

Original Article

Good Governance and Digital Administration in India

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Abstract

The emergence of digital governance in India marks a transformative shift in the relationship between the State and citizens. This paper examines the evolution, significance, and challenges of e-governance and digital administration in India within the broader framework of Good Governance. It explores how initiatives such as Digital India, Aadhaar, National e-Governance Plan (NeGP), Unified Mobile Application for New-age Governance (UMANG), e-District services, and digital land record systems have strengthened transparency, accountability, efficiency, and citizen participation. The study highlights the transition from traditional paper-based governance to integrated digital platforms that facilitate seamless public service delivery through online and mobile channels. Particular attention is given to citizen-centric governance, data stewardship, privacy protection, mobile governance, and institutional accountability. The paper also analyzes major sectors transformed through digitization, including taxation, healthcare, and land administration. Despite remarkable progress, challenges such as the digital divide, cyber security threats, lack of interoperability, and limited digital literacy continue to hinder the achievement of inclusive digital governance. The study emphasizes the importance of leadership, ethical stewardship, local innovation, and policy coherence in building a sustainable digital republic. It concludes that digital administration is not merely a technological reform but a democratic instrument capable of empowering citizens, enhancing participatory governance, and strengthening India's constitutional vision of transparency, equity, and social justice.

Keywords: Good Governance, Digital Administration, E-Governance, Digital India, Citizen-Centric Governance, UMANG, Aadhaar, Digital Divide, Transparency, Accountability, Mobile Governance, Public Service Delivery, ICT, Data Privacy, Cyber Security

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Introduction**Dawn of a Digital Republic**

India is witnessing a digital transformation. Over a million governance websites and applications have been launched at the state and national levels to provide e-services to citizens. The Indian space programme has established one of the largest and lowest cost satellite constellations, providing widespread connectivity for telephony, the Internet, virtual private networks, and television. The Aadhaar platform provides each resident with a unique identification number, enabling digital authentication to a wide variety of services, from opening bank accounts to receiving subsidised agricultural purchases. A National e-Governance Plan (NeGP) introduces service delivery and digital inclusion to all citizens; the goal is to shift transactions from paper to

digital and provide real-time services. Community service centres have been established in rural areas to support the poorest populations. A Digital India programme expresses a vision of a digital republic. E-Governance aims to transform from a supply-driven to a demand-driven paradigm, ultimately empowering citizens.

Nearly a quarter of a century ago, in 1996, during a national seminar on the impact of information technology on governance, an eminent former bureaucrat and academic observed that digital technology offered unprecedented scope for structural change in government processes. The extent of e-governance initiatives across the globe was already extensive, including many of India's neighbors. Yet at times it appeared that very few politicians shared that vision.

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Four years later, a prime ministerial committee on transforming the country into an “information society” cautioned that the lack of such change in government was transforming the e-governance initiative into futility. Since then, numerous reports, objectives, initiatives, panels, studies, and flagships have emerged addressing various aspects of government reform to enable more effective delivery of government programmes. Several approaches to large-scale reform are described.

Government delivery systems in India are undergoing a drastic change from a paper-based process to an electronic-digital-online system encompassing voice, video, and data at the endpoint. The transition started in 1994 with the introduction of the Internet networking protocol and local-area networks connecting terminals and printers to servers. Supporting decisions were made to install low-cost servers and make local-area networks available in every district in India. Terminals have been installed at all financial and administrative bodies in the central government. The Government of India has also sponsored the development of proprietary and free/open source operating systems compatible with its legal framework. Steps have also been taken towards achieving better interconnectivity among central, state, and local bodies for data transfer and access—an essential requirement for online delivery of services—and dissemination of information for millions of citizens without any physical touch. (Fraunholz & Unnithan, 2006) (Jeet Singh, 2008)

