

# Bridging the Gender Gap through Digital Identification Systems

## Foreword

As the world accelerates toward a digital future, ensuring that no one is left behind is more critical than ever. Digital identification systems have the power to transform lives, providing a gateway to essential services and opportunities for individuals worldwide.

Yet, for women and girls—especially those in low- and lower-middle-income countries—barriers to accessing digital IDs persist. These obstacles not only limit their ability to participate in the digital economy but also restrict access to healthcare, education, and financial independence. The result is a continued cycle of poverty and inequality that holds back entire communities.

This policy brief highlights a pressing issue: the gender gap in the ownership and use of digital IDs. It offers actionable insights into how digital ID systems can drive gender equality and social inclusion, demonstrating the transformative potential of these systems when designed and implemented inclusively.

The World Bank Group's Identification for Development Initiative (ID4D) initiative is committed to the vision of legal identity for all. We hope this policy brief inspires collaboration, innovation, and decisive action to close the gender gap in digital identification. By working together, we can ensure a more equitable and inclusive future for everyone.

Sincerely,

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**THE WORLD BANK**

## Introduction

Globally, ID systems are critical for individuals to access essential services, participate in the formal economy, and to achieve social inclusion, while also being good for economic growth. The importance of digital ID to global development is so significant that it has been assigned a dedicated target under the Sustainable Development Goals. By 2030, United Nations member states have committed to ensuring "legal identity for all, including free birth registrations"<sup>1</sup>.

However, disparities in ID ownership are still profound worldwide, particularly among women living in low-income (LIC) or lower-middle-income (LMIC) countries. Women without digital ID often face barriers in accessing essential services such as healthcare, education, and financial services, which in turn can perpetuate cycles of poverty and limit opportunities for financial independence.

## What are digital ID systems?

Digital ID systems are electronic records that uniquely identify individuals and authenticate this ID remotely over digital channels. An effective digital ID should achieve authentication and verification to a high degree of assurance, have a unique identifier, protect user privacy and security, and be established with individual consent.<sup>2</sup> Identifiers can be a unique ID number, a mobile ID, or a digital certificate, which can be authenticated to third parties to prove an individual's ID and right to access services.<sup>3</sup>

Digital ID systems use digital technology throughout the ID lifecycle, including for data capture, validation, storage, and transfer; credential management; and ID verification and authentication.

Digital IDs can be used for online transactions (e.g., for logging into an e-service portal), as well as for in-person authentication. Compared to "traditional" ID systems such as ID cards or paper certificates, digital ID offers several benefits. It can speed up ID verification, allowing users to quickly and securely access online services and products.



Because it is built to function across different platforms, it also removes the need for multiple sets of ID.

Many national digital ID systems utilize a centralized model, with the government or a government-designated entity serving as the sole system administrator. Others have adopted federated models, in which multiple government-accredited entities can provide digital ID.<sup>4</sup> There are also more decentralized options, such as employing self-sovereign ID systems to operate independently of third-party public actors, and to allow for more individual control over their digital ID.<sup>5</sup>

Using digitally enabled forms of ID can help people who lack formal ID to access a range of services offered by governments and the private sector, such as health care, education, social welfare, and financial services. In times of continued digitalization, a multi-purpose digital ID has become a critical tool for LICs not only to uniquely identify its citizens, but also to support social and financial inclusion of the poor and the vulnerable.<sup>6</sup>

## Valuing digital ID

Digital ID systems have the potential to increase economic participation, national GDP, and industry revenue.<sup>7</sup> With careful system design and policies to promote uptake and mitigate risks, the implementation of digital ID could unlock value equivalent to 3 to 13 percent of GDP by 2030.<sup>8</sup> GSMA (2023) shows that digital ID systems have the potential of increasing digital payments by 22 percent annually, while also helping service providers to gather insightful customer data, thereby facilitating improved service delivery.<sup>9</sup>

## The global state of digital ID

The World Bank estimates that, worldwide, 850 million people do not have any form of ID.<sup>10</sup> Most of this population is in Africa, where more than half a billion people have no form of ID. 90 percent of people who lack ID live in either a LIC or LMIC country.<sup>11</sup> The share of adults without ID is highest in LICs, where more than one in three adults lack an ID (see Figure 1).

