E-GOVERNANCE: MOVING TOWARDS DIGITAL GOVERNANCE

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ABSTRACT

Information communication and technology (ICT) has revolutionized the daily lives of citizens across the globe. The invention of technology like artificial intelligence, web 1.o to 5.0, chat bots, cloud technology, Internet of things, have changed the governance in public and private sector. Governments across the globe are adopting the e-governance approach to run the daily affairs of the country. The use of information communication technology has facilitated efficient delivery of public services. Digitization of public services has helped in establishing the trust towards the government. Improving the public administration and governance has become the topmost priority for the socio-economic development of the country. Internet has changed the traditional way of business working. The communication between the government, citizens and business is transformed with the use of ICT tools. E-governance is a step towards making the administration citizen-centric and revamping the delivery of public services. E-governance in financial sector helps in bringing economic prosperity by curbing the practice of giving bribe and remove corruption. E-governance has significantly impacted the communication between the citizens and administration.

This paper explores the concept, meaning, challenges of e-governance. The article points out the importance of e-governance and suggests various steps to make e-governance successful. Qualitative research method is followed in writing this article.

Keywords: Information Communication Technology, good governance, e-governance, Bhoomi, citizen centric administration, United Nations e-government survey 2022.

INTRODUCTION

Digitization of services has transformed the transactions citizens lives. Digital transformation in governance can be said as new normal for the governments. New innovations in technology and the increasing expectations of citizens for improved delivery of public services has made the government to move from traditional governance to digital governance. In the present times and more specifically after corona pandemic, countries across the globe are relying on the use of digital technology in the administration of country.

Development of internet and other digital innovations have encouraged the government to use the Information Communication Technology tools in delivery of public services. The traditional governance is more dependent on the paperwork, which ultimately delays the administrative efficiency of government. On the other hand, use of digital technology in governance improves the efficiency of government and quick delivery of public services.

e-governance is all about doing business in online mode and in secured environment. The e-governance services can be provided through multiple ways. But cloud computing is one such innovative technology which is very cost effective (Vijaykumar, 2011).

Digitisation of public delivery of services are changing the social and political life of citizens and how the citizens participate in the governance of the country. Digitization of public services helps in simplifying the government processes, eliminating the paper-based transactions and establishing a single point for assessing the public information. citizens expectations pressurise the government to adopt an integrated public service delivery approach. E governance helps in focusing on a citizen centric approach in policy making in delivery of services. The term "People centric" means considering the needs and voices of the citizens into account in designing, delivering, implementing and evaluating public policies and services (Development, 2019).

Digitization of services place a significant role in the delivery of public services in the under developed and developing countries. E-governance model of every nation is designed according to the needs of citizens and other stakeholders who are the primary beneficiary of digitization of services. in United Kingdom the e-governance services are designed in a way to integrate all the state and national services through an integrated portal (Shareef, Jahankhani, & Dastbaz, 2012).

E governance can also be viewed as a means to transform and sustain the administrative reforms and strengthening the digital democracy in the country. Most of the E-governance researches focusses on Information Communication Technology aspect from the administrative perspective rather than taking steps to strengthen the participatory

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democracy through e-governance. e-governance is also perceived as a way forward for administrative reforms by focusing on three terms basically (Prasad, 2012) –

1.   Governance – transparency, people's participation, premotion of democratic society.
2.   Public services – efficient, cost effective and responsive governance, convenient public services to citizens and businesses, greater citizen access to public information accountability in delivery of services to citizens.
3.   Management – simplicity efficiency and accountability, managing voluminous citizens data and information efficiently, information services swift and secure communication.

The term e governance has many symbolic meanings like e-administration, e-services, e-governance and e-democracy (Sharma, Mishra, & Mishara, 2011). Each of these words hold a specific meaning-

1.   E administration – the use of ICT to modernize the state the creation of data repositories for mis computerisation of records.
2.   E services – this is basically to bring the citizens closer to government. Citizens can avail many of the government services like passport, driving licence, bank statement etc in online mode.
3.   E governance – it is use of information technology to improve the efficiency of the administration and in the delivery of services to citizens. It also includes taking necessary steps for successful implementation of the e governance policy to give desired results.
4.   E democracy- it is use of information technology to facilitate the participation of citizens in the democratic process. participation of citizens strengthens the democratic values thereby enhance good governance in administration. Information Communication Technology is deployed for improved data management in public services delivery, increased access to information, providing a more convenient procedure for information access, transparent transaction of services and increased citizen participation in the governance. The integration of information technology enabled government services has changed citizen and business expectations about ability to deliver public services on time. Public sector organisations are adopting new approach in public services delivery, in policy making, in citizen participation, in interagency collaboration for creating a digital environment for good governance. Digital transformation in public services has entered into various domains through artificial intelligence, internet of things, big data analytics, digital connectivity, citizen oriented mobile application, digital government platforms, personalized digital services, digital identity, cloud computing and blockchain technology. Digitization has helped in bridging the gap between citizens and state, reduced the division between demand and supply regarding the quality of public services delivered to citizens (Choi & Xavier, 2021)

According to Second Administrative Reforms Commission of India, the 11th report focuses on e governance. The title of 11th report is "Promoting e-Governance – The way forward". The report has recommended various measures for the successful promotion and implementation of e- governance. Second Administrative Reform Commission defines e-governance as the use of Information Communication Technology like wide area network, internet, mobile computing, artificial intelligence by the government agencies, that have the ability to transform relations with citizens, businesses, and various arms of government agencies, which will result in better delivery of government services to citizens, improved transactions with business community and empowering the citizens through access of information. The result of e governance is increased transparency, growth in revenue, reduction in financial cost and curb on corruption (Commission, 2008).