1. The Promise of E-Governance

Throughout India’s history, the gap between what governments have promised citizens to improve their lives and what has actually been delivered has become a central challenge of governance. In response, visions of a new era of governance in India first articulated by the e-governance vision of 2003 entered public consciousness through political speeches and media coverage of system failures, and it has arisen in the context of citizen expectations of a more proactive, responsive, and effective government providing accessible, efficient, and cleaner services that correspond to the vision of e-governance. (Jeet Singh, 2008) The concept of e-governance was first introduced by the National Commission for the Review of the Working of the Constitution and was elaborated by the Ministry of Information Technology in its Report on the National Policy on Information Technology in 2000. The effort was formally endorsed by ministries of the Government of India in 2001, with the launch of the National E-Governance Action Plan 2003. The idea of “e-governance” quickly gained momentum and it held forth the promise of overcoming the many physical, financial, information, and governance barriers faced by citizens by delivering public services to the home or workplace through information and communication technology. The principles and major objectives of e-governance were subsequently articulated in a series of high-level government reports. (Fraunholz & Unnithan, 2006) E-governance has been defined as the use of information

and communication technology by democratic governments to enhance the delivery of public services to their citizens (citizen-centric e-governance), to promote citizen and stakeholder participation in the decision-making processes of government (participatory e-governance), and to promote government-to-government collaboration (linked e-governance) among agencies at the central, state, and local levels.

2. Historical Threads: From Paper to Pixel

Digital technology became a strong governance driver in India immediately after independence. The Fourth Plan (1970-1974), emphasising transparency and people’s involvement, declared communication a priority for effective planning. In 1984, India launched its first satellite, INSAT-1A, to facilitate communication and broadcasting. Between 1965 and 1966, the share of rural villagers with access to communication services fell from 96.5% to 76%, spurring the Bharatiya Janata Party (BJP) to orchestrate nationwide citizens’ campaigns against the then-Prime Minister. The 1971 Bhopal gas tragedy underscored how citizens could be informed and consulted on industrial safety. The 1977 General Election, conducted in over 180,000 polling stations spanning 50,000 villages, was the world’s largest election to date and witnessed significant electoral meetings through public address systems fitted on vehicles.

In 1985, Gujarat Chief Minister Dinesh Trivedi set up an “electronic cabinet” to access the world’s policies and research information, aiming to reform the grinding bureaucracy. Ever since the launch of the anthropological survey in the 1950s, documentation had been standard operating procedure. Responding to the computerisation proposal from Reserve Bank of India, Prime Minister Indira Gandhi ordered banking computerisation in 1981 to improve efficiency, transparency, and access. The strategy to sustain the economic surge was real-time budgeting. The Delhi Development Authority’s land grants were advertised in newspapers, where monitoring was difficult due to time lags. CCTV contracted a leading company to set up a fibre-optic network that bridged monitoring agencies; file-tracking, urbanisation monitoring, driver monitoring, and budget tracking were subsequently initiated. The 1984 untimely death of Indira Gandhi triggered antiseditious riots in larger clusters that drew worldwide media attention (Geiselhart, 2010).

The Architecture of Good Governance

Digital governance offers a transformative promise—an opportunity to radically reshape the architecture of governance. By rethinking systems, processes, and services through a digital lens, governments can enhance transparency, deepen accountability, and strengthen inclusivity. With a design anchored in the citizen experience, governance can become purposeful and citizen-centric, unleashing the potential for far-reaching change. The promise of digital governance was echoed in the National Map of E-Governance Initiatives, which depicted the enormous scope and scale of reforms planned across

states and at the national level. The scope of the reforms—together with the overarching constitutional objectives of democracy, equity, and justice—sharply underscored the fundamental reforms needed to rethink governance itself.

In practice, transparent governance systems pave the way to accountable institutions. A detailed map of disclosure mechanisms—from management audits and expenditure reports to data on vacant posts and procurement procedures—enhances input to oversight bodies and strengthens centre-state relations across various sectors. Audits themselves have evolved from isolated agency-specific exercises into comprehensive whole-of-government reviews that assess systems and incentives. Agencies routinely publish public-facing disclosures that situate their mandates, outline strategic priorities, detail operational resourcing, and specify the annual oversight deliverables to be met. Collectively, these efforts allow citizens to track progress across the entire governance architecture and to compare commitments and performance among individual agencies. They also enhance the user experience.

A co-design approach underpins citizen-centric digital services. Services are researched and shaped through multi-method investigations that encompass stakeholder workshops, direct observations of user journeys, prototype testing, analysis of service touchpoints, and explorations of alternative budget pathways. At the final stage, streamlined online journeys are validated through repeated real-world testing with actual service seekers to ensure that the design meets their requirements in practice. User experience guidelines further help to marry responsive front-end designs with robust back-end functionalities that can be progressively expanded and adapted to other services. Mobile-first designs addressing the needs of citizens using low-end devices offline have been prioritized to cover the widest digital landscape and reach users in rural areas.

