The importance of a mobile-first approach for measuring digital skills in low- and middle-income countries: A MICS-6 survey data analysis for 40 countries

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Why do digital skills matter?

Digital skills are vital in today's increasingly digitized world, shaping how we learn, work, and engage in society. They enhance education, boost employability, and drive economic growth. In low- and middle-income countries (LMICs), improving digital competencies is crucial to bridging gaps in technology access, particularly for women and marginalized groups, ensuring no one is left behind.

What are the sources for digital skills data?

For many LMICs, UNICEF's Multiple Indicator Cluster Survey (MICS) which is administered to men and women of reproductive age (15-49 years) and includes digital skills questions, serves as the primary source for population level digital skills data. Since the MICS survey first launched in the 1990s, over 160 countries have carried out at least one survey. Questions on digital skills were first developed in 2014, and 9 were included in the 6th round of MICS (MICS-6). In 2020, three more digital skills questions were added to MICS-7 which is currently being launched globally.

What can we learn from analyzing available digital skills data?

Key learning 1: Among global surveys that do measure digital skills, the majority focus on the measurement of computer specific skills with little to no emphasis on mobile or device agnostic skills even though mobile phones are the dominant technology for many.

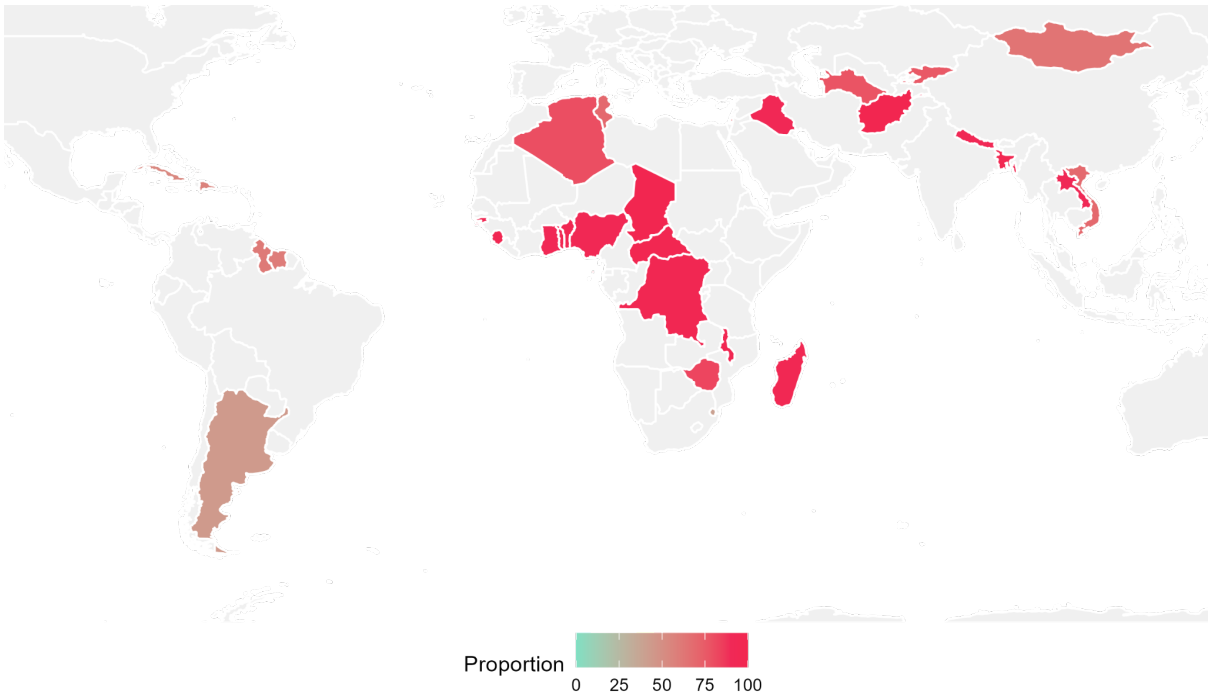
- The ICT module in MICS-6 only covered those who have reported using a computer in the last 3 months, thereby **excluding >75% of the sample population.**
- In most LMICs **<20% of women** and **<25% of men** report using a computer, but mobile phone ownership is much higher, with **up to 98%** of women and **99%** of men owning phones.

Recommendation: Assess digital skills on mobile phones in addition to computers and tablets.

Key learning 2: Exclusively focusing on computer users leads to biased data, skewed toward **wealthier, higher educated, urban populations**, and **underrepresents** those in **rural** and **lower-income areas**.

- Over 75% women in most LMICs reported not having used a computer in the past 3 months

Figure 1. Proportion of women 15-49 years who have NOT used a computer in the past 3 months