Generally, the term e governance and e government are used interchangeably. e government is the use of technology to enhance the excess to and delivery of government services to benefit the citizens business community and stake holders. It is necessary to envisage the concept of e governance for good governance and citizen centric administration.

According to World Bank the term "E-Government" refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions (Bank, 2015)

e-governance is an opportunity which opens the door for transforming the governance. e-governance should go beyond the computerization of government processes and work towards achieving efficiency in public service delivery, empowerment of citizens, transparency and accountability. The key motto of e-governance is "citizens first" (Chandrashekhar, 2008).

PREREQUISITE FACTORS FOR DIGITAL TRANSFORMATION IN PUBLIC SERVICE DELIVERY

Introduction of digital technology alone cannot bring the transformation in governance. To make digital transformation successful it is important that transformation process is accompanied with other necessary factors. Transformation in governance is a continuous work in progress. Digital transformation in governance should be accompanied by other factors like (Xavier, 2021)-

1.   For the successful transformation of governance from traditional to digital governance, and to adopt the digital agenda in any country, it is required that the political and bureaucratic leadership provide required support to promote the concept of digitization. All the countries across the globe, who are working to transform the governance have a

common objective of digitization. This is done by political leadership through knowledge development, customer centricity, digital skills, digital security and application of new technology like artificial intelligence, chatbots and data analytics etc in public service delivery. Public officials should convince citizens to opt for digital models of governance in their routine life (Xavier, 2021).

2. Apart from role of political and bureaucratic leadership it is important that the culture in any country supports the transition from traditional governance to digital governance. Leadership is fundamental in fostering the leadership culture that supports the transition to digitization. Citizens should be able to quickly adapt themselves to new digital technology that that benefits them in context of operational efficiency. When citizens will use digital technology, it will have a positive impact in fostering a culture of use of innovative technologies. The adoption of technology by citizens should be outward oriented i.e., it should listen and engage with citizens. Citizens can give their feedback about the use of technologies and the problem they face in its use. Digital transformation should be relevant in meeting the needs of citizens and business community. Young officers should take steps for adopting technology in their daily official routine work. The risk associated with technology should be addressed at regular intervals. This will build the citizens trust towards the use of digitization.

3. There should be well defined, planned strategy with a detailed roadmap which ensures the orderly migration from traditional working to digital working. A clear planned strategy will help the citizens and public service personnels to respond to threats and opportunities associated with digitization. A digital strategy should opt for a comprehensive approach for digitization of the public service delivery for enhancing the citizen experience. The digital strategy should be able to identify the obstacles, that could hamper the path of implementation of digitization. A planned digital strategy should address how to engage with the different stakeholders involved in transformation process and winning their backing (Xavier, 2021).

4. A tech savvy workforce is an integral part of any nation's digital transformation process. For the successful implementation of digitization process, it is important that the government should invest in giving required training and upskilling of personnels in ICT Skills. IT vendors should work in coordination with public officials. There is asymmetry of information between the IT vendors and public personnels. This results in higher costs, delay in giving results on time, greater inconvenience in developing user friendly services. Public personnels should be aware of the technical skills needed for citizen engagement and the enormous data generated through digitization of governance. Recruiting people with desired skills can address the issue of skilled workforce. Public and private educational institutions should give skill training to students along with formal and non-formal education. Availability of skilled personnels will reduce the gap between the demand and supply of IT industry. A skilled workforce will help in achieving the goal of digitization of public service delivery (Xavier, 2021).

5. Establishing an ICT infrastructure across the country plays a significant role in digitization of governance. Developed countries have taken lead in digital governance because of their heavy investment in research and development of low-cost user-friendly technologies. Adopting and implementing a new technology across different sectors in governance is an expensive process. Underdeveloped countries due to financial constraints are not able to revamp their public administration. These countries are not having financial resources to invest money in updating the existing technology. An outdated technology does not give desired results and it also affects the efficiency of the organization and the personnels. Any technology that is currently working requires constant updating to give results accurately. Updating of an existing technology is expensive. Digital transformation of public delivery of services will generate enormous data of citizens. Storage, management and analysis of data will require high-capacity machines to process this data. Procurement of these high-capacity machines need investment (Xavier, 2021).

SIGNIFICANCE OF E-GOVERNANCE

According to the World Bank (2002), e-governance has following benefits (Sangita, 2002) –

1. Simplifying the process of information accumulation for the citizens and business sector.
2. E-governance impower the citizens to collect information regarding the government policies and getting involved in the decision-making process.
3. E-governance strengthens the democratic values by ensuring citizen participation at all level in the governance process.
4. E-governance leads to automation of various services and insuring the excess of information to citizens regarding the public welfare policies.
5. E-governance insures accountability, transparency in government transactions and public sector agencies.
6. E-governance helps in the coordination and monitoring the activities of various government agencies.
7. Proper implementation of e-governance helps the citizens to avail the public services through online mode. Thus, saving the citizens time and money from having a physical visit to government office.
8. Adopting e-governance policy is useful for delivery of public services to citizens which in turn promotes better government communication with businesses and industries.
9. e-governance helps in bridging the trust gap between the government, citizens and business community. E-governance has facilitated the process of getting in touch with government bodies by various means like social media, common service centre etc.

e-governance is beneficial in bringing the awareness about already implemented government initiatives regarding the existing citizen centric services. a feedback system regarding the operability of current services can be made to improve the public services (OECD, 2010).

According to Second Administrative Reform Commission of India, e-governance is beneficial in transforming the paper-based work culture to digital environment. This is evident from Table 1.