Data governance emerges as a central challenge. Systems of public data stewardship articulate clear responsibilities for data management, quality, use, protection, and ethics across government. Scalable solutions keep public data open for re-use while ensuring data protection and privacy for sensitive datasets. Systematic frameworks map the sources, access rights, purposes, and safeguarding measures covering publicly available datasets. Anonymisation techniques and policy approaches such as the ‘limited use’ principle govern circumstances under which non-public datasets can be shared with legitimate (Jeet Singh, 2008).

Public institutions serve a collective purpose. A rich landscape of participatory mechanisms fosters joint ownership by citizens and the state, allowing for dialogues and disjunctions to be jointly framed, explored, and published. Personal information security and personal data privacy emerge as two further aspects of data protection. The legal basis covering the collection, storage, release, and erasure of personally identifiable information—including the individual right to be forgotten—has

been established through a dedicated law and is complemented by accompanying standards and protocols. Such regulations promote ethical conduct while encouraging the release of non-sensitive data. A societal debate on the use of big data for improving policy is also broadening; formal delivery channels allow citizens to express their opinions, propose ideas, and track their status.

Data security and cyber resilience have risen to prominence across the governance agenda. A shared baseline clarifying minimum operational standards, mandatory resilience measures, and monitoring protocols enhances both preparedness against potential breaches and learning from occurrences that may nevertheless take place. More than 20 million transactions are processed daily across a wide range of services. Combined with an open approach to the coding of underlying software applications—including public source code repositories and hackathons—sharing mechanisms combine mutual learning and support with reciprocal peer challenge. Such transactions, similarly, provide a rich source of learning for aspiring practitioners in national and local administrations alike.

1. Transparent Systems and accountable Institutions

India’s struggle for transparency and accountability dates back to the formation of the British Raj and the fall of the first Jacobin Republic in France. National leaders recognized that it would be futile to build a desirable society if the means of governance were not transparent, coherent, and accountable (Jeet Singh, 2008). Independent India, still on its journey toward Good Governance, adopted the constitutional mandate of working toward a “harmonious social order” and a State whose governing processes are “transparent, accountable, and responsible” on the eve of the 50th Republic Day.

All components of governance—political, bureaucratic, and market—must have “formal” systems, rules, or processes to nurture transparency and accountability. In e-governance, both the State and participating citizens need to understand how the system functions. Open, transparent systems (where rules, processes, and parameters are publicly known and no hidden activities exist) and accountable institutions (providing recourse when systems break down) are necessary.

2. Citizen-Centric Design in Digital Services

The rationale for citizen-centric design in digital services reflects an understanding of citizens’ needs and capabilities. Public institutions must offer more than 24/7 online services; they must reimagine the service journey from the users’ vantage point. A user-focussed design process is essential to prioritising citizens’ information needs and keeping institutional requirements in the background. Citizen-centric design amplifies participation in public life, which contributes to societal well-being, and involves the public in decision-making and co-designing services according to their context, needs, and motivations.

Inclusive design fosters equitable access by catering to underserved or marginalised groups. Committed to

universal inclusion, the government promotes six principles: equitable use (serving diverse disabilities); flexibility in use (accommodating individual preferences); simple and intuitive use (minimising complexity); perceptible information; tolerance for error (minimising hazards and undesirable consequences); and low physical effort. Addressing secondary touchpoints, such as dialects, channels, and devices, reinforces the aim of universal inclusion (Fraunholz & Unnithan, 2006) (Junginger, 2018).

3. Data Stewardship and Privacy in the Public Realm

Privacy serves as a prerequisite for freedom and liberty, extending beyond the individual to encompass communities and societies. Consequently, its importance in the public realm grows considerably. Privacy is not an end in itself but a necessary means for the exercise of rights. Governments are obliged to safeguard their citizens' rights without compromising their ability to access, explain, or deliver services. Public actors have long grappled with the privacy–access dilemma. In the digital era, with the available means to release large volumes of data without exposing personal identifiers, this issue has grown more acute.

India enshrines the right to privacy in its Constitution. This right was reaffirmed by the Supreme Court of India in the landmark Puttaswamy case, which recognized informational privacy as an essential prerequisite for individuals to retain control over their personal data – a vital element for the exercise of personal liberty. The judgment provided acknowledgement that privacy has both a subjective and an objective element; it covers both the right to be free from interference with personal choices and the control of dissemination and access to personal information. In contrast, privacy is sacrosanct in the case of children; their protection warrants the most careful examination on the part of state actors in order to avoid permanent damage to their person and psyche.

