E-Governance in Action: A Study of Citizen Centric initiatives taken by the Government

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Technology is transforming every walk of life; nothing is untouched, and governance is also one of the areas where technology is playing a very important role. This technology is being used as digital or internet-based technology. Recently we are talking a lot about Artificial Intelligence or AI. The application of Artificial Intelligence (AI) in governance is steadily transforming the landscape of public administration in India. With the advancement of digital infrastructure and policy support under initiatives like *Digital India*, AI is being deployed across various sectors to improve service delivery, enhance decision-making, and promote transparency. The strength of democracy lies in the hand of citizen of the country. If the citizens are getting proper participation in governance and they are getting prompt services without any hurdle or biasness, then their outlook towards the Government changes a lot. That is why different Governments, and its executive agencies always promote participatory nature of the Governance. Therefore, in participatory democracy different technologies are converged in such a way that it can provide a platform for two-way communication. As we know that two-way communications are very important for various reasons, one reason is to get instant feedback, another reason is to get opinion about the services, apart from it to involve the citizen of the country in the process of development. The Central Government and different state Governments are exploring a lot of e-governance initiatives. Therefore, this study explores various initiatives and avenues through which the Government is empowering the citizen of the country and trying to make the system more prompt, transparent, accountable and honest.

Key Word: - Digital democracy, digital governance, e-governance, citizen empowerment, good governance, electronic governance, smart governance, AI and Governance.

E-Governance and its objective:

E-governance is the application of information & communication technologies to transform the efficiency of service. E stands of electronic that's why it can be called electronic Governance. Therefore e-Governance is a platform for two-way communication where citizens can use it in the form of debate, feedback, and exchange of ideas and for the improvement of services. Now a day's different names are being used for this nature of Governance. These are- Mobile Governance, Digital Governance & E- Governance.

Therefore, the kind of Governance for which we are taking the help of ICT (Information and Communications Technology) is called E-Governance. On the other hand, M-Governance is also synonymous in nature, here M is used for mobile, and there for the kind of Governance in which mobile phones are being used is mobile Governance. We can achieve the target of smart citizens with the help of smart phones. This is the device that is being used to avail various Government services. Citizens are also using their phones for the purpose of crisis management. The next term is digital governance because in this kind of Governance the Government is taking the help of various digital devices- like Computer, mobile phones and satellite communication, kiosks. In India, the main thrust for e-Governance was provided by the M-Governance.

Mobile Governance: Mobile Governance is complementary to e-governance. Through this the citizens can avail the services "anytime, anywhere". This is uses for the services of banking, airlines, sports, movie ticket, app-based services, security purpose. The Government is introducing various services in this regard. One of the services that the Government has introduced is Mobile Seva which enables the integration of the mobile platform with the common e-Governance infrastructure consisting of State Data Centers (SDCs), State Wide Area Networks (SWANs), State and National Service Delivery Gateways (SSDGs/NSDG).The Government has also started m-App Store that can be accessed at http://mgov.gov.in/. The m-App store currently hosts over 240 live mobile applications. The live applications can be downloaded and installed free of cost on a mobile phone by any person.

Stages of e-governance: As far as different stages of e-governance is concerned these are as follows: -

