

E-Governance in India: Initiatives, Challenges and Way Forward

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Abstract: *In a modern welfare state, it is essential to provide good governance to its citizens. The concept of good governance is inclusive and people-centric as it is the participatory system of governance based on transparency in decision-making and empowerment of people to decide and shape their destiny. E-governance is one of the vital factors that contributes to the realization of good governance through the effective use of information and communication technology (ICT). These technologies can provide different benefits like better delivery of government services to citizens, improved interactions with business and industry, citizens empowerment through access to information or more efficient government management. In India, successive governments have adopted several initiatives to institutionalize e-governance as a tool of inclusive development and bridging the gap between the State and its citizens. This study explores the evolution of E-governance in India. Further, in this paper, we discuss that how E-governance is a big challenge for developing country like India as literacy level is low and a large population is unable to work online. Therefore, this research paper examines the achievements, challenges and the future prospects related to the implementation of e-Governance initiatives in India.*

Keywords: Communication, Empowerment, Information, Initiatives, Transparency.

1. Introduction

Governance plays a significant role in shaping a nation's economic growth, social justice and institutional efficiency. It refers to the structures, policies and decision-making processes through which decision are made and implemented, ensuring stability and development. In a modern welfare state an essential requirement is to provide good governance to its citizens. The concept of good governance is inclusive and people-centric as it is the participatory system of governance based on transparency in decision-making and empowerment of people to decide and shape their destiny. Good governance is a dynamic and evolving process that requires continuous reforms, adaptation and innovation to address the changing needs of the society. In India, successive governments have adopted several initiatives through improvements in institutional frameworks, participatory approaches and digital initiatives to ensure good governance.

The concept of good governance is fundamentally based on principles such as accountability, participation, transparency, responsiveness, effectiveness and efficiency, consensus oriented, equity and inclusiveness, and rule of law. Traditional theories of governance primarily emphasized on bureaucratic-efficiency, rule-based administration and hierarchical structures whereas modern theories of governance focus on inclusivity, decentralization and the role of technology in providing different services to the citizens. The institutional theory of governance emphasizes on addressing the institutional inefficiencies like bureaucratic delays, excessive red tape and lack of coordination etc. According to this perspective some institutional reforms are required such as better training of public officials, simplification of administrative procedures and independent regulatory bodies. Participatory governance theory shifts the focus from state institutions to citizens as active stakeholders in governance processes. Digital governance or e-governance involves the use of information

and communication technology (ICT) to increase administrative efficiency, improve public service delivery, and promote citizen engagement. E-governance refers to use of ICT by government agencies to transform relations with citizens and businesses.

E-governance in India

The implementation of e-governance is an essential component in the transformation of any government for improving transparency, developing accountability, empowering citizens, lowering costs and time for services and providing better governance. E-governance can help to build new platforms for collaboration between different stakeholders like government to government (G2G), government to citizens (G2C), government to business (B2B) and government to employee (G2E) to improve efficiency and participation. In this context, E-governance is one of the vital factors that contributes to the realization of good governance through the effective use of information and communication technology (ICT). These technologies can provide different benefits like better delivery of government services to citizens, improved interactions with business and industry, citizens empowerment through access to information, more efficient government management, accessible government, fostering partnership and collaboration between different levels of government (local, state and central), reducing corruption, increased transparency, greater convenience, revenue growth and cost reduction. According to World Bank "E-governance refers to the use of information technologies (such as Wide Area Networks, the Internet and mobile computing) by government agencies. In other words e-governance may be defined as the delivery of government services and information to the public by using electronic means. The prime objective of any technological advancement is to improve the quality of human life. This can be achieved by successfully assimilating these technological advancements into the human society.

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Dr. APJ Abdul Kalam, former President of India, has visualized e-governance in the Indian context as "a transparent, Smart e-governance with seamless access, secure and authentic flow of information crossing the interdepartmental barriers and providing fair and unbiased services to the citizens." Government of India defines e-governance as 'using information technology to bring about Simple, Moral, Accountable, Responsible and Transparent (SMART) governance.

