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E-Governance Initiatives and ICT for Good Governance: A Study of Public Service Delivery In India

Sadasib Gajendra[1], Dr. Saroj Kumar Jena[2]

[1](PhD) Research Scholar, P.G Department of Political Science, Berhampur University
[2]Assistant Professor, Department of Political Science, Niranjan Govt. Women's college, Aska

Abstract

In the era of globalisation, Information and Communication Technologies (ICT) have played an important role in improving public service delivery in India. Since the launch of the Digital India mission, India has launched various national and state digital platforms, digital identity, and distributed service delivery architecture (CSCs). This study synthesizes policy documents and empirical data to assess how e-governance interventions have enhanced accessibility, efficiency, transparency, and accountability of public services. This research indicate how the changing governance system helps to convenience, transaction speed, and scope of services, especially where digital infrastructure and local intermediaries (VLEs) exist; however, there are some challenges, such as the digital divide, infrastructure gaps, low digital literacy, financial sustainability data privacy, and exclusion risks associated with e governance systems that constrain equitable impact.

Keywords: E-Governance, ICT, public service delivery, Digital India, Direct Benefit Transfer, Common Service Centre

Introduction

E-governance and the application of ICT by public agencies to transform governance and deliver public services have been a central theme of India's modernization and service delivery strategy over the past two decades. The Digital India mission, launched with a multi-pillar approach, has sought to provide broadband highways, universal mobile access, public internet access through CSCs, and digital service platforms like UMANG, DigiLocker, and Mobile Seva to make government services more accessible, efficient, and transparent. These initiatives are complemented by Aadhaar, India's biometric digital identity program, which underpins authentication and subsidy delivery for numerous welfare schemes. This study asks: to what extent have e-governance initiatives delivered on promises of improved public service delivery in India, and what obstacles remain for achieving inclusive, accountable digital governance?

Methodology:

The study employ a qualitative and descriptive research method based on secondary data from government reports, policy documents, and scholarly articles to analyze e-governance initiatives and ICT applications in India.

Objective of the study:

1. To examine the role of e-governance initiatives and ICT in promoting transparency, accountability, and efficiency in public service delivery in India.
2. To evaluate what extent the application of ICT in governance system has enhanced the citizen participation, inclusion and trust in governance process.
3. To identify the issues and challenges in the implementation of e-governance initiatives in India.

Review of the literature

This study highlights the exclusionary effects of Aadhaar-based systems, especially for marginalized groups. Field evidence shows gaps in welfare access due to authentication failures. It raises concerns about digital governance reinforcing social inequalities. **Bhatia, Gupta, & Kaur (2020).** One of the earliest works on e-governance in India, this book provides practical insights into implementation with case studies. It emphasizes how ICT can improve transparency and efficiency in governance. The work remains foundational in policy and academic discussions. **Bhatnagar (2003).** Heeks' international perspective explores challenges of e-government adoption in developing countries. The text provides a framework for understanding implementation gaps. It is widely cited for its practical strategies in managing digital transformation **Heeks (2006).** This article examines India's digital governance progress while acknowledging persistent challenges such as the digital divide. It argues that while ICT has improved service delivery, inclusivity remains limited. The study emphasizes policy reforms for better governance outcomes. **Jain & Sinha (2018).** Khera critiques Aadhaar's role in financial inclusion and welfare delivery. The paper shows that despite efficiency claims, Aadhaar often leads to the exclusion of vulnerable populations. It calls for rethinking biometric-based governance models. **Khera (2019)**

This work provides empirical evidence on Aadhaar's role in enhancing state capacity and reducing leakages in welfare payments. It shows both the benefits and limitations of biometric authentication. The findings are significant for debates on digital governance efficiency. **Muralidharan, Niehaus, & Sukhtankar (2016).** The study addresses data governance and privacy challenges in India's digital transformation. It explores risks related to surveillance and personal data misuse. The paper suggests stronger regulatory mechanisms for citizen-centric governance. **Sharma & Gupta (2021).** This research focuses on strategies for interoperable e-government systems. It highlights the importance of integration across government departments for better service delivery. The article contributes to global debates on ICT-enabled governance models. **World Bank (2016).** This report links digital governance to Sustainable Development Goals (SDGs). It highlights opportunities for inclusive development but warns of risks of deepening inequality. The work is important for connecting governance reforms with global development agendas. **United Nations Development Programme (2019)**

Conceptual and Policy Background

E-Governance Goals and Frameworks

Globally, e-governance aims to enhance government-citizen (G2C), government-business (G2B), government-government (G2G), and government-employee (G2E) interactions using ICT to improve efficiency, transparency, participation, and service reach. India's National e-Governance Plan (NeGP) and Digital India articulate a comprehensive vision linking infrastructure connectivity, data centres, platforms, and service delivery to transform the citizen experience of government. The National e-Governance Division (NeGD) operates several national public digital platforms like UMANG, DigiLocker, and API Setu, designed for scale and reuse across ministries and states.