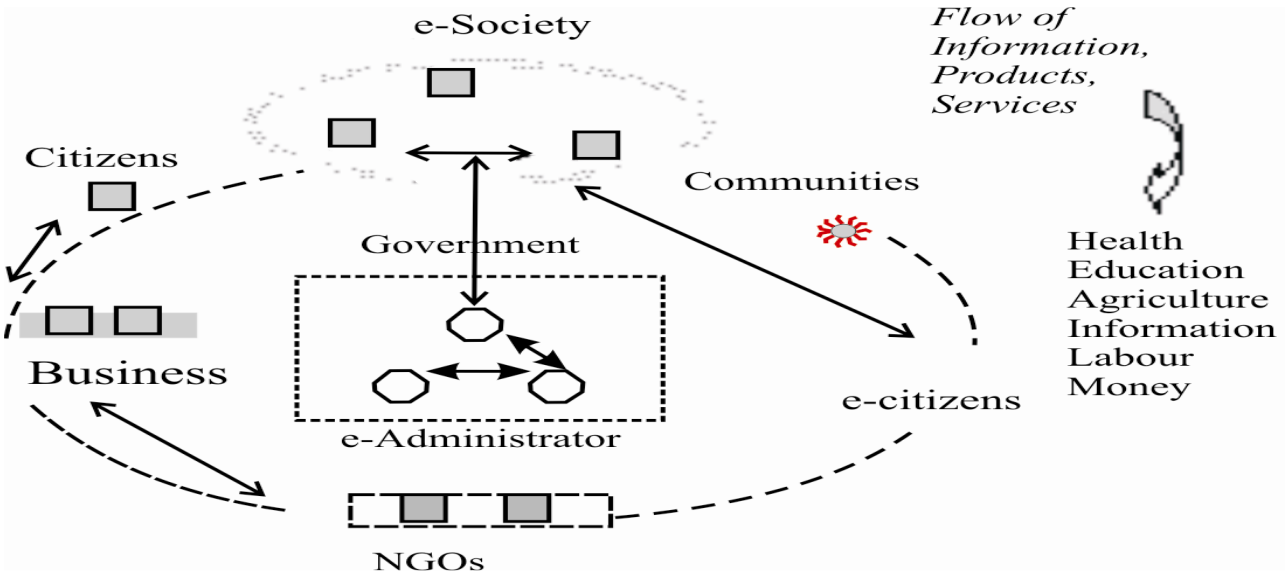
Presence: The first stage of e-Governance is presence of e-Governance. For this purpose, necessary infrastructure is required. Like there might be any kiosks, web site or there might be nay mobile app/services.

Interaction: The second stage is the stage when there is interaction of users with the technology or services. Acceptance of any technology or e-governance services depends upon the simplicity of the services and technology. According to this the popularity of services are decided.

Transaction: This is the stage when actual services are provided, or transaction is done through online. Transaction might be related with online fund transfer, e-good, e-shopping or anything else. For effective e-governance the transaction should be smooth, prompt and secured.

Transformation: Transformation is the last stage in which the services are transformed. Sometimes new services are added on the other hand the services could be available on various platforms like: Mobile phone, computers etc. As far as transformation stage is concerned there is always a chance for improvement.

E-Governance Table: -



UTTAR PRADESH	
http://gis.up.nic.in:8080/srishti/	For district information
http://bhulekh.up.nic.in/	For land records
http://koshvani.up.nic.in/	Provides state financial health
http://rahat.up.nic.in/	For disaster management Lokvani,e Suvidha,Bhulekh,(Land Records), Koshvaani, Treasury Computerization,

	PRERNA: PRoperty Evaluation and Registration Application, Bouquets of services offered by Transport Department

E-Governance In India: - As far as E-Governance is concerned it is implemented from 1970s when for the purpose of planning and deployment of resources, economic monitoring, defense and tax administration the Government started using different tools of information and communication technologies. Keeping in view implementation of different administrative plan State Wide Ara Networks (SWAN) was also established.

However, the main thrust for e-Governance was provided by the launching of 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) program to computerize all district offices in the Country for which free hardware and software was offered to the State Governments. NIcNET was extended via the State capitals to all district headquarters by 1990. Later on during 1990s the Central Administrative Reforms Committee recommended use of e-governance as an interface between the state and the citizen so as to ensure transparency, efficiency in system. For the first time in Kerla e-government project namely Akshaya e- Kendra's started. It was Run by private entrepreneurs, each e-Kendra set up within 2-3 kilometers of every household, will cater to the requirements of around 1000-3000 families to make available the power of networking and connectivity to common man.