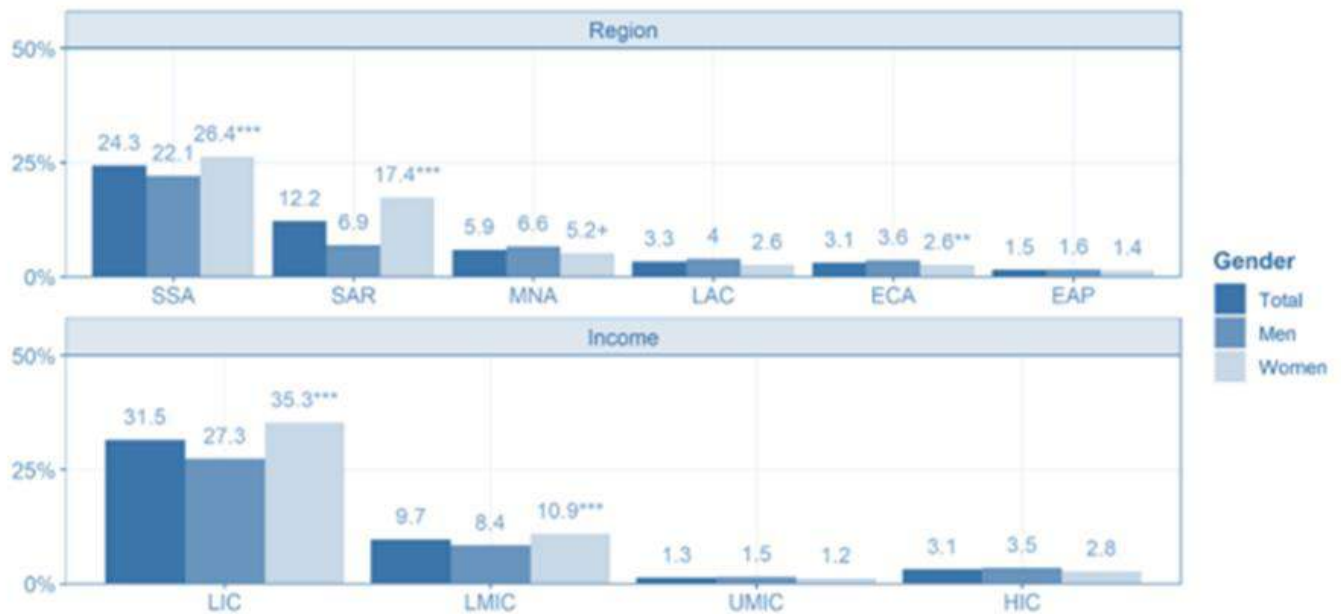
Women and marginalized groups, especially youth, those with low education, rural populations, and the poor, face huge challenges in accessing ID systems, exacerbating existing societal and structural inequalities.<sup>12</sup> For example, in LICs, 44 percent of women versus 28 percent of men lack any kind of formal ID.<sup>13</sup>

This income-level disparity is compounded by the complexity of measuring ID ownership, as individuals often rely on a variety of documents for official purposes. In many LICs and LMICs, foundational ID systems are often either underdeveloped or inaccessible to marginalized groups, particularly women.

For digital ID, the picture is even more worrisome. The “digital divide,” or the internet access gap between individuals, households, businesses, and geographic areas at different socio-economic levels, has a distinct gender angle. Women worldwide are less likely to have access to the internet and generally possess lower digital literacy than men. Globally, more than 785 million women do not have access to mobile internet, and 60 percent of these women live in South Asia and sub-Saharan Africa.<sup>14</sup> With 161 countries using digital ID systems, closing the digital divide is a prerequisite to create inclusive digital ID systems.



