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Digital Equity and Social Inclusion: Rethinking Governance for Marginalized Communities in the Global South

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ABSTRACT

The global digital transformation has created unprecedented opportunities for economic growth, social connectivity, and public service innovation, yet marginalized communities in the Global South remain disproportionately excluded from these benefits. This study focuses on low-income groups, persons with disabilities, rural populations, and women in 8 countries across Sub-Saharan Africa, South Asia, and Southeast Asia, exploring the unique barriers to digital inclusion in resource-constrained contexts and evaluating the effectiveness of context-adaptive governance strategies. Drawing on 65 stakeholder interviews, policy analysis, and household surveys with 1,200 participants, the research identifies four interconnected barriers: inadequate infrastructure access, limited digital literacy tailored to local needs, cultural and gender-based exclusion, and institutional fragility. It further proposes a “context-centric inclusion governance model” that integrates bottom-up community engagement, flexible regulatory frameworks, and innovative public-private-community partnerships (PPCPs). Findings indicate that initiatives grounded in local cultural norms, leveraging low-cost technological adaptations, and strengthening community-led institutions achieve 38% higher rates of sustained digital inclusion compared to top-down, one-size-fits-all approaches. The study contributes to global debates on digital equity by highlighting the need to center the lived experiences of marginalized communities in governance design, offering actionable insights for policymakers, civil society, and development partners seeking to bridge the digital divide in the Global South.

Keywords: Digital Inclusion; Global South; Marginalized Communities; Context-Centric Governance; Public-Private-Community Partnerships; Digital Literacy; Infrastructure Access; Gender Equity

1. Introduction

Digital transformation has been heralded as a catalyst for inclusive development, with the potential to bypass traditional structural barriers and deliver services directly to marginalized populations (World Bank, 2023). In the Global South, mobile money platforms in Kenya, digital health services in Bangladesh, and e-governance portals in India have demonstrated the transformative potential of digital technologies to improve livelihoods (ITU, 2024). However, progress has been uneven: 52% of the population in Sub-Saharan Africa remains offline, compared to 17% globally, and even among connected individuals, only 23% of low-income groups report using digital tools for education, healthcare, or economic activities (ITU, 2024). This “deep digital divide” is not merely a technical issue but a governance challenge: existing digital inclusion

strategies often replicate Northern-centric models that fail to account for the unique contextual realities of the Global South, including limited infrastructure, low literacy rates, cultural norms that restrict technology access (particularly for women), and weak institutional capacity (Ogbonnaya-Ogburu et al., 2024; Selwyn, 2023).

Existing research on digital inclusion has made significant strides in identifying barriers such as lack of access to devices and broadband (Van Dijk, 2022) and limited digital literacy (Van Deursen & Van Dijk, 2023). However, two critical gaps remain. First, most studies focus on single dimensions of exclusion (e.g., infrastructure or skills) rather than examining how multiple barriers interact to perpetuate digital marginalization. For example, a rural woman in Uganda may face not only limited access to affordable internet but also cultural restrictions on technology use and digital literacy training that is not available in her local language (ITU, 2024). Second, scholarship on digital governance in the Global South often prioritizes top-down policy interventions or private-sector-led innovation, with insufficient attention to the role of community-led institutions and cultural context in shaping inclusive outcomes (Bukht & Heeks, 2023). This gap is particularly pressing given that marginalized communities in the Global South are not passive recipients of digital technologies but active agents whose participation is critical to designing solutions that meet their needs (McFarlane & Söderström, 2023).

This study addresses these limitations by answering three core research questions: (1) How do interconnected barriers (infrastructure, literacy, culture, institutions) shape digital exclusion for marginalized communities in the Global South? (2) What characteristics of context-adaptive governance strategies enable sustained digital inclusion in resource-constrained settings? (3) How can public-private-community partnerships (PPCPs) be structured to prioritize the needs of marginalized groups over profit or administrative efficiency? To answer these questions, the research employs a mixed-methods approach, combining household surveys, stakeholder interviews, and policy analysis across 8 countries: Uganda, Nigeria, Ghana, Bangladesh, Nepal, India, Indonesia, and the Philippines.

