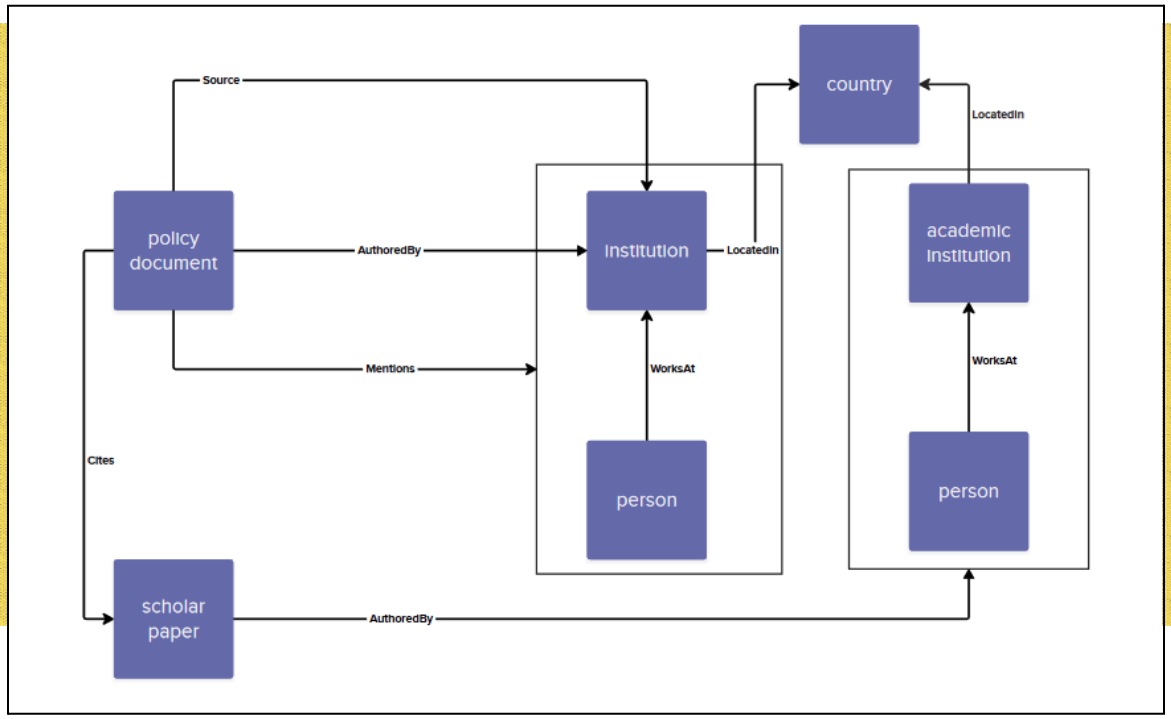
Overton then utilizes these extracted details to search databases, in particular **OpenAlex**[5]. The system scores the results based on similarity to the original paragraph, balancing precision

[4] It's important to remember that this method is not perfect. Others we explore was https://genderize.io/; we found similar results.
[5] Open Alex OpenAlex is an extensive open database that provides detailed information about scholarly papers, authors, institutions, and other academic entities https://openalex.org/

and recall by adjusting score thresholds. Overton aims for a **minimum accuracy of 98%** and a minimum recall of 80% for scholarly documents. In practice, observed recall often exceeds 95% for English language policy sources citing journal articles. According to what it's reported in its documentation, Overton outperforms alternatives like Altmetric in handling less formal references (Overton, 2023e). They argue that their approach is **better than Almetrics** since they spot the references in the text and then check if it is actually a reference. For Altmetrics, references must have the volume and issue to be considered as such. It will not be shown using that method if it is a working paper. Overton developers also claim that the tool faces **challenges** with certain reference types, such as scholarly papers not indexed by CrossRef, academic papers in languages other than English, and papers belonging to a series (Overton, 2023e). These challenges may result in **missed matches**, particularly for **non-English references**, where higher scoring thresholds are applied to maintain accuracy. Despite these limitations, Overton **aims to balance accuracy** and recall, focusing on precision in citation extraction from policy documents.

We have built a **conceptual model** based on the Overton platform and the interviews conducted. It represents the entities mentioned above and their relationships. **Figure 3** presents the model obtained that synthesizes the main entities or concepts modeled by the tool and the relationships between them.

Figure 3: A conceptual model of the main concepts and relationships of the platform



Source: Own elaboration based on the documentation, use of the platform, and interviews.

4.2. A methodology to conduct case studies in the Global South to track research influence on policy on Overton

The potential for using new online data repositories and machine learning or data science tools to track research influence on policy **is still incipient**. In this chapter, we have reviewed a well-designed tool that has such potential: Overton. We stress that from its design, this tool may better serve the Global North, both, because of the idiosyncrasies of how policy is done as well as documented, but also as how research is represented globally.

From our initial assessment, we **briefly outline a methodology for using Overton** to track the impact of research on policy. Our methodology consists of the following steps:

1. `Identify a topic or thematic area` of interest (e.g., public policy on open data and open government).
2. Generate a `list of keywords` that encompasses and defines the topic of interest.
3. Use `keyword-based scanning` to retrieve policy documents containing these search terms from the platform.
4. Depending on the number of results obtained, `refine the search space` by applying `filters` to the results (e.g., keep policy documents published in certain countries).
5. `Analyze` the resulting policy documents or explore and analyze the academic articles cited in those documents or the individuals involved.

The word search on Overton is `language-sensitive`, as there are no automatic translations. In some cases, it is necessary to search in more than one language (e.g., Spanish and Portuguese in the case of Latam) to cover policy documents written in these languages. This was incorporated in steps 2 and 3 for all case studies.

5. Case studies summary: tracking research influence on policy in the Global South

In this chapter, we delve into the heart of our research project by presenting a comprehensive **summary** of the **three main case studies** we conducted with partners to assess the potential of online policy research metrics in the context of R4D in the Global South. These case studies were designed to address key research challenges and align with the specific objectives of our project. Specifically, the cases aimed at:

I. Identifying and analyzing the evidence on research underpinning key policy issues in selected Global South countries.
II. Examining the research's characteristics, such as its geographical distribution, institutional affiliations, and thematic focus.
III. Assessing the main learnings, advantages and challenges of using online policy research metrics to track the influence of research on policy.