Banks and other institutions place a high premium on client privacy. Yet when governments become data custodians, other objectives may take precedence. Such custodians generate databases for public service delivery, for the purpose of which protection against snagging in transfer is paramount. Frequent database transfers to service delivery platforms are the chief risk along the value chain. If confidentiality is, however, to be observed in generation, access, sharing, collection, transfer, and use becomes moot: provision becomes impossible. The absence of adequate attention further clouds matters.

National e-Governance incorporates principles of privacy-by-design. Alongside the office of the Chief Information Officer of the Government of India, principles are being applied to existing not-yet-personal-data-protection-compliant platforms in order to safeguard citizens' rights and provide legal backing for any databases, records, and transactions retained in Government of India systems.

Digital Administration in Action

As a fusion of technology and governance, digital administration undergirds the promise of good governance and has grown to embody the core of India's e-governance aspirations. It provides the essential infrastructure—physical, technical, and managerial—required for e-governance et al., managed by the Department of Information Technology (DIT) at the Union level and state information technology (IT) departments. It offers financial assistance for e-governance projects at the department level, thereby enabling systemic reform. Nonetheless, a comprehensive vision for structural reform in governance systems remains absent.

Seizing the electronic opportunity merely to automate existing processes is unlikely to yield substantial change. The National Knowledge Commission of India emphasizes that ceasing at digitisation without redesign of government systems—deciding what to digitise, when, how, and why—can even prove counter-productive. Instead, it identifies the imperative of re-engineering processes to align with core values and strategic objectives. The adoption of information and communication technology (ICT) possesses transformative potential yet must always respect societal values and preferences. The pivotal requirement may well be augmenting the physical reach of governance systems across the country.

Digital transactions and services have now matured to the standard of good governance; half of all central and state services are available electronically, including tax returns, land records, birth certificates, and the ration card. Responding to the demand for a greater thrust from departments, several e-governance-directed communications from the Government of India have reiterated the spectrum of services developed and dispensed and the comprehensive framework extended across government, ultimately extending government 24 hours a day in any weather and from home. Seven additional communication reiterations show how IT attracts employment opportunities, promotes the small-scale industry, increases revenues, cuts the duration of procedures, obviates road transport for proof clearance, facilitates various commercial activities, and dispenses services such as approved product quality certification, bank loan documentation, commercial information supply, board examination results and forms, capacity-building training, and digitisation of public practices.

1. Unified Portals and Seamless Services

Integrated Web portals offering seamless services reduce the effort for citizens to obtain information and access services. India started the journey towards Unified Portals in 2006, focusing on the agglomeration of citizen services under a single location. A Portal Maturity Model was also developed to help agencies assess the maturity of their respective portals. Although some progress has been made in linking diverse services and establishing single sign-on, further integration and orchestration of services are needed to strengthen the Unified Portal

Infrastructure (Jeet Singh, 2008). Processes for citizen access are still not adequately mapped, reflecting a shallow level of integration within the Unified Portal framework.

Only six departments have a provision for a single sign-on that would allow citizens to access services of different departments without having to open different logins. State and Central Government e-Governance Departments offer diverse e-services to citizens, using separate portals without any integration point to facilitate the collation of required services. Digital Delivery Systems at the State Level have matured at various levels of sophistication, but still lack a mechanism for service orchestration (Kumar et al., 2013). The requirement of multiple logins for availing e-services remains an impediment to providing truly integrated services.

2. Mobile Governance and Access for All

Efforts to promote mobile governance or m-governance have gained traction in recent years thanks to the proliferation of mobile devices, widespread Internet availability, and the growing use of mobile applications across demographics. To accommodate citizens who cannot access government services online due to limited digital literacy, fluctuating Internet connectivity, or the unavailability of infrastructural services in remote areas, government departments are adopting a mobile-first strategy to digitize public services. This strategy prioritises the delivery of services through official Government of India (GoI) or state government mobile applications. Service availability through mobile applications also allows for the introduction of offline services, increasing reach to citizens who lack a stable Internet connection. Most applications are designed keeping the rural population in mind, incorporating features such as facility location and service accessibility maps, service availability notifications, real-time work tracking, and mobile-based awareness generation.