Table 1: Benefits of e-governance

Country	Type of Government Application	Time to process before application	Time to process after application
Brazil	Registration of 29 documents	Several days	20-30 minutes per document, one day for business licenses
Chile	Taxes online	25 days	12 hours
India, Andhra Pradesh (AP)	Valuation of property	Few days	10 minutes
India, (AP)	Land registration	7-15 days	5 minutes
India, Gujarat	Interstate Check Posts for Trucks	30 minutes	2 minutes
Jamaica	Customs Online	2-3 day for brokers to process entry	3-4 hours
Philippines	Customs Online	8 days to release cargo	4 hours–2 days to release cargo

Source (Commission, 2008)

According to Second Administrative Reform Commission of India, e-governance services can be broadly divided into three categories. Firstly, providing information between the government, citizens, and businesses. Secondly, improving the processing efficiency of public agencies for meeting the demand and supply of public delivery of services. Thirdly, facilitating the transactions between the government, citizens and businesses. As one moves from first to third, the nature of complexity increases. In e-governance challenges are centred around the second and third categories. The challenges in e-governance are centred around people, process, technology and resources.

Examples of e-governance Initiatives

The stakeholders in e-governance are government, citizens and businesses. Every initiative in e-governance focusses on government to government (G2G) initiatives, government to citizens (G2C) initiatives and government to business (G2B) initiatives (See Table 2)

Table 2: e-governance initiatives

Government to Citizens initiatives (G2C)

- Bhoomi project in Kerala- online delivery of land records
- Gyandoot project in Madhya Pradesh- it is online service portal for issue of various certificates to citizens.
- Lokvani in Uttar Pradesh- it is online portal for lodging citizens grievances and mintaining land records.
- Computerization of land records, department of land records, government

Government to Business inititivaes (G2B)

- MCA 21 by Ministry of Corporate Affairs, Govt. of India.
- e-procurement project in Andhra Pradesh

Government to Government initiatives (G2G)

- Smart Gov by Andhra Pradesh.
- Khajane project in Kerala

Source (Commission, 2008) (Table compiled by author)

Ministry of Electronic and Information Technology (MeitY), Government of India, launched the "Digital India" programme with a vision to transform the India into digital empowered nation and knowledge based economic country by emphasizing on digital access, digital inclusion, digital empowerment and bridging the gap in digital divide. Digital India programme aims to ensure that digital technology transform and improves the life of every citizen. Digital India programme aims to improve the public services delivery in a transparent and corruption free manner. Digital India is an umbrella programme that covers various ministries and departments of central, state and union territories government. Some of the e-governance initiatives started by government are as following (Bureau, 2022)-

1. Common Service Centre (CSCs) Delivery- the setting of common service centres offers the various government and business services in digital mode in rural areas through village level entrepreneurs (VLE). Citizens in rural areas can avail various services like applying for subsidised farm equipment's, agricultural loans, scholarship registration etc.

2. Unified Mobile Application for New age Governance (UMANG)- this provides government services to the Indian citizens through mobile applications.

3. E-district Mission mode project- e-district projects have been implemented at district and sub district level in all the state/union territories. E-district project benefits the citizens by delivering them various e-services through online mode. These services that can be availed through e-district are like applying for birth certificate, marriage certificate, caste certificate, pension scheme for old age and widows, and paying of commercial taxes etc. At present 4671 e-services are given to citizens through e-district project across the nation.

4. Digi locker- this facilitates the citizens in keeping their documents in cloud storage format. Citizens can access their documents from the Digi locker portal or through mobile application. Mobile application works on all types of smartphones.

5. Unified payment Interface (UPI)- citizens can use this mobile application for secure digital payment to anyone. The citizens can now use this payment system in Singapore when visiting as tourist.

6. Co-Win- it is an open platform for management of registration, online appointment, slot booking for administering the corona vaccine and downloading the CoVid19 vaccination certificate.

7. MyGov- it is a citizen engagement platform launched on 26 July 2014 to facilitate the communication between citizens and governments. Through this platform citizens can communicate with different ministries of central government for policy formulation matters and the government can also seek the opinion of people on the issues of citizens welfare and public interest. The citizens can also convey their grievances to concerned public officials through this portal against any ministry or department.

8. Meri Pehchaan- it is a National Single Sign On (NSSO) platform that provides user authentication service through a single login in order to provide access to multiple online government portals. For the users it eliminates the Penchant process of every time proving their identity and providing login details. It also helps the in identifying the real identified users and removes fake users. For application developers it saves money, time and effort in developing the authentication system.

9. My Scheme- MyScheme is a web portal launched in July 2022. It is national platform that provides citizens one stop search and delivery of various government schemes in different sectors from housing to agriculture. This platform provides technology enabled ecosystem to citizens to find the information about schemes based upon the eligibility and needs of the citizen. The portal also guides the citizens how to apply for various schemes and the required documents for a particular scheme. This portal saves the citizens time as they do not have to visit several government websites thus saving time and money, reduces efforts of citizens of physically visiting the government offices to gather information about government schemes.

10. Direct Benefit Transfer- DBT- This is Aadhaar based service where the beneficiaries of different schemes receive the subsidy directly into their bank account. The DBT has removed the role of middlemen or corruption from government transactions.

11. Digital Infrastructure for Knowledge Sharing DIKSHA- it is national level platform lunched in 2017 by National Council for Education Research and Training NCERT, under the aegis of ministry of education. DIKSHA is platform which helps students and teachers to interact, participate and communicate with each other and to achieve the goal of "one nation, one digital platform" for learning.