The first case is focused on understanding the influence of ILDA promoting better data policies on ***feminicide*** in **Latin America**. The second case investigates the influence of research on policies related to discussing, addressing, preventing, and responding to **gender-based violence in West Africa and Latin America**. The third case explores the evidence regarding Early Warning Systems being implemented in **education** in the public sector in **Latin America**.

Box 7. Commissioned Case Studies by research experts in their topics

Three distinct groups of researchers, each selected based on their extensive expertise in the subject and diverse backgrounds, conducted the individual cases. Each group included data scientists, either as part of the project team, or as part of the case led by Data Pop Alliance. The variety of approaches, backgrounds, and perspectives resulted in a rich set of learnings, contributing to illuminate the diversity in how different researchers approach tracking research influence on policy on relevant themes for the Global South.

In the next sections, we provide a summary of findings from each case study. Shared trends and complementary learnings are included at the end of the chapter.

5.1. Open Data and Feminicides - Tracking Research Influence of ILDA's Work on Feminicides Policy in Latin America

5.1.1. Research Background and Objectives

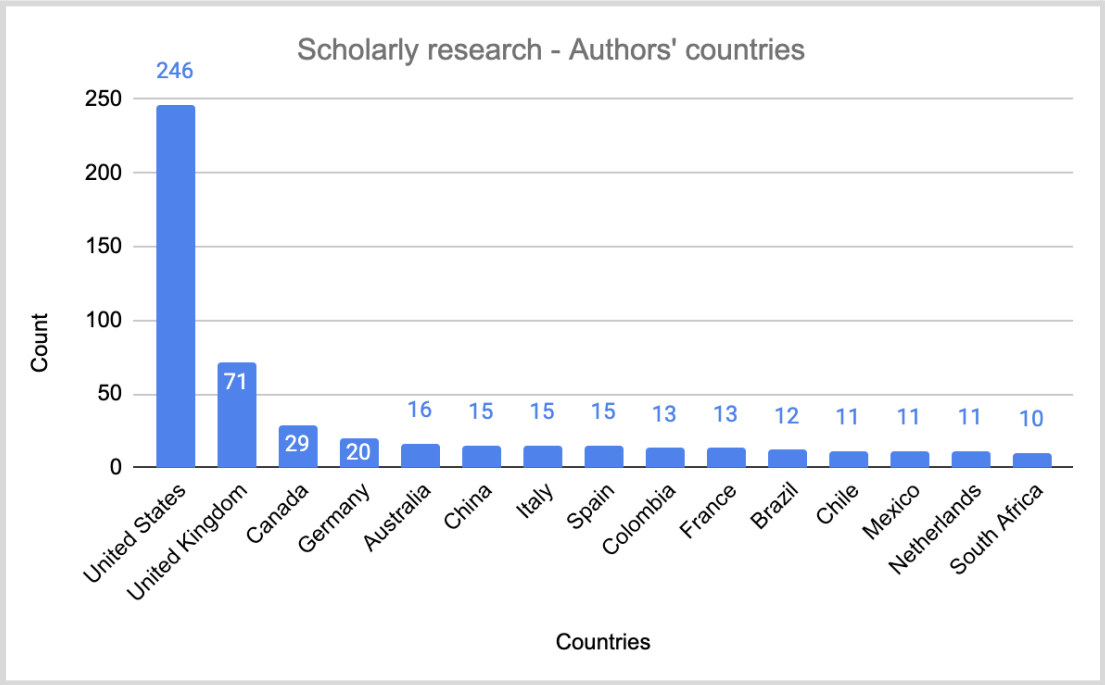
Femicide has been the focus of public debate for many years in Latin America. Statistics of organizations such as the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) have warned about the seriousness of the situation in the region (ECLAC, 2023). Nonetheless, this context has also allowed the emergence of research that sought to promote greater openness and quality of this data to improve public policies in this area. That is the case of the standardization of feminicide data projects. This research-oriented initiative, created by ILDA, explored how different countries in Latin America generated data on feminicide to create a feminicide data standard to facilitate data interoperability and a better register of cases across the region.

To understand the research influence of the initiative on policy, we **first conducted** in-depth interviews with key stakeholders and reviewed extensive documents to investigate how the project influenced data policies on this area in Latin America. We then used Overton to track evidence of the project in the region and to explore to what extent these online metrics capture research influence.

5.1.2. Key Findings

Although Latin American countries are present, policy documents on data and feminicide cite research conducted mostly by authors and institutions in the Global North. The search for *feminicidio* and "open data" shows that **51% of all authors** are linked to institutions in the **United States, United Kingdom and Canada.** In addition, searches for feminicidio and "datos abiertos" provided similar insights: the United States and the United Kingdom results account for almost 41% of all results.

Figure 5.1: Top 10 geographical affiliations of cited scholarly research for "feminicidio" and "open data"



Source: authors' based on data from Overton.

Latin America is better represented in the results when searches are conducted with the terms in **Spanish**. However, even in these cases, the ranking of cited research is led by the United States. When searching "feminicidio" and "datos abiertos" in the policy documents engine, the geographical distribution shows that 10 out of the 15 countries listed (66%) are located in Latin America. In addition, Mexico appears in third place in the ranking of countries of authors' affiliations, whereas in feminicidio and "open data", 3 out of the 9 countries (33%) are Latin American countries and there is no presence of the region in the top 3 ranking of countries of authors' affiliations. In both searches, the United States tops the list of countries.

Overton provides more results in the policy documents engine when the word Feminicidio is used instead of Femicidio. Nonetheless, in both cases, the ranking of authors in the scholarly research is led by two countries in the Global North - the United States and the United Kingdom. The presence of researchers linked to Latin American countries is higher in the first search.