**Figure 1:** Adult ID Ownership Gaps by Region, Income, and Gender  
**Source:** ID4D-Findex Data (2021)



Graph shows mean percent of people who do not own an ID, calculated with global weights. Includes Sub-Saharan Africa (SSA), South Asia (SAR), Middle East and North Africa (MNA), Latin America and Caribbean (LAC), Eastern and Central Asia (ECA), East Asia and Pacific (EAP) and across lower-income (LIC), lower-middle-income (LMIC), upper-middle-income (UMIC), and high-income (HIC) countries. Stars denote statistically significant ID ownership rates for women vs. men at the 95-percent (\*), 99-percent (\*\*), and 99.9-percent (\*\*\*) confidence levels. Includes respondents ages 15 and over who are also above the eligible age for obtaining the ID; for 2021, SAR does not include India. Source: ID4D-Findex Data (2021).

## Barriers for women

ID systems often reflect and reinforce existing social and structural gender inequalities. Challenges preventing ID access are present in both rural and urban settings, where cultural expectations, societal norms, and responsibilities related to childcare and domestic duties continue to restrict women’s access to ID systems. The gender gap in ID ownership is driven by several factors:

### Discriminatory laws and practices

In 37 economies, married women face restrictions that prevent them from applying for passports as easily as married men.<sup>15</sup> In many countries, women encounter additional legal hurdles that hinder their access to digital financial services. For instance, married women may need to provide a marriage certificate, use their spouse’s name, or obtain permission from a male household member to acquire an ID.<sup>16</sup>

International standards set by the Financial Action Task Force (FATF), the inter-governmental global anti-money laundering and terrorist financing watchdog, enable countries to take a proportionate, risk-based approach to ID requirements, to promote a more inclusive financial system.<sup>17</sup> However, stringent national ID requirements prompted by standards set by FATF, are unnecessarily locking women out of the financial system, despite gender-related crime statistics showing that women invariably pose a lower crime risk than men.<sup>18</sup>

Ignoring gender disaggregated crime data unfairly undermines women’s financial inclusion, as women could qualify for simpler ID measures in many countries if national crime data were taken into account, and a proportionate risk-based approach was applied.<sup>19</sup>

## Socio-cultural barriers

Traditional gender roles, limited mobility, and economic barriers all prevent women from obtaining digital ID. In such contexts, some women rely on men's ID when accessing services. Traditional gender roles and cultural norms can restrict women's mobility and their ability to engage with formal ID processes, such as talking to male clerks or travelling independently.<sup>20</sup>

The World Bank's 2024 Women, Business and the Law report states that in 14 economies, women are not permitted to travel outside the home without restrictions.<sup>21</sup> Women may also face opposition or lack of support from family members, which may limit their access to digital ID products and services.

Additionally, entrenched social norms often force women to rely on male family members for financial support, deepening the barriers to independence and agency.

This dependency becomes even more restrictive when women lack prioritized access to ID ownership. Because societal norms may restrict their interactions with formal institutions, women, especially those in rural areas, also might not see a need for their own ID in the first place.<sup>22</sup>

When it comes to digital technology, women overall have higher concerns about data privacy than men.

In a study across Colombia, Uganda, Ghana and Indonesia, surveyors found that 89 percent of women were worried about the security of their private messages (as opposed to 85 percent of men), and 69 percent were worried about personal data such as their home address (compared to 61 percent of men).<sup>23</sup>

Worldwide, around 18 percent of adults express discomfort with providing personal information, with women, in particular, fearing data misuse or greater scrutiny during the registration process.<sup>24</sup> Access to mobile phones and the internet can be an additional hurdle for women, who are less likely to own their own phone and less comfortable navigating it on their own.<sup>25</sup>

## Economic and procedural barriers

Getting all the documents needed to formally register, travelling to government offices, and finding childcare for these time slots can be a time- and cost-intensive endeavor.

Approximately 36 percent of adults without an ID cite cost as a barrier to registering, including both direct fees and indirect costs such as travel, obtaining supporting documentation and lost income from time spent registering.<sup>26</sup>

Finally, the environment in which ID systems are administered also matters. For example, government systems and processes like access to healthcare and integration of healthcare with government services could determine whether all newborn babies are issued birth certificates. Without such records and interconnected administration systems in place, it can be cumbersome and expensive to claim ID.