At the state level, e-governance has been adopted by every state in different sectors. In land administration, e-governance was implemented by Karnataka. The Bhoomi project started in Karnataka is about the computerization of land revenue records through national land record management programme. In Andhra Pradesh also the government started the computerisation of registration of property and related process with it. The success of these initiatives motivated other state government to adopt e-governance in different fields ranging from health to agriculture. E-Sewa Kendra was established in Karnataka and Andhra Pradesh to pay different government taxes and bills and avail the services like caste certificate, domicile certificate etc. e-governance with the increase in computer and smartphone users and 5G mobile network infrastructure, has changed the nature of governance.

Another dimension of use of technology in e-governance in a democratic country is that technology enhances the citizen participation. In a county like India where there is vast section of society that is poor and deprived of basic amenities, technology empowers the citizens to enhance political equality. Computerization of land records is socially and

politically neutral process. e-governance helps in obtaining the information about the land ownership (Vaddiraju & Manasi, From E-Governance to Digitisation: Some Reflections and Concerns, 2017).

According to the author e-governance is helping the government in improving the country's rank in doing the ease of doing business report. Economic reforms help business community to expand their business when the government provides conducive and corruption free governance. Investors can use e governance as a medium of interaction with government agencies to convey their grievances and give feedback about existing running government schemes.

According to Organization for Economic Cooperation and Development, e-governance is beneficial in engaging the communication between governments, citizens and businesses. E- governance policy should focus on capacity enhancement of public sector, ensuring the availability of qualified and skilled personnels within the public agencies, high penetration of fast internet connections, and the citizens awareness and ability to use the public services for accessing public information are certain required perquisites for the society to utilize the benefits of e governance. Availability of new technology (artificial intelligence, chat bots, web 5.0 and big data analysis), the high expectations of citizens and business communities, and others for services to be given according to the specific needs of citizens and other stake holders, have pressured the public sector organizations to remain updated in the ICT skills (OECD, 2010) .

According to author there are many examples of e-governance that have made significant impact on governance at the national and state level. At the national level, introduction of new voter card with bard codes and QR code to remove duplication in voter list, introduction of Aadhaar card to avail the benefits of scholarship, receiving urea and gas subsidy and mapping of Aadhaar with bank account number for easy access to financial services (See Figure 1).

Figure 1 – Digital Identity System of India: Aadhaar

INDIA'S UNIQUE ID: AADHAAR

In 2009, the Indian government started to enroll its 1.2 billion citizens in a digital-identity system. The system, provided for free, is to enable each person with a unique identity number, called Aadhaar. That number will constitute a proof of identity when an individual avails a public service. The Unique Identification Authority of India (UIDAI) was established to design and manage this process.

Employing state and private agents to enroll citizens, UIDAI has registered more than 1 billion people. Aadhaar numbers have been linked to the delivery of liquefied petro-leum gas subsidies, public distribution system rations, and other social protection programs. Eventually, the goal is to connect Aadhaar to myriad other public and private services through a variety of partnerships.

The data captured by enrolling agencies includes biographical information such as name, gender, date of birth, and address, along with 10 fingerprints, two iris scans, and a photo. This data is securely sent to UIDAI for verification and elimination of duplicate registration. Once the digital identity is verified, a unique identification number (the Aadhaar number) is issued to the registered person, who receives a printed letter containing the number through mail. Public and private service providers can then authenticate the person's identity online using the Aadhaar number and a fingerprint scanning device.

Any public or private entity can now use the Aadhaar number to authenticate a user against the UIDAI database. When Aadhaar is used for authentication, service providers simply send a request to UIDAI for verification of an identity ("is this person who he or she claims to be?") and receive a 'yes' or 'no' in response. Data remains with the UIDA, and is not shared or accessible by other public or private entities.

Source (Xavier, 2021)

United Nations E-Government Survey 2022
United Nations E-Government Development Index (EGDI)

The E-Government Development Index (EGDI) is prepared by the United Nations Department of Economic and Social Affairs (UNDESA). The United Nations E-Government Development Index 2022 describes and analyses the present global trends in electronic and mobile services delivery, explores the distribution of online services based on the income level in a specific country and gives information about the provisions of services in specific sectors that are important for sustainable development. This index presents the current state of condition of e-government development of the member countries of united nations. The index incorporates the various characteristics like ICT infrastructure and education level, to reflect how a country is using information and communication technology to promote access to information and inclusion of its people. The United Nations E-Government Development Index 2022 is a measure of three important dimensions of e-government. First provision of online services, second telecommunication connectivity and third, human capacity. The three components of United Nations E-Government Development Index 2022 are-

1. Online Service Index (OSI)- this index assesses the technical features of national websites along with e-government policies applied in general and by special sectors in delivering the public services.
2. Human capital index (HCI)
3. Telecommunication Infrastructure Index (TII)

The United Nations E-Government Development Index 2022 does not give absolute information about e-government rather it gives performance rating to national governments relative to one another. The index does comprehensive survey of online presence of all 193 nations. The index assesses the national websites of every member nation and how the e-government policies of every nation work in different sectors for delivery of essential public services.