Table 5.1. Summary of key searches and results in Overton[6]

	Feminicidio and open data	Feminicidio and open data in Latin American countries	Feminicidio and datos abiertos	Feminicidio and datos abiertos in Latin American countries
Policy documents	60	9	250	146
Cited research	693	61	1,335	175
Top 3 countries of authors' affiliations (most cited research)	-United States (#1) -United Kingdom (#2) -Canada(#3)	-United States (#1) -Colombia (#2) -United Kingdom (#2)	-United States (#1) -United Kingdom (#2) - Mexico (#3)	-United States (#1) - Mexico (#2) -United Kingdom (#3)
Top 3 Institutions of most cited authors	- Johns Hopkins University (11) - World Bank (11) - Harvard University (10) -University of Chicago (10)	- Instituto Nacional de Salud (3) -University of North Carolina at Chapel Hill (3) -George Washington University (2) -Imperial College London (2) - National Institute of Public Health (2) -Universidade Federal de Santa Maria (2) -University of Toronto (2)	- World Bank (34), - National Autonomous University of Mexico (30) -Massachusetts Institute of Technology (22) -University College London (22) -University of California, Berkeley (22)	-University of Maryland, College Park (5) - University of North Carolina at Chapel Hill (4) -Centro de Investigación y Docencia Económicas (3) - College of Mexico (3) -Instituto Nacional de Salud (3) -National Autonomous University of Mexico (3) -University at Albany, State University of New York (3) - University of Chicago (3)

Source: authors' elaboration based on Overton's results.

[6] Numbers in brackets in the category Top 3 Institutions of most cited authors indicate the number of results in Overton.

5.1.3. Lessons Learned

Overton functionalities and features are valuable elements to explore underpinning research on feminicide and open data but not sufficient. Its use as a unique data source for tracking research influence can lead to incorrect conclusions if not combined with other components. Research is one of many activities and sources that can influence policy, and it is never a straightforward process as reviewed in chapter 2. The analysis on policy documents of Overton where ILDA's work was mentioned showed the organization mobilized different stakeholders "for change". In this sense, there are other elements that are part of the research agenda and influence public policies but do not necessarily appear in the form of scientific papers.

Using online metrics for policy research, such as Overton, can reveal **valuable insights** that may otherwise go **unnoticed**. For instance, we were able to discover mentions of ILDA's research in countries beyond Latin America, demonstrating the broader impact and reach of the work.

Research practices and policy influence in Latin America differ from other regions. Our interviews and anecdotal evidence suggest that **citing scientific papers in public policy documents is not a common practice in the region**. This could be one of the reasons why Latin America representation in Overton results is low when exploring underpinning research of policy documents on feminicide and open data.

Online metrics also reveal that **language matters**. Overton showed different results for searches conducted in English and Spanish. Latin American countries are more widely represented when searches use all Spanish terms.

Our work with Overton also highlighted the significance of having expert knowledge and **contextual understanding when analyzing a particular topic**. For instance, we found that 'femicide' was the most frequently used/relevant term to yield meaningful results in English, while 'Feminicidio' was more prevalent in Spanish. This discrepancy reflects an ongoing debate in Latin America about the use of these two terms. The term 'feminicide' carries historical conditions of gender violence, which is an important consideration when interpreting the results of our analysis. Therefore, assessing research-policy linkages through machine learning tools cannot be performed in disconnection with the wider context in which research is embedded.

5.2. Tracking Research Influence on Gender-Based Violence Policy in West Africa and Latin America

5.2.1. Research Background and Objectives

Gender-based violence (GBV) is a pervasive phenomenon that is recognized as both a global public health crisis and a grave infringement upon human rights. It constitutes a broad spectrum of harmful behaviors perpetrated against individuals due to gender differences, typically targeting individuals because of their perceived roles, norms, or expectations within society (IASC, 2015). It is estimated that approximately one in three women worldwide has experienced either physical violence and/or sexual intimate partner violence or non-partner sexual violence during their lifetime (WHO, 2021).

GBV is a pronounced issue in both West Africa, where over 40% of women are victims of physical and/or sexual violence (UN Women Africa, 2023), and Latin America (LATAM), a region that holds the highest incidence of sexual violence perpetrated by non-partners, coupled with the second-highest occurrence of partner or former partner violence (UNDP, 2017). Given this scenario, research and the formulation of public policies focused on preventing and addressing GBV in these regions have grown substantially over the last decades. Therefore, the aim of this study was to **identify the influence of research on policies** related to discussing, addressing, preventing, and responding to GBV in West Africa and LATAM.

We utilized keyword-based scanning on the Overton platform, employing Boolean search operators such as "**gender violence**," **"violence against women**," and "**gender-based violence**" within the "*Search in Policy Documents*" tab. Additionally, we conducted a distinct query centered on a specific policy exemplar, namely **UN Resolution 1325**, which pertains to violence against women and peacebuilding. Subsequently, the findings were analyzed across various dimensions, encompassing geographical distribution, policy topics, publication year, among others.

5.2.2. Key Findings

The initial keyword search for *abstract: "gender violence" OR "violence against women" OR "gender-based violence"* resulted in **5,397** different policy documents. While dispersed globally, **a majority are concentrated in the Global North**, particularly in the United States, United Kingdom and Europe. From this corpus of policy documents, a total of **15,982** references were extracted. Similar to the policy documents retrieved from our search, the

majority of the articles are concentrated in the Global North. The emergence and proliferation of the **"Evidence-Based Policy" (EBP) movement** in the mid-1990s have exerted a more pronounced influence within Anglo-Saxon contexts (Parkhurst, 2017; De Faria, 2022). This phenomenon partially elucidates the dearth of policy documents citing research within the Global South.

For **Latin America** (represented by Argentina, Brazil, and Mexico), we identified only **86 policy documents**. The majority of these policies originate from governments (72.2%), with a minority sourced from think tanks (27.8%). The primary topics covered in these policies are "**justice**", followed by "**politics**" and "**violence against women**". Within this corpus of policy documents, a total of **70 cited research articles** were identified, predominantly concentrated in the **Global South**, particularly in Brazil.

Furthermore, among the **top 10 institutions** with the highest number of articles, the majority are from the Global South. This finding contrasts with the otherwise dominance of Global North institutions. Academic studies in this region tend to prioritize **economic-related matters**, followed by medical concerns. Publications related to Economics and Econometrics (6) outnumber those related to Medicine (5). It is also notable that the policy sources citing these articles are predominantly related to science and technology (70), followed by politics, education, society, and health. Notably, the policy sources citing these articles are predominantly focused on science and technology (70), followed by politics, education, society, and health. For **West Africa** (represented by Liberia, Senegal, and Sierra Leone), we identified only **one** policy document.[7] **The absence of policy documents** from this region is intriguing, considering the widespread and pressing nature of GBV in these nations, along with ongoing governmental efforts to develop policies addressing the alarmingly high GBV rates.