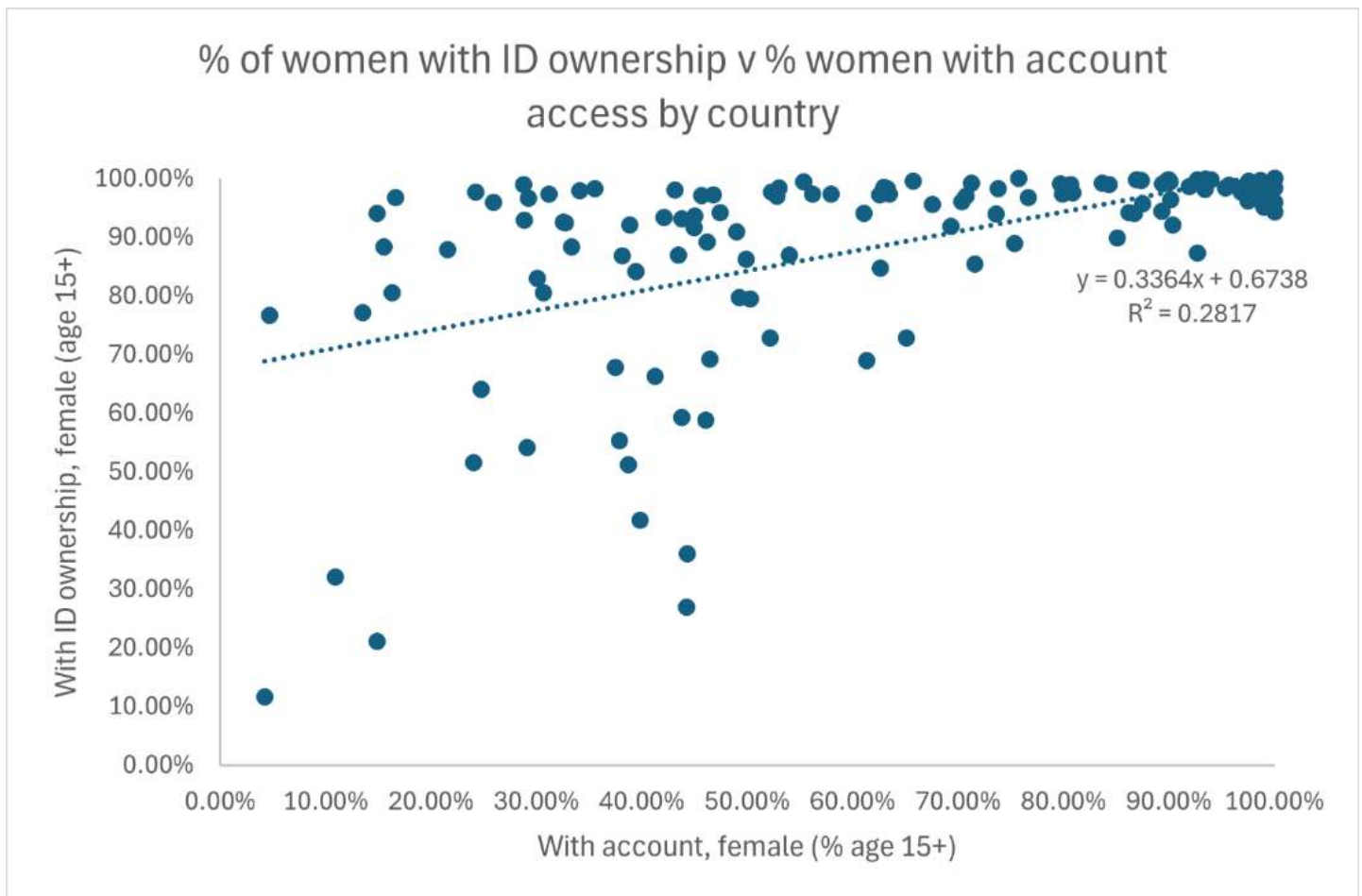
## The link between ID and financial inclusion

In an analysis of World Bank Global Findex and ID4D data, Women’s World Banking identified a modest correlation between access to ID and financial inclusion for women. It was noted that as the proportion of women owning an ID increases, the proportion of women with account access also tends to rise.

