GOVERNMENTS at Central, state and partly at local levels are facing challenges posed by increased