

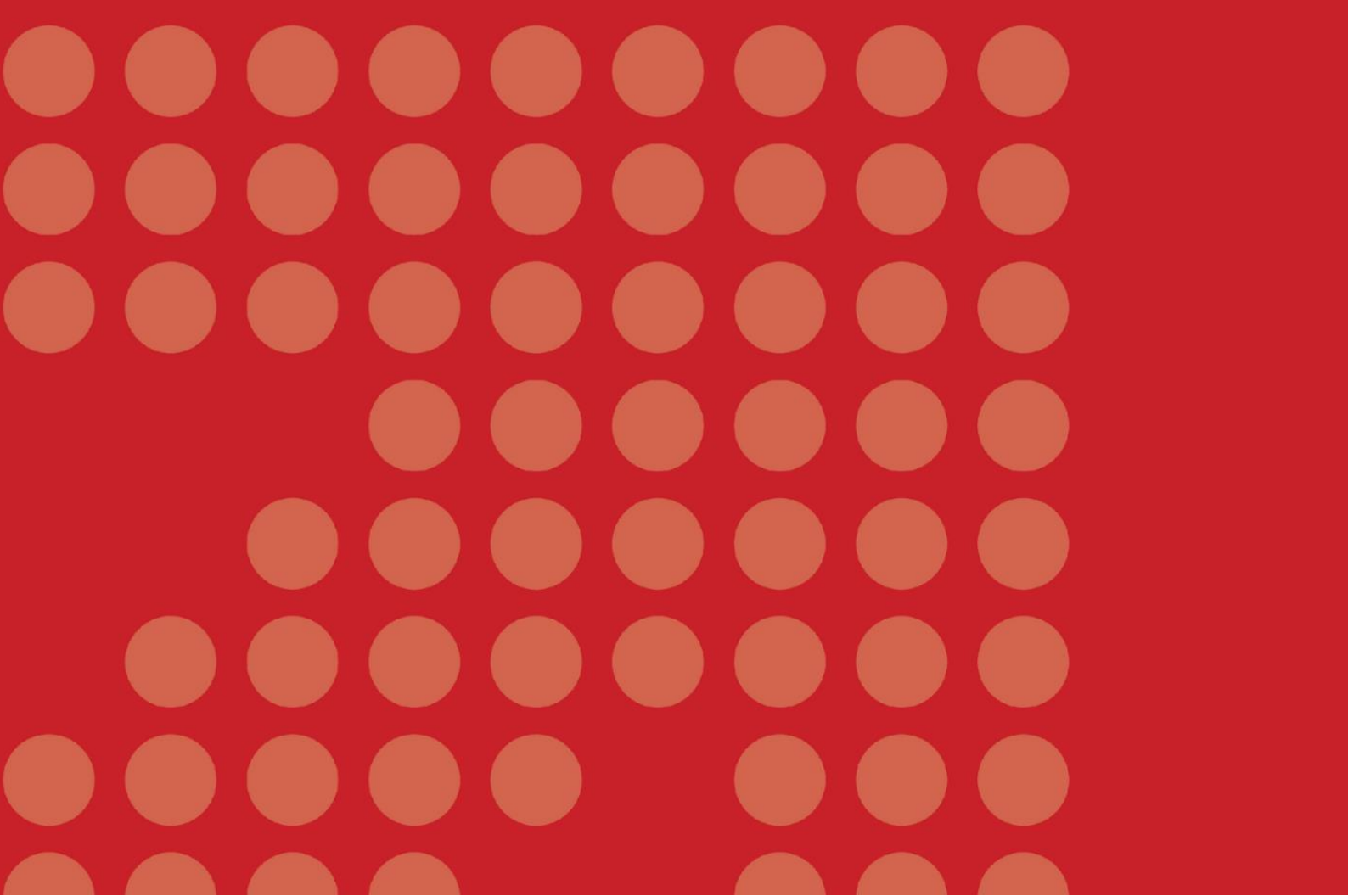
**GxDhub**  
Digital Equity. Connectivity. Insights.

Workshop Summary

# Measuring Digital Access in India |

# GxD hub Partner Meet

August 2024



## Background

The ability to monitor trends in access to mobile devices and digital technologies is vital for designing effective digital solutions for women in low- and middle-income countries and understanding the impact these solutions have on development outcomes. The Gender x Digital hub (LEAD at Krea University/IFMR), the University of Cape Town and Johns Hopkins University organised a workshop to strengthen existing measurement frameworks for digital access in India and foster cross-sector collaboration. This workshop builds on two prior workshops held in 2023 and aims to improve the standardisation of metrics for measuring digital access in India and elsewhere globally. The workshop also brought together GxD hub's partners working on advancing digital inclusion in India.