The significance of this research lies in its focus on context and intersectionality. By centering the experiences of marginalized communities in the Global South, it challenges Northern-centric assumptions about digital inclusion and offers a governance model that is responsive to local realities. Practically, the findings provide evidence-based recommendations for development partners, policymakers, and civil society organizations seeking to design more effective digital inclusion initiatives. Theoretically, the study contributes to the literature on digital governance by developing a framework that integrates multiple dimensions of exclusion and highlights the centrality of community engagement and cultural adaptation in achieving sustained inclusion. As digital technologies become increasingly integral to development efforts, ensuring that marginalized communities in the Global South are not left behind is not only a moral imperative but a prerequisite for achieving the United Nations Sustainable Development Goals (UNDP, 2024).

2. Literature Review

2.1 The Multidimensional Digital Divide in the Global South

Digital exclusion in the Global South is a multidimensional phenomenon that extends beyond the “first-level divide” of physical access to technology (Van Dijk, 2022). Recent scholarship has expanded this framework to include the “second-level divide” (digital literacy and skills), the “third-level divide” (meaningful use of technology to achieve life goals), and the “fourth-level divide” (participation in digital

governance and decision-making) (Selwyn, 2023). In the Global South, these divides intersect with structural inequalities such as poverty, illiteracy, and gender discrimination to create unique barriers. For example, low-income households in rural Nepal may lack the financial resources to purchase devices or pay for internet access (first-level divide), while also lacking access to digital literacy training in their local language (second-level divide) and facing cultural norms that prioritize men's access to technology (third-level divide) (Asian Development Bank, 2024).

Infrastructure gaps remain a foundational barrier: 60% of rural areas in Sub-Saharan Africa and 45% in South Asia lack access to reliable broadband, and where infrastructure exists, it is often prohibitively expensive (ITU, 2024). Unlike high-income countries, where fixed-line broadband is the primary mode of connectivity, the Global South relies heavily on mobile technology. However, mobile internet access is often limited by data costs, poor network coverage in remote areas, and devices that are outdated or incompatible with digital services (World Bank, 2023). For persons with disabilities, the infrastructure divide is compounded by a lack of accessible technology: only 12% of digital services in the Global South are designed to accommodate visual, auditory, or motor impairments (Lyon, 2023).

Digital literacy in the Global South is not merely a matter of technical skills but also of relevance to daily life. Many digital literacy programs in the Global South focus on basic computer skills rather than on how to use digital tools for tasks such as accessing healthcare, applying for government benefits, or marketing agricultural products (Van Deursen & Van Dijk, 2023). This disconnect between training content and local needs limits the impact of literacy initiatives, as marginalized communities fail to see the value of digital technology and disengage from use. Additionally, literacy training is often delivered in dominant languages (e.g., English, Hindi, French) rather than local dialects, excluding non-native speakers and low-literacy populations (University of Ghana, 2024).

2.2 Governance Models for Digital Inclusion in Resource-Constrained Contexts

Scholars have identified three primary governance models for digital inclusion in the Global South: top-down policy-driven models, private-sector-led models, and community-led models. Each model has distinct strengths and limitations.

Top-down policy-driven models, often implemented by national governments with support from international organizations, focus on expanding infrastructure access and establishing regulatory frameworks for digital inclusion. For example, India's "Digital India" program aims to connect all villages to broadband and provide digital literacy training to 60 million people (Government of India, 2024). While such initiatives can achieve scale, they often suffer from a lack of contextual adaptation: policies designed at the national level may not address the specific needs of rural or marginalized communities, and weak institutional capacity can hinder implementation (Ogbonnaya-Ogburu et al., 2024). In Nigeria, for instance, the National Digital Economy Policy and Strategy (2021-2030) includes ambitious targets for digital inclusion, but bureaucratic delays and corruption have prevented the program from reaching rural areas (Nigerian Communications Commission, 2024).

Private-sector-led models, which rely on tech companies and telecommunications firms to expand access and deliver digital services, have been successful in some contexts. Kenya's M-Pesa mobile money platform, developed by Safaricom, has enabled over 45 million people to access financial services without a bank account (World Bank, 2023). However, private-sector initiatives are often driven by profit, leading to the exclusion of low-income or remote communities that are not financially viable (Soderstrom et al., 2024). For example, in rural Uganda, telecommunications firms have focused on expanding network coverage

in urban and semi-urban areas, leaving remote villages with no mobile signal (Uganda Communications Commission, 2024). Additionally, private-sector digital services often lack accessibility features for persons with disabilities, as incorporating these features increases development costs (Lyon, 2023).

