Data for development: harnessing digital media intelligence

Internet access is exploding around the world. In the 10 years up to 2021, the proportion of people around the world with access to the internet grew from 33 to 63%, and by 2022 the number of active social media users hit 4.62 billion. Policymakers and opinion formers have an opportunity to tap into the wealth of digital media intelligence that is created and to use that intelligence to advance a sustainable development agenda. But like any research practice, gathering digital media intelligence has its challenges. In this briefing we describe some of the pitfalls and how to avoid them, drawing on examples from a partnership between IIED and Marble Global, a digital research consultancy that works with organisations seeking to affect positive change.

Internet use is exploding around the world. In the 10 years up to 2021, the estimated number of internet users worldwide increased from 2.2 to 4.9 billion, or from 33 to 63% of the global population. The number of people logging onto a social media platform in early 2022 increased by as much as 424 million, jumping 10% compared with the previous year to 4.62 billion. The way humans access and share information is undergoing a transformation unlike any we have previously experienced.

In this context, one of the ways policymakers and parliamentarians can inform their decisions is by understanding what their constituencies or supporters are thinking and talking about. Gathering digital media intelligence is fast becoming a way for policymakers to keep their finger on the pulse of the opinions and concerns that impact their field. At IIED, in developing our latest strategy, Make Change Happen, we explored how to respond to this rapidly changing technological scene while building our expertise and understanding. We worked with Marble Global to look at how we could tap into this opportunity to understand the digital conversations happening in our programme countries and refine our research questions to reflect the issues that people care about most.

Notwithstanding these significant opportunities, digital media intelligence presents its own set of challenges. To maximise this potential — and avoid the pitfalls — policymakers should be mindful of these challenges when entering into a partnership with a researcher or scoping a new project brief. In this briefing, we explore some of the key sticking points associated with digital media research, drawing on representative examples from our previous collaboration, to illustrate how some of these challenges can be overcome.

Bridging the digital divide

Researchers have long identified a gap between those who do and do not have access to new forms of information technology, and this so-called ‘digital divide’ persists. The latest research by the UN's International Telecommunication Union (ITU) shows that...
despite an acceleration of internet uptake during the COVID-19 pandemic, 2.9 billion people remain offline, 96% of whom live in developing countries. While gender parity has improved, there is still inequality in the rate of male versus female access to the internet. There are similar gaps between urban and rural communities, as well as between younger and older generations (see Figure 1). Researchers who rely on digital data can therefore find themselves in a position where their work risks reinforcing digital divides through a form of selection bias, despite best intentions. In our work with Marble Global, we have attempted to mitigate this risk in two key ways.

Explore under-researched geographies. In March 2021, we commissioned a project to assess digital user perceptions of the benefits of land use for either enhanced food production or ecosystem protection in Ethiopia, Ghana and Zambia (see Box 1). Marble Global used text mining and content analysis methods to capture relevant social media conversations in our target geographies, and statistical weighting to establish the relative importance assigned to each case. Isolating geographies in social media research has its limitations, mainly because the scope for defining location is often limited — for example, it is estimated that just 1–3% of all tweets are geocoded. However, even an incomplete picture can contribute to our broader understanding of how digital communication interventions can influence the conversation around sustainable development.

Aggregating the relative importance index for available geocoded data between January 2018 and February 2021, we found that Twitter users in all three countries were more likely to prioritise food security over ecosystem conservation. The largest relative importance gap was in Ethiopia, where food security was almost twice as important as ecosystem conservation, according to our analysis. The method also allowed us to identify how and when the trend was reversed, for example when the #GreenLegacy tree-planting campaign was relaunched and amplified by the Ethiopian Prime Minister, resulting in a temporary surge in favour of ecosystem conservation. So long as limitations are acknowledged and findings are contextualised, digital media research of this type is increasingly being recognised as a valuable tool in the development researcher’s toolkit.

Engage local researchers. Another means of offsetting some of the challenges of the digital divide is to encourage collaborations with researchers who represent demographics that are typically underrepresented in this space. For example, Marble Global has established a global network of analysts who lend their contextual knowledge and native language expertise in the pursuit of research goals in diverse geographies. In a paper developed with the International Organisation for Migration, which explored false narratives about refugees and migrants circulating on social media in the global South, researchers enlisted support from analysts based in Bangladesh and Malaysia during the data interrogation process. This added perspective...
We added a layer of qualitative narrative techniques to paint a more comprehensive picture of the global, lived experience. In an investigation into the topic of loss and damage in the context of climate change, researchers combined quantitative and qualitative research techniques to engage all stakeholders, from the project team performing the analysis to end users of the report.

Adopt an agile approach to research. In our research we found there is no one-size-fits-all solution. Rather than depend on any one approach or analysis technique, it is best to draw on a toolkit of different methods depending on the research objectives. Often this will involve deploying multiple, complementary techniques in a mixed-methods approach. There are many reasons for pursuing mixed-methods research, but five key motivations that often apply in the case of digital media intelligence are shown in Table 1.

The methodologies used in our research have varied depending on the research brief — ranging from statistical modelling of citizen perceptions, to narrative analysis that focuses on giving voice to motivations that often apply in the case of digital media research. This led us to observe that Pacific islanders were active in lobbying developed nations for support in the form of aid to try to mitigate the worst impacts of rising sea levels.

Addressing complex research objectives

Defining the direction of a research project at the outset can be tricky — especially when there are multiple stakeholders involved, sometimes with competing priorities. In our work, we often find that policymakers struggle to align their interests with governmental or departmental strategies; to respond to the interests and demands of individuals; or to contribute to national processes. At the same time they need to keep abreast of both national interests and global developments and make sure they continue to have influence and visibility as an individual. The result is often complex research objectives that present a methodological challenge. Meeting these needs requires a well-conceptualised approach that engages all stakeholders, from the project team...
results may become outdated, especially in such a fast-moving information landscape. More effort should be made to establish a regular flow of information so that research is properly contextualised and findings are tracked. This will allow further opportunities to detect emerging patterns that can equip stakeholders with actionable insights.

This approach of combining research integrity and continuous engagement with the aim of compounding value over time is critical to achieving significant impact. IIED, for example, provides evidence to support any recommendations we may be presenting, and while we may challenge conventional wisdom if needed, we always maintain a continuing dialogue with policymakers and opinion formers in the relevant sectors to make sure our goals and motivations are aligned in the long term.

Opportunities for further research

This research has allowed us to scope out different ways to leverage digital media intelligence and build partnerships that help advance our mission to build a fairer, more sustainable world. While the examples shared in this briefing are specific to certain topics, these models are transferrable and can be applied in different contexts depending on the research objective. We have identified three core models highly relevant for our field, which can be explored using digital media intelligence research methods:

- Trade-offs: how do social media users engage in a cost-benefit analysis when comparing two apparently conflicting values or end goals?
- Influencers: who are the key opinion formers on the topic area, what can we learn about their motivations and how can we use that information to further a sustainable development agenda?
- Visibility: how do priority topics resonate on social media and how can we identify opportunities to play a leading role in the conversation?

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References

3 Digital media intelligence in this case refers to open source data drawn from social media conversations hosted on platforms such as Twitter, Facebook and Instagram; online news reporting; and search data from platforms such as Google.  

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