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DIGITAL GOVERNANCE AND THE REDISTRIBUTION OF ACCESS COSTS: SOCIOECONOMIC EXCLUSION IN INDIA AND KENYA

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Abstract

Digitalisation is often presented as a way to make public-service delivery more efficient, but greater administrative efficiency does not necessarily mean lower costs for citizens. This paper examines how digital public services can contribute to socioeconomic exclusion through the redistribution of access and transaction costs. Using secondary evidence from India and Kenya, the paper examines how digital requirements interact with unequal resources, accessibility conditions and available support. Across the evidence, barriers involving connectivity, literacy, documentation, authentication and service design can create additional costs for citizens in the form of time, expenditure, effort, repeated attempts and reliance on others. These burdens are uneven and can affect whether access is independent, assisted, burdened or results in exclusion. The evidence differs across the two countries, but in both settings digitalisation can change where the work and costs involved in accessing a service are located. Assessing digital governance therefore requires looking at citizen-side burdens alongside administrative efficiency.

Keywords: digital governance; digital exclusion; transaction costs; administrative burden; accessibility; socioeconomic inequality

1. Introduction

Governments are increasingly moving public services and citizen-state interactions onto digital platforms. The United Nations E-Government Survey 2024 reports that 71.5% of UN Member States now have high or very high levels of e-government development (United Nations Department of Economic and Social Affairs [UN DESA], 2024). Digital transformation involves more than putting existing procedures online; it can also change how public organisations operate and deliver services (Mergel et al., 2019). The Organisation for Economic Co-operation and Development (OECD) similarly links digital government with simpler, more responsive and user-driven public services (OECD, 2020, pp. 6–10, 28–30). Yet moving a service online does not mean that everyone can use it under the same conditions. Device access, connectivity, literacy, digital skills, documentation and available support differ across citizens and intersect with income, education, gender, age, disability and geographical location.

This paper uses access costs to describe the monetary and non-monetary burdens involved in reaching and completing a public-service interaction. These may include learning what is required, arranging documentation or verification, spending time or money, travelling, making repeated attempts or relying on another person for help. In some cases, privacy or autonomy may also be affected. Transaction costs are treated as the part of these burdens that arises more directly from completing the transaction itself. This distinction helps identify

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whose costs are reduced through digitalisation and where additional costs may emerge. For analytical purposes, the paper distinguishes between the conditions that shape access and the burdens those conditions can generate. The access dimensions examined are device and connectivity conditions, affordability, digital literacy and language, documentation and identity requirements, disability and accessibility, and the availability of administrative or human support. These conditions can generate citizen-side information and learning demands, compliance and documentation work, verification and authentication difficulties, time and opportunity costs, direct expenditure and intermediary dependence. This distinction is used throughout the India–Kenya comparison.

India and Kenya are examined as two settings where digital public services have expanded alongside continuing socioeconomic and infrastructural inequalities. The study does not rank the two countries or treat their systems as equivalent. Instead, it looks for recurring ways in which digital requirements can create additional costs for citizens and reveal forms of exclusion that measures of digital availability or administrative efficiency may miss. Its central research question is: How can the digitalisation of public services contribute to socioeconomic exclusion through the redistribution of access and transaction costs?

2. Literature Review

Research on digital government has largely examined how technology changes public administration and service delivery. Mergel et al. (2019) distinguish digital transformation from the simple adoption of technology, while the OECD (2020, pp. 6–11) emphasises digital-by-design and user-driven services. The OECD also distinguishes digital-by-design from digital-by-default and recognises the continued need for assisted and multiple service channels. Digitalisation may make public administration faster or simpler, but this does not by itself establish that citizens experience the resulting services in the same way.

Digital-divide research shows why this distinction matters. Scheerder et al. (2017, pp. 16081612) distinguish inequalities in access from inequalities in digital skills and use, and further from differences in the outcomes people obtain from internet use. Socioeconomic resources shape all of these levels. Income affects the ability to obtain devices and maintain connectivity; education and digital literacy affect the ability to understand and navigate procedures; and geographical location can influence the infrastructure through which services are reached. Age can interact with these conditions as well, particularly where digital familiarity, device access or available support differs between users.

Recent Indian policy evidence illustrates how these inequalities can persist even within an expanding digital ecosystem. NITI Aayog’s 2025 Roadmap on AI for Inclusive Societal Development identifies limited digital skills, language and procedural barriers, as well as complex enrolment processes and fragmented portals, as continuing constraints on technology-enabled access among informal workers. The report places these concerns within

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an informal workforce of approximately 490 million people, showing why effective digital participation cannot be understood through infrastructure expansion alone (NITI Aayog, 2025).