Table 3: India's rank in United Nations E-Government Development Index 2022

E-Government Development Index	2022	2020	2018	2016	2014	2012	2010	2008	2005
India ranking out of 193	105	100	96	107	118	125	119	113	87

Source (Nations, E-Government Survey 2022- The Future of Digital Government, 2022) (Table compiled by author)

One of the components of United Nations e-government development index 2022 is online service index (OSI). The online service index is further sub divided into 5 components. These five subindices are-

1. Institutional framework
2. Service provision
3. Content provision
4. Technology
5. E-participation

E-participation subindex (EPI)

Public participation is an important aspect of good governance and citizen centric administration. this aspect is also visible in Sustainable Development Goal. The SDG target 16.7 clearly mentions as "ensuring responsive, inclusive, participatory and representative decision making at all levels". Engaging with citizens in public decision making and services delivery through ICT is an essential part of e-government. The e-participation index (EPI) analyses online public participation using a three-point scale that differentiates between the access to information, (government providing information to people), consultation process (government consults the citizens about policy or on public services delivery at different stages of the process and possibly providing the feedback) and decision making (government involving people in decision making). E-participation index is a supplementary index of United Nations E-Government Survey. E-participation index informs about the three components mainly (Nations, E-Government Survey 2022- The Future of Digital Government, 2022)-

1. E-information- this means seeking participation by providing citizens with public information.
2. E-consultation- this means citizens give their input or feedback to the government regarding public policies and online services
3. E-decision making- this means empowering citizens by involving citizens in codesigning of policy and including in coproduction of service components.

The E-Participation Index shows the participation mechanism that is used by the governments at various levels. The index explores how different countries use online tools in interacting between the public agencies and citizens.

Table 4 – India's rank in E-Participation Index

e-participation index	2022	2020	2018	2016	2014	2012	2010	2008	2005
India ranking out of 193	61	29	15	27	40	75	58	49	57

Source (Nations, E-Government Survey 2022- The Future of Digital Government, 2022) (Table compiled by author)

According to United Nations E-government Survey 2022, India, Rwanda and Ecuador have a poorly developed telecommunications infrastructure. These countries have improved their organizational efficiency and strengthened the provisions of digital inclusion, use centric online services. Ecuador transformed the governance by executing "Opportunity Plan". India started the digital identity system "Aadhaar" while Rwanda opted for SMART analytics system for delivering public services (See Figure 2 & 3) (Nations, E-Government Survey 2022- The Future of Digital Government, 2022).

Figure 2: Digital initiative in Ecuador

In **Ecuador,** the political commitment to reducing inequalities through investment in digital transformation is articulated in the 2021-2025 Opportunity Plan. Particular attention is given to bridging existing gaps in Internet access. The country has signed an agreement with the International Telecommunication Union (ITU) to move forward with plans to expand the 4G network and guarantee the connectivity of schools and health-care facilities that have been excluded until now, including in rural areas.

Source (Nations, E-Government Survey 2022- The Future of Digital Government, 2022)

Figure 3: Digital initiatives in India and Rwanda

In **Rwanda**, public institutions offer 98 online services. The significant increase in national investment in online services provision has allowed the country to become a leader among the LDCs and to compete with the world's leading countries in e-government development. Aiming to address challenges and improve user-centricity in services provision, Rwanda is focusing on collecting real-time information for internal and strategic public planning, to guide decision-making processes, and to inform the development of targeted solutions. The country uses real-time specific, measurable, attainable, relevant and time-bound (SMART) analytics to track services delivery performance, including through heat maps and location-referenced quick performance reviews of public entities such as schools, hospitals and farming areas. The Government is strengthening inter-agency data sharing to facilitate problem solving and policy alignment and is taking steps to reduce costs, to improve the quality of existing services or develop new ones, to prevent, detect and mitigate errors, to decrease corruption, and to foster innovation with an eye to anticipating future trends. With financing from the World Bank Group and through collaboration with the private sector, Rwanda has launched several digital inclusion initiatives to help 250,000 households acquire digital devices and to provide 3 million people with the opportunity to improve their digital literacy. As part of its ICT for Governance Cluster Strategy 2020-2024, Rwanda is planning to further expand inclusive digital services and ICT-enabled empowerment.

The Government of **India** is implementing the Digital India initiative to build people-centric services for marginalized groups. The following are among the most recent initiatives:

- The Accessible India Campaign and mobile application has become a nationwide flagship initiative for achieving universal accessibility—one that enables people with disabilities to have access to equal opportunities, live independently, and participate fully in all aspects of life in an inclusive society. The campaign focuses specifically on enhancing the accessibility of the built environment, transport system and information and communication ecosystem. The mobile app is a crowdsourcing platform that allows administrators to obtain comprehensive information on inaccessible places across the country and to respond to relevant needs. Through this programme, 1,250 sign language interpreters have been trained, and 588 State government and 95 central government websites have become accessible for persons with disabilities.

- The AgriMarket app keeps farmers abreast of crop prices and discourages them from carrying out distress sales. Farmers can obtain crop price information for markets within a 50-kilometre radius using mobile GPS. To date, more than 80 million farm families have been reached through this app.

- MyGov is a platform created to promote and support public engagement in decision-making processes. The platform has 24.5 million registered users and offers many e-participation tools to facilitate the formation of online groups and thematic discussions, polls, surveys, blogs and talks. During 2021 and 2022, the Government has shared its plan for digital transformation with 9.5 million participants.

Source (Nations, E-Government Survey 2022- The Future of Digital Government, 2022)

According to United Nations E-Government Survey 2022, E-Government is the milestone in building a resilient, accountable, and social inclusive organizations and work towards achieving the Sustainable Development Goal 16 and implementing the Sustainable Development Goal 17 (Nations, E-Government Survey 2022- The Future of Digital Government, 2022).

The objective of United Nations sustainable development goal 16 is to promote the society based on inclusivity and peacefulness, provides access to justice to all citizens, establishing an effective, accountable and inclusive institution at

all the levels in the nation. The objective of united nations Sustainable Development Goal 17 is to enhance global partnerships for the sustainable development. The 2030 agenda of united nations sustainable development calls for global partnerships of all countries- developed and under developing- to ensure that no citizen is left behind. The 2030 agenda calls for collaboration between governments, public and private sector, and civil society members (Nations, THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT).