## Key Takeaways

### Digital Landscape

- Digital access is vital for enabling women's participation in economic activities, health services, and other development outcomes. Digital innovations must empower women to participate across the entire digital and data value chain.
- NFHS-4 data suggests that women's mobile phone access has improved. However, notable gaps remain, particularly in rural areas and among marginalised groups. States like Madhya Pradesh and Chhattisgarh show the largest gender gaps, indicating a need for targeted regional interventions. Moreover, barriers, including social norms and gatekeeping by male family members, limit women's digital access and agency. Intersectional challenges, such as phone censorship for women of marriageable age, were highlighted as critical issues.

### Current Approach: Challenges and Gaps

- The current methods of measuring access, focused on device ownership, are insufficient to capture nuances like shared usage and social norms and how Digital Public Infrastructure is delivered.
- Comprehensive metrics are needed to measure access, use, agency, and the broader participation of women in the digital economy.
- Considering broader costs, such as time and social norms, is essential when assessing digital access and affordability for women and marginalised socio-economic segments. There is a lack of standardised definitions and survey tools to capture diverse contexts and user experiences.

### Current Approach: Challenges and Gaps

- Existing surveys focus primarily on physical access (device ownership) and overlook gendered dimensions, like consistent and stable access.
- Non-standardized survey approaches fail to capture the complexities of access across different socio-economic backgrounds and regions.

### Opportunities for Improving Measurement

- A Digital Access Index, conceptualised as a composite variable, was proposed to better compare gender-based access, track progress, and inform programs. Cognitive interviewing can improve survey tools by aligning the researcher's intent with the respondents' realities.
- Group discussions revealed the need to expand digital access metrics beyond physical access, focusing on decision-making, permissions, and financial factors.
- Financial access discussions underscored the importance of identifying who incurs costs and measuring the frequency of credit top-ups and device purchases.
- Connectivity was explored as more than just mobile internet access, considering shared hotspots, network availability, and the condition of the mobile handsets.

## Opening Session

### Opening Address | Saachi Bhalla, Deputy Director - Gender Equality, Bill & Melinda Gates Foundation

*“Digital innovation must enable women to participate actively across the entire digital and data value chain. We need to build gender inclusive ecosystems with innovations tailored to local contexts.”*



Saachi spoke about the Foundation's focus on advocating for women to be recognised as active contributors and innovators, rather than passive beneficiaries in the digital space. This requires critically examining how Digital Public Infrastructure is delivered and how digital access is measured. Is owning a mobile device sufficient to gauge digital access, or

should we explore more comprehensive indicators?

Collectives across South Asia, including India, are pivotal in ensuring that the benefits of digital infrastructure reach all sections of society. In the rapidly evolving digital landscape, innovation thrives, but it is essential to ensure that these spaces are inclusive for women. Integrating women throughout the digital and data value chain is crucial as mobile ownership does not necessarily equate to actual use or agency. Thus, there is a pressing need to identify relevant metrics for measuring access, use, agency, and women's participation in the digital economy.

Furthermore, while considering the cost efficiency of digital technologies, it is vital to look beyond the affordability of devices and consider other costs, such as time and the influence of social norms. Creating enabling and inclusive digital ecosystems with locally relevant innovations is essential. She emphasised that today's deliberations aim to highlight the norms we uphold, the principles we apply, and the methods we use to measure innovation, assess its impact, and ensure inclusive spaces for women in the digital ecosystem.

## Introducing the GxD hub (Gender X Digital hub) and Workshop Overview | Sharon Buteau, Executive Director, LEAD at Krea University

*"To bring about meaningful change, it is essential to integrate a wealth of insights and determine effective ways to measure progress. India, in particular, has a unique opportunity to ensure that women are central to decision-making and design."*



Sharon Buteau spoke about the importance of creating a culture where women are at the forefront of designing solutions, leading decision-making processes, and voicing their opinions. To foster such an environment, it is crucial to encourage robust cultural practices prioritising women's leadership and participation in problem-solving. While there is a lot of buzz about creating

impact, the focus should also be on establishing a culture of problem-solving that starts from the ground up.