Community-led models, which prioritize local knowledge and participation in designing and implementing digital inclusion initiatives, have emerged as a promising alternative. These models are grounded in the principle that marginalized communities are best positioned to identify their own needs and develop solutions that align with cultural norms (McFarlane & Söderström, 2023). For example, in Bangladesh, the Grameen Bank's "Digital Village" program partners with local community organizations to establish rural tech hubs, providing free internet access, digital literacy training in Bengali, and tailored services such as agricultural market information and healthcare consultations (Grameen Bank, 2024). Research has shown that community-led initiatives achieve higher rates of sustained use among marginalized groups, as they address both technical and cultural barriers to inclusion (Bukht & Heeks, 2023). However, these models often face challenges related to funding sustainability and scalability, as they rely on volunteer labor and external grants (Asian Development Bank, 2024).

2.3 The Role of Context and Culture in Digital Inclusion

Contextual factors, particularly cultural norms and institutional capacity, play a decisive role in shaping digital inclusion outcomes in the Global South. Cultural norms around gender, community, and technology use can either facilitate or hinder inclusion. In patriarchal societies, women often face significant barriers to digital access: 34% of women in Sub-Saharan Africa and 28% in South Asia report that their families restrict their use of technology, compared to 8% of men (ITU, 2024). Cultural beliefs about the "appropriateness" of technology for women—such as the perception that digital tools expose women to "immoral content" or threaten traditional gender roles—further exacerbate exclusion (Government of India, 2024). In contrast, in communities with strong collective decision-making structures, such as the Gusii people in Kenya, community-led digital initiatives that involve local elders and leaders are more likely to be accepted and adopted (University of Nairobi, 2024).

Institutional capacity is another critical contextual factor. The Global South is characterized by weak governance structures, limited financial resources, and inadequate technical expertise, which hinder the implementation of digital inclusion policies (Ogbonnaya-Ogburu et al., 2024). For example, Ghana's Digital Accessibility Act (2021) mandates that public digital services be accessible to persons with disabilities, but the country lacks the institutional capacity to monitor compliance or penalize violations, resulting in only 18% of government websites meeting accessibility standards (University of Ghana, 2024). In contrast, countries with stronger institutional capacity, such as Rwanda, have been able to implement successful digital inclusion initiatives by leveraging partnerships between government, civil society, and the private sector (Rwanda Development Board, 2024).

2.4 Public-Private-Community Partnerships (PPCPs) as a Pathway to Inclusion

Public-private partnerships (PPPs) have been widely promoted as a solution to resource constraints in the Global South, but traditional PPPs often prioritize the interests of governments and private firms over marginalized communities (Bekkers et al., 2024). To address this limitation, scholars have proposed public-private-community partnerships (PPCPs), which include community organizations as equal partners in designing, implementing, and monitoring digital inclusion initiatives (Torfing et al., 2024). PPCPs leverage the strengths of each stakeholder: governments provide policy support and regulatory frameworks, private

firms contribute technical expertise and infrastructure, and community organizations ensure that initiatives are contextually appropriate and responsive to local needs.

Examples of successful PPCPs in the Global South include the “Smart Villages” initiative in Indonesia, a partnership between the Indonesian government, telecommunications firm Telkomsel, and local community-based organizations (CBOs). The initiative establishes rural tech hubs that provide free internet access, digital literacy training in local languages, and services such as e-commerce platforms for small-scale farmers. By involving CBOs in the design process, the initiative has addressed cultural barriers (e.g., gender-segregated training sessions for women) and ensured that services are tailored to local needs (e.g., agricultural market information in Javanese and Sundanese) (Indonesian Ministry of Communication and Informatics, 2024). Research has shown that PPCPs achieve higher rates of inclusion than traditional PPPs, as community participation increases trust and ensures that initiatives are sustainable beyond the initial funding period (Bukht & Heeks, 2023). However, PPCPs require strong governance mechanisms to ensure that community voices are not marginalized, such as formal decision-making roles for CBOs and transparent monitoring systems (Torfing et al., 2024).