Issues in governance

Development of ICT helps in strengthening the democratic values in the country. ICT makes governance accountable, responsiveness, and transparent. Use of ICT plays a crucial role in building public trust among public, private and civil society organizations (Cordella, 2005). There are few critical issues that need to be taken into consideration when discussing the e-governance (Agarwal, Vanka, & Sriram, 2007) -

1.   For e-governance to be executed efficiently, the government does not have enough committed manpower to manage the e-governance. to enhance the capacity building there is need of skilled human resource. This human resource should be knowledgeable, with communication and interpersonal skills. For implementing the e-government strategically, it is important to fill the readiness gap between the capacities needed to implement the e-governance and the existing condition of government capacities. There is lack of availability of personnels with appropriate background and technical skills. There is also lack of appropriate institutional framework to address the issue of capacity enhancement of personnels. There is absence of policy guidelines related to skill enhancement of personnels. Absence of personnel policy affects the outcome of personnel policy (Agarwal, Vanka, & Sriram, 2007).

2.   There is a serious need to relook the management of current e-governance programmes. Many of the e-governance projects have failed in developed countries. The cost of these failed projects was too high but these projects delivered no outcome and neither it benefitted the citizens (Agarwal, Vanka, & Sriram, 2007).

3.   There is lack of clarity and purpose in the e-governance strategy of e-governance initiatives. There is conflict between "what the technology can deliver" and "what the organisation needs". This conflict affects the effectiveness of e-governance projects (Agarwal, Vanka, & Sriram, 2007).

4.   ICT enabled projects require significant changes both in terms of input and output. To change an existing condition requires a strong leadership. there is lack of leadership and willingness at the political level and senior management level to introduce the required changes. People in leadership position do not have the required skills to exercise the effective leadership of ICT enabled changes (Agarwal, Vanka, & Sriram, 2007).

5.   E-governance projects have failed to engage with the user's needs. For e-governance project to be successful it is crucial the need of users to be identified. Every service requires different users, different attitude and different response to users' problem. Therefore e-governance projects should work in close coordination with citizen's needs (Agarwal, Vanka, & Sriram, 2007).

6.   In e-governance initiatives in public sector, there exists a lack of effective engagement with all the stakeholders. ICT enabled public sector projects involves many stakeholders like – service users, suppliers, delivery partners in public and private sector, bureaucrats, politicians, and the media. As there is no coordination between the stakeholders it increases the chances of failure of e-governance projects (Agarwal, Vanka, & Sriram, 2007).

7.   There is lack of understanding and awareness about the enterprise architecture model and its benefits. For e-governance to be successful, issue of security, interoperability and scalable architecture are to be addressed. For citizen centric e-governance, there is a need for standard based architectures that is must for integration and interoperability of various citizens services across the central and state governments. Enterprise architecture represents the current or future structure, behaviour of an organizations work culture, processes, information systems, personnel information's, various sub divisions, departments which are aligned to achieve organizational goals. There is no one set standard for the interoperability of citizens services across the various departments (Agarwal, Vanka, & Sriram, 2007).

8.   E-governance when implemented strategically gives desired outcomes. The results of e-governance project in one department are not shared with another department. This leads to duplication of work, effort and financial resources. This duplication of work results in the rising of the financial cost of the e-governance projects (Agarwal, Vanka, & Sriram, 2007).

9.   There is lack of integration of different applications across the government departments, with each department following its own rules and regulations and management procedures. The government departments do not follow one uniform set of standards. This results in duplication of work and increases the financial burden on the government (Agarwal, Vanka, & Sriram, 2007).

10.   The issue of data security, data integrity and data reliability are mostly left to the discretion of the government departments or the private sector personnels who work on the e-governance projects. Many of these e-governance projects do not follow the security protocol related to data management. For the effective execution of the e-governance projects, it is important that to ensure the security of sensitive data of citizens, government transactions and complying with the international standard security protocol in e-governance (Agarwal, Vanka, & Sriram, 2007).

11.   Many of the citizens fear to use the online services, due to security issues like cyber frauds, data theft, phishing etc. when the government provides any online services to citizens, it must be authenticated that the concerned person is eligible to receive such online services. use of digital signatures can help in authenticating the service recipients (Agarwal, Vanka, & Sriram, 2007).

12.   With the centralization of data and data storage at one place there is fear of data being leaked in open market. It is important to secure the centralization of data and data storage through high level security protocol (Agarwal, Vanka, & Sriram, 2007).

13.   With the implementation of e-governance, there is large amount of data that generated due to digitization. Since the main focus is on execution of e-governance, less importance is given on the issue of data ownership and question of accountability in case of data theft. There is need to introduce necessary reforms for addressing the issues of data ownership and data accountability in e-governance (Agarwal, Vanka, & Sriram, 2007).

14.   E-governance should address the issue of "digital divide". It is observed in many of our families, many of the elder family members do not use the internet enabled services while other members use digital services. this has given the concept of digital divide. Family members may not be using the e-services due to fear arising from the cyber frauds etc (Agarwal, Vanka, & Sriram, 2007).

Challenges of e-governance

An integrated approach is needed to address the challenges in e-governance. For e-governance to give desired results it is significant to address the obstacles of e-governance. The challenges in e-governance are basically centred around people, process, resources and technology (Commission, 2008).