In the meantime, Information Technology Act, 2000, and Right to information (RTI) act is a milestone in the development of e-Governance. II Act legalized various transaction and services. Democracy is for the people, by the people and of the people. Therefore, ultimate job of democracy is to involve the people in the process of governance and at the same time there must be overall growth of the people. In achieving smooth and participatory nature of governance different new technologies are always helpful. That is why not only central Government of India but different states is also taking the help of the new technology and media in order to create better environment of Governance. India's First Supercomputer was PARAM 8000. PARAM stood for Parallel Machine. This computer was developed by the government run Centre for Development of Advanced Computing (C-DAC)

Launching of 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 Governments. NICNET was extended via the State capitals to all district headquarters by 1990. We should not forget that the concept of computerization also helped in making an environment for e-Governance. We can say that the future of India is in digital India because 120 million internet users are in India the third largest user base in the world.

Advantages of E-Governance:

Bhatnagar, S. (2004) in "e-Government: From Vision to Implementation" provides a foundational understanding of how ICT can be leveraged to enhance governance. He classifies e-Governance into four major models: G2C, G2B, G2E, and G2G, offering early insights into service delivery transformation. It has been explained in the following way: -

G2C: Government to Citizen: - We are having a lot of services that is being offered by different Governments to provide different services to the citizen of the country. These are as follows:

G2G- Government to Government: - In this regard one Government make a two way system for another Government. Like Central Government with state Government.

G2B: Government to Business: Government makes a system in which business is promoted. In this regard the Government is using single window scheme at the same time the Government is promoting e-tendering system.

G2E: Government to Employee: Government has also to think about the welfare of employee. In this regard the Government used to evolve a system in which the employee can get a positive and prompt environment.

Now let us come to the advantage of e-governance that makes this system popular day by day. Following are the advantages of E-Governance:

Fast Services: Technology makes communication speedier. Internet, Phones, Cell Phones have reduced the time taken in normal communication. E-Governance helps us in availing fast services. With the help of information and communication technology the Government creates a link with the citizen. There are numerous services in this regard, example- Online passport services, subsidy

transfer, e-choupal ect.

Cost Saving: E-Governance stop wastage of money. Digital signature and scanned documents help us in cost saving. We can also save our environment because of this we can save a lot of trees. Therefore, we save different cost in this regard, like- Travelling, distribution and printing cost.

Ensuring transparency in system: Dwivedi, Y.K. et al. (2012) focus on user perception, suggesting that citizen satisfaction largely depends on ease of access, transparency, and reduced corruption.

Corruption is the main problem that is creating a lot of hurdles in making India a developed nation. With the use of latest technology, the Government is ensuring transparency in system. Examples- e-tender, online complaint, online subsidy transfer is the example in this regard. Different state Government are also ensuring transparency in traffic management system, these Governments are using face book and twitter in this regard. If any person sees that anybody is violating traffic rule, then that person can capture an image and post it on face book page.

Liability and accountability: - Technology always helps us in fixing liability of human beings. Online complaint and feedback make a system more accountable. The Income tax department has also to clear all the cases related with income tax refund. If any person is found guilty of not refunding dues on time, then The Government can take strict action against that person.

Convenience: New technology and services are hassle free in nature. It is convenient for the people to avail different services while they are at home. The people do not have to stand in a long cue and in this way, they save time.

Quality of services: Gupta & Jana (2003) evaluated several Indian e-Governance initiatives and concluded that digitization has significantly improved service delivery, particularly in rural areas. However, they note that lack of awareness and digital literacy are persistent challenges.

E-Governance promotes better quality of services. The services are prompt, convenient and it is provided at the doorstep of the public. E-Choupal is a good example of this. Through this initiative the Government is providing a platform for the farmers. The farmers can raise various issues in front of the Government can provide required services to them.

Flexibility of use: The services of E-Governance are very flexible in nature. There is flexibility of timing, geographical area and at the same time there is flexibility of use. At the same time there is also flexibility of timing.