Table 5.2. Distribution of articles considering the journals they were published in, the subjects covered by those journals, sources of citing policy and classifications found within the retrieved documents. Numbers between brackets indicate the number of articles.

Top journals	Top journal subjects	Top sources of citing policy	Classifications of citing policy
Revista Estudos Feministas (9)	Economics and Econometrics (6)	Instituto de Pesquisa Econômica Aplicada (54)	Science and Technology (70)
Cadernos Pagu (4)	Medicine (all) (5)	IZA Institute of Labor Economics (16)	Politics (59)
Maria da Penha em Cena: atores e práticas na produção de justiça para	Gender Studies (4)	World Bank (14)	Education (57)

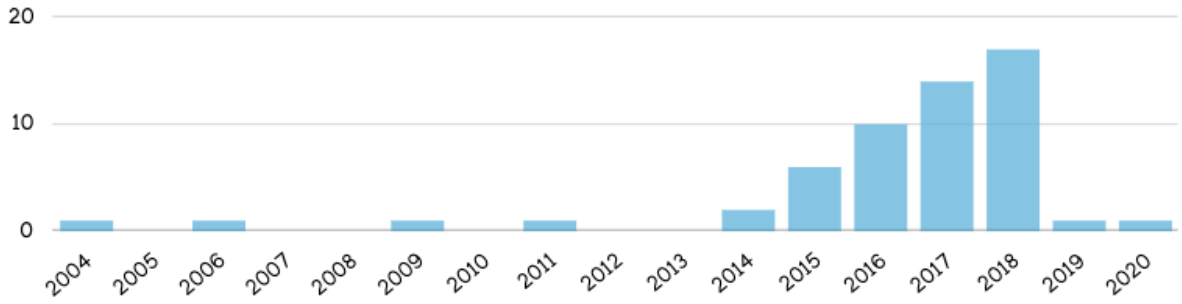
[7] It is important to highlight that the Overton platform undergoes daily updates, potentially resulting in a fluctuation in the number of documents compared to when the analysis was conducted.

mulheres em situação de violência (4)			
International Economic Review (3)	Sociology and Political Science (4)	Institute of Development Studies (13)	Society (52)
Ciência & Saúde Coletiva (2)	Law (3)	NBER (13)	Health (50)

Source: Elaborated by authors using data from Overton, as of April 6th, 2024.

Resolution 1325 is particularly significant for territories experiencing **(post-)conflict periods or humanitarian crises**. However, our investigation revealed a concentration of public policies citing the resolution in the **Global North**. In Brazil, there is a notable increase in the number of policies published after 2014, followed by a sharp decline after 2018. This trend aligns with Brazil's political shifts: under Lula and Rousseff, significant gender policies were enacted, whereas Bolsonaro's election in 2018 ushered in an anti-women's rights agenda. This context highlights the fluctuating policy trends and the interplay between politics and gender-based violence in Brazil, both of which Overton effectively captured.

Figure 5.2 Publication years of policy documents retrieved using the keyword “Resolution 1325” OR “UN Resolution 1325” OR “UN Security Council Resolution 1325” in Brazil.



Source: Overton platform, April 3rd 2024.

5.2.3. Lessons Learned

Overton has proven to be a unique platform with exceptionally **valuable tools.** One standout feature is its provision of **detailed descriptions for scholarly articles**. This function allows the systematic organization of a vast quantity of articles simultaneously, a task that would be highly demanding to accomplish manually. Precisely because of its detailed document descriptions, Overton **facilitates comparative analysis across different countries and regions**, offering insights into variations and similarities in policy approaches and research

trends across diverse contexts. Additionally, by analyzing the chronological trends in the "*Publication years of policy documents*" report, we gained **insights into the political landscape surrounding GBV in Brazil**. Overton's **constant updates** ensure it remains current with policy and scholarly article publications.

However, a number of **challenges** and **limitations** emerged while using Overton for this case study. Our search yielded only **one policy document** from the selected **West African** countries, despite the existence of many other relevant documents found while performing searches in other engines. Considering the **language factor** within the platform, as evidenced by the mini-case study of Brazil and Resolution 1325, it becomes clear that Overton faces **challenges in locating or incorporating publications** into its database that originate **from Ministries or Government agencies not publishing in English**. Essentially, the platform primarily gathers documents from the Ministry of Foreign Affairs in both the country's native language and English, limiting the understanding of the real impact of policies like Resolution 1325 beyond foreign affairs and specifically within the national context.

We also found some operational and research-specific challenges. Although the platform allows sharing report results with readers, it only provides updated results rather than static data from the query date, which **hinders comparative analyses** as it is not possible to return to the original report. Moreover, to better serve researchers, the **help webpage** could include more advanced content related to specific queries. Additionally, the platform would benefit from **clearer definitions** of **document types** and the inclusion of essential **legal frameworks**. It is noteworthy that the main challenge we encountered with Overton was **determining the optimal search path to conduct our query** and locating the specific data we were seeking for our case study. Additionally, Overton does not offer the option to conduct a **descriptive analysis exclusively for policy documents that cite research**, restricting the analysis to all policy documents resulting from the search.

5.3. Tracking Research influence in Education Policy: Early Warning Systems in Latin America

5.3.1. Research Background and Objectives

In Latin America upper secondary education (15-17 years old) levels of dropout are persistently high in spite of positive macroeconomic conditions (Kattan and Szpekely, 2015). While the region is diverse and educational performance and completion rates vary in each country, there is a persistent correlation between high levels of educational dropout and low

socioeconomic status (Acevedo et al. 2020). This was further exacerbated during the COVID-19 pandemic due to the prolonged closure of educational institutions (Huepe, Palma and Trucco, 2022) and the lack of access to connectivity and digital devices (Almeyda et al. 2022). Since the pandemic (and in some cases in the region before that) countries have been implementing early warning systems (EWS) to identify students at risk of dropping out. These systems allow the automatisation of the process of identifying students at risk of dropping out based on historical data on academic, behavioral, socioeconomic, and other variables.

These developments are still in their first years of design and implementation in Latin America, hence it becomes relevant to study the underlying policy processes through the available policy documents. Particularly, in times where AI and automatisation are regarded as cost-efficient options to solve high-impact social problems, it is relevant to critically analyse the cited academic research that supports these EWS. What can we track of these policy processes being implemented in the region and their underpinning research using online policy research metrics?