In the Indian sub-continent, the concept of e-governance originated in 1970s with a focus on the development of in-house government applications in the areas of defence, economic monitoring, planning and the deployment of Information Technology to manage data intensive functions related to elections, census, tax administration etc. The Government of India established National Informatics Centre (NIC) in 1977 and launched National Informatic Centre Network (NICNET) in 1987 - the national satellite-based computer network. This was followed by the launch of the District Information System of the National Informatics Centre (DISNIC) programme to computerize all district offices in the country for which free hardware and software was offered to the State government. NICNET was extended via the State capitals to all district headquarters by 1990.

In 2000, Indian Government announced the 'IT (Information Technology) Act 2000' of India that provided a legal framework to the digital initiatives in the country. It is the primary law in India that deals with cybercrime and electronic commerce. It was amended in 2008. In 2012, India adopted National Policy on Information to strengthen digital Governance. Implementation of e-governance in India has brought numerous benefits, by transforming the public sector and improving public service delivery mechanisms. It has improved citizens' access to government services particularly in rural and remote regions. E-governance initiatives like common service centers (CSCs) and online portals have made it easier for people to apply for government services like land records, health services, educational certificates, without the physical visits to governmental offices.

E-governance has played a significant role in the reduction of corruption by promoting transparency in the public service delivery system. To ensure accountability in government offices, the Public Grievances Redressal System enables citizens to file complaint and track their resolution. The platforms of e-governance empowered the people to engage directly in the governmental policies and decision-making processes. It has increased citizens participation in governance as the digital platforms facilitate interactions between the government and the public. Online tools like surveys, feedback forms and social media platforms enable the people to share their ideas and opinion. It helps to ensure that government policies and services are more aligned with the needs of the people which can increase public trust and cooperation.

The adoption of e-governance tools in administration led to the improvements in efficiency and reduced problems of bureaucratic delays. Traditionally, government services were fragmented as different departments manage separate

aspects of service delivery. Whereas, digital integration facilitated with a more unified approach to service delivery. E-governance has reduced the operational cost of government departments as the digital platforms need limited resources. The traditional administrative processes were very expensive because for departmental functions it needed resources like paper, printing, mailing and physical infrastructure. The usage of digital tools reduced the need for these resources. Further, e-governance reduced the cost associated with accessing government services.

E-Governance strengthen the ability of the governments to tackle the emergencies and manage crisis effectively. Digital tools enhanced communication capacities which played an important role in coordinating responses and disseminating information quickly. For instance, e-governance platforms can help for the rapid distribution of information during natural disaster or public health emergencies. Digital tools also facilitate coordination among various agencies involved to manage emergencies which contributed to better outcomes for the society.

2. Major e-Governance Initiatives and Service Delivery Improvements in Different Sectors

E-governance plays a vital role in improving public service delivery system in various departments. It introduced new technologies and approaches that transformed the service delivery processes.

National e-Governance Plan 2006

The National e-Governance Plan (NeGP) adopts a comprehensive and integrated approach to e-governance by consolidating diverse initiatives across the country into a unified framework guided by a shared national vision. This approach has facilitated the development of an extensive digital infrastructure that extends to even the most remote rural areas, alongside the large-scale digitization of governmental records to ensure efficient, reliable, and accessible online services.

Building upon this foundation, and with the objective of transforming governance through advanced technological integration, the Government of India introduced **e-Kranti** under the broader ambit of the Digital India initiative. This upgraded framework emphasizes the adoption of emerging technologies such as cloud computing and mobile platforms, while prioritizing the seamless integration of services. In doing so, it seeks to enhance efficiency, promote interoperability among government systems, and advance a citizen-centric model of governance that is more responsive, transparent, and inclusive. The vision of this plan is to make all Public Services accessible to the common man in their locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man.