3. Methodology

3.1 Research Design

This study adopts a mixed-methods research design, combining quantitative household surveys and qualitative stakeholder interviews to explore digital inclusion barriers and governance strategies in the Global South. The mixed-methods approach allows for triangulation of data, ensuring that quantitative findings about the prevalence of barriers are complemented by qualitative insights into the lived experiences of marginalized communities (Creswell & Plano Clark, 2023). The research was conducted in two phases: Phase 1 (March 2023 – August 2023) involved household surveys to identify key barriers to digital inclusion; Phase 2 (September 2023 – February 2024) included stakeholder interviews and policy analysis to evaluate governance strategies.

3.2 Study Context and Sampling

The study was conducted in 8 countries across three regions: Sub-Saharan Africa (Uganda, Nigeria, Ghana), South Asia (Bangladesh, Nepal, India), and Southeast Asia (Indonesia, Philippines). These countries were selected to represent diverse economic, cultural, and institutional contexts, while sharing high rates of digital exclusion among marginalized communities. Within each country, two research sites were selected: one rural and one urban informal settlement, to capture differences in access and barriers.

Household surveys were administered to 1,200 participants (150 per country), with a stratified sampling strategy to ensure representation of marginalized groups: low-income households (income below the national poverty line), persons with disabilities (visual, auditory, motor, or cognitive impairments), women (18-65 years), and rural residents. Participants were recruited through local community organizations and door-to-door sampling. Stakeholder interviews were conducted with 65 individuals, including government officials (15), private-sector representatives (12), civil society leaders (18), community organizers (10), and members of marginalized communities (10). Interviewees were selected using purposive sampling to ensure expertise in digital inclusion initiatives.

3.3 Data Collection

Quantitative data were collected through structured household surveys, administered in local languages (e.g., Luganda in Uganda, Bengali in Bangladesh, Tagalog in the Philippines). The survey instrument included questions on: (1) access to digital infrastructure (devices, internet, network coverage); (2) digital literacy (ability to use basic digital tools, access online services); (3) cultural and gender-based barriers (family restrictions, cultural norms); (4) use of digital services (education, healthcare, finance, governance); and (5) satisfaction with existing digital inclusion initiatives.

Qualitative data were collected through semi-structured interviews with stakeholders. Interview questions focused on: (1) the design and implementation of digital inclusion initiatives; (2) barriers faced in promoting inclusion; (3) the role of context and culture in shaping initiatives; (4) the effectiveness of partnerships (government, private sector, community); and (5) recommendations for improving governance. Interviews were conducted in English or local languages, recorded with consent, transcribed verbatim, and translated into English for analysis.

Policy analysis was conducted on 32 key documents, including national digital inclusion policies, regulatory frameworks, and project reports from international organizations (e.g., UNDP, World Bank, ITU). Documents were analyzed to identify gaps in existing governance strategies and alignment with the needs of marginalized communities.

3.4 Data Analysis

Quantitative data were analyzed using descriptive statistics (frequencies, means, percentages) and inferential statistics (chi-square tests, logistic regression) to identify correlations between barriers and digital inclusion outcomes (e.g., the relationship between digital literacy training and sustained internet use). Data were analyzed using SPSS 28.0.

Qualitative data were analyzed using thematic analysis, with codes derived from the research questions and emerging themes from the literature review (Braun & Clarke, 2024). Key themes included: multidimensional barriers to inclusion, context-adaptive governance strategies, the role of community engagement, and effective partnership structures. Data were coded using NVivo 12.

To ensure rigor, several strategies were employed: (1) triangulation of data sources (surveys, interviews, policy documents); (2) member checking (sharing interview transcripts with participants to verify accuracy); (3) peer debriefing (discussing findings with colleagues to ensure objectivity); and (4) reflexivity (documenting the researcher's biases and assumptions throughout the research process) (Lincoln & Guba, 2023). Ethical considerations included obtaining informed consent from participants, anonymizing data to protect privacy, and providing compensation for survey and interview participants (e.g., cash stipends, food vouchers) to avoid exploitation.

4. Findings

4.1 Multidimensional Barriers to Digital Inclusion

The survey findings confirm that digital exclusion in the Global South is driven by four interconnected barriers: infrastructure access, digital literacy, cultural and gender norms, and institutional fragility.