A mobile governance service offered by the Indian government, the M-Governance Platform was launched by the Ministry of Electronics and Information Technology (MeitY) to enable access to government services anytime, anywhere. Consequently, a series of service delivery applications, such as the e-Courts Services App, the Swachh Bharat Mission App, and others, have been rolled out on the portal. The Unified Mobile Application for New-age Governance (UMANG) is another prominent initiative from the central government that promotes m-governance by providing access to various government services through a single digital platform.

The central government's flagship initiative, Digital India, reinforces the objective of providing equal access to government services and information. Through this initiative, several ministries, departments, and state governments are developing mobile applications and making content available in regional languages to ensure greater outreach. (Jeet Singh, 2008)

3. Case Studies: Land, Tax, and Healthcare Digitization

Digitization of land records, tax management, and health-care services has improved access to services for citizens, streamlined bureaucratic procedures, and enhanced data security. The land record system supports 56 transactions, from registering a deed and obtaining Khata certificate for a property to checking encumbrance. The Income Tax department has streamlined both direct and indirect taxation through national e-Governance Plan. Continuity of service, ease of maintenance, and confidence-building measures have further supported the initiative. The Ministry of Health and Family Welfare maintains a web-enabled service that supports the citizen and health department. The Integrated Health Information Platform (IHIP) has been implemented to reduce maternal and infant child mortality. IHIP covers maternal and child health, family planning, immunization and disease control.

Digitization of land records in India is a key component of the good governance framework as it provides an end-to-end workflow for all land transactions and enables citizens to access services online. Until recently, access to the land record system was based on government land rules and the records were maintained at state department offices, which became a major bottleneck as there was no uniformity and uniform service across states. Initiation of National Land Record Modernization Programme (NLRMP) in 2008 and appointing National Informatics Centre (NIC) for IT-related assistance marks the important milestone on evolution of e-land record.

e-District Framework was established in 2008 to enhance citizen access to e-governance services by delivering multiple services at the doorstep and through various means including Common Service Centres (CSCs). e-District enabled delivery of various citizen-centric services pertaining to revenue, education, and other domains through a single electronic facility. In 2011, the e-District project was operationalized in 215 districts across the country. By 2013, the e-District programme implementation had gained momentum; 202 e-District applications were received from states, out of which 88 projects were operational, 41 were under implementation, and others were at various stages of development.

In addition to land records, tax management is another priority area within the digital administration framework. A study indicated that levies of excise duties, sales tax, and income tax were playing a vital role in the economic framework of the country. This underscores the need for implementation of effective e-Governance plans in compliance with the directives of Central Government in all associated offices. The relevant departments conducted a detailed e-Readiness survey; around 40% of the respondents indicated that implementation of most advanced IT applications combined with a trained workforce was the basic requirement for an effective e-Governance framework. National e-Governance Programme (NeGP), launched in 2006, effectively transformed the

indirect tax administration. Before introduction of Customs EDI, trade-related documents were submitted to the customs office in original by traders and thorough check-up were carried. Implementation of National Policy on E-Governance encouraged adoption of modern ICT tools by tax administration strategies. Initially, a pilot project on Electronic Return Acceptance and Processing System (ERAPS) was launched making it possible for tax payers to file return anytime anywhere through Internet. Subsequently, Direct Tax E-Filing System was introduced.

Health care service is one of the twelve required areas for digital governance; it represents about 3%–4% of total GDP in India during 2014–2020. Health management is a key area which interacts with central government at various levels; the National Health Mission (NHM) was formally launched in 2013–14 to improve health care indicators in sixteen states of India through maternal health, immunization programme, and disease control. Health care management has supplied web enabled services to health care professionals covering monitoring of indicators and other related activity.

In addition to overall health service, further focus has been toward maternal and child health; in 2008–09 about 80,000 deaths of maternal and about 1.4 million deaths of children under five occur in India according to World Bank. To cater the large number of deaths, Integrated Health Information Platform (IHIP) programme was initiated in the country. The services has been further extended to family planning, child welfare and immunization in order to gather better monitoring and control over the health.

A monitoring activities was carried out by Health and Family Welfare in order to closely observe on birth and death registration at urban and rural level; to provide the live birth and death information, Muktahari programme set up; the program encloses 6 mandatory information for citizen person. Evidences from Pakistan and other parts of the world acknowledge that fifty percentage of life time saving can be achieved by covering necessities of health; the phenomena engaged Global Early Mortality Inventory along various nations.