5.3.2. Key Findings

We employ the Overton tool to explore the evidence regarding Early Warning Systems being implemented in education in the public sector in Latin America. Both policy documents and cited scholarly articles and their main features were considered in the analysis. We found that the geographical distribution of policy documents in Overton align with the literature on the subject, which explains the presence of these systems for nearly fifteen years in the United States and Europe, along with their emerging application in Latin American countries (Perusia and Cardini, 2021; Bowers, 2021). Evidence of policy documents from Latin America on this topic is scarce, mostly coming from Intergovernmental Organisations that broadly describe the regions' situation on the matter. Documents sourced from countries' governments, think tanks and others are less frequent, which makes it difficult to find detailed information about this type of systems and their implementations in each context. Moreover, we found that for these searches it was crucial to contextualize the topic for different territories. We noticed that terminology varied in different countries around the same theme. As a result, the selection of different keywords was important in order to comprehensively address the topic.

Table 5.3: Comparison of Overton's results using alternative geographic and thematic filters

Filters	Keywords: "early warning system*" AND education AND dropout
None	1861
Policy Topic: Education	1160
Policy Topic: Education	1061

Years: 2007-2024[8]	
Policy Topic: Education Years: 2007-2024 Source country: Central and South America and the rest of the Global South	76
Policy Topic: Education Years: 2007-2024 Source country: Central and South America	19 (**only 4 related to early warning systems**)
Policy Topic: Education Years: 2007-2024 Source: IGOs	504

Source: authors' elaboration based on Overton's results.

The underpinning research of the different groups of policy documents analyzed comes mainly from the Global North in terms of authors' institutions of affiliation, with the USA and the UK leading the amount of cited articles associated with their top tier universities, together with some intergovernmental organizations (IGOs) like the World Bank and companies like Google. Even when only considering policy documents that refer to EWS in Latin America, the main institutions follow this trend. Institutions from the Global South, and from Latin America specifically, account for a small minority of the cited research. In terms of subject area of the underpinning research, most of the cited articles were published in journals from Social Sciences, notably about Economics and Econometrics. The gender analysis shows that only one third of the cited authors are women, and only one of the seven authors with most citations is a woman.

Table 5.4: Authors of 3 or more articles cited by the selected policy documents

Author	Authorship of individual cited articles	Affiliation	Country of Affiliation	Gender	Disciplines/Research interests
Ludger Woessmann	4	Ifo Institute for Economic Research	Germany	Male	Education Economics
Jason A. Grissom	4	Vanderbilt University, University of Missouri	USA	Male	Economy, Political Science, Education policy
Susanna Loeb	4	Stanford University,	USA	Female	Political Sciences, Economy, Education policy

[8] Overton's link to the search with those keywords and filters: https://app.overton.io/documents.php?query=%22early+warning+system%2A%22+AND+education+AND+dropout&year=_%3A97b&topics=Education&sort=relevance&added_before=2024-04-28

Eric A. Hanushek	3	Stanford University, National Bureau of Economic Research, Ludwig-Maximilians-Universität München	USA, Germany	Male	Economy, Education policy
Alex J Bowers	3	Columbia University, The University of Texas at San Antonio	USA	Male	Education Policy
John H Tyler	3	Brown University	USA	Male	Education, Economics, Public Policy
Philip Oreopoulos	3	University of Toronto, National Bureau of Economic Research, Canadian Institute for Advanced Research	Canada, USA	Male	Economics and Public Policy, Education policy

Source: Author's elaboration on most cited authors' information based on Overton's exports of cited scholarly articles.

5.3.3. Lessons Learned

From the searches on this topic we conclude that Overton is a powerful tool to track policy documents and find connections between topics. We found that Overton can be a useful tool to find topics related to the primary search. For example, for this case we discovered interesting linkages with the Covid-19 pandemic's consequences for education, and with massive online open courses (MOOCs). In the context of the topic of this case study, which is still recent in the region, and considering that public policy processes require some time to accumulate documents for analysis and evaluation, Overton's web crawling allows for an up-to-date database with the latest documents. In addition, the data notes provided by Overton on possible biases or limitations of the platform for specific queries are useful insights to consider when deciding whether it is helpful to add certain filters.

Through conducting this case study we encountered some difficulties and shortcomings of the tool as well. The search using keywords in Spanish shows many documents where the title of the document does not match the title in Overton. This makes it necessary to open each document using the URL provided by Overton in order to verify the information. Next, we found some documents both classified as 'policy documents' and 'scholarly articles', appearing both as a result of a search in policy documents, but also when looking at the scholarly articles those policy documents cited. The exports provided by Overton for analyzing the cited research provide basic data on the scholarly articles, but unlike the exports of policy documents, we are not provided with the abstracts of the articles or a classification by themes or disciplines other than the journal in which they were published. Finally, Overton geographically locates all policy documents sourced from IGOs according to the location of their headquarters. Considering the underrepresentation of the Global South in terms of policy documents and the importance of documents sourced from IGO offices in

Latin America for this case study, it would be useful and accurate to be able to differentiate IGO documents by country or at least by region of the offices that publish them when this information is provided in the document.

5.4. Learnings from the three cases: Complementary perspectives and shared themes

The three case studies presented in this chapter provide valuable insights into the potential and limitations of using online policy research metrics to track the influence of research on policy in the Global South.

The cases were guided by a shared objective and similar research questions, with a common methodology (as outlined in chapter 4), but they used different approaches. In the first case on open data and feminicides, we approach Overton with a series of known results/influence on policy elaborated by the expert team and feed with 3 in depth, expert interviews with five people and extensive review of materials. In other words, we tried to test whether the results of Overton were consistent with insights and results we knew in advance from the status of the work in the area (see more in respective Annex/case study). The other case studies, on gender-based violence and education policies, relied on an exploratory approach, using Overton to identify insights and learn about linkages between policy and research for the selected topics.

We draw a list of main **findings** based on the common themes emerging from the three complementary case studies:

1. **Dominance of Global North Research:** Across all three case studies, the cited research underpinning policy documents is dominated by authors and institutions from the Global North, particularly the United States, United Kingdom, and Canada. This trend holds true even when focusing specifically on policy documents related to Latin American countries and issues. This finding suggests a potential disconnect between policy documents and academic research. Enhancing this linkage could contribute to a more comprehensive understanding of the scholarly landscape influencing policy development and implementation.