Administrative-burden research adds another dimension by examining the work citizens have to perform when interacting with public services. Moynihan et al. (2015, pp. 43–46) describe administrative burden in terms of learning, compliance and psychological costs. Madsen et al. (2022, pp. 2–3) show that digital self-service can shift tasks previously performed by professional caseworkers onto citizens, producing new learning and compliance demands, although digitalisation can also reduce some existing burdens. A recent systematic review similarly finds that digital service provision can reduce, shift or intensify administrative burden depending on technological, organisational and individual conditions (Hegemann & Ritz, 2026). Buyannemekh et al. (2026) likewise show that administrative burden can vary across stages of digital service delivery and is distributed unevenly across dimensions of the digital divide. Harvey et al. (2023, pp. 1158–1159, 1163) show how users unable to access digitised services independently may travel for support, wait for assistance, pay for printing or rely on family and friends. A transaction can therefore be completed successfully while still requiring considerably more work from one citizen than another.

The design of digital services also shapes access. Liu et al. (2025), in a systematic review of 98 studies, show that digital inclusion in public services depends on technological access, service design and available support. Disability-studies approaches similarly locate accessibility barriers partly in the relationship between people and their environments rather than solely within the individual (Greco, 2019, pp. 28–29). Jaeger (2006, pp. 169–172) argues that e-government accessibility needs to be examined through users' actual interaction with services, while Medhi et al. (2011, pp. 2:2–2:3, 2:9, 2:24–2:25) show how language, terminology and navigation can affect low-literacy users' ability to complete digital tasks. Where independent use becomes difficult, relatives, social workers, libraries or other intermediaries may become part of the access process (Hartman-van der Laan et al., 2026, pp. 662, 670–671; Giest & Samuels, 2023, pp. 635–642).

Gender intersects with these wider inequalities rather than operating separately from them, while disability can similarly interact with other social positions and structural inequalities in shaping digital inclusion and exclusion (Goggin & Soldatić, 2022). Macaya et al. (2021) show why gender matters to the use of e-government services, while broader evidence from low- and middle-income countries (LMICs) continues to show gender differences in mobile internet use. According to GSMA (2026, p. 12), the mobile internet gender gap across LMICs was 12% in 2025, while affordability and literacy or digital skills remained important barriers. Device access, income, education, financial autonomy and wider social conditions can therefore shape how gender affects access to digital services.

Transaction-cost theory offers a way of asking where the costs associated with these interactions sit. Coase (1937, pp. 390–391) drew attention to costs involved in obtaining

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information and carrying out transactions, while Williamson (1985, pp. 15–42) developed transaction-cost economics (TCE) around the organisation and governance of transactions. The theory was not developed specifically for digital welfare or public-service access, but it is useful for distinguishing costs borne by public administration from those borne by citizens. Automation may reduce staff time, paperwork or processing for the state while users face information, documentation, authentication, repeated-attempt or opportunity costs. A recent application of TCE to civil registration in India similarly identifies travel, documentation, procedural complexity and information gaps as uneven citizen-side transaction costs (Verma et al., 2026).

The literature therefore shows that digital availability, effective use and the cost of completing a service are not the same thing. What citizens have to do to use a service depends partly on their resources, the design of the service and the support available to them. Digitalisation can reduce some demands while shifting others to a different part of the access process.

3. Research Gap

Research on digital exclusion already shows that citizens differ in their access to devices, connectivity and digital skills (Scheerder et al., 2017). Accessibility studies also show that the design of a service can create barriers (Liu et al., 2025; Jaeger, 2006), while administrative burden and transaction-cost research draws attention to the work, time and resources involved in dealing with public institutions (Moynihan et al., 2015; Hegemann & Ritz, 2026). These issues overlap in practice, but they are less often examined together in studies of digital public service access.

A service may ultimately be completed only after a person spends extra money, makes repeated attempts, seeks help from others or deals with difficult documentation or authentication requirements. Looking only at whether a service is online or eventually completed can therefore hide substantial differences in the burden involved.

This study examines those differences through evidence from India and Kenya. It focuses on how digital-service requirements interact with the resources available to citizens, what additional costs arise from that interaction and how these costs shape the eventual access outcome.

4. Research Methodology

This study uses a qualitative comparative design based on secondary sources. India and Kenya were selected purposively because digital public services have expanded in both countries alongside continuing socioeconomic and infrastructural inequalities. The study does not compare national performance or treat systems such as Aadhaar, eCitizen, Common

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Service Centres and Huduma Centres as equivalent. The comparison focuses on the mechanism linking digital-service requirements to citizen-side costs and access outcomes.

This is not a systematic review. The analysis is purposive and interpretive. Sources were identified through targeted searches on digital governance, digital public services, digital exclusion, administrative burden, transaction costs and accessibility, with separate searches for India and Kenya. References in relevant studies and reports were also followed where they led to useful evidence. Sources were included when they addressed citizen access, barriers or citizen-side costs within digital public-service delivery. The evidence base includes peer-reviewed empirical research, official statistics, judicial decisions, institutional and government reports, and accessibility assessments, with peer-reviewed, official and primary sources prioritised where available. Because the sources examine different services, populations and outcomes, the findings are not statistically aggregated or used to compare effect sizes. The analysis identifies recurring mechanisms rather than estimating their prevalence.

Official statistics are used to describe broader material-access conditions; experimental or quantitative studies are used where they permit stronger estimates of transaction effects; and qualitative studies, judicial material and accessibility assessments are used to identify mechanisms, experiences and design barriers rather than to infer national prevalence. This distinction is important because the selected evidence differs across services, populations and methods.