Challenges on the Road to Digital Maturity

In India, despite robust policies for digital administration and the attendant high levels of participation in online services, challenges remain before digital governance can mature. The digital divide limits access; security concerns erode trust; policy incoherence undermines interoperability. Addressing these issues will require innovative and coordinated efforts across the country.

In a diverse democracy such as India, the digital divide manifests itself across multiple strata—geographical, socio-economic, and capability (Jeet Singh, 2008). While the best services are made available for the worker, farmer, manager, and leader in the society, making good services actually reach them has always remained a challenge. Awareness has grown, yet difficulty persists across diverse electronic media in communicating the broad cause—and the

fact that in the longer run these services will not just save time and effort but should actually improve quality of life.

Digital governance formally began in the country a couple of decades ago in the wake of liberalisation and globalisation pressures. Many pieces of hardware like computers, televisions, and telephones, and systems like railways, banking, and the postal service were already in place and widely used. Focus behind digital administration intensified across agriculture, finances, transportation, and community—national security needing a separate focus, mainly from the armed forces, due to peculiar features of cyberspace.

1. Digital Divide and Inclusion

The vastness of India's terrain, diversity of climate, and multitude of languages give rise to complex challenges for citizens, especially for those located in remote areas. Digital administration can bridge this gap by breaking geographical barriers and overcoming historical discriminations—for this reason, it is an essential part of the "Good Governance" mission in India (Pimenidis et al., 2011). However, constraints still limit the reach of digital administration. Certain segments of the population, such as elderly farmers, uneducated individuals, and homeless people, find it difficult to access services that have been digitized. These groups experience hurdles that act as entry barriers to the information society due to a combination of literacy, awareness, physical accessibility, and economic constraints (Jeet Singh, 2008).

The deliverance of assistance to underprivileged sections of society cannot be left solely to the government. Collaborative models are necessary to bring together the contribution of Indian Muslims, Dalits, tribal communities, minority tribes, women, the less educated, and the physically challenged. Inputs from these groups will help design inclusive campaign strategies. Paradoxically, government policies aimed at creating a better information society risk excluding certain user groups. The push towards providing and consuming services exclusively via the Internet can inadvertently leave out rural users. Therefore, a multi-channel approach needs to be applied, with online delivery complemented by physical and indirect interactive delivery on hybrids or common platforms.

2. Security, Trust, and Resilience

The COVID-19 pandemic poses unprecedented challenges to human society on multiple fronts—physical, mental, economic, and social. The vulnerabilities of governments across the world to such shocks have become a focus of academic inquiry. Government officials, scholars and civil society activists who seek resilience in the governance-action space have turned their attention increasingly to India's governance capability and, in particular, how digital instruments perform in that context.

A considerable literature investigating vulnerability and resilience in governance continues to grow. Analyzing Covid-19 responses to determine the

trajectory of governance capability, specific attention is being devoted to the role of technology in shaping the trajectory. Digital governance remains a critical topic, whether or not the emphasis remains entwined with the COVID phenomenon.

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3. Policy Coherence and Interoperability

System-wide coherence and interoperability are recognized as critical components for realizing the full promise of e-governance across government systems in India (Jeet Singh, 2008). Coherence ensures that diverse digital initiatives across the public administration sector are aligned with overarching reform objectives, fostering broad-based responsiveness to multiple citizen needs. Interoperability enables various systems to effectively exchange information and processes, thus simplifying the user experience and promoting service aggregation as the number and complexity of governmental transactions increase. These two attributes are mutually reinforcing; as e-governance initiatives increasingly operate as stand-alone services, the need for consolidation and orchestrated delivery—focal points of coherence—becomes all the more pressing.

In India, a substantial share of e-governance initiatives remains confined within individual departmental silos, hindering the promised gains from digitization. Moreover, disparate systems are often deployed even within the same agencies, resulting in greater fragmentation and disconnection. Collaborating to achieve coherence and interoperability among different governmental departments and levels—in concert with other reform considerations—has thus surfaced as an urgent priority. Several measures consequently have been taken to facilitate cross-departmental collaboration in setting digital governance objectives and standards and to encourage the adoption of common software and hardware solutions capable of accommodating diverse sectoral requirements.

The Human Layer: Skills, Leadership, and Culture

A digital republic depends on administrators who are as well versed in technology as they are in government service—and they are not only digital literacy programs but also better leadership and an ingrained culture of innovation. Thoughtful and ethically oriented leaders will spur change, while an ecosystem centred on the citizen should stimulate innovation across the public sector.