2. **Lack of Relevant Policy Documents in the Global South**: Evidence of policy documents on the studied topics originating from Global South governments and institutions is relatively scarce. The majority of policy documents come from IGOs that broadly describe the region's situation. This may not be an intended limitation of the

tool. We acknowledge an idiosyncratic element in how policy is conducted and documented in Latin America, which differs from the Global North, where the use of White or Green papers to influence policy is comparatively more uncommon.

3. **Challenges for Online Policy Research Metrics:** While tools like Overton are valuable for exploring research-policy linkages, they face challenges in fully capturing the influence of research from the Global South. Limitations include: i) Difficulty locating policy documents and research not published in English; ii) Inconsistencies between document titles in the tool and actual content; iii) Documents classified under multiple categories (e.g. policy and scholarly article).

4. **Language Barriers:** The case studies highlight the importance of language in capturing relevant policy documents and research. While typically searches in Spanish returned more results for Latin American countries compared to English, still the ranking of cited research is led by Global North countries such as the United States.

5. **Gender Imbalance in Cited Research**: An exploratory analysis of author gender in the cited research (case study 3, on educational policies) revealed a significant gender imbalance, with only one-third of cited authors being women. This is consistent with the overall picture of Overton's as cited in chapter 4.

In summary, the case studies demonstrate that while online policy research metrics can provide useful insights, they need to be complemented with other data sources and a deep understanding of the regional context to gain a comprehensive picture of research-policy linkages in the Global South.

6. Learnings, recommendations and future work

In this document we have reviewed the current state of MEL in the field of R4D, focusing on a narrow set of impact: tracking research influence on policy. We reviewed the main methods and approaches used, their key challenges, and described the incipient data ecosystem used to map research influence on policy. We have also explored the main strengths and potential weaknesses of the Overton tool from a data science perspective, combining an extensive review of the tool's documentation and specialized conversations we held with the firm. With a design methodology based on available sources and the Overton's assessment, we conducted three in-depth case studies that provided valuable insights into the potential and limitations of using online policy research metrics to track the influence of research on policy in the Global South.

In this final chapter we summarize the **key learnings of this research**, and present recommendations on how to develop more robust and equitable MEL practices for use by R4D funders, knowledge brokers, researchers, and evaluators in the Global South.

6.1. Main learnings

6.1.1. On the complexity of tracking research influence on policy in the Global South

Understanding research processes, in all their diversity and complexity, is fundamental when developing strategies and tools to assess research influence (Chapter 2).

The case studies revealed that using online metrics, such as Overton, to track research influence on policy is a complex process that requires a nuanced approach. Overton's functionalities and features are valuable, but they are not sufficient when used as a unique data source. Research is one of many activities and sources that can influence policy, and it is never a straightforward process. In the Latin American context, for example, informal conversations and meetings, where evidence of the influence is not formally documented, seem to be more important pathways for research to shape policy. For example, in the case of ILDA, the organization mobilized different stakeholders "for change," which may not necessarily appear in the form of scientific papers.

On the benefits, we discover that using online metrics for policy research, such as Overton, can reveal **valuable insights** that may otherwise go **unnoticed**. For instance, we were able to discover mentions of ILDA's research in countries beyond Latin America, demonstrating the broader impact and reach of the work.

6.1.2. Limited Coverage of the Global South

The case studies consistently showed that **policy documents and research on the studied topics** originating from the Global South are relatively scarce in Overton. The majority of policy documents come from IGOs that broadly describe the region's situation. This limited coverage may not be an intended limitation of the tool, but it highlights an idiosyncratic element in how policy is conducted and documented in the Global South, which differs from the Global North (as reflected in point 1.1).

The limited coverage of the Global South in online metrics may perpetuate the dominance of the Global North in research and policy. In the case of Early Warning Systems in education in Latin America, the team found that the majority of cited research was conducted by authors and institutions from the Global North, which may not necessarily reflect the realities and needs of the region.

The contrast between the lack of tools in the Global South and very mature cases such as the UK, where more developed incentive schemes about research impact likely play an important role, is also noteworthy.

6.1.3. Role of Context and Expertise in the Topics

The case studies demonstrated that assessing research-policy linkages through machine learning tools **cannot be performed** in disconnection with the **wider context in which research is embedded**. Expert knowledge and contextual understanding are crucial when analyzing a particular topic. For instance, in the case of ILDA, the team found that 'femicide' was the most frequently used/relevant term to yield meaningful results in English, while 'Feminicidio' was more prevalent in Spanish. This discrepancy reflects an ongoing debate in Latin America about the use of these two terms, which is an important consideration when interpreting the results.

Language Matters. The case studies highlighted the importance of language in capturing relevant policy documents and research. Typically searches in Spanish returned more relevant and quality results for Latin American countries compared to searches in English.

Similarly, in the case of gender-based violence in West Africa and Latin America, the team found that the terminology and definitions used in the policy documents and the research varied widely, which made it challenging to establish clear linkages between them. Expertise in the topic and familiarity with the regional context were essential to navigate this complexity.

6.1.4. On the existing data tools

The **data ecosystem** supporting research influence assessment efforts is **still incipient and fragmented**, with structural weaknesses that need to be addressed. There is a high degree of fragmentation and lack of integration and portability, with **no dominant or widely-used systems**. The lack of standardized structure in influence data leads to limited development of decision support tools. Additionally, there is a **lack of clear incentives for producing good research influence data**. These challenges highlight the need for a more coordinated and systematic approach to data collection and integration in order to enable robust research influence tracking and assessment.

The **need for diverse data sources** and its integration is essential, as no singular database can comprehensively address all research questions. The tools available for assessing research influence on policy include Overton, Dimensions, and Researchfish. Researchfish stands out as the only tool explicitly showcasing linkages between research and policy influence, categorizing the type of influence, albeit limited by the coverage of institutions adopting the tool. On the other hand, Overton and Dimensions employ a data crawling data collection strategy, enabling them to track influence without relying on researcher reporting. While Dimensions maps research linkages with more variables like patents and funders, Overton specializes in policy, boasting a database of 13 million policy documents compared to 2 million in Dimensions.

The need **for open access to data is equally fundamental.** A significant part of the research-oriented tools are free to use. This is true for directories, repositories, and interestingly for tools interconnecting research. However, the tools available to assess research influence are typically paywalled, or a limited version of the tools can be accessed for free.