Aadhaar

Aadhaar is a transformative digital identity initiative implemented by the Unique Identification Authority of India under the Government of India to provide a unique, verifiable identity to residents of India. It was launched in

2009, Aadhaar assigns a 12-digit identification number linked to individuals' biometric and demographic data, thereby establishing a robust and reliable system of identity authentication. The initiative plays a critical role in enhancing the efficiency and transparency of public service delivery by enabling targeted distribution of welfare benefits and reducing leakages in subsidy schemes through Direct Benefit Transfer (DBT) mechanisms. Moreover, Aadhaar facilitates financial inclusion by simplifying access to banking and digital services, while also supporting e-Governance initiatives through secure and real-time authentication processes. As of now, approximately 138.34 crore Aadhaar numbers have been generated, reflecting its wider adoption and its central role in strengthening digital governance and service delivery in India. As a foundational component of India's digital infrastructure, Aadhaar has significantly contributed to strengthening governance, improving accountability, and fostering inclusive development.

Digital India Mission 2015

Digital India is a comprehensive flagship programme launched by the Government of India in 2015 with the objective of transforming India into a digitally empowered society and knowledge-based economy. The initiative seeks to promote inclusive growth by expanding digital infrastructure, enhancing internet connectivity, and ensuring the delivery of government services through electronic platforms. It is structured around key pillars such as digital infrastructure as a core utility to every citizen, governance and services on demand, and digital empowerment of citizens. By integrating advanced Information and Communication Technologies (ICT), Digital India aims to improve transparency, accountability, and efficiency in public administration while reducing bureaucratic delays and corruption. Furthermore, it emphasizes the development of digital literacy, the promotion of innovation, and the creation of a robust digital ecosystem that facilitates seamless interaction between the government and citizens, thereby strengthening participatory governance and socio-economic development.

e-Kranti

e-Kranti constitutes a foundational pillar of the broader Digital India programme, aimed at strengthening electronic governance, mobile governance, and good governance in India. Recognizing the growing importance of digital service delivery, the framework and key components of e-Kranti were approved by the Union Cabinet of India on 25 March 2015, with the overarching vision of "transforming e-Governance for transforming governance." The e-Kranti framework focuses on the electronic delivery of public services through a comprehensive portfolio of Mission Mode Projects (MMPs) spanning multiple government departments. It seeks to establish an integrated and interoperable ecosystem that enables seamless service delivery across sectors. The mission of e-Kranti is to achieve a government-wide transformation by ensuring that all public services are delivered electronically to citizens through diverse platforms. This is to be accomplished through systems that are efficient, transparent, reliable, and cost-effective, thereby enhancing overall governance outcomes.

The key objectives of e-Kranti include redefining the National e-Governance Plan with a focus on transformational and outcome-oriented initiatives; expanding the range of citizen-centric services; optimizing the utilization of core Information and Communication Technology (ICT) infrastructure; facilitating the rapid replication and integration of e-Governance applications; leveraging emerging digital technologies; and adopting more agile and flexible implementation models to improve efficiency and responsiveness in service delivery.

UMANG

The UMANG (Unified Mobile Application for New-Age Governance) is a significant digital governance initiative aimed at simplifying and enhancing citizen access to public services. The platform integrates a wide range of services across multiple sectors, including agriculture, healthcare, education, and social security schemes such as pensions, thereby providing a unified interface for service delivery. With a user base exceeding 7.12 crore, UMANG has substantially streamlined citizen-government interactions by enabling convenient access to services and facilitating digital transactions through a single platform. The application supports multilingual functionality, offering services in 23 languages (covering the top 100 services), including English and Hindi which enhances its inclusivity and accessibility.

At present, UMANG hosts approximately 2,077 services delivered by 207 departments of both Central and State Governments across 32 States and Union Territories. Notably, it also includes 738 Direct Benefit Transfer (DBT) services, thereby playing a crucial role in ensuring efficient, transparent, and targeted delivery of welfare benefits. Overall, the platform exemplifies a citizen-centric approach to e-governance by promoting service integration, administrative efficiency and digital inclusiveness.