Greater Participation of the citizen: The Government wants to promote e-Governance because the Government can reach to the maximum number of the citizen with the help of E-Governance. The Government has introduced a unique identity system that can help individuals in availing various services. Right now various universities are conducting online examinations and a greater participation of students has been achieved with this. In near future there might be a possibility of e-voting system through this the citizens can cast their vote without any fear or favor.

Environment friendly: Latest technologies are green technologies. When we are using these technologies, we are saving a lot of trees. These technologies are promoting paperless work. It also minimizes the use of vehicles in this way it also cut pollution level.

Limitation of E-Governance: As far as e-Governance is concerned following are the limitation: -

Security issue: As far as e-Governance is concerned security issue is becoming a major problem. Many times, it happens that the data is online. Sometimes it affects the privacy of individuals. Therefore, until there is foolproof system it will not be able to gain the trust of individuals.

Cyber Crime: We are living in this cyber world. There are different hackers and crackers who want to destroy the system. Sometimes they steal data on the other hand there are also the cases of hidden software which is stealing important information of the individuals without the knowledge of the individuals and Government.

Privacy and piracy issues: Latest information and communication technologies are creating an opportunity for the citizen of the country. The availability of new technologies is also becoming a problem, because the privacy of individuals is at stake. Most of the information about the individual is available at public domain. That is why there are a lot of cases in which individuals' privacy was intruded. Piracy is also becoming a major problem. A good infrastructure needs latest updated software and devices. There are cases in of software piracy. This piracy not only affects the revenue of the company but at the same time fake/duplicate software also creates a lot of problem.

Authenticity problem: Some time different Government department is reluctant about e-Governance. They are not caring about updating of the information. On the other hand, if the content is not properly cross checked it also creates problem of authenticity. There are also cases where dummy website was made in order to get illegal benefit. Apart from this AI is creating another challenge.

Digital Divide: Heeks, R. (2001) discusses the "Design–Reality Gap" in e-Governance projects in developing countries, including India. His work highlights the frequent mismatch between e-Governance design and on-ground realities. Central Government and different state Governments are trying to reach the citizen of the country but the gap between haves and have not's creating a gap between citizen and the Government. Cost of the technology, availability of electricity and infrastructure always creates hurdle in E-Governance.

Untrained people: E-literacy is increasing day by day in India, at the same time there are a lot of people who are not well trained, and they are unable to operate different electronic devices properly. That is why these unskilled people are facing a lot of problem as far the advantage of different Governmental plan is concerned.

Resistance for change: Chandrashekhar, C.P. (2006) analyzed the policy frameworks around the National e-Governance Plan (NeGP) and found that while infrastructure development progressed well, integration among various state systems was often lacking.

There is a possibility that there could be resistance at state level as well as amongst different members of society who are unable to change their mindset, they don't want to experiment new things. The resistance of these people and different department creates a problem and that is why they become laggard.

E-governance initiatives in India:

Bhoomi Project: This project was started in the state of Karnataka. It is an online delivery of Land Records. Self-sustainable e-Governance project for the computerized delivery of 20 million rural land records to 6.7 million farmers through 177 Government-owned kiosks. Bhoomi has reduced the discretion of public officials by introducing provisions for recording a mutation request online. Farmers can now access the database and are empowered to follow up.

Basu, S. (2004) in "e-Government and Developing Countries: An Overview" emphasizes India's efforts through case studies like Bhoomi (Karnataka) and Gyandoot (Madhya Pradesh), showcasing how localized projects led to efficiency and transparency.

Gyandoot:- Madon, S. (2009) analyzes the Gyandoot project as a model of participatory e-Governance, pointing out how digital services influenced local empowerment in tribal areas.

This project was started in the District of Dhar in Madhya Pradesh. It is an Intranet-based Government to Citizen (G2C) service delivery initiative. The objective of this project was to create a bridge between the Government and citizen. The critical factors responsible for the success of Gyandoot include leadership, champions for change, cost sharing between government and kiosk owner, and focus on citizens' needs. In this regard youth from the villages were trained to handle these kiosks as self-sustaining ventures. For the implementation, the state government, with assistance from the World Bank, funded the infrastructure. Private companies participated in setting up the networks and kiosks.