The Gender X Digital hub (GxD hub) can play a pivotal role by collaborating with changemakers, policymakers, and decision-makers to make digital spaces more inclusive for all.

Sharon highlighted the hub's three-pronged approach:

1. Engaging with the government to integrate research insights that align with policy goals - discussions with the Ministry of Electronics and Information Technology have been initiated as a first step in this regard
2. Fostering partnerships across sectors to encourage collaboration; and
3. Developing and engaging the ecosystem to create knowledge that leads to actionable solutions.

By anchoring these efforts with diverse partners, the ecosystem can be expanded and strengthened to drive change.

## Setting the Context

**Dr. Amnesty LeFevre, Associate Professor, University of Cape Town | Anjora Sarangi, Social Scientist, University of Cape Town**

*“Good data leads to visibility, and what is not measured cannot be managed effectively.”*



In this session, presenters highlighted the critical need to redefine and reimagine how we measure digital access and the limitations of current measurement methods in capturing the nuanced realities of access, use, and agency. Drawing on insights from a study undertaken in Uttar Pradesh, they also delved into practical methodologies, such as cognitive interviewing, to improve

survey tools and ensure that data collected truly reflects women's experiences and challenges in digital spaces.

## Key Takeaways

**Why Digital Access Matters:** Digital access is crucial for designing effective digital solutions and programs and generating evidence of their impact on development outcomes. Monitoring trends in digital access and use, particularly regarding the digital gender gap, is essential to ensure equitable access to technology-driven opportunities. This data is vital for understanding how technology can enhance women's access to income-generating activities, health information, and services.

## Challenges in Measuring Digital Access:

- **Varied definitions of constructs:** Lack of a standardised definition of digital access, which reflects diverse contexts and user experiences.
- **Lack of consensus on dimensions:** Digital access encompasses physical access, financial access, and connectivity, but there is no uniform agreement on measuring these aspects.
- **Non-Standardized survey approaches:** Surveys often lack a consistent method for measuring digital access, and there is no standardised approach to developing these surveys.
- **Overlooking gendered dimensions:** The unique gendered dimensions of access are frequently neglected, such as access consistency throughout the day and stability over time.

**Current Measurement Approaches:** Most global surveys, like those from UNICEF, GSMA, and the World Bank, focus primarily on physical access, such as device ownership. In India, the National Family Health Survey (NFHS) measures digital access by asking if individuals have a mobile phone they can personally use. However, this binary approach fails to capture the nuanced reality of digital access, such as shared use or limited access due to social norms.

**Key Components of Digital Access:** Digital access should be measured across a continuum rather than as a binary metric. Key components that need to be considered include:

- **Physical Access:** Device ownership, the condition of the phone, shared devices, and consistent proximity to a device.
- **Connectivity:** Active SIM cards and network access.
- **Financial Access:** Affordability and expenditure on digital devices and services.

**Proposing a Digital Access Index:** A composite index to measure digital access can be developed. This index could be conceptualised as a composite variable to facilitate gender-based comparisons, cross-country analyses, and tracking over time. The index would help in designing more informed programs and impact evaluations and in setting targets to reduce the proportion of women with "zero access."

**Improving Survey Tools through Cognitive Interviewing:** A key gap identified is the lack of standardised survey tools. Cognitive interviewing can be an effective method to refine survey questions by ensuring that the researcher's intent aligns with the

respondent's understanding. Unlike pilot testing, which focuses on logistical issues, cognitive interviewing captures nuances in language, cultural relevance, and conceptual alignment.

### **Five Common Gaps in Survey Design:**

1. Unclear Time Frames and Recall Expectations
2. Inappropriate Terminology
3. Long and Complex Questions
4. Conceptual Mismatches
5. Limited Response Options

To create meaningful and actionable data, surveys must be designed with gender intentionality, focusing on how women access and use digital technologies.

## **The Digital Gender Divide in Access - Insights from NFHS Data | Dr. Diwakar Mohan, Associate Research Professor, Johns Hopkins Bloomberg School of Public Health**

Dr. Diwakar's presentation provided a comprehensive overview of the current status and changes in women's access to mobile phones in India, based on the latest data from the National Family Health Survey (NFHS) - Round 5.