The **tools focused** on research from the **Global South** are **much less developed** and include fewer functionalities. The only tools we could find oriented to research from Latin America (SCielo, Latindex, and Redalyc) are academic repositories, lacking information about researchers' affiliations and country, grants, funders, or patents, and provide no tools to track research influence.

Box 8. The potential role of machine learning and generative AI

In our interviews, we asked experts to reflect on their views about the **power of generative AI in MEL** in the context of research for development, and policy influence. The next are some agreed points we find:

- There is consensus that AI may have a game-changing impact, but probably not quite as fast as we might be anticipating it to be

- There is also a paradox: while experts recognize ample space for improvements in increasing data tracking and information use effectiveness, our interviewees display a high-risk aversion and even reluctance to include current generative AI tools in evaluation activities. This is due to the multiple challenges and problems it poses, including the limitation on the comprehensiveness of the current tools' data, lack of understanding of its underlying data, hallucinations, and false positives put at risk the evaluators' reputation and create ethical dilemmas

Quotes - Highlight:

"***We tend to overestimate how fast technology advances, but underestimate its impact***" *- Research evaluation expert*

"***I see a lot of potential but also a lot of risks***" *- Data scientist*

6.1.5. Gender biases

An exploratory analysis of author gender in the cited research (case study 3, on educational policies) revealed a significant gender imbalance, with only one-third of cited authors being women. This finding is consistent with the overall picture of Overton's as cited in chapter 4, and it highlights the need for a more inclusive and diverse representation of authors in research and policy documents.

Gender bias in online metrics may also affect the visibility and recognition of women's contributions to research and policy. In the case of gender-based violence in West Africa and Latin America, the team found that some policy documents were influenced by research conducted by women, but the documents did not cite the research or acknowledge the authors' gender.

6.1.6. Online metrics as a resource for researchers working in the R4D space

The use of online metrics tools, such as Overton, can offer numerous benefits for researchers, as highlighted in the following box outlining our team's experience working on the case related to gender-based violence in Latin America and West Africa.

Box 9: Learnings as Researchers – From the Gender-based Violence Team
Overton's research proved invaluable to our work, **uncovering significant insights**. Notably, the discovery that most academic research in Latin America focuses on economic issues was surprising, especially considering that gender-based violence (GBV) is one of the most pressing gender-related topics in the region.
Overton's detailed description of policies and scholarly articles enables an in-depth analysis of the current state of evidence-based policies. Consequently, this exercise not only provided valuable insights on GBV in LA and WA but also proved to be a useful tool for future research projects focusing on public policy.
Considering the language factor within the platform, as evidenced by the mini-case study of Brazil and the United Nations's Resolution 1325, it becomes clear that Overton faces challenges in locating or incorporating publications into its database that originate from Ministries or Government agencies not publishing in English. Essentially, the tool primarily gathers documents from the Ministry of Foreign Affairs in both the country's native language and English, limiting the understanding of the real impact of policies like Resolution 1325 beyond foreign affairs and specifically within the national context.
As researchers, we find Overton a valuable tool and plan to employ it in future endeavors, with the goal of monitoring our potential influence on public policy.

Source: Case Study on Tracking Research Influence in Gender-Based Violence Policy in West Africa and Latin America (see Annex II).

6.2. Recommendations and Future work

In order to strengthen and improve monitoring, evaluation, and learning practices in the Research for Development field, we have identified a set of recommendations and potential areas for future work. These suggestions aim to address the current limitations in tracking research influence on policy in the Global South and to foster a more collaborative, transparent, and impactful R4D ecosystem.

Box 11. An opportunity to include research influence on AI Policy in Latin America

The Latin American Artificial Intelligence Index (ILIA), coordinated by CENIA Chile and published in 2023 (CENIA, 2023), comprehensively analyzes the AI landscapes across 12 Latin American countries, including Uruguay. This index is structured into three axes—Enabling Factors, Research, Development and Adoption, and Governance—offering a thorough perspective on the maturity of the region's research, development, and adoption ecosystems. The Research sub-dimension assesses the volume, impact, and productivity of the AI academic community in each country at the regional level. It utilizes the following sub-indicators for this purpose: a) Publications per capita in AI over the last five years, b) Average annual number of active researchers per capita over the last five years, c) the average productivity of AI researchers over the last five years, and d) impact of AI research over the last five years.

The **Impact sub-indicator**, calculated as the average ratio of total citations to total articles over the last five years, measures the impact of research from a bibliometric perspective but **does not consider the impact of research on policy**. It would be beneficial to include sub-indicators that incorporate **this policy perspective in future iterations of ILIA**.

6.2.1. Recommendation 1: Design and adoption of an Open, Low-Cost Tool for Tracking Research Influence on Policy in the Global South

To enhance the MEL processes in the R4D sector and to address the need for a more robust and accessible tool for tracking research influence on policy in the Global South, we recommend the adoption of an **open**, **low-cost**, **self reporting tool** that funders, developing agencies and grantees alike could deploy. Our assessment of available tools and accessible data (chapter 2 and 3), in conjunction with insights from experts, suggest there is space for funders to deploy better policy tracking information systems. While self-reporting tools are not without limitations, it will mark a first step towards making otherwise invisible data able to be tracked.

The tool should be based on the following characteristics:

- **Open Source**: allowing for continuous development, improvement, and adaptation by the R4D community.
- **Low-Cost**: to make it accessible to funders, grantees, and researchers in the Global South, it should leverage existing infrastructure and resources, as well as establish strategic partnerships with relevant organizations.

- **Comprehensive coverage**: the tool should aim to accommodate a wide range of data sources; it should prompt a series of categories where research influences policy, adaptable for different topics.
- **User-friendly** and **user driven interface**: it should allow for easy navigation and data input; the main goal should be for users to effectively communicate their findings.
- **Collaborative approach**: diverse stakeholders in the R4D space should take part in it; involving them will also foster a culture of transparency and collective learning to improve the impact of research on policy.
- **Easy to integrate to the existing data ecosystem**: the tool should be designed to easily integrate and leverage the existing data tools, particularly the growing set of interconnected open data tools, as highlighted in chapter 3.

