Smartphone Ownership, Economic Empowerment and Women's Property Rights: Experimental Evidence from Malawi

Executive Summary

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One of the most important technological advances over the last three decades has been the advent of mobile phones. The technology has revolutionized not only real-time communication, but also access to information via the internet and internet-based applications, as well as the availability of digitized services, such as banking, healthcare, and education. Yet, despite the exponential increase in mobile technology, critical disparities in smartphone ownership persist. For example, according to GSMA, women in low- and middle-income countries (LMICs) are 15% less likely than men to use mobile internet. This differential access is important in that it reinforces or even worsens gender inequality—a significant barrier to economic development. In LMICs, lack of affordability represents one of the most fundamental constraints on smartphone adoption and digital access. Low-income households have to spend upwards of a month's income to buy an entry-level handset—which puts the technology out of reach for many.

What are the best strategies to close the mobile gender gap? Given the affordability barrier, does providing women from low-income households with a handset drive sustained adoption? Would an unconditional cash grant of equivalent value be just as impactful? Finally, what is the most effective way to train married women to use the technology and develop their digital skills—individually or alongside their spouses?

Working with the Institute of Public Opinion and Research and the Girls Empowerment Network of Malawi, we address these questions in a large-scale randomized trial in Blantyre, Malawi with 1,500 married women, who, at baseline, did not own a mobile phone. Participants were randomly assigned to one of four groups:

- Control (n=300): no intervention;
- Cash (n=400): participants received an unconditional cash grant of $70, which is the same value as the smartphone;
- Individuals Smartphone (n=400): participants received a smartphone, SIM card, and start-up credit and were trained individually on how to use the technology;
- Couples Smartphone (n=400): participants received a smartphone, SIM card, and startup credit and were trained alongside their husbands on how to use the technology.

We highlight five key findings:

- The Smartphone distribution and training program led to long-run gains in women's digital capabilities over 32 months—significantly outperforming unconditional cash transfers. While cash transfers moderately boosted mobile phone ownership during the study, they did not generate the same levels of digital inclusion or digital fluency observed among Smartphone participants. These findings suggest that mobile phone distribution programs combined with even a single training session can help women from low-income households build and sustain digital skills they are unlikely to acquire on their own.
- Handset attrition was high, attenuating treatment effects. After 32 months, only 27% still possessed the original smartphone—while 20% had acquired a feature phone, the remainder were without any phone at all. The primary sources of loss were hardware failure (especially battery problems), water and environmental damage, and physical breakage, highlighting the

limited durability of entry-level smartphones as a key barrier to deepening digital inclusion.

• Within the Smartphone conditions, the Individuals treatment strengthened digital capabilities more than the Couples model. This difference does not appear to stem from greater access or control over the handset. By endline, phone access was similar across both groups—and if anything, the Couples treatment led to the strongest gains in women's mobile phone autonomy. Instead, the evidence suggests that women in the Individuals group, who attended training without their husbands, developed stronger digital competencies and engaged more actively in social learning with other mobile phone owners. These patterns also point to the potential of programming that enables women to build technological expertise outside the shadow of male household members to reshape gendered structures of knowledge. Over time, this learning edge translated into greater digital fluency.

• Accordingly, the Individuals treatment proved most effective in closing the mobile gender gap, while also boosting overall household digital capacity. In contrast, women's digital gains in the Couples—and especially the Cash—treatments were matched or exceeded by improvements among their husbands, reinforcing rather than narrowing intra-household digital inequalities.

• Network effects and social learning mattered. Smartphone retention and use appear to be influenced by village peers' behavior, suggesting that digital inclusion efforts can benefit from social reinforcement and the diffusion of active use.