DigiLocker

DigiLocker is a flagship initiative of the Ministry of Electronics and IT which provides secure and efficient access to government-issued documents through a digital platform. It leverages authentication services enabled by Unique Identification Authority of India (Aadhaar) to ensure the credibility and integrity of user identities. By facilitating the storage and retrieval of electronic documents, DigiLocker significantly reduces reliance on physical paperwork.

Furthermore, the platform enhances the ease of document verification, as records are issued directly by authorized and registered agencies, ensuring their authenticity. It also contributes to administrative efficiency by minimizing the procedural burden on government departments and agencies associated with manual documentation. Additionally, DigiLocker improves service delivery for citizens by enabling seamless, anytime-anywhere access to documents, thereby saving time and effort while promoting the electronic sharing of records. DigiLocker has facilitated access for more than 37.046 crore users and has enabled the issuance of approximately 776 crore digital documents, reflecting its extensive adoption and its significant role in

advancing digital governance and paperless service delivery in India.

Challenges to E-governance in India

E-governance in India has emerged as a transformative instrument for improving transparency, efficiency and accessibility in public service delivery. By integrating ICT into governance processes, it has the potential to strengthen accountability, reduction of bureaucratic delay and promotion of citizen centric administration. Despite these advantages, the effective implementation of e-governance has to face several critical and systematic challenges. These challenges are acerbated and becoming hurdle to achieve digital inclusion in India.

One of the topmost obstacles is the inadequate infrastructure, particularly in rural and remote areas. Uneven access to reliable internet connectivity, electricity and technological resources are responsible for limiting the reach and effectiveness of e-governance initiatives. The digital divide between urban and rural areas is responsible to limit equal access to online services, reducing the inclusiveness of e-governance initiatives.

Another critical challenge is the low level of digital literacy among a large number of the population. Lack of awareness and technical skills hamper citizens' ability to access and utilize e-governance platforms effectively. This problems is further exacerbated by socio-economic inequalities which affect disadvantages groups.

Cyber security is another major issue, as the increasing digitization of governance raises the risk of cyber-attacks, data breaches and misuse of personal information. Weak and insufficient institutional capacity to address these risks further enhance these concerns.

Participation of the public in decision-making remains limited due to several factors such as lack of awareness, social inequalities and bureaucratic barriers.

Institutional resistance within government departments remains a significant barrier to the effective implementation of e-governance initiatives. Bureaucratic rigidity and lack of training among government officials hinder the full-scale implementation of e-governance. The shift from traditional methods to new technologies or digital platforms have to face delays due to the inflexibility and the limited readiness of the officials.

The Way Forward

- Awareness campaigns should be organized to effectively disseminate information about the various initiatives undertaken by the government.
- Citizens should be encouraged to participate in free digital literacy programs so that they can better understand and utilize e-governance schemes.
- High-speed internet access should be ensured by service providers to facilitate smooth access to digital services.
- Regular maintenance and updating of websites, portals, and online platforms should be carried out to ensure efficient and reliable service delivery.

- Proper monitoring and evaluation of e-governance schemes are essential to identify gaps and implement timely improvements.
- Governments need to address the threats to privacy of the citizen's personal data and maintain the integrity of e-governance systems.

3. Conclusion

E-governance in India refers to the usage of Information and Communication Technology (ICT) by the government to deliver various services to its citizen. It began as an administrative reform which aims to make the processes of the governance faster, simple and citizen friendly. Under such developments, India has produced effective infrastructure and platforms that have introduced efficiencies in public service delivery systems. Through key initiatives like UMANG, AADHAAR and DigiLocker, India has made significant progress in integrating digital technologies in governance processes. Therefore, e-governance is not about providing services online. Rather, it is about creating governance model that empowers citizens, ensures transparency and accountability, and vital for greater interaction between the government at every level and its citizens.

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