The 9 Pillars of Digital India

Digital India organizes interventions under nine pillars, for example, Broadband Highways; Universal Mobile Connectivity; Public Internet Access Programme; e-Governance; e-Kranti, etc. These pillars reflect a systems approach: improving digital infrastructure, enabling access points at the village level (CSCs), building national platforms, and stimulating demand through digital literacy and services. This policy architecture is central to understanding how diverse programs are expected to interact to improve public service delivery.

Major E-Governance Initiatives and Their Service Roles

1. Common Service Centres (CSCs) Last-mile Access

CSCs are physical access points aided by Village Level Entrepreneurs (VLEs). They were conceived to provide a wide range of G2C services, certificates, utility payments, banking, insurance, telemedicine, and more to rural populations where home internet access is limited. Over time, CSCs have expanded to include digital financial services and business-support services, operating as rural micro-enterprises and change agents for digital inclusion. Multiple assessments show CSCs have increased reach of services, but viability, connectivity, and capacity constraints affect performance.

2. Aadhaar Foundational Digital Identity

Aadhaar provides a unique biometric-based identity and has been widely used for targeting welfare transfers, authentication at service points, and duplication. Proponents argue that Aadhaar reduces leakages and speeds up benefit delivery; critics raise concerns about exclusion (biometric failures), privacy, and surveillance. Evaluations indicate Aadhaar has materially changed administrative processes, but also highlighted risks of errors and exclusion that require policy safeguards.

3. UMANG, DigiLocker, API Setu, and National Platforms

UMANG (Unified Mobile Application for New-age Governance) aggregates government services on a single mobile app; DigiLocker provides citizen document storage and verification; API Setu supports interoperable data exchange between government systems. These platforms reduce the need for physical visits and enable digital submission and retrieval of documents, facilitating faster processing and auditability. Usage metrics show UMANG and DigiLocker have scaled considerably, hosting thousands of services and millions of transactions.

4. e-District, e-Courts, e-Procurement, and Sectorial Projects

Sectoral e-governance projects aim to streamline specific administrative domains like civil registration via e-districts; judicial case management through e-Courts; centralized procurement platforms and process efficiency when integrated into broader digital identity and payment systems.

Evidence of Impact on Public Service Delivery

(I) Accessibility and Reach

The combination of mobile apps, national platforms, and CSCs has extended service delivery to many previously underserved regions. CSCs, for instance, have proliferated in rural areas; national platforms enable citizens to request certificates, access schemes, and make payments remotely, lowering geographic and time costs. Reports indicate UMANG hosts over a thousand services, and Digi Locker usage has surged, enabling digital document exchange. Where connectivity and local intermediaries exist, citizens experience greater convenience and reduced need for travel.

(II) Efficiency and Speed

Digitization standardizes forms, reduces manual routing, and enables automated authentication, which together shorten processing times for many transactions. E-procurement and digital payment systems have accelerated transactions and improved traceability. Case examples from state Sakala schemes in Karnataka, e-district implementations show measurable improvements in on-time disposal and reduced processing backlogs when e-governance workflows are well implemented.

(III)Transparency and Accountability

Online status tracking, centralized DigiLocker, and e-procurement portals increase transparency and auditability of public action. This reduces discretion in frontline delivery and allows citizens to monitor progress, file grievances, and seek redress. Studies of specific platforms and e-procurement systems report measurable gains in transparency where systems are used consistently.