E-Seva: E-Seva is the project of Andhra Pradesh. The objective of the project is to deliver various government services online. In this regard all the Government offices used to provide valuable information online. Therefore, there is an effort to reach to the citizen of the state with the help of information and communication technology.

E-District: -concepts were implemented in the 58 districts: e-District is one of the 31 Mission Mode Projects under National e Governance Plan (NeGP) with the DIT, Government of India being the nodal ministry. This project aims at providing support to the basic administrative unit i.e. District Administration by undertaking backend computerization to enable electronic delivery of high-volume citizen centric government services

eNagarseva- It is a web-based application for computerizing various activities of the 635 Urban Local Bodies of the state. The main objective of the application is to provide different services to the citizens the department on 24x7 basis. eNagarsewa intends to introduce automation and implementation of integrated framework for e-Governance by leveraging ICT with an aim to streamline,improve,and strengthen functioning of Municipal Governments and service delivery to citizens.

E-Governance in Noida City: Compaq India has joined hands with Electronics Research and Development Centre of India (ERDCI), Noida, to set up a competence centre that would enable e-governance in Noida city and various other states. Residents will be able to pay electricity and phone bills, file I-T returns, register marriages and deaths, among other things at information kiosks located in the city. Once the project becomes fully operational citizens can pay utilities, get grievance redressed and a variety of other essential jobs through these info kiosks.

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UID- Unique identification project is another project that is an attempt to identify each and every citizen of the country. This is not only beneficial in the delivery of various social welfare schemes but also it is an attempt to bring transparency in different government services/subsidy. The number is linked to a resident's demographic and biometric information. A resident can use his Aadhaar number to identify himself anywhere in the country in order to access certain benefits and services. Government of India (MeitY Reports) periodically releases evaluation studies of e-Governance Mission Mode Projects (MMPs), highlighting both achievements (e.g., Aadhaar, MCA21) and bottlenecks (e.g., connectivity, trained manpower).

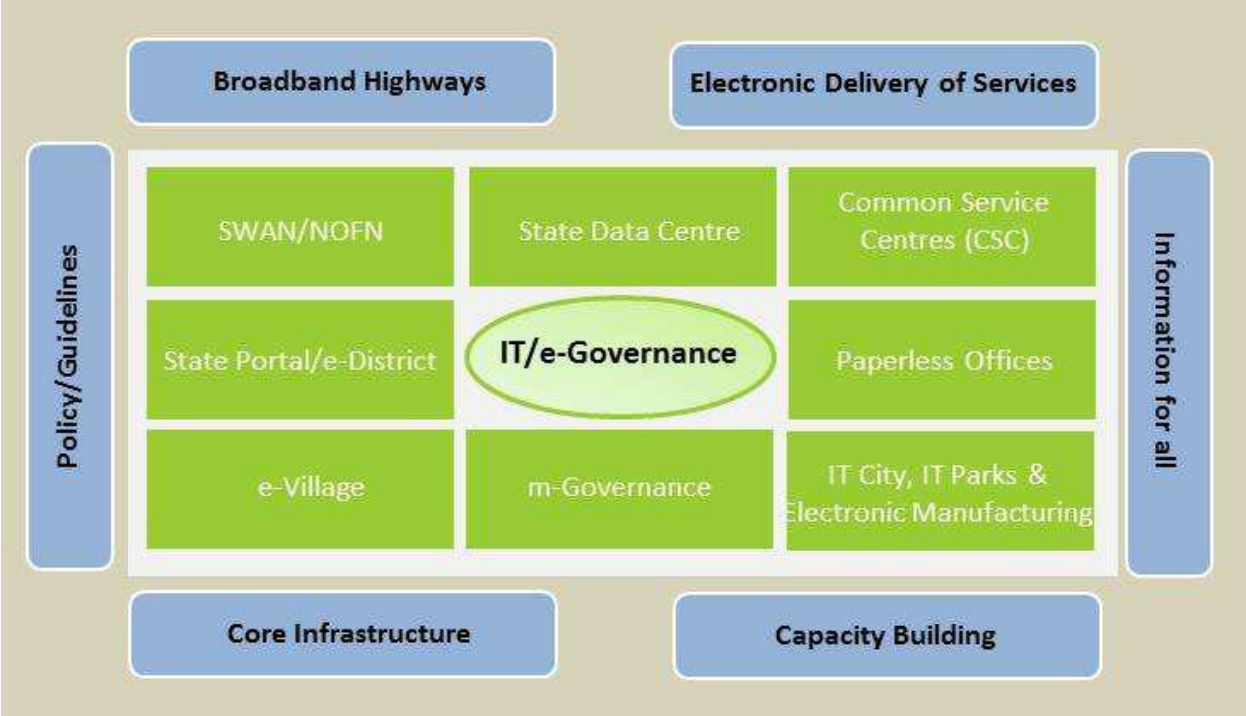
Smart Government: This was done in Andhra Pradesh with the help of ICT. Working efficiency was increased and different operation was streamlined. It empowered all the person of Andhra Pradesh to avail various services and information properly.