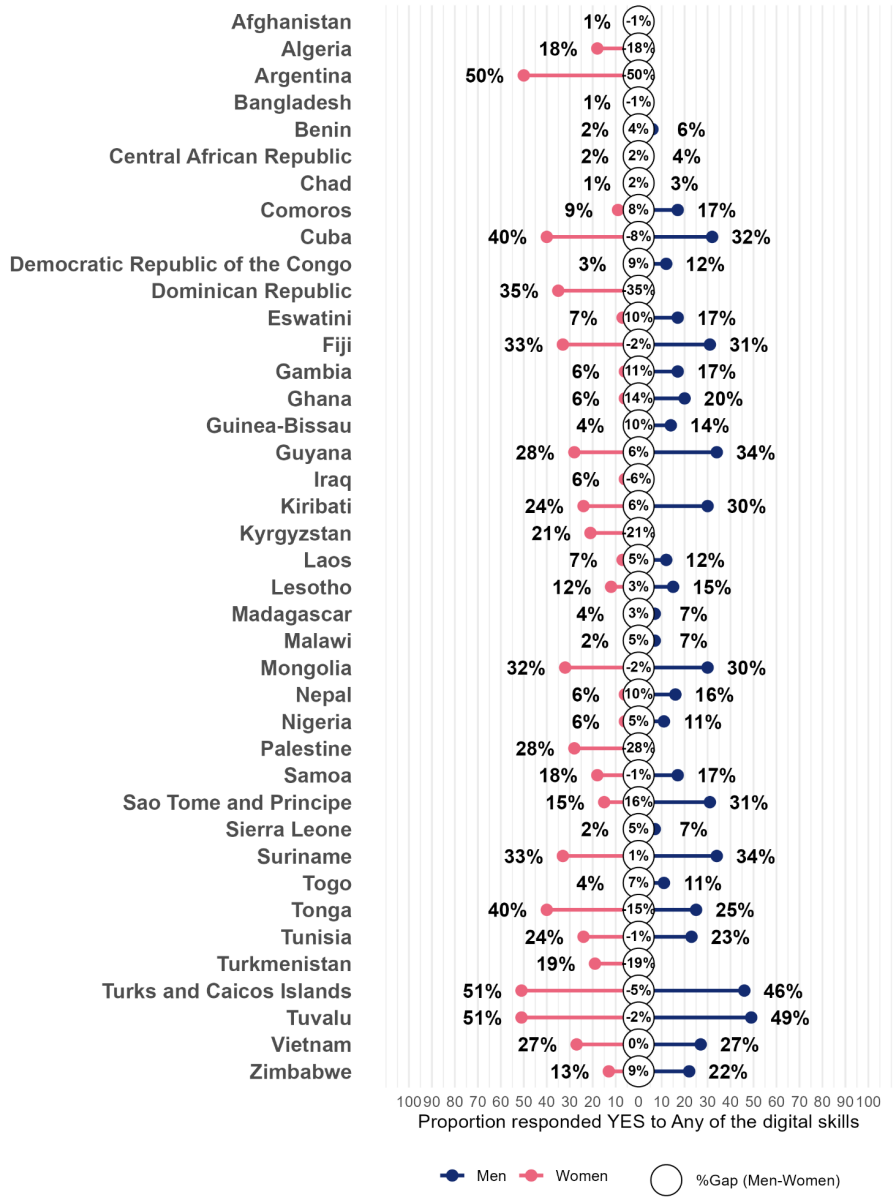
- A vast majority of computer users belong to the highest education and wealth quintiles.
- For example, in **Nigeria,** nearly **75% of computer use** among women is concentrated to those in higher education and wealth groups although they represent only **15-20% of the population**

Key learning 3: Only a small proportion of respondents in LMICs reported practicing at least 1 of 9 digital skills assessed

The survey asked participants if they had performed the following ICT skills within the last 3 months: i) Copy or move a file or folder, ii) Use a copy and paste tool, iii) Send e-mail with attached file, iv) Use a basic arithmetic formula, v) Connect and install a new device, vi) Find, download, install and configure software, vii) Create an electronic presentation, viii) Transfer a file, and ix) Write a computer program.

- The digital skills assessed in MICS-6 are mostly limited to computer skills, such as **copy-pasting**, **using spreadsheets**, and **writing computer programs**.
- The prevalence of these skills is very low. These skills may not accurately reflect the digital skills of mobile first LMIC populations.
- The data collection also does not take into account the **differential need** for certain skills for individuals in different professions.

Figure 2. Proportion of men and women 15-49 years of age that could perform at least 1 of 9 digital skills assessed



Recommendation: Using a competency based approach, expand the scope of the skills being assessed to include mobile-specific and device agnostic skills.

Key learning 4. Adapt digital skills questions to the local context

- Most global surveys, including the UNICEF's MICS-6 survey, rely on **self-reported** digital skills, which can lead to **biases** particularly for those with lower literacy and education levels.
- The further complexity of questions and **long recall periods** (e.g., asking about activities done in the past 3 months) makes it difficult for respondents to accurately report their skills.
- Additionally, questions are framed in **computer-centric language**, which may confuse respondents who primarily use mobile devices.

Recommendations:

- **Improve the phrasing and translation of digital skills survey questions using qualitative research, including cognitive interviews.**
- **Cognitive Interviews[1,2] will help identify how the questions are being interpreted and what works in the local context.**
- **Simplify the language used and adapt it to be device-agnostic based on results of cognitive testing.**

Want to know more?

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[1] Scott K, Ummer O & LeFevre AE (2021). The devil is in the detail: Reflections on the value and application of cognitive interviewing to strengthen quantitative surveys in global health. *Health Policy and Planning* 36(6): 982–995. https://doi.org/10.1093/heapol/czab048

[2] Scott K, Gharai D, Sharma M, Choudhury N, Mishra B, Chamberlain S, LeFevre AE (2020).Yes, no, maybe so: the importance of cognitive interviewing to enhance structured surveys on respectful maternity care in northern India. *Health Policy and Planning* 35(1): 67-77 https://doi.org/10.1093/heapol/czz141