State-Level Major E-Governance Initiatives in India

India's states have pioneered diverse e-governance initiatives to strengthen citizen service delivery and promote transparency. Andhra Pradesh's MeeSeva and Telangana's Dharani Portal offer hundreds of online services, including land record digitization, ensuring efficiency and accessibility. Karnataka's pioneering Bhoomi Project computerized land records for farmers, while Kerala's Akshaya and FRIENDS centres promoted digital literacy and multi-service citizen access. Tamil Nadu's e-Sevai and e-District initiatives have expanded welfare and certificate services to rural areas, while Madhya Pradesh's Gyandoot and MP Online bridged the rural digital divide through kiosks and online platforms. Maharashtra's SETU and MahOnline enhance transparency by streamlining licenses and payments, and Gujarat's e-Dhara with Jan Seva Kendras provide computerized land records and single-window citizen services. Rajasthan's e-Mitra has become a popular platform for certificates, bill payments, and grievances, and Uttar Pradesh's Lokvani empowers rural citizens to file grievances digitally. Bihar's Vasudha Centres expand e-governance to underserved districts, while Odisha's Bhulekh and e-District improve land records management and welfare delivery. Similarly, West Bengal's BanglarMukh portal enables access to government services and information, Punjab's Suwidha Centres provide streamlined single-window service delivery, and Delhi's e-District with e-SLA ensures efficient and accountable governance. Collectively, these initiatives showcase how state-led innovations complement national programmes like Digital India, creating a robust framework for ICT-driven good governance.

Issues and Challenges of the implementation of e-governance initiative

Although the transformation of governance system from the paper base governance to e- governance has supposed to promote digital inclusion in India, but the existence of such challenges has becomes a huddle to achieve the real digital inclusion in India. Such key challenges include:

1. **The Digital Divide (Infrastructure and Literacy)**

Despite progress, significant gaps in broadband quality, last-mile connectivity, device ownership, and digital skills limit equitable access. Rural users often face longer travel times to CSCs or lower quality service due to intermittent connectivity. Research consistently highlights low digital literacy and awareness as major barriers to the adoption of e-services. These gaps translate into differential benefits; urban and digitally literate citizens benefit disproportionately.

2. Sustainability and Viability of CSCs and VLEs

While CSCs are critical as last-mile agents, many VLEs struggle with low transaction volumes, insufficient revenue streams, and operational costs. Empirical studies show that sustainability concerns (low profitability, high operating costs, lack of business diversification) threaten the long-term viability

of CSCs unless they can broaden service offerings, receive supportive policies, or monetize value-added services.

3. Privacy, Data Governance, and Inclusion Risks

Aadhaar's scale brings efficiency but also serious public policy concerns. Biometric authentication failures can exclude eligible beneficiaries; centralized identity systems raise privacy and surveillance questions. Academic and policy critiques emphasize the need for robust data protection law, consent mechanisms, and redressal pathways to mitigate harms. Recent research shows varying impacts of Aadhaar on program outcomes and flags contexts where authentication protocols harmed access to welfare.

4. Interoperability, Fragmentation, and Capacity Gaps

Multiple platforms and state-level systems need technical interoperability and coherent governance. Where systems are silted or state capacity is weak, e-governance projects fail to deliver integrated benefits. Capacity constraints in IT skills, change management, and project governance hinder the scaling of effective e-services.

Findings:

E-governance Improved in public service delivery in the state. Where broadband, devices, local intermediaries, and integrated platforms exist, citizens experience reduced travel/time costs and faster processing of common transactions for issuing certificates, bill payments, and registrations. National platforms and process automation have demonstrably reduced friction in interactions. Benefits are uneven: rural, low-income, older, and digitally illiterate populations face persistent barriers to access. The digital divide remains a primary constraint on equitable public service delivery via ICT.

CSCs are Strategic but Fragile. CSCs are the linchpin of last-mile delivery but face financial viability and capacity issues. Strengthening business models, diversifying revenue streams, and improving connectivity can improve their sustainability.

Data Governance and Inclusion Must Be Prioritized. Identity and authentication systems (Aadhaar) provide administrative gains but carry risks of exclusion and privacy breaches. Strengthening data protection, offering alternative authentication modalities, and ensuring robust grievance redressal are necessary to prevent harm.

Integration and Local Capacity Drive Success. Where state administrations invest in training, interoperable systems, and change management, e-governance projects produce better outcomes. Conversely, fragmentation and weak capacity reduce impact.

Conclusion

India's e-governance journey has produced impressive infrastructural and platform advances that have increased convenience, expanded service portfolios, and introduced efficiencies in public service delivery. Platforms such as UMANG and Digi Locker, the network of CSCs, and the Aadhaar identity ecosystem collectively show the possibility of large-scale digital public service delivery. However, achieving the normative goals of good governance equity, inclusion, accountability, and responsiveness requires addressing structural constraints: the digital divide, CSC sustainability, data governance, and state capacity. Policy action that combines infrastructure investments, inclusive design, strong privacy safeguards, capacity building, and rigorous evaluation can help translate technological potential into equitable governance outcomes. The evidence suggests that e-governance is a powerful tool, but its social value depends on careful, citizen-centred implementation.

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