Empowering Common Man through E-Governance: Common men's have the problem that is not common but unique and different in nature. The Government is taking various decisions in order to empower these common men. We should not forget that E-Governance as the tool for good governance, sustainable development, globalization of economy and social empowerment playing a very important role in the country. Information is the key to democracy. With the advent of ICT, it has become possible for the common man to access global information. The initiatives of these kind of governance are as follows:-

Kerala started mobile health information system in this regard

Goa started a service in which the people can see track record of various services through mobile phones.

Maharashtra Government took the help of mobile phone for traffic management. Each and every citizen of the state was empowered to provide the information regarding violation of traffic rule.



Different cab services launched different app-based services. The services like cab services are with GPS (Global Positioning System) and necessary security option.

In UP The IT Park contains most of the technological infrastructure similar to an IT sector. It not only provides necessary facility but also generate employment for the youth.

City like optic fiber connectivity, broad band connectivity, Wi-Fi access, video Conferencing facilities etc. As far as UP is concerned it has identified 5 locations i.e. Meerut, Agra, Ghaziabad, Kanpur and Gorakhpur where IT Parks are being developed.

E-Governance cells in each district Headquarter with 14 computers, each Tehsil with 4 computers, each Block with 3 computers and concerned departments with 2 computers

Development of skill so that citizens can participate in e-governance.

Distribution of Laptops for the students

Digital India Initiative: This is a programme to transform India into a digitally empowered society and knowledge economy. Digital India initiative is the initiative to empower the citizen of the country through digital technology. All the citizen of the country will become digital citizen of the country. According to the report prepared by Deloitte connectivity, internet access program, delivery of services through electronics, employment generation for IT Job seekers and

reinforcement of Governance through digital technology is the major feature. Apart from this Government is trying to make financial transaction electronic & Cashless.

FIGURE 1 : PILLARS OF DIGITAL INDIA CAMPAIGN

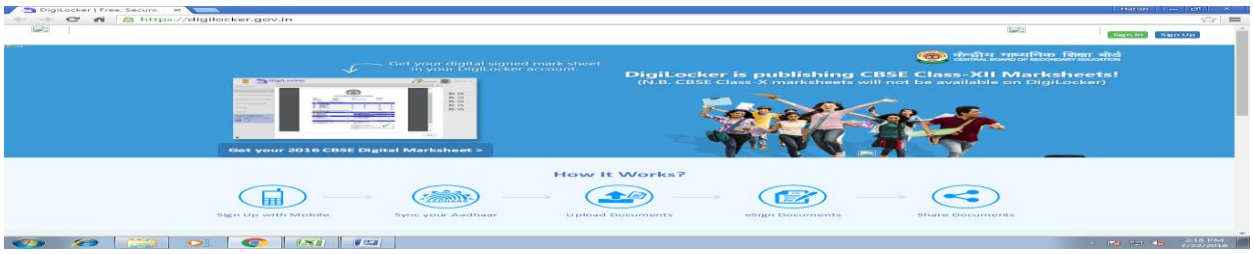
Universal Access to Mobile Connectivity	Public Internet Access Programme	eKranti - Electronic delivery of services
Information for All	Electronics Manufacturing	IT for Jobs
Early Harvest Programmes	Broadband Highways	e-Governance – Reforming Government through Technology