1.   The e-governance policy framework must work to bring coordination among all the stakeholders to bridge the existing social, economic and digital gaps. The e-governance policy framework must be insulated from the frequently changing political and bureaucratic leadership. E-governance policy needs long time effort to give desired results (Chauhan, 2008).

2.   A traditional government with vertical organizational setup and hierarchical work procedures is accustom to paper-based work culture. The shift from paper-based working to digital working, horizontal organizational setup is a challenging task for the organizations to adapt new work system. Transformation of government from traditional to digital governance is a time taking process (Chauhan, 2008).

3.   There is need of reengineering of the business process in the public services Offred to the citizens. A dedicated technical workforce is needed to analyse the problems in back-office processes working in manual and online mode (Chauhan, 2008).

4.   The ownership of the efforts and the outcome of e-governance results should be clearly mentioned both for the organization and outside the organization (Chauhan, 2008).

5.   E-governance implementation requires the partnership with the public and private sectors to deliver the public services. Therefore, the collaboration becomes crucial in giving the outcome. The areas for this partnership, selecting the partnership terms, and conditions, question of service charges from citizen is a critical aspect of governance. there is need to adopt a balance approach between the private partnership and citizens need (Chauhan, 2008).

6.   In e-governance, risk management of technology related issues is an area where the expertise of trained skill workforce is needed. The risk associated with technology should be shared with other public agencies and citizens (Chauhan, 2008).

7.   E-governance involves the collection, storage and processing of the personal sensitive data which contains confidential information about different stakeholders- citizens, government departments, commercial departments, financial transactions of citizens and state government, income and expenditure data of government and citizens and trade secrets etc. it is significant to address the security threats like spamming, identity thefts, phishing, etc to look into these cyber-crimes. Stringent data protection laws to be executed to punish those who violate the law (Agarwal, Vanka, & Sriram, 2007).

8.   E-governance execution requires strategic planning. the time distribution for different activities in e-governance initiatives to give results is very restricted. Focus is on more on the execution of the execution of policy and giving instant results. Very little time is given on planning by the public agencies and personnel's strategic planning give desired outcomes. There is no support from the government and public agencies, implementing agencies for the preparation and planning of the e-governance projects. This pressure is due to distortions in government funding process (Agarwal, Vanka, & Sriram, 2007).

9.   Digitization of governance has led to evolution of new concept "surveillance society". This term came into existence because of the citizen data getting into the hands of the state. This has increased the state's power over the citizens. In the absence of weak data privacy laws, personal data is can be used by private corporations and misused for commercial profits, laws related to corporate governance needs to strengthened. People in the rural areas are the major beneficiaries of government schemes. they more vulnerable to the violation of data privacy by multinational companies. The rural are not aware of digital literacy. The fear of surveillance society needs to be addressed through strict laws and cyber security policy (Vaddiraju & Manasi, From E-Governance to Digitisation: Some Reflections and Concerns, 2017).

10.   Migrating from traditional governance to digital governance is not an easy task. There is resistance from the traditional bureaucracy which does not like good governance, transparency and accountability. Traditional bureaucracy feels insecurity due to digitization and fear of increased accountability (Chauhan, 2008).

11.   Economic inequality is another major challenge in the execution of e-governance. with the hardware component and technology for use in e-governance becoming cheaper, this has contributed in the issue of digital divide.

To bridge this gap where few can access the e-services and majority cannot access the e-services, obstructs the objectives of e-governance (Vaddiraju & Manasi, From E-Governance to Digitisation: Some Reflections and Concerns, 2017).

12.   The government should focus on developing the core skills and capacities of the citizens to support the growing demand of skilled work force in public sector agencies. This skilled workforce will be able capable of handling the large-scale ICT projects, help in planning and execution and deliver the results on time. Skilled personnels help in achieving the objectives of digitization of governance. skill training policy should be introduced to train the citizens in ICT skills (Commission, 2008).

13.   Government should do an analysis of the capacity of employees to carry out an ICT enabled services. government should build a roadmap of how to enhance the capacity of employees and the organization (Refer Table 5) (Commission, 2008).

Table 5: The Capabilities required for e-governance

	Conceptual	Subject Matter	Technological	Project Implementation
Managerial ↑ ↓ Operational	• Vision of the organization • Understanding of external environment • Constraints • Appreciation of citizens' need • Assessment of internal strength	• Knowledge of laws • Knowledge of rules and regulations • Appreciation of processes • Understanding of forms	• Broad appreciation of technology • Strengths and weaknesses of a technology • Capability to modify technology • Operational details of technology	• Project formulation • Project management • Change management • Resource management • Control management • Monitoring and supervision

Source (Commission, 2008)

14.   For e-governance to achieve its goals it is important to incorporate the views of citizens and business community in designing the public delivery mechanism. Incorporating the views of citizens and other stakeholders will increase the public service delivery effectiveness, quality, and responsiveness (OECD, 2010).

15.   Enhancing the public awareness about the existing e-government services through rigorous promotion and marketing strategy and motivating the citizens to opt for public services in online mode. There is need for capacity building to utilize the e-governance services. public officials should convince the citizens to use more of e-services and give their feedback on digitization of services (Prasad, 2012).