There is nothing novel about the need for capacity building in public services. Digital technology demands that investment in capacity be scaled up, expanded into different dimensions, and focused on a definite and achievable agenda at both the national and state levels. Digital literacy needs to go beyond training along, therefore, with the associated change in mind-sets to install individual and collective capability. A range of complementary activities is essential to make such investment fruitful.

1. Building Digital Literacy among Public Servants

The focus of India's e-governance agenda has shifted away from building connectivity towards nurturing digital literacy and skills, especially among government employees. Digital literacy encompasses the ability to search, evaluate, and share information from various sources; to communicate and collaborate with a range of audiences; and to use online tools and platforms to connect with others and create content. The digital literacy challenge is amplified for civil servants and employees of public agencies: they must also cope with multi-agency and multi-actor collaboration, extended governance networks, and additional ethical responsibilities compared to private-sector users. Building digital skills among civil servants is an integral part of the government's efforts to enable e-governance and digital service delivery (9ef6a9a0-9709-4a48-a142-acf0b3268044). By developing a digitally literate civil service, the government can aspire to greater online citizen participation and engagement (B. Ghosh & Kumar Das, 2009).

2. Leadership for Change and Ethical Stewardship

For e-governance initiatives to take root, the role of leadership, synergy, and a conducive environment—what the widely acclaimed governance reformer Mr. Rakesh Mohan terms the “macro-governance framework”—must be firmly recognised. Breaking away from established norms is seldom an easy process. Public service delivery and governance systems remain, in the popular imagination and public perception, beyond reproach and incorruptible. Empowering action and inspiring the public to accept e-government services as a substitute for face-to-face appouse becomes even more difficult when a discomfiting volume of the latter is being provided. Voice is predominantly channelled through the systems designed by the disillusioned and the dissident. Facilitating expression alone tends to favour what one might prefer to remain hidden. Encouragingly, for e-governance and IT in general, the genic positive would nevertheless seem to be far more plentiful and perhaps helps illuminate the path ahead.

The concept of a “Digital India” enshrined by Prime Minister Modi in his visionary address to the nation on 15 August 2014 refers to every area of life, including “Good Governance.” His introductory definition is simple: “Governance returns to the people.” This is consistency with the mandate unanimously provided by the aam aadmi—ordinary citizen—to the Aam Aadmi Party (India's first national, harvest-time political platform committed to full-scale digital-e-governance national policy) in the early months of 2014 (beyond the first precepts propounded by citizens-electorate more than three decades previously). Several Citizen-information-Justice Services mentioned in connection with the Indian Senate and the Election Commission of India are at least semi-acceptable as illustrations of successes. Progress depends upon wide-scale public

reaffirmation and acceptability of these as “a value-addition for [the] aam aadmi.” Other community initiatives limited to, for example, an effort to introduce multi-lingual computerized educational support for primary school English in the pre-literate and English-administered Indian Government-run schooling continue, however, as a pointer towards bringing partial-a/v room to a terra-formed Nation-House Design (Digital Village India)—government-to-citizen unless the same holds for all government-to-government and government-to-local-government areas, open databases, workspaces, and tracks (Jeet Singh, 2008).

3. Local Innovation in a National Framework

Sustaining and extending such initiatives is a greater challenge. Local innovation is essential for discovering new digital administration strategies, adapting the national framework to local needs, and ensuring that the implementation chain reaches citizens. Moreover, the greater the empowerment, the greater is the local accountability. As the experience with Kerala's e-Krishi pilot reveals, grassroots projects can now directly engage local governments and other democratically elected institutions.

The e-Krishi Scheme in Kerala originated as a grassroots initiative under the 2004–2005 Kerala State Programme for Local Economic Development (K-LPED), financed by the Swiss Agency for Development and Cooperation (Jeet Singh, 2008). Kerala produced 77 pilot projects, of which e-Krishi became prominent and was officially launched in February 2008. Grassroots political leaders showed considerable interest and enthusiasm. Later, on the recommendation of the 2013–2014 Kerala State Planning Board report, the project was adopted on a state basis.