In the current state of affairs, a tool like this could leverage the power of Artificial intelligence (AI), and Natural Language Processing (NLP) specifically to automatically analyze and categorize diverse inputs on research influence at diverse stages of policy work. In addition, machine learning algorithms could be used to identify patterns, or trends in linkages between research and policy in specific settings/contexts.

6.2.2. Recommendation 2: Collaborative Mapping of Policy Cycles in the Global South to Enhance Tools like Overton

To improve the accuracy and effectiveness of tools like Overton in tracking research influence on policy in the Global South, we recommend a **collaborative effort** to map and understand the unique policy cycles in regions of the Global South with less coverage.[9] This future work should be collaborative in nature ensuring a comprehensive and **well-rounded perspective**, comprising of the following elements:

- **Regional Focus**: The **mapping of policy cycles** should prioritize the unique characteristics and contexts of different regions within the Global South. This will ensure that the insights and recommendations generated are tailored and relevant to the specific needs of each region.
- **Inclusive Approach**: The active involvement of all stakeholders, including policy makers in Global South regions, Overton representatives, R4D funders, knowledge brokers, researchers, and evaluators, is crucial.

[9] We acknowledge Euan Adie's idea in regard to developing an international model to map policy cycles and to improve their tool. Adie is the CEO of Overton.

- **Comprehensive Mapping**: The mapping of policy cycles should be comprehensive, covering all stages of the policy-making process, from agenda-setting and policy formulation to implementation, evaluation, and termination.
- **Application of learnings**: The insights and recommendations generated from this future collaborative effort should be actively applied to tools like Overton and other tools, ensuring that they are better equipped to track research influence on policy in the Global South. This could involve the development of new algorithms, the integration of additional data sources, or the enhancement of user interfaces.

We recommend initiating a **pilot program in Latin America**, as our expertise confirms that all necessary steps can be successfully completed there.

By collaboratively mapping and understanding the **unique policy cycles in the Global South** and actively applying these insights to tools like Overton, we can significantly enhance our ability to track research influence on policy, ultimately leading to more informed and effective policy-making in the Global South for the benefit of all stakeholders.

6.2.3. Recommendation 3: Suggestions for improvement to Overton

Based on the qualitative analysis presented in Chapter 4 and the three case studies presented in Chapter 5, we have identified several key learnings and suggestions regarding the use of the Overton platform. While Overton offers valuable tools and functionalities for exploring research-policy linkages, our analysis also revealed some limitations and challenges that might be considered for future improvements of the tool. By sharing these insights, we aim to contribute to the ongoing dialogue around the potential and limitations of these tools in supporting evidence-informed policymaking in the developing world.

Box 10. Suggestions for improvement to Overton

- The platform could benefit from providing clearer **definitions of document types**. We suggest adding a section in the help webpage that not only offers definitions but also provides concrete examples of various document types users may encounter while using Overton.
- We suggest including the possibility to **filter policy documents** based on whether they **cite scholarly research**. We see this as an area for improvement, enabling researchers to specifically examine the characteristics of evidence-based public policies.
- Including **scientific digital repositories** from the **Global South** could also help increase the coverage of underpinning research beyond the Global North. In **Latin America**, for example, the **Redalyc** (https://www.redalyc.org/) indexes 800K+ open

access scholarly and scientific journals in social sciences and humanities. Other relevant repositories in Spanish includes **Scielo** (https://scielo.org/en/) and **Latindex** (https://latindex.org/latindex/)

- At the time of this study, the Overton platform lacks the capability to systematically identify **co-authored papers**; this can only be done manually. This limitation is significant from an analytical perspective because being able to identify the number of policy documents and articles authored by multiple individuals, their countries of origin, and their affiliations would allow for a much more comprehensive and detailed analysis of how research partnerships influence government policies.
- The platform provides a very valuable feature of **sharing report results** with readers; however, the results in the reports change as the data is updated on the tool. While applying filters such as "Published before" or "Added before" to select a specific date did help to mitigate this issue, the results will still differ if the documents were removed from the database.

6.3. Concluding remarks

This report provided a thorough understanding of the current landscape of MEL in the R4D sector, the data ecosystem for tracking research influence on policy, and the potential of online policy research metrics, particularly the Overton tool, in the Global South context. The report offers specific practical guidance and recommendations to enhance the effectiveness of MEL activities to track the influence of research on policy in the Global South.

It is clear that promoting the use of MEL for decision-making, and **encouraging documenting** successes, failures, and lessons learned within different cycles of policy can lead to advances in where to invest next, but also to map current capabilities in different regions.

An assumption in our work is the **promotion of the ethical and responsible use of online** policy research metrics. This includes respecting the privacy and intellectual property rights of R4D stakeholders, and avoiding the misuse or manipulation of data.

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Annex I. List of interviewees for this project

We gratefully acknowledge the time and insights from experts in this project. We include the name and affiliation at the time we conducted the interviews (2023-2024) with their permission.

1. Jonathan Grant, Director at *Different Angles*.
2. Euan Adie, CEO at *Overton*
3. Kathryn Graham, Executive Director at *Impact Action Lab at Alberta Innovates*
4. Beverley Sherbon, Impact & Evaluation Adviser at *Researchfish (Elsevier)*
5. Dugan Fraser, Program Manager at *Global Evaluation Initiative (World Bank)*
6. Jozef Leonardus Vaessen, Evaluation advisor at *Global Evaluation Initiative (World Bank)*
7. Laurent Elder, Program Manager at *International Development Research Centre (IDRC)*
8. Carlos Areia, Data Scientist at *Dimensions/Altmetrics (Digital Science)*
9. Ximena Usher, Monitoring and Evaluation Manager at *National Agency of Research and Innovation (Agencia Nacional de Investigación e Innovación - ANII - Uruguay)*
10. Gustavo Crespi, Competitivity and Innovation Expert at *Inter American Development Bank (IDB)*

For the Feminicide case study

11. Ninoschka Dante, The Agency for Electronic Government and the Information and Knowledge Society (*AGESIC*), Uruguay
12. Gustavo Suarez, The Agency for Electronic Government and the Information and Knowledge Society (*AGESIC*), Uruguay
13. Nancy Ibarra, The Agency for Electronic Government and the Information and Knowledge Society (*AGESIC*), Uruguay
14. Silvana Fumega, Director Global Data Barometer, former Director of Research at ILDA
15. Hassel Fallas, ILDA

Annex II. Case studies