CONCLUSION

There is a need to develop an environment for the successful implementation of e-governance initiatives. This is done by showing a will to bring the changes in the government. The support of the political leadership is very crucial in developing such conducive environment to move towards digital governance. awareness among the citizens should be created through public awareness camps. This will generate demand for the e-services among the citizens. Union and state government should identify the various categories of e-governance initiatives. These initiatives can be used for accessing the information, doing financial transactions, payment of taxes and user fees for public fees, and availing government services. there should be more coordination between the information and technology departments at central and state level to provide the technical support to the citizens. When governance policies are promulgated and implemented regarding the information and services access through internet, the citizens who are not having access to internet and their impact on use of e services and information should be examined by the public agencies. Government t should ensure that the citizens who don't have internet access are Government not denied to access the public e services and information. Technology should be developed to deliver the services and information who do not own the computers or lack internet facility. For e-governance to be successful there is need for re-examining the business process reengineering based on the citizen's feedback. Step by step analysis should be done of each process to maintain the citizen centric administration. private sector has made remarkable progress in use of ICT to achieve organizational goals and capacity enhancement. Public sector agencies should study these achievements of private sectors through exchange programs and case studies. The awareness campaigns should be conducted in local language of the citizens.

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Local language will help the citizens to understand the pro and cons of digital governance. it will also help the citizens to understand the gaps in the implementation of e governance plans.

BIBLIOGRAPHY

1. Agarwal, A., Vanka, S., & Sriram, K. (2007). Critical Issues in e-Governance. In R. K. Bagga, & P. Gupta (Eds.), *TRANSFORMING GOVERNMENT: E-GOVERNANCE INITIATIVES IN INDIA* (2009 ed., pp. 51-86). Hyderabad: The Icfai University Press. Retrieved February 27, 2023

2. Bank, W. (2015, May 09). *e-government.* Retrieved February 19, 2023, from world bank: https://www.worldbank.org/en/topic/digitaldevelopment/brief/e-government

3. Bureau, P. I. (2022, August 03). *Press Information Bureau- Ministry of Electronics & IT- E-governance.* Retrieved February 21, 2023, from Press Information Bureau: https://pib.gov.in/Pressreleaseshare.aspx?PRID=1847837

4. Chandrashekhar, R. (2008, October-December). Implementing NeGP: Importance of Impact Assessment. *VIKALAPA, 33*(4), 69-73. Retrieved February 19, 2023

5. Chauhan, R. (2008). *National E-Governance Plan in India.* Macao: United Nations University - International Institute for Software Technology. Retrieved February 13, 2023

6. Choi, J., & Xavier, J. (2021). *Digitalization of Public Service Delivery in Asia.* Asian Productivity Organization. Tokyo: Asian Productivity Organization.

7. Commission, S. A. (2008). *PROMOTING e-GOVERNANcE - The SMART Way Forward.* DEPARTMENT OF ADMINISTRATIVE REFORMS AND PUBLIC GRIEVANCES. NEW DELHI: MINISTRY OF PERSONNEL , PUBLIC GRIEVANCES AND PENSIONS. Retrieved from https://darpg.gov.in/sites/default/files/promoting_egov11.pdf

8. Cordella, A. (2005). The Role of Information and Communication Technology in Building Trust in Governance. In R. A. Vitro (Ed.), *The Knowledge Economy In Development: Perspectives For Effective Partnership* (pp. 57 - 60). Washington D C: Inter American Development Bank.

9. Development, O. f.-o. (2019). Towards People-centrIc Public ServIces. In OECD, *Government at a Glance* (pp. 25-50). OECD. Retrieved January 04, 2023, from https://www.oecd-ilibrary.org/docserver/6c26b0ba-en.pdf?expires=1673879630&id=id&accname=guest&checksum=0BABF4C7F5234321AE6F2048C77BEC4A

10. Nations, U. (2022). *E-Government Survey 2022- The Future of Digital Government.* United Nations, Department of Economic and Social Affairs. NewYork: Department of Economic and Social Affairs. Retrieved February 21, 2023, from https://desapublications.un.org/sites/default/files/publications/2022-09/Web%20version%20E-Government%202022.pdf

11. Nations, U. (n.d.). *Sustainable Development Goals 2030.* Retrieved February 24, 2023, from United Nations Sustainable Development Goals: https://www.un.org/sustainabledevelopment/globalpartnerships/

12. OECD. (2010). *Efficient e-Government for Smarter Public Service Delivery.* Denmark: OECD e-Government Studies.

13. Prasad, K. (2012). E-Governance Policy for Modernizing Government through Digital Democracy in India. *Journal of Information Policy, 02*, 183-203. Retrieved from https://www.jstor.org/stable/10.5325/jinfopoli.2.2012.0183

14. Shareef, S. M., Jahankhani, H., & Dastbaz, M. (2012). E-Government Stage Model: Based on Citizen-Centric Approach in Regional Government in Developing Countries. *International Journal of Electronic Commerce Studies, 3*(1), 145-164.

15. Sharma, P., Mishra, A., & Mishara, P. (2011). E-governance in India is the Effectual and Challenging Approach to Governance. *International Journal of Business Management and Economic Research, 2*(5), 297-304.

16. Vaddiraju, A. K., & Manasi, S. (2017). *From E-Governance to Digitisation: Some Reflections and Concerns.* Bangalore: The Institute for Social and Economic Change.

17. Vaddiraju, A. K., & Manasi, S. (2017). *From E-Governance to Digitisation: Some Reflections and Concerns.* The Institute for Social and Economic Change. Bangalore: The Institute for Social and Economic Change. Retrieved February 27, 2023

18. Vijaykumar, N. (2011). Role of ICT in e-Governance: Impact of Cloud Computing in Driving New Initiatives. *SETLabs Briefings, 9*(2), pp. 43-53. Retrieved February 18, 2023

19. Xavier, J. A. (2021). Leading Global Trends In Public Service Digitilization. In A. P. ORGANIZATION, J. Choi, & J. Xavier (Eds.), *Digitilization of Public Service Delivery In Asia* (pp. 1-184). Tokyo: ASIAN PRODUCTIVITY ORGANIZATION.