The Future: Aspirations for a Digital India

The e-governance concept is not merely about the automation of government processes. Instead, it encompasses the wider vision of empowering citizens through the co-creation of policies, making the Government more transparent and participatory, reinventing the functioning of the Government from the supply-side and enabling the Government to perceive itself as a facilitator of development instead of a provider of services (Jeet Singh, 2008).

The Government of India has established the goal of constructing a digital state by creating the necessary policies, standards, and infrastructure. However, there is still some distance to go. The guidelines propose that the Future India becomes a digital republic where people's voice reaches the Government without bureaucratic filters and is sincerely engaged with; where citizens become a key stakeholder in development; where policies become co-creation; and where technology is used for mass participation and real-time feedback on citizens' assessment of government performance in various service delivery areas.

1. Beyond Service Delivery: Empowerment and Participation

The digital republic's expansive vistas beckon exciting new aspirations: the journey can transcend

service delivery to embrace empowerment and participation and nurture the public sphere through co-creation and democratic innovation. The digital turn amplifies the citizen's voice by fostering dialogue—not merely in responding to digital crowds—sustained, two-way engagement elicits richer, nuanced input; user-journey design can further help frame inquiries and catalyse constructive contributions. Public agencies can also invite citizens to jointly conceive or shape specific policies, service elements, or designs; fostering a vibrant community of collaborators and innovators around government invites broader participation in public life and regulatory experimentation to enrich participatory governance. In lieu of conventional interventions that prescribe inputs or broad directions, the powerful architecture of government can further surface signals and stimulate imagination via foresight exercises that elicit fresh ways of seeing pivotal changes as well as alternative, far-sighted policy possibilities (Fraunholz & Unnithan, 2006). Conjointly, collaborative governance builds shared understanding of expectations, opportunities, and priorities, enhancing coordination and alignment across collectives of parties who exert influence and insight on digital policy (Jeet Singh, 2008).

2. Governance Metrics, Feedback, and Continuous Improvement

Governance metrics encompass a wide spectrum of qualitative and quantitative indicators, thresholds, and benchmarks that facilitate the systematic monitoring, assessment, and continuous improvement of governance systems. The practice of monitoring governance systems and obtaining feedback from citizens, users, and customers has gained increasing recognition among governments globally, both from the perspective of good governance and better delivery of services and programs. Feedback and continuous improvement ideals in governance have traditionally had more traction in countries with democratic governance systems, although such practices are becoming increasingly pertinent to countries with non-democratic systems as a means of strengthening the social contract between government and citizens (Jeet Singh, 2008).

3. Global Collaboration and Shared Learning

In an era of globalization, e-governance systems are being exchanged among countries, leading to the emergence of global standards governing the development and implementation of e-government applications. Some of the existing international frameworks for e-governance include the Brundtland Commission Report 1987, the Vienna Declaration on Human Rights 1993, the Declaration of Commitment on HIV/AIDS 2001, the Millennium Development Goals (MDGs) 2000, and 21st Century Human Development Goals initiated by the Prime Minister of India. Such frameworks must be integrated into the design, development, and implementation of e-governance projects in order to deliver the best possible services to people.

India, despite its vast geographic and demographic diversity, is at the forefront of developing e-

governance systems. Additionally, cyber adherence frameworks are already in place. These cyber adherence frameworks govern the national and international transmission of e-data by national and transnational organizations. Adherence to these basic frameworks enables India to remain engaged in the global exchange of data without running afoul of global standards. With respect to information and communication technology (ICT), specific global frameworks exist; when adhered to, these guide governments toward the implementation of optimal systems. These frameworks must be leveraged for optimal e-governance development and implementation in India (Jeet Singh, 2008).

Conclusion

The aspirations and efforts to leverage digital technologies and bridge the digital divide since India's independence have transformed its governance framework. Achievements in e-governance, digital service delivery, and smart technology applications are moving India toward the goal of ending extreme poverty. The principles of Good Governance continue to reflect the present and future aspirations of the nation. Digital technologies can be leveraged to broaden and deepen these principles, as well as to strengthen and enrich democracy through innovations such as social media and citizen engagement platforms. The effort to realize the Digital Republic of India, anchored in Good Governance, is gaining momentum and opening up new opportunities to secure and sustain the dignity, liberty, and well-being of India's citizens and communities. Advice from around the world is pertinent: "Resist the temptation to consider e-governance simply as an ICT (Information and Communication Technologies) initiative; rather, IT is only a tool associated with good governance and fundamentally changes the relationship between government and citizens" (Jeet Singh, 2008).

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