### **Current Status of Women's Phone Access**

As of the 2019-21 NFHS data, 59% of women in India have access to a mobile phone. However, significant disparities exist, particularly among the poorest, least educated, rural, and older women, who continue to lag in phone access. There is a notable 40% gender gap in phone access, with an even more pronounced gap in rural areas (46%) compared to urban areas (25%).

States like Madhya Pradesh and Chhattisgarh exhibit the largest gender gaps and lowest levels of access, reflecting the need for targeted interventions in these regions.





## Change in Access Over Time

Over time, women's phone access in India has improved, increasing from 49% to 59%. This change has been driven primarily by improvements among the most marginalised groups, including women from Other Backward Classes (OBC), Scheduled Castes (SC), and Scheduled Tribes (ST). Regions such as Jammu & Kashmir, Karnataka, and Tamil Nadu have seen the most

significant increases in women's phone access.

Notably, the digital gender gap has reduced the most among middle-class women and those with secondary education, highlighting that while there is progress, inequalities persist based on socioeconomic status and education levels.

## Key Takeaways

Significant gender gaps remain in mobile phone access, especially among rural, less educated, and marginalised women.

- Madhya Pradesh and Chhattisgarh have the largest gaps in phone access.
- Improvements in access are evident, particularly among marginalised groups and certain states, but targeted efforts are still needed to bridge the digital divide comprehensively.

Dr. Diwakar's insights call for a more disaggregated analysis of the data, highlighting opportunities for more targeted action across geographies.

## Panel Discussion

### Measuring Digital Access: Key Constructs, Challenges, and Innovations in Women's Mobile Phone Connectivity



#### Panellists:

Dr. Amitayu Sengupta, Fellow, Centre for the Digital Future

Diksha Radhakrishnan, Associate Director & India Lead, DataDelta, IDinsight

Dr. Santanu Pramanik, Research Director, LEAD at Krea University

Dr. Diwakar Mohan, Associate Research Professor, Johns Hopkins Bloomberg School of Public Health (Moderator)

The panel discussion explored the complex dynamics of women's access to digital spaces in India, focusing on measuring digital access, understanding barriers, and ensuring inclusivity. Panellists emphasised the need to move beyond mere ownership of devices to understand the nuances of digital agency, control, and usage among women.

### Understanding Digital Access: A Broader Perspective

Amitayu began the discussion by emphasizing the importance of considering *agency* in measuring digital access. Referring to findings from IAMA/Kantar's Internet in India report, he noted that traditional household surveys often miss the nuances of individual agency. While measuring digital access, it is important to consider not just the availability of technology but also the extent of choice women have in navigating digital spaces. For instance, many households have mobile devices with apps like Hotstar installed to watch cricket. Women use these devices to watch entertainment programs, but may lack the agency to make full use of the devices or make decisions regarding the applications.

Diksha Radhakrishnan highlighted the need to focus on consistent access by examining data recharge patterns and ownership norms. She reiterated the role of agency in phone usage, questioning how much of it is based on choice rather than permission, and

how this affects program design. Additionally, she underscored the need to address intersectionality, particularly the increased phone censorship experienced by women of marriageable age. She also highlighted the need to focus on the *consistency* of access, looking at data recharge patterns and ownership norms.

She pointed out, *“How much of usage is based on permission versus agency and choice? This has a deep impact on program designs.”* She also stressed the importance of addressing intersectionality and the higher phone censorship faced by women of marriageable age.

Santanu Pramanik discussed the limitations of national-level surveys, which have limitations in capturing the diversity in access and use of mobile phones, especially concerning socio-economic backgrounds. He advocated for more frequent, shorter phone surveys to gain a more accurate picture.

## **Barriers and Challenges: Beyond Access to Agency**

A significant theme was the *control* and *gatekeeping* around women’s digital access. For instance, women often do not perceive the restrictions placed on their access by male family members as a barrier but rather as support. This reflects deep-rooted norms that extend from physical to digital spaces. Cognitive interviewing can be used to gather data on women’s perceptions of digital safety and security.

*“Digital access for women must be viewed through multiple lenses—gender, age, socio-economic background, and safety. It’s not just about giving them a device; it’s about ensuring they have the knowledge, confidence, and security to use it effectively.” - Diksha Radhakrishnan*

*“We need to look beyond shared devices and focus on understanding the agency that enables women to use and access phones.” - Amitayu Sengupta*

*“Digital access should be considered in terms of its benefits, such as time savings and convenience, but these advantages are not universal. The needs of different socio-economic groups must be considered.” - Santanu Pramanik*

### **Questions from the audience further enriched the discussion:**

- “How do we define access? For instance, Anganwadi workers have access to phones and apps, but can they use them effectively?”
- “What does the ‘gender’ umbrella include? Does it cover only cis-gender women or trans individuals as well?”
- “How do you measure generational differences in digital access?”