According to our model, ID ownership explains 28 percent of the variation in account access for women.

Notably, there is a wide dispersion of data points at lower levels of account access, showing that countries with low account access among women have a broad range of ID ownership rates. This variability suggests that ID ownership alone is insufficient to ensure financial inclusion, but that it is a relevant factor. To increase women’s financial inclusion, owning an ID is an important step on the way to full access to financial tools.

**Figure 2:** Scatterplot showing the relationship between the percentage of women with ID versus the percentage of women with account access by country



Source: WWB analysis based on Findex data 2021

## Digital IDs in practice: Examples from around the world

### India's Aadhaar System: Transforming access to identity, banking, and social welfare

India's Aadhaar is one of the world's largest and most ambitious digital ID programs, designed to provide every resident with a unique ID number linked to their biometric data. Launched in 2009, it serves more than 1.4 billion residents. Overseen by the Unique Identification Authority of India (UIDAI), Aadhaar assigns a unique 12-digit ID number based on biometric and demographic data, including face, fingerprints and iris scans. To increase enrollment, enrollment centers were initially set up across the country, including in remote and rural areas, to ensure widespread access. Mobile units were also deployed to reach individuals who could not travel to enrollment centers.

By linking Aadhaar numbers to bank accounts, the Indian government has been able to directly transfer subsidies and benefits to individuals, reducing leakages and ensuring timely payments. Aadhaar has streamlined access to various government services, including healthcare, education, and social welfare programs. It has also simplified processes such as obtaining a mobile SIM card, filing taxes, and accessing pension schemes. The Aadhaar e-KYC (electronic Know Your Customer) process revolutionized ID verification in India, allowing real-time checks without physical documents, streamlining customer onboarding, and reducing costs for financial institutions. In 2023, 2.31 billion authentications have been carried out through Aadhaar, and 14.7 billion e-KYC transactions across different sectors of the Indian economy.<sup>27</sup>

The government's Pradhan Mantri Jan Dhan Yojana (PMJDY) program, aimed at providing banking access to the unbanked, has been significantly supported by Aadhaar. The program has registered over 450 million new accounts, many of which were opened using Aadhaar as the sole ID verification method.<sup>28</sup> The system's integration into welfare programs like food subsidies and direct cash transfers has especially benefited women, who are often the primary caregivers and the main beneficiaries of social support.<sup>29</sup>

Despite its successes, the Aadhaar system has faced several challenges and criticisms. In 2018, a ruling by the Supreme Court of India limited the scope of mandatory Aadhaar linking with services such as mobile phone connections and bank accounts, citing privacy concerns. In response to such fears of potential misuse of personal information, the government introduced "virtual ID," which allows users to authenticate without revealing their actual 12-digit Aadhaar number.<sup>30</sup>

### Indonesia's digital ID system: Enhancing financial inclusion and service access

Indonesia's digital ID application, known as Identitas Kependudukan Digital (IKD), was introduced in 2022. Built as an extension of the national ID and civil registration system, it is managed by the Directorate General of Population and Civil Registration at the Ministry of Home Affairs, which partnered with the World Bank to enhance data security, deploy a standardized system, and implement robust research and development. The IKD has been designated as one of nine priority electronic-based government system applications.<sup>31</sup>



By the end of 2024, 13 million Indonesians had already activated their digital ID. There has also been a marked increase in service integration where residents have accessed services such as healthcare, education, and financial transactions. Notably, Indonesia also introduced additional data protection laws to safeguard personal information used within the IKD system.