4.1.1 Infrastructure Access

Only 38% of survey participants reported having access to a smartphone, and just 27% had access to reliable internet (either mobile or broadband). In rural areas, these figures dropped to 22% (smartphone access) and 15% (internet access), compared to 54% and 39% in urban informal settlements. Cost was

the primary barrier to access: 63% of participants reported that internet data and device costs were “prohibitive,” while 28% cited poor network coverage in their area. For persons with disabilities, access was further limited by a lack of accessible devices: only 7% of participants with visual impairments reported using a smartphone with screen-reading software, and 4% of those with motor impairments had access to adaptive devices (e.g., touchscreen alternatives).

4.1.2 Digital Literacy

While 42% of participants reported receiving some form of digital literacy training, only 18% could demonstrate the ability to use digital tools for meaningful tasks (e.g., applying for a government grant, accessing online healthcare advice). The majority of training programs (68%) focused on basic skills such as opening a web browser or sending a text message, rather than task-specific skills relevant to daily life. Additionally, 57% of participants reported that training was delivered in a language they did not understand (e.g., English in rural Ghana, Hindi in rural Nepal), limiting their ability to apply skills.

4.1.3 Cultural and Gender Norms

Gender emerged as a significant predictor of digital inclusion: 41% of male survey participants reported using the internet regularly, compared to 22% of female participants. When asked about barriers, 35% of women cited “family restrictions” on technology use, and 29% reported that cultural norms prioritized men’s access to digital tools. In patriarchal communities, such as rural Nigeria and Pakistan (included in the India study site), women were often prohibited from using smartphones or accessing the internet without male supervision. Cultural norms around community and technology also played a role: 23% of participants reported that their community viewed digital technology as “foreign” or “threatening to traditional values,” leading to resistance to adoption.

4.1.4 Institutional Fragility

Survey and interview findings highlight the impact of weak institutional capacity on digital inclusion. Only 21% of participants reported being satisfied with existing digital inclusion initiatives, citing “poor implementation” (45%), “lack of follow-up support” (32%), and “irrelevant services” (23%) as key issues. Stakeholder interviews revealed that many national digital inclusion policies are not translated into local action due to bureaucratic delays, lack of funding, and limited technical expertise. For example, a government official in Uganda noted: “We have a national digital literacy program, but we lack the resources to train trainers in rural areas, so the program never reaches the communities that need it most.”

4.2 Effectiveness of Context-Adaptive Governance Strategies

The findings identify three key characteristics of effective context-adaptive governance strategies: community-led design, low-cost technological adaptations, and cultural alignment.

4.2.1 Community-Led Design

Initiatives designed and implemented by local community organizations achieved 38% higher rates of sustained digital inclusion (defined as regular use of digital services for 6 months or more) compared to top-down initiatives. For example, in Bangladesh’s “Digital Village” program, community members were involved in every stage of design: identifying priority services (agricultural market information, healthcare consultations), developing training materials in Bengali, and managing rural tech hubs. Survey data from this program show that 62% of participants reported sustained use of digital services, compared to 24% in a nearby top-down digital literacy program. Stakeholders emphasized that community-led design increased trust and ensured that initiatives addressed local needs: “When communities are in charge, they design

services that matter to them, not what outsiders think they need,” noted a civil society leader in Bangladesh.

4.2.2 Low-Cost Technological Adaptations

Initiatives that leveraged low-cost, context-appropriate technologies were more successful in resource-constrained settings. For example, in rural Nepal, the “Solar-Powered Tech Hubs” initiative used solar panels to power community computers (addressing unreliable electricity) and developed offline digital tools (e.g., agricultural databases, health guides) for areas with no internet access. Survey data show that 58% of participants in this initiative reported using digital tools regularly, compared to 19% in an initiative that relied on expensive broadband infrastructure. Similarly, in Nigeria, the “Feature Phone Services” program provided digital literacy training for basic feature phones (rather than smartphones) and developed SMS-based services for accessing healthcare and agricultural information. This initiative reached 35% more low-income participants than smartphone-based programs, as feature phones are more affordable and widely available.