The analytical framework combines access costs with transaction-cost economics and administrative-burden research. The evidence is organised into five transaction-cost categories: information and learning, compliance and documentation, verification and authentication, time and opportunity, and monetary and intermediary costs. Transaction-cost economics helps examine where transaction-related costs are located, while administrative-burden research informs the treatment of learning and compliance costs (Moynihan et al., 2015, pp. 43–46). Psychological costs are not treated as a separate category because they are not consistently measured in the selected evidence. Privacy and autonomy are treated as wider access costs where directly evidenced. Access outcomes are distinguished as independent access, assisted access, burdened access and substantive exclusion. “Redistribution” refers to a change in where requirements and work are located rather than a measured one-to-one transfer from government to citizens.

To identify where an access burden originates, the analysis also distinguishes infrastructure related exclusion from administrative or institutional-design exclusion. Infrastructure-related exclusion concerns whether citizens have affordable devices, connectivity and data access. Administrative or institutional-design exclusion concerns the rules and service features through which access is organised, including language and procedural complexity, documentation, authentication, interface accessibility, channel design, assistance, and correction or grievance processes. The two can overlap and compound one another, but

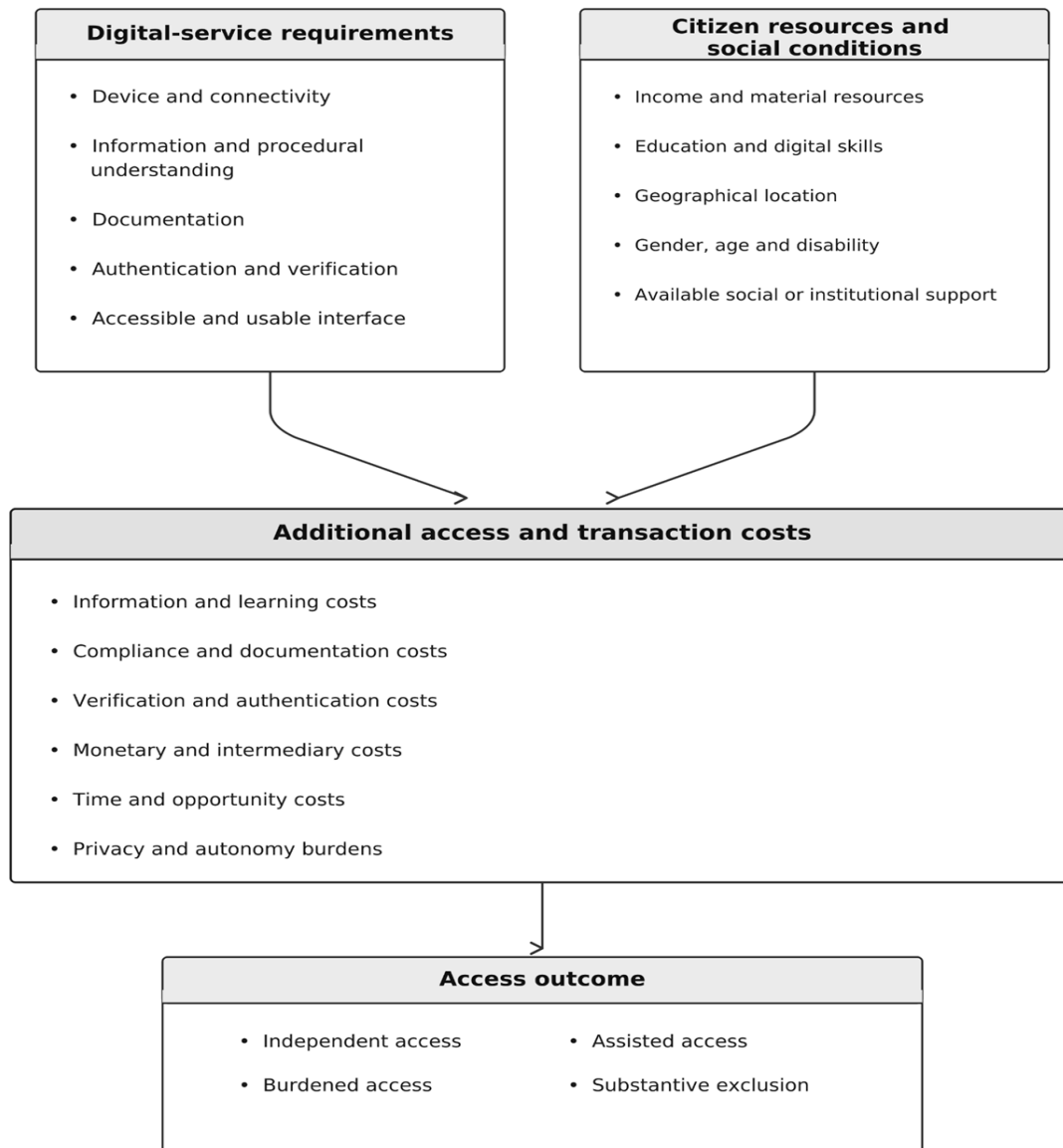
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keeping them analytically distinct helps identify the source of a burden. The five cost categories are heuristic working categories used to organise heterogeneous evidence; they are not presented as a validated scale, as mutually exclusive categories, or as a standard taxonomy within transaction-cost economics.