As of 2023, the national ID and digital ID systems have helped increase financial inclusion in Indonesia, contributing to a 28 percent growth in the market share of peer to peer (P2P) lending,<sup>32</sup> and growth in other financial services.<sup>33</sup> However, more specific gender-focused statistics are needed to fully quantify the direct impact of digital ID on women's financial inclusion in the country.<sup>34</sup>

### **Nigeria's national digital ID system: Overcoming barriers to inclusion**

Nigeria established the National Identification Management Commission (NIMC) in 2007 after an Act of Parliament. The commission was responsible for managing the existing database, integrating databases and assigning unique National ID numbers to individuals.<sup>35</sup>

By October 2019, only 19 percent of Nigerians had registered for the national digital ID designed to replace the siloed ID systems.<sup>36</sup> However, by November 2024, over 111 million NINs, which accounts for more than 50 percent of Nigerians, had been enrolled with over 48 million being women.<sup>37</sup>

In order to identify and address the barriers to enrollment, an in-depth gender study was conducted in 2019 to identify the barriers for enrollment for women and marginalized groups and provide evidence-based recommendations to policy makers.<sup>38</sup>

The gender study found that the main barrier to obtaining a national ID is the cumbersome enrollment process, characterized by overcrowded registration centers, and long and unpredictable waiting times. These challenges disproportionately affect women who are unable to afford the time and resources needed for the multiple trips to registration centers.

Nigeria has taken a three-pronged approach to address the barriers to enrollment for women based on the gender study.

Firstly, legal reforms were undertaken to promote an inclusive, accessible enrollment process which minimize barriers to enrollment (which disproportionately affect women) and expand the range of persons eligible for enrollment. The amended NIMC Act is currently before National Assembly and is expected to be enacted by February 2025.<sup>39</sup>

Secondly, a number of policies and strategies and policies were developed to address the barriers faced by vulnerable and marginalized groups, including women, girls and children. These include an inclusion policy and strategy, an inclusive enrollment strategy, gender-based violence risk assessment and management plan, sexual exploitation and abuse plan, and social accountability guide.

Thirdly, Nigeria licensed front end enrollment partners who conduct mobile enrollments in the field which removes the need for women to visit the NIMC offices.

In addition, in February 2025, Nigeria will launch a procurement specifically for the enrollment of 10 million women and persons with disabilities which will be undertaken by nongovernmental organizations and civil society organizations. These targeted enrollments have led to the increase of female enrollment from just under 15 million in 2019 to over 48 million in 2024.<sup>40</sup>



Nigeria has increased targets to enroll 180 million Nigerians by December 2026, including 79 million women. This is expected to be achieved through inclusive targeted enrollment in collaboration with NGOs, CSOs and communities.<sup>41</sup> In addition, Nigeria is focusing on providing much needed access to services especially government assistance such as cash transfers through the NIN.

## **Estonia's e-ID: A model for comprehensive digital identity adoption**

Estonia is widely recognized as one of the most digitally advanced countries in the world, largely due to its comprehensive digital ID system. The Estonian digital ID, known as the e-ID, is a cornerstone of the country's e-governance framework, enabling secure and efficient access to a wide range of public and private services.<sup>42</sup>

The system is based on a unique personal ID code assigned to every resident at birth or upon application. This code is used to create a state-issued and microchip-enabled digital ID that can be used for authentication and electronic signatures. The e-ID is mandatory for all residents and is used for a variety of purposes, including accessing healthcare, banking, voting, and signing documents electronically.

Over 98 percent of the 1.36 million Estonian population have an e-ID, making it one of the most widely adopted digital ID systems in the world.<sup>43</sup>

## **Papua New Guinea: Increasing access to essential services**

Papua New Guinea is an example of a country that, despite its geographic and economic challenges, is making significant strides in improving access to essential services through its Identitas Kependudukan Digital (IKD) system, launched in 2023.

This platform aims to streamline ID verification, bolster data security, and integrate services across public and private sectors. With plans to issue a unified digital ID for all citizens by 2024, the government hopes to enhance access to healthcare, education, and financial services, driving significant strides in financial inclusion.<sup>44</sup>

A key aspect of this initiative is the Digizen Digital Bank ID, which is particularly important in rural areas where access to banking services has historically been limited. By utilizing biometric data such as fingerprints and facial recognition, the system enables secure ID verification and facilitates access to bank accounts without requiring travel to urban centers.