The panellists agreed that inclusivity should extend beyond binary definitions of gender and take into account the needs of transgender and other marginalised identities.

The panel concluded with a call to action for more nuanced data collection methods, inclusive digital policies, and a deeper focus on empowering women through digital access. Moreover, the panel emphasised the need to have a broader understanding of digital access that encompasses empowerment, safety, and having the freedom of choice.

## Measuring Access | Inputs from Participants on Indicators and Questions



As part of this brainstorming activity, participants were first assigned to groups of seven or eight members each. Each group was assigned one ‘domain’ of access to mobile phones, as outlined in the presentations. These domains were: physical access, connectivity, and financial access. As groups discussed their respective domains, the conversation turned towards expanding the conceptualisation of ‘digital access’ to cover additional, non-material areas. For example, many participants proposed the inclusion of questions related to decision-making, permission and restrictions, and barriers to mobile ownership and use.

In groups assigned to physical access, there was spirited discussion around the varied realities of women’s access to mobile devices. Particularly, participants explored the notion of ‘personal mobile ownership’ and how it could be defined in the context of shared mobile devices. Some participants also highlighted the need to include concepts related to ‘need’ and ‘want’ to determine whether an individual’s access to a mobile device was sufficient for their requirements.



On connectivity, groups engaged with the idea of what it means to have sufficient or appropriate mobile connectivity while grappling with the challenge that a survey can only measure network availability and strength at a single location and point in time. Participants also advocated for an approach that looks at internet connectivity beyond mobile internet and recommended questions related to shared connectivity via hotspots.

Lastly, in conversations around financial access, participants explored the measurement of factors related to device purchases and mobile credit. Most participants agreed that it was important to measure which particular individual was incurring the expenditure involved.

One challenge that emerged, however, was differentiating between expenditure on mobile credit and expenditure on mobile data; due to the nature of these costs as being bundled into 'packs.' Participants also felt it was important to cover frequency; of both, device purchases, as well as credit top-ups.

These discussions proved to be immensely valuable to further thinking on how women's access to mobile phones can be measured. The discussions have both validated existing choices within the framework, as well as highlighted gaps and generated recommendations for how the framework can be expanded.

## Concluding Remarks | Arjun Venkatraman, Programme Officer, Bill & Melinda Gates Foundation



In his closing remarks, Arjun emphasised the critical importance of digital measurement in an increasingly connected world. He noted that terms like accessibility, connectivity, and inclusion can be vague or abstract without precise definitions. To address this, it's essential to establish clear terms and frameworks for digital measurement to create a more inclusive digital public infrastructure. He also underscored the need for digital channels employed in public service delivery to be more inclusive. Access to

public services should not be predicated on exclusive ownership of private devices or connectivity subscriptions, which often happens when services are exclusively accessible via mobile phones. Finally, Arjun advocated for an approach that considers diverse access points and user needs, ensuring that digital public infrastructure serves all segments of society effectively.

## The Way Ahead

While digital access remains a complex area to measure, the workshop and group activity have been instrumental towards building a shared understanding among the diverse groups in attendance. Our hope is that this shared understanding can be leveraged towards building consensus and will be an important contribution to each organisation's future work on gender and digital technology.

Learnings from the workshop will inform the design of a module on digital access, which will be implemented as part of an upcoming population-level survey in Bihar. This activity will also be used to test and improve the module based on the experience of primary data collection. The insights will also feed into the design of an upcoming household and individual survey in Meghalaya, led by the GxD hub. Findings from the proposed survey will feed into a roadmap to facilitate improved digital connectivity in the state.

Learning from these initiatives will be disseminated, including among workshop participants, to support the continuing conversation around measurement of access to mobile phones in LMICs.





The Gender X Digital hub (GxD hub) is a cross-disciplinary platform dedicated to advancing meaningful digital connectivity among women and girls in India. GxD hub is an initiative of LEAD at Krea University (IFMR). LEAD at Krea University is an action-oriented research centre housed at the Institute for Financial Management and Research (IFMR), a not-for-profit society which is also the Sponsoring Body of Krea University.

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