Source : Deloitte Report

Central Government and Prime Minister Narendra Modi's emphasis is also on digital India. This initiative is very important because all the services will be provided to citizen at their doorstep. In digital India initiative main focuses is on high speed of internet connectivity apart from promoting different services online. This digital India Initiative is an attempt to strengthen the impact of smart governance. The Governance that is without any fear or favor. Digital India is an ambitious programme of Government of India projected at Rs 1,13,000 crores. This will be for preparing the India for the knowledge-based transformation and delivering good governance to citizens by synchronized and co-ordinated engagement with both Central Government and State Government.

Following are the main feature of Digital India initiative:-

Digital Lockers: - This locker provides a virtual space where citizens can store various Certificates issued by the government — education, residential, medical records, birth certificates, etc. It is also helpful for different government departments which don't have to see the hard copy. The purpose of government is that copies of certificates issued by the government itself not to be carried around by people to government offices for various services.



E-Bhasha: - All Government websites will be bilingual and multi-lingual in nature

Digital India website: It is available on online platform which provides various initiatives regarding digital India Initiative.

Global Mobile Connectivity: the purpose of this mission is to cover uncovered villages of India.

Bharat Net: This is mission to cover 250000 Gram Panchayats of the country through National Fibre Network.

National Digital Literacy Mission: Plan to teach at least one person from each household and create digital literacy among all the users.

Common Service Centre for Public Internet Access Programme-CSCs: It provides common services for rural people.

Open Data Initiatives: National Portal of India and state portals will provide necessary information for citizens.

Public Grievance Redressed System: - This is the system that promotes use of IT in order to automate, respond, analyze data to identify and resolve persistent problems.

Biometric Attendance: The central Government is trying to make the attendance system prompt in this regard the Government is promoting biometric attendance in different government offices. This is an attempt to promote paperless work and transparency and punctuality in the system.

Digital Library of India: - Digital library of India is a system to save all work of mankind. It is hosted by ERNET. This is an attempt to preserve all manuscript and rear work of the scholars. Income Tax Department providing online return, E-filing of returns, downloading of challans and any other relevant information.

Mobile Based Digital Identity: Mobile added to Aadhaar database having more than 900 million populations. Apart from this Swachh Bharat Mission Mobile app to achieve the goals set by this mission.

E-Signature: Digital Signature Certificate treated on par with physical signature as per IT Act, 2000

	Handwritten Signature	Digital Signature
Concept		Digital signature using asymmetric encryption / decryption method 13598293948977765839 19293933923939239239 49294959935930093953 99943049384550490594 49395234898434857558
Problem	Reusable	Impossible to reuse

E-Hospital: e-Hospital system is there for important healthcare services such as online registration, fee payment, fixing doctors' appointments, online diagnostics and checking and one can also check the availability of a particular blood group.

MyGovt Portal: Portal used to categorize all sorts of information at one place. Therefore, the

users need not to move from one place to another to get required information. This portal MyGovt works as an online platform to engage citizens in governance through a "Discuss", "Do" and "Disseminate" approach. It provides link for discussion forum, blogs, popular task that has to be achieved. There are 3.50 million people registered with this portal.