Recognizing the country's geographic challenges, the Bank of Papua New Guinea and Asian Development Bank launched a pilot project to overcome barriers such as limited access to electricity and internet. The project used offline, tablet-based enrollment devices equipped with cameras and fingerprint scanners to issue digital ID, even in remote locations. By December 2023, 2,500 individuals, including many women, had been enrolled through microfinance agents. This initiative has empowered women through the creation of cooperatives, giving them better access to markets and control over crop pricing, thus improving their financial inclusion and economic standing.<sup>45</sup>

The goal is to electronically register approximately 95 percent of Papua New Guinea's population, which exceeds 10 million, with a national ID by 2025.<sup>46</sup> Currently, around 3 million people have been issued a digital ID card.<sup>47</sup>

## Policy recommendations

To maximize the benefits of digital ID, particularly for women, we recommend the following steps to promote inclusive policymaking.

### Government programs

- **Deploy mobile registration units in rural areas** to reduce travel time and costs for women seeking to obtain ID. These units should prioritize women facing mobility challenges and be staffed by female agents where cultural sensitivities require it.
- **Use location and sex-disaggregated data to identify areas where ID accessibility gaps exist and inform decisions that seek to close the digital gender gap.** These data can be cross-referenced with national surveys or government databases of cash transfers to better identify where individuals are lacking ID.
- **Invest in digital infrastructure, particularly in rural areas,** to enable women to access the technology, necessary for digital ID registration and usage, such as the internet and mobile services.
- **Provide incentives to make acquiring ID more affordable** for low-income women, such as waiving registration fees or offering transportation allowances.
- **Seek to tackle the harmful gender norms, practices, and stereotypes** that hinder women's safe and meaningful use of digital technology and independence. Look at best practice examples from Estonia and elsewhere to introduce social systems that limit opportunities for biased practices, such as assigning a unique personal ID to every individual at birth or upon application.
- **Launch focused campaigns aimed at increasing women's awareness** of the importance of ID. Do this through Short Message Services (SMS) and other digital campaigns to raise awareness among women about the importance of owning ID and how to obtain one.
- **Build capacity of senior officials to roll out more inclusive digital literacy programs** targeting women, to enhance their ability to use and benefit from digital ID systems and focus on the specific needs of women.



## Policy and regulation

- **Encourage the development of digital technology** to create innovative ID registration and more proportionate KYC processes to improve access.
- **Revise regulatory ID standards that act as explicit or implicit barriers for women** by researching the type of documentation accessible to women in specific segments and geographies. For example, introduce simplified e-KYC requirements and alternative ways to verify ID, compliant with FATF standards, such as accepting a letter from a community leader.<sup>48</sup>
- **Strengthen data protection laws to build trust in digital ID systems**, ensuring that women feel safe providing personal information during the registration process. Safeguard ID systems against cyberattacks and ensure the responsible use of AI within systems.
- **Establish policies and strategies that support women to stay online** including laws to protect online rights and prevent cyberbullying and sexual harassment.
- **Leverage Digital ID as a path to complementary financial inclusion initiatives** - obtaining a digital ID is a critical first step but does not guarantee financial inclusion. Factors influencing women's adoption of ID and bank accounts often differ, ranging from challenges like digital literacy, data privacy and financial awareness. Complementary financial inclusion initiatives tailored for women are needed to ensure the effective use of ID to access and benefit from the formal financial system.

## Conclusion

The digitalization of government services, including digital identification, is instrumental in dismantling barriers faced by women in accessing healthcare, education, and other essential services.

The full economic and social benefits of digitalization will only be realized if policymakers, regulators and the private sector - particularly those involved in verification services and cybersecurity - collaborate effectively. Such collaboration is essential to addressing the complex, cross-sectoral challenges that affect the adoption of digital IDs, many of which are rooted in deeply ingrained societal issues that disproportionately impact women.

Digital ID systems are foundational to building inclusive financial systems and unlocking broader societal progress. Achieving these outcomes requires a holistic, coordinated approach from all stakeholders to ensure that digital ID initiatives are designed and implemented in ways that are equitable, accessible, and gender sensitive.

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