Figure 1 summarises the analytical framework used to organise the study.

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Note. Privacy and autonomy are treated as wider access costs rather than conventional transaction costs.

5. Analysis and Findings

The findings first examine affordability and connectivity, digital literacy, accessibility and gender before synthesising the evidence through the transaction-cost framework. The same analytical sequence is applied to evidence from both countries. Section 5.1 examines primarily infrastructure and material-access conditions, especially devices, connectivity and affordability. Sections 5.2–5.4 examine literacy and language, accessibility, authentication, assisted access and intersecting social conditions, with particular attention to administrative or institutional design. Section 5.5 translates these barriers into the common citizen-side cost categories, and Section 5.6 compares the recurring mechanism across India and Kenya. The distinction between infrastructure and design is analytical rather than absolute because the two can reinforce one another.

5.1 Affordability, Devices and Connectivity

In India, rural internet tele-density stood at 44.16 subscriptions per 100 population compared with 111.75 in urban areas in March 2024 (Telecom Regulatory Authority of India [TRAI], 2024, Table 1.32, p. 43). Since tele-density measures subscriptions rather than unique individuals, these figures should not be read as the percentage of residents using the internet. In Kenya, the 2023/24 Kenya Housing Survey recorded mobile-phone ownership of 53.7% among individuals aged three years and above, with ownership considerably higher in urban areas at 64.6% than in rural areas at 48.6% (Kenya National Bureau of Statistics [KNBS], 2024, p. 48). These indicators are not directly comparable across countries—one measures subscriptions relative to population while the other measures individual phone ownership—but both show substantial within-country differences in material access.

Affordability is another relevant access condition. International Telecommunication Union (ITU) data for 2025 show that a 5 GB data-only mobile-broadband basket represented 0.93% of gross national income per capita in India and 4.1% in Kenya (ITU, 2025). These national level indicators do not show what every individual household can afford, but they demonstrate why connectivity cannot be treated as costless.

In their qualitative study of social protection in Tamil Nadu, Carswell and De Neve (2022, pp. 134–138) found that better-resourced users could more often manage online applications or corrections themselves, while poorer users relied more heavily on internet centres and other forms of mediation.

5.2 Digital Literacy, Language, Education and Navigation

Digital access also depends on understanding instructions and completing required procedures. The same qualitative study found that some women and older users in Tamil Nadu relied on relatives or neighbours to interpret ration-related SMS messages sent in English. National survey data also show a rural–urban difference in more complex digital skills. Among people aged 15–24, 21.0% of rural respondents could search for information online, send or receive emails and perform online banking transactions, compared with 40.2% of urban respondents (Ministry of Statistics and Programme Implementation [MoSPI], 2024). In Kenya, Gakuru and Ngaruiya (2024, p. 125) link adult learners' use of e-services to their level of digital literacy. Drawing on interviews with older persons and social-protection officers, Onyango and Ondiek (2023, p. 368) similarly describe an older social-protection beneficiary relying on a grandchild because of limited technical competence and poor eyesight.

5.3 Accessibility, Authentication and Assisted Access

Paul's assessment of 65 Indian e-government websites found accessibility failures at Level A and Level AA of Web Content Accessibility Guidelines (WCAG) 2.1, with the majority not even meeting the minimum Level A standard (Paul, 2023, pp. 667–668).

These findings are notable against the Government of India's Guidelines for Indian Government Websites and Apps (GIGW 3.0), which frame usability, user-centricity and universal accessibility as core requirements and incorporate WCAG 2.1 Level AA for government websites and apps (National Informatics Centre, n.d.). The policy benchmark does not establish implementation, but it allows the accessibility evidence to be interpreted against the standard government services are expected to meet.

Kenyan evidence shows a similar distinction between technological access and actual service use. In a baseline survey of persons with disabilities in Nairobi County, Luciani et al. (2026, pp. 2, 8, 12) found relatively high information and communication technology (ICT) and internet access but substantially lower use of digital government services, alongside reported barriers involving inaccessible platforms, connectivity, cost and skills. These findings do not allow the difference in service use to be attributed to accessibility alone.

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Some barriers appear at a compulsory stage of the transaction. In *Pragya Prasun & Ors. v. Union of India & Ors.* (2025), the Supreme Court considered difficulties with digital Know Your Customer (KYC) procedures involving visual information, photographs, face positioning and liveness checks. The judgment records that such procedures could prevent blind users from completing verification independently and also discusses inaccessible biometric devices (pp. 6–7, 35–37).

In Kenya, inABLE identified inaccessible CAPTCHA, keyboard and focus problems, unlabelled controls and inaccessible form errors across government digital services (inABLE, 2022a, pp. 15–16; 2022b, pp. 48–49). The separate inABLE technical audit tested 49 pages across 41 websites, including 30 pages on 22 government websites (inABLE, 2022a, p. 14). Ouma et al. (2023, p. 6), in a KICTANet accessibility scorecard, similarly assessed 46 public websites and found continuing accessibility barriers. Ouma et al. (2023, p. 28) report that some persons with disabilities turned to cybercafés where independent use of government platforms was not possible, creating financial and cybersecurity concerns.