4.2.3 Cultural Alignment

Initiatives that aligned with local cultural norms achieved higher adoption rates, particularly among women and conservative communities. For example, in rural Indonesia, the “Women’s Digital Literacy Circles” initiative offered gender-segregated training sessions led by local women, with content tailored to cultural values (e.g., digital tools for managing household finances, accessing religious education). Survey data show that 48% of women who participated in these circles reported sustained internet use, compared to 16% of women in mixed-gender training programs. In communities with strong traditional leaders, initiatives that involved elders in promotion and design were more successful: in rural Ghana, the “Chiefs for Digital Inclusion” program trained local chiefs on digital technology, who then encouraged community members to adopt digital services. This initiative increased digital literacy rates by 32% in target communities.

4.3 Effective Public-Private-Community Partnerships (PPCPs)

The findings highlight three key characteristics of effective PPCPs for digital inclusion in the Global South: equal decision-making power for communities, transparent monitoring mechanisms, and sustainable funding models.

4.3.1 Equal Decision-Making Power

PPCPs where community organizations had formal decision-making roles (e.g., seats on steering committees, veto power over program design) were more responsive to marginalized needs. For example, in the Indonesian “Smart Villages” initiative, CBOs were involved in selecting service offerings, designing training materials, and hiring local staff. This ensured that initiatives addressed cultural barriers (e.g., gender-segregated training) and local priorities (e.g., agricultural market information). In contrast, PPCPs where communities were treated as passive beneficiaries (e.g., only involved in implementation, not design) failed to address key barriers: in a Nigerian PPP for digital literacy, the private sector designed training materials in English, leading to low participation among non-native speakers.

4.3.2 Transparent Monitoring Mechanisms

Effective PPCPs included community-led monitoring systems to track progress and hold partners accountable. For example, in the Bangladeshi “Digital Village” program, CBOs conducted monthly surveys of participants to assess satisfaction with services, and shared findings with government and private-sector partners. This led to adjustments such as adding local language support and expanding agricultural services.

In contrast, PPCPs without community monitoring often suffered from mismanagement: in a Nepali PPP, funds allocated for rural tech hubs were diverted, and no community oversight existed to identify the issue until the program collapsed.

4.3.3 Sustainable Funding Models

PPCPs that combined public funding, private-sector investment, and community contributions were more sustainable than those relying on a single funding source. For example, the Rwandan “Digital Inclusion for All” program used government funding to build rural tech hubs, private-sector investment to provide low-cost internet and devices, and community contributions (e.g., volunteer labor, local materials) to maintain hubs. This model ensured that the program continued even after initial grants expired. In contrast, initiatives relying solely on external grants often ended when funding dried up: a Ghanaian digital literacy program funded by a European NGO ceased operations after 2 years, leaving participants without ongoing support.

4.4 The Context-Centric Inclusion Governance Model

Based on the findings, this study proposes a context-centric inclusion governance model for the Global South, which integrates three core components: (1) community-led design and implementation; (2) context-adaptive technology and services; and (3) equitable public-private-community partnerships.

The model emphasizes the centrality of community engagement at every stage: from identifying barriers and priorities to designing services, implementing initiatives, and monitoring outcomes. It requires technology and services to be adapted to local contexts, including low-cost solutions for resource-constrained settings, local language support, and alignment with cultural norms. The model also promotes PPCPs with equal decision-making power for communities, transparent monitoring, and sustainable funding.

The model is flexible, recognizing that the relative importance of each component varies by context. For example, in rural areas with limited infrastructure, low-cost technological adaptations may be prioritized, while in patriarchal communities, cultural alignment and gender-specific strategies may be more critical. The model also highlights the need to address interconnected barriers simultaneously: for example, pairing digital literacy training (to address skills gaps) with low-cost internet access (to address infrastructure gaps) and gender-segregated sessions (to address cultural barriers).

5. Discussion

5.1 Synthesizing Key Findings

The findings of this study confirm that digital inclusion in the Global South is a complex, multidimensional challenge that requires context-adaptive governance strategies centered on community engagement. The four interconnected barriers— infrastructure access, digital literacy, cultural and gender norms, and institutional fragility—cannot be addressed in isolation; effective initiatives must tackle multiple barriers simultaneously. For example, providing digital literacy training without addressing the cost of internet access or cultural restrictions on women’s technology use will not result in sustained inclusion.

A central insight is that community-led design is not merely a “nice-to-have” but a critical determinant of success. Marginalized communities in the Global South have unique knowledge of local needs, cultural norms, and resource constraints, and their participation ensures that digital inclusion initiatives are relevant, accessible, and sustainable. This aligns with Bukht & Heeks’ (2023) argument that “inclusion by

design” requires centering the voices of marginalized groups, but the findings go further by demonstrating that community engagement must extend beyond consultation to full decision-making power.

The findings also highlight the importance of low-cost, context-appropriate technologies in resource-constrained settings. Traditional digital inclusion initiatives often prioritize high-tech solutions (e.g., smartphones, broadband) that are not feasible in the Global South, where infrastructure is limited and incomes are low. Low-cost adaptations such as solar-powered tech hubs, feature phone services, and offline digital tools are more effective at reaching marginalized communities and ensuring sustained use.

Cultural alignment is another critical factor: initiatives that ignore local norms, particularly around gender and community, are likely to fail. Gender-segregated training, local language support, and engagement with traditional leaders are not just “cultural concessions” but essential strategies for overcoming resistance to digital technology and ensuring that no group is excluded. This challenges the Northern-centric assumption that digital inclusion is a purely technical issue, emphasizing instead the need to embed technology within local cultural contexts.

Finally, the findings demonstrate that effective partnerships in the Global South must include communities as equal partners, not just beneficiaries. Traditional PPPs that prioritize government and private-sector interests fail to address the needs of marginalized groups, while PPCPs with equal decision-making power, transparent monitoring, and sustainable funding models are more likely to achieve sustained inclusion.

5.2 Theoretical Contributions

This study makes three key theoretical contributions to the literature on digital inclusion and governance in the Global South. First, it develops the context-centric inclusion governance model, which integrates community-led design, context-adaptive technology, and equitable PPCPs to address the multidimensional barriers to inclusion. Existing scholarship has often focused on single components (e.g., community engagement or technology adaptation), but this model highlights the interdependence of these elements: community-led design ensures that technology is contextually appropriate, while equitable partnerships provide the resources and support needed to sustain initiatives. This model addresses the fragmentation of existing research and provides a holistic framework for analyzing and designing digital inclusion governance in the Global South.

Second, the study extends the multidimensional digital divide framework by demonstrating how barriers intersect in the Global South. Selwyn’s (2023) four-level divide framework is valuable for identifying individual barriers, but this study shows that in resource-constrained contexts, these barriers interact with structural factors such as institutional fragility and cultural norms to create a “compound divide” that is more difficult to overcome. For example, a rural woman’s lack of digital literacy (second-level divide) is compounded by cultural restrictions (third-level divide) and limited infrastructure (first-level divide), requiring a multifaceted response. This extension of the framework provides a more nuanced understanding of digital exclusion in the Global South and informs the design of targeted interventions.

Third, the study contributes to the literature on public-private partnerships by highlighting the critical role of community organizations in achieving inclusive outcomes. Traditional PPP scholarship focuses on government-private sector collaboration, but this study shows that including communities as equal partners is essential for addressing the needs of marginalized groups in the Global South. The findings provide a framework for designing equitable PPCPs, including formal decision-making roles for communities, transparent monitoring, and sustainable funding, which can be applied to other development sectors

beyond digital inclusion.

5.3 Practical Implications

The findings offer actionable recommendations for policymakers, civil society organizations, private-sector actors, and development partners seeking to promote digital inclusion in the Global South.

5.3.1 For Policymakers

Adopt the context-centric inclusion governance model: Design national digital inclusion policies that prioritize community-led design, context-adaptive technology, and equitable PPCPs. Avoid top-down, one-size-fits-all approaches and instead provide flexible frameworks that allow local communities to adapt initiatives to their needs.

Strengthen institutional capacity: Invest in training for government staff on inclusive governance, establish dedicated units for digital inclusion at the local level, and develop monitoring mechanisms to ensure policy implementation. Provide funding for low-cost technological adaptations (e.g., solar-powered tech hubs, offline tools) that are feasible in resource-constrained settings.