Each Ministry/Department should start using the Office Procedure Automation software developed by NICwith a view to keeping a record of receipt of dak, issue of letters, as well as movement of files in the department

NIC is in the process of providing broadband connectivity to 2500 Common Service Centers using VSATs in the Northeastern and inaccessible regions of the country. VSAT Network is a satellite-based network across the country. NIC is providing Data & Video Conferencing services on this network. This network is used widely for various application deliveries across the country. NICNET has the largest Video Conferencing in India and is also providing Videoconferencing services to many Central and State Government Ministries/Departments.

(Source: Department of Information Technology, Ministry of Communication & Information Technology, Government)

AI Based Project: - India has taken significant steps to incorporate Artificial Intelligence into various areas of governance. One such initiative is the Integrated Road Accident Database (iRAD), developed by the Ministry of Road Transport and Highways, which leverages AI and analytics to identify accident hotspots and support safer road design. In the area of public policy, the RAISE 2020 initiative—spearheaded by NITI Aayog and the Ministry of Electronics and Information Technology—advocates for responsible and inclusive use of AI across vital sectors such as healthcare, education, and agriculture. The Bhuvan platform, launched by the Indian Space Research Organization (ISRO), uses AI for satellite data interpretation and geospatial mapping, which aids in resource planning and disaster management. In the field of language technology, AI4Bharat, a research initiative by IIT Madras, is creating AI tools to support translation and speech recognition in multiple Indian languages, helping bridge communication gaps in governance. Additionally, the Telangana State Police have implemented AI-enabled surveillance systems in Hyderabad, using facial recognition technology to enhance public security and streamline law enforcement operations. These diverse applications reflect how AI is being effectively utilized to improve governance, citizen services, and administrative efficiency across the country.

Conclusion: - As we know that technology is playing a very important role in empowering the citizen of the country. As we discussed about se several initiatives that have been taken by central and state government to improve different types of services that the Government is offering to its citizen. Keeping in view the importance of AI in the field of research the Central Government has allocated ₹2,000 crore for AI mission.

This will probably neutralize human intervention, as we know that there is always an ongoing debate about reaching the technology and services to marginalized class. As in the study carried out by R. & Ray, I. (2009) explore how e-Governance often fails to reach marginalized communities, especially women and SC/ST populations, due to literacy, infrastructure, and socio-cultural barriers.

So probably AI will help in bridging this gap and providing the actual data to the Government that will help in implementing various e-governance initiative in a very effective way. There are the people who are having a lot of doubt and apprehensions about the use of AI but we should not forget that when computerization started in India at the time there were a lot of people who were against this idea but after a few year India got the benefit of computerization and became a world power in software sector.

India has taken significant steps toward integrating Artificial Intelligence into governance and development. In 2018, **NITI Aayog**, the country's premier policy think tank, introduced a strategic vision document titled *"National Strategy for Artificial Intelligence"*. This strategy outlined how AI could drive inclusive growth across key areas such as healthcare, agriculture, education, smart urban infrastructure, and public utilities. Building on this foundation, the **Ministry of Electronics and Information Technology (MeitY)** launched the **IndiaAI initiative**, focusing on promoting innovation, research, and the ethical use of AI in governance. Core principles such as data privacy, fairness, and transparency guide these policy efforts to ensure responsible and citizen-centric AI adoption.

In India Central Government and State Governments are spending a lot of money to strengthen digital infrastructure of the country. In urban area we have really witnessed a lot of change, in rural area also the change is taking place, but the process must me expedite, as in the study of Prakash & De' (2007) argue for the importance of context-sensitive design in Indian rural areas to bridge the urban-rural digital divide.

India is one of the youngest countries in the world and we know that the changes come from the youth only. We are witnessing that the youth of the country prefer technologies like- PDA, smart phones, palmtop, laptop & different digital devices. The youth are more connected with technology then the older one. They are not laggard, but they are the leader of the changes. We should not forget about recent changes in political and economic system of the country. The youth mobilized because of a two-way system and brought change. Therefore, these e-Governance initiatives are transforming the whole administration of the country and building a trust in the democracy by making the system more accountable, transparent, fast, participatory and flexible in nature.

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