The Kenya National Digital Master Plan 2022–2032 also includes indicators for the share of government services accessible to people with disabilities and for digital-skills inclusion among persons with disabilities and other disadvantaged groups (Ministry of ICT, Innovation and Youth Affairs, 2022, pp. 129–131). The policy commitment does not establish implementation, but it provides an official benchmark against which the accessibility evidence can be interpreted.

5.4 Gender and Intersecting Conditions of Access

Gender does not produce the same pattern of digital exclusion in every setting. In rural Rajasthan, Soni and Mitchell (2022, pp. 67, 70–72) found that women in their sample were somewhat more likely than men to use the eMitra assisted service and reported higher satisfaction with it.

Carswell and De Neve (2022, p. 131), however, describe a different form of mediation, where some women relied on relatives or neighbours to interpret welfare messages. National NFHS5 data show a broader gender difference in internet use: 33.3% of women aged 15–49 had ever used the internet compared with 57.1% of men, while in rural areas the corresponding figures were 24.6% and 48.7% (International Institute for Population Sciences [IIPS] & ICF, 2021).

Kenyan data reinforce this point. Among individuals aged three years and above, mobile-phone ownership was fairly close between males and females, at 54.5% and 52.9% respectively, while internet use in the three months preceding the survey was 37.8% for males and 32.2% for females (KNBS, 2024, pp. 48, 52). Taken together, these findings do not support a single gender effect across settings. Rather, gender shapes access through its

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interaction with device ownership, literacy, mobility, social support and the availability of assisted-service channels.

5.5 Transaction Costs and Cost-Shifting

The evidence also indicates that these costs are not distributed evenly. The clearest causal evidence in the selected material comes from Muralidharan et al.'s experimental study (2025, Table 3), which found that stricter Aadhaar-based biometric requirements increased beneficiary transaction costs by about 17% relative to the control mean. Losses were concentrated among households whose ration cards had not been successfully seeded (Muralidharan et al., 2025, Table 5), and these households had fewer years of schooling on average than seeded households (Muralidharan et al., 2025, Table A.17). This finding demonstrates an increase in citizen-side transaction costs under a stricter verification regime; it does not, by itself, measure an equivalent reduction in government-side costs.

Across the findings, the barriers can be grouped into five citizen-side cost categories, summarised in Table 1.

Table 1

Working cost categories and illustrative evidence from India and Kenya

Cost category	Meaning in this study	India example	Kenya example
Information and learning	Time and effort needed to understand the service, instructions or procedure	Some women and older users relied on relatives or neighbours to interpret ration-related SMS messages (Carswell & De Neve, 2022, p. 131)	Older users relied on others to navigate digital social-protection and government procedures (Onyango & Ondiek, 2023, p. 368; Gakuru & Ngaruiya, 2024, p. 125)

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Cost category	Meaning in this study	India example	Kenya example
Compliance and documentation	Work needed to satisfy documentation, form-filling or other procedural requirements	Aadhaar-linked corrections and digital KYC requirements (Carswell & De Neve, 2022, pp. 134–138; <i>Pragya Prasun</i> , 2025, pp. 6–7, 35–37)	Difficulties completing tax submission, registration and government digital-document procedures (inABLE, 2022b, pp. 48–49)
Verification and authentication	Costs created by failed, repeated or inaccessible identity checks	Aadhaar biometric-authentication requirements and inaccessible digital KYC (Muralidharan et al., 2025; <i>Pragya Prasun</i> , 2025, pp. 6–7, 35–37)	Inaccessible CAPTCHA and form/error processes (inABLE, 2022a, pp. 15–16; 2022b, pp. 48–49)
Time and opportunity	Additional travel, waiting, repeated attempts or loss of productive time	Additional unsuccessful Public Distribution System (PDS) visits following biometric authentication (Muralidharan et al., 2025, Table A.10)	Not directly quantified in the Kenyan evidence used in this study

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Cost category	Meaning in this study	India example	Kenya example
Monetary and intermediary	Direct spending or reliance on an intermediary needed to complete a transaction	Ethnographic evidence documents charges by private agents or document centres for assistance with digitised procedures (Chambers, 2025, pp. 98–100)	Financial burden associated with cybercafé dependence where government platforms were inaccessible (Ouma et al., 2023, p. 28)

Note. Examples are illustrative and are not intended as equivalent measures across India and Kenya. Privacy and autonomy are treated as wider access costs rather than conventional transaction costs.

5.6 Cross-Context Pattern

Across India and Kenya, the evidence does not support a claim that the same services, populations or levels of exclusion are being observed. The recurring pattern is narrower: digital-service requirements meet citizens with unequal material resources, skills, accessibility conditions and support, and those differences can change the work required to complete a transaction. A requirement that is routine for one user may therefore produce repeated attempts, travel, payment, documentation work or reliance on another person for someone else.

The cross-context mechanism can be summarised as digital requirement → unequal access conditions and resources → additional citizen-side cost → access outcome. The outcome may still be successful, but it can be assisted or burdened rather than independent; in some cases the accumulated burden contributes to substantive exclusion. The value of the comparison lies in identifying this recurring mechanism across different digital-governance environments, not in ranking India and Kenya or treating the available evidence as equivalent measures.

An Independent Youth-Led Think Tank**6. Discussion**

The findings show that administrative efficiency and citizens' experience of a digital service do not always move together. A process may become easier for an institution to administer while still requiring considerable time, effort or assistance from some citizens. Across the evidence, material access, digital literacy, accessibility and available support affect how much work is needed to complete the same formal process. This is consistent with administrative burden research on learning and compliance costs (Moynihan et al., 2015; Madsen et al., 2022), while also showing how these burdens are shaped by socioeconomic and accessibility inequalities.

The exclusionary effect of these costs lies in how unevenly they are distributed: the same digital requirement can demand more time, money, documentation or assistance from citizens with fewer resources, making access more difficult along socioeconomic lines. Digitalisation can also change where transaction-related work and costs fall, even when the overall direction of change is not straightforward. The evidence does not establish a one-to-one transfer of costs from government to citizens. A formally uniform requirement may remain routine for one user while producing repeated attempts, expenditure, documentation burdens, dependence or exclusion for another. Successful completion alone does not capture the full burden of access: a transaction may be completed only after additional time, payment or reliance on an intermediary. Privacy and autonomy can also become wider access costs where users must disclose personal information to obtain assistance (Ouma et al., 2023, p. 28; Pragma Prasun, 2025, pp. 6–7).

The distinction between assisted and burdened access is especially important. Assistance can reduce exclusion when it is deliberately available as part of service delivery, as the eMitra evidence suggests (Soni & Mitchell, 2022, pp. 67, 70–72). By contrast, having to locate or pay a private intermediary because the ordinary digital route is inaccessible places additional work and cost on the citizen (Chambers, 2025, pp. 98–100; Ouma et al., 2023, p. 28). Gender, age and disability similarly shape burden through their interaction with material resources, digital skills, service design and available support (Goggin & Soldatić, 2022).

The evidence bases for India and Kenya are uneven. The Indian evidence includes direct experimental measurement of transaction costs in Aadhaar-linked welfare (Muralidharan et

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al., 2025, Table 3), while much of the Kenyan evidence comes from surveys, qualitative studies and accessibility assessments. This limits direct comparison across services and populations. The evidence instead points to a recurring pattern across the two contexts, without suggesting that the scale or effects are equivalent. In both settings, digital requirements can interact with unequal citizen resources and generate additional citizen-side costs, producing outcomes from independent and assisted access to burdened access and substantive exclusion.

Accordingly, the comparison does not support claims about relative prevalence or effect size; its comparative inference is limited to the recurring mechanism identified in Section 5.6 rather than equivalent national effects.

The policy implication is not that digitalisation should be rejected, but that administrative efficiency should be assessed alongside the distribution of citizen-side burdens. In practice, this requires accessible interfaces, clear procedures, affordable connectivity, assisted and alternative service channels, including community-based or offline access points where appropriate, and workable ways to correct documentation or authentication failures.

6.1 Policy Implications

The policy implications can be consolidated around five practical areas that respond directly to the access-cost problems identified in the findings. First, affordability measures, including low data options and continued non-digital routes where necessary, respond to connectivity and direct monetary costs. Second, accessibility requirements for interfaces, forms and authentication processes respond to disability-related navigation, verification and intermediary costs. Third, sustained assisted service delivery through publicly supported help points, telephone assistance or trained staff can reduce information, learning and compliance burdens without forcing citizens to purchase private mediation. Fourth, inclusive service design—clear language, simpler procedures, proportionate documentation and authentication requirements, and compatibility with assistive technologies—can reduce learning, documentation and repeated-attempt costs. Fifth, accessible grievance redress and correction routes, including human escalation and alternatives when digital verification fails, can reduce the time, travel and opportunity costs created by unresolved records, authentication failures or

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inaccessible processes. These measures do not replace digital channels; they make the costs of using them less dependent on citizens' income, skills, disability or access to informal support.

7. Conclusion

Overall, moving public services online does not mean that citizens encounter them under equal conditions. Evidence from India and Kenya shows that differences in resources, accessibility and available support can affect the time, money, documentation or assistance needed to complete a digital service. The paper's contribution is therefore to treat socioeconomic exclusion not simply as a question of being online or offline, but as a distributional question about who bears the work and costs of reaching and completing a service.

For inclusive digital governance, administrative efficiency needs to be judged alongside citizen-side burdens and the availability of accessible, workable routes to completion. The study cannot estimate a one-to-one shift between government and citizen costs, and its heterogeneous evidence limits direct comparison between India and Kenya. Future research should examine comparable transactions from both citizen and institutional perspectives so that changes in costs on each side can be measured more directly.

References

- Buyannemekh, B., Luna, D. E., Picazo-Vela, S., & Luna-Reyes, L. F. (2026).** Citizens' perspectives on administrative burden in digital government services. *Government Information Quarterly*, 43(3), 102165. <https://doi.org/10.1016/j.giq.2026.102165>
- Carswell, G., & De Neve, G. (2022).** Transparency, exclusion and mediation: How digital and biometric technologies are transforming social protection in Tamil Nadu, India. *Oxford Development Studies*, 50(2), 126–141. <https://doi.org/10.1080/13600818.2021.1904866>
- Chambers, T. (2025).** 'Lean on me': Sifarish, mediation & the digitisation of state bureaucracies in India. *Ethnography*, 26(1), 84–105. <https://doi.org/10.1177/1466138120940755>
- Coase, R. H. (1937).** The nature of the firm. *Economica*, 4(16), 386–405. <https://doi.org/10.1111/j.1468-0335.1937.tb00002.x>

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Gakuru, A., & Ngaruiya, B. (2024). Prospects for adult learner digital literacy and utilisation of e-consumer services in Nairobi County, Kenya. *Journal of Pedagogy, Andragogy and Heutagogy in Academic Practice*, 5(2), 119–131. <https://uonjournals.uonbi.ac.ke/index.php/pedagogy/article/view/2423>

Giest, S., & Samuels, A. (2023). Administrative burden in digital public service delivery: The social infrastructure of library programs for e-inclusion. *Review of Policy Research*, 40(5), 626–645. <https://doi.org/10.1111/ropr.12516>

Goggin, G., & Soldatić, K. (2022). Automated decision-making, digital inclusion and intersectional disabilities. *New Media & Society*, 24(2), 384–400. <https://doi.org/10.1177/14614448211063173>

Greco, G. M. (2019). Towards a pedagogy of accessibility: The need for critical learning spaces in media accessibility education and training. *Linguistica Antverpiensia, New Series – Themes in Translation Studies*, 18, 23–46. <https://doi.org/10.52034/lanstts.v18i0.518>

GSMA. (2026). The mobile gender gap report 2026. <https://www.gsma.com/wp-content/uploads/2026/06/The-Mobile-Gender-Gap-Report-2026.pdf>

Hartman-van der Laan, M., Van Deursen, A. J. A. M., Van Laar, E., & Tuinstra, J. (2026). The role of social work in digital inclusion: A systematic literature review. *European Journal of Social Work*, 29(3), 658–674. <https://doi.org/10.1080/13691457.2025.2553856>

Harvey, M., Hastings, D. P., & Chowdhury, G. (2023). Understanding the costs and challenges of the digital divide through UK council services. *Journal of Information Science*, 49(5), 1153–1167. <https://doi.org/10.1177/01655515211040664>

Hegemann, M., & Ritz, A. (2026). Administrative burden in digital service provision: A systematic literature review and research agenda. *Perspectives on Public Management and Governance*, 9(3), 171–190. <https://doi.org/10.1093/ppmgov/gvag004>

inABLE. (2022a, April 10). Digital accessibility gap analysis report for Kenya 2021. https://inable.org/wp-content/uploads/2023/09/A11Y_6-SEPT-2023_-DIGITAL-ACCESSIBILITY-GAP-ANALYSIS-BY-inABLE_2022.pdf

inABLE. (2022b, May). National gap assessment of digital accessibility in the Republic of Kenya. https://inable.org/wp-content/uploads/2025/08/A11y_6-Aug-2023_Kenya-National-Gap-Assessment-Report-Status-of-ICT-Accessibility-and-Digital-Inclusion-May-2022_inABLE_.pdf

An Independent Youth-Led Think Tank

International Institute for Population Sciences (IIPS) & ICF. (2021). National Family Health Survey (NFHS-5), 2019–21: India. IIPS.

International Telecommunication Union. (2025). ICT prices [Data set]. Retrieved August 28, 2026, from <https://www.itu.int/en/ITU-D/Statistics/Pages/ICTprices/default.aspx>

Jaeger, P. T. (2006). Assessing Section 508 compliance on federal e-government Web sites: A multi-method, user-centered evaluation of accessibility for persons with disabilities. *Government Information Quarterly*, 23(2), 169–190. <https://doi.org/10.1016/j.giq.2006.03.002>

Kenya National Bureau of Statistics. (2024). 2023/24 Kenya Housing Survey basic report. <https://www.knbs.or.ke/reports/2023-24-kenya-housing-survey-basic-report/>

Liu, H., Zhou, Q., & Liang, S. (2025). Digital inclusion in public services for vulnerable groups: A systematic review for research themes and goal-action framework from the lens of public service ecosystem theory. *Government Information Quarterly*, 42(2), 102019. <https://doi.org/10.1016/j.giq.2025.102019>

African Journal of Arts and Social Sciences, 9(3), 1–16. <https://doi.org/10.37284/eajass.9.3.5244>

Luciani, A., Kiptum, B., Juma, C., Wanjiru, M., Ogotu, O., Abdalla, H. B., Wanzalla, T., Kahindi, M., Waruru, A., & Nzuki, A. (2026). Baseline survey on digital accessibility of government services for persons with disabilities in Nairobi County, Kenya, 2021. East

Macaya, J. F. M., Ribeiro, M. M., Jereissati, T., dos Reis Lima, C., & Cunha, M. A. (2021). Gendering the digital divide: The use of electronic government services and implications for the digital gender gap. *Information Polity*, 26(2), 131–146. <https://doi.org/10.3233/IP-200307>

Madsen, C. Ø., Lindgren, I., & Melin, U. (2022). The accidental caseworker—How digital self-service influences citizens’ administrative burden. *Government Information Quarterly*, 39(1), 101653. <https://doi.org/10.1016/j.giq.2021.101653>

Medhi, I., Patnaik, S., Brunskill, E., Gautama, S. N. N., Thies, W., & Toyama, K. (2011). Designing mobile interfaces for novice and low-literacy users. *ACM Transactions on Computer-Human Interaction*, 18(1), Article 2. <https://doi.org/10.1145/1959022.1959024>

An Independent Youth-Led Think Tank

Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government Information Quarterly*, 36(4), 101385. <https://doi.org/10.1016/j.giq.2019.06.002>

Ministry of ICT, Innovation and Youth Affairs. (2022). The Kenya National Digital Master Plan 2022–2032. Government of Kenya. <https://www.icta.go.ke/downloads>

Ministry of Statistics and Programme Implementation. (2024). NSS Report No. 590: Comprehensive Annual Modular Survey, 2022–23. Government of India. https://www.mospi.gov.in/sites/default/files/publication_reports/CAMS%20Report_October_N.pdf

Moynihan, D., Herd, P., & Harvey, H. (2015). Administrative burden: Learning, psychological, and compliance costs in citizen-state interactions. *Journal of Public Administration Research and Theory*, 25(1), 43–69. <https://doi.org/10.1093/jopart/muu009>

Muralidharan, K., Niehaus, P., & Sukhtankar, S. (2025). Identity verification standards in welfare programs: Experimental evidence from India. *The Review of Economics and Statistics*, 107(2), 372–392. https://doi.org/10.1162/rest_a_01296

National Informatics Centre. (n.d.). Guidelines for Indian Government Websites and Apps (GIGW 3.0). Ministry of Electronics & Information Technology, Government of India. Retrieved September 19, 2026, from <https://guidelines.india.gov.in/>

NITI Aayog. (2025). Roadmap on AI for inclusive societal development. Government of India. https://www.niti.gov.in/sites/default/files/2025-10/Roadmap_On_AI_for_Inclusive_Societal_Development.pdf

Onyango, G., & Ondiek, J. O. (2023). Digitalising analogue policy targets! ‘Digital capabilities’ of older persons and policy digitalisation of social safety net programs in a developing country context. *Journal of Technology in Human Services*, 41(4), 348–375. <https://doi.org/10.1080/15228835.2023.2263494>

Organisation for Economic Co-operation and Development. (2020). The OECD digital government policy framework: Six dimensions of a digital government (OECD Public Governance Policy Papers No. 2). OECD Publishing. <https://doi.org/10.1787/f64fed2a-en>

Ouma, F. A., Nyakundi, N., & Okite, J. (2023, June). Scorecard: Accessibility of government websites to persons with disabilities (Policy Brief No. 15). Kenya ICT Action Network. <https://www.kictanet.or.ke/?mdocs-file=48324>

An Independent Youth-Led Think Tank

Paul, S. (2023). Accessibility analysis using WCAG 2.1: Evidence from Indian e-government websites. *Universal Access in the Information Society*, 22(2), 663–669. <https://doi.org/10.1007/s10209-021-00861-9>

Pragya Prasun & Ors. v. Union of India & Ors., 2025 INSC 599 (Supreme Court of India, 2025). https://api.sci.gov.in/supremecourt/2024/17879/17879_2024_13_1501_61229_Judgement_30-Apr-2025.pdf

Scheerder, A., van Deursen, A., & van Dijk, J. (2017). Determinants of Internet skills, uses and outcomes: A systematic review of the second- and third-level digital divide. *Telematics and Informatics*, 34(8), 1607–1624. <https://doi.org/10.1016/j.tele.2017.07.007>

Soni, S., & Mitchell, A. M. (2022). Women and digital government in rural India: Extending TAM with user assisted service. *Information Polity*, 27(1), 59–78. <https://doi.org/10.3233/IP-200302>

Telecom Regulatory Authority of India. (2024). The Indian telecom services performance indicator report: January–March 2024. <https://www.trai.gov.in/node/1556>

United Nations Department of Economic and Social Affairs. (2024). United Nations e-government survey 2024: Accelerating digital transformation for sustainable development with the addendum on artificial intelligence. United Nations. <https://digitallibrary.un.org/record/4061269?ln=en>

Verma, S., Kamal, R., Dwivedi, L. K., & Halli, S. S. (2026). From delivery to identity: Applying transaction cost economics to health-enabled civil registration in India. *Frontiers in Public Health*, 14, 1743341. <https://doi.org/10.3389/fpubh.2026.1743341>

Williamson, O. E. (1985). The economic institutions of capitalism: Firms, markets, relational contracting. Free Press.