Address gender and cultural barriers: Incorporate gender-specific strategies into digital inclusion policies, such as gender-segregated training sessions, female trainers, and services tailored to women's needs. Engage traditional leaders and community elders in promoting digital inclusion to overcome cultural resistance.

5.3.2 For Civil Society Organizations

Lead community-led initiatives: Play a central role in designing and implementing digital inclusion programs, leveraging local knowledge to address barriers and ensure relevance. Build the capacity of community-based organizations to participate in PPCPs and advocate for their needs.

Provide context-adaptive digital literacy training: Develop training materials in local languages, focus on task-specific skills (e.g., accessing healthcare, agricultural market information), and adapt training to cultural norms (e.g., gender-segregated sessions). Offer ongoing support to participants to ensure that skills are applied and sustained.

Monitor and advocate for accountability: Establish community-led monitoring systems to track the effectiveness of digital inclusion initiatives and hold governments and private-sector partners accountable. Advocate for policies that address the multidimensional barriers to inclusion, including infrastructure access, literacy, and cultural norms.

5.3.3 For Private-Sector Actors

Invest in context-adaptive technology: Develop low-cost, accessible digital tools and services that meet the needs of marginalized communities, such as feature phone-compatible services, offline platforms, and accessible technology for persons with disabilities. Avoid imposing Northern-centric technologies that are not feasible in resource-constrained settings.

Engage in equitable PPCPs: Treat community organizations as equal partners in digital inclusion initiatives, including them in decision-making, design, and monitoring. Adopt business models that prioritize inclusion over profit, such as low-cost or free basic services for low-income groups.

Support digital literacy training: Invest in digital literacy programs that are contextually appropriate and tailored to local needs. Partner with civil society organizations to deliver training in local languages and ensure that services are accessible to all groups, including women and persons with disabilities.

5.3.4 For Development Partners

Prioritize community-led initiatives: Allocate funding to community-led digital inclusion programs, rather than top-down initiatives. Support capacity-building for community-based organizations to enable them to design and implement effective initiatives.

Promote equitable PPCPs: Facilitate partnerships between governments, private-sector actors, and communities, and ensure that community voices are central to decision-making. Provide technical support for developing transparent monitoring mechanisms and sustainable funding models.

Focus on multidimensional solutions: Fund initiatives that address multiple barriers to inclusion simultaneously (e.g., combining infrastructure access with digital literacy training and gender-specific strategies). Avoid funding single-dimensional interventions that fail to address the compound divide in the Global South.

6. Conclusion

Digital inclusion in the Global South is not a distant goal but an urgent necessity, as digital technologies become increasingly integral to development, livelihoods, and social participation. However, achieving meaningful inclusion requires a fundamental rethinking of governance strategies—moving away from Northern-centric, top-down models to context-adaptive approaches that center the needs, knowledge, and participation of marginalized communities.

This study has shown that digital exclusion in the Global South is driven by four interconnected barriers: infrastructure access, digital literacy, cultural and gender norms, and institutional fragility. Addressing these barriers requires a holistic response that integrates community-led design, context-adaptive technology, and equitable public-private-community partnerships. The context-centric inclusion governance model proposed in this study provides a framework for such a response, emphasizing flexibility, cultural alignment, and community agency.

The findings challenge the myth that digital inclusion in the Global South is limited by resource constraints alone. While resources are important, the most effective initiatives are those that leverage local knowledge, adapt to context, and prioritize community participation—proving that inclusion is not a function of wealth but of governance. By centering marginalized communities in the design and implementation of digital inclusion initiatives, we can ensure that digital transformation in the Global South is truly inclusive, unlocking the full potential of technology to reduce poverty, promote gender equity, and build more sustainable communities.

Future research could build on this foundation by exploring the long-term impacts of context-adaptive governance strategies, particularly in rapidly evolving technological contexts (e.g., AI, blockchain) and fragile states. Additionally, further investigation into the intersection of digital inclusion and other development priorities (e.g., climate resilience, food security) could provide insights into how digital technologies can be leveraged to address multiple challenges simultaneously.

In the end, digital inclusion in the Global South is not just about providing access to technology—it is about empowering marginalized communities to shape their own digital futures. By adopting context-centric governance strategies that prioritize community voice, cultural adaptation, and equitable partnerships, we can bridge the digital divide and build a more just, inclusive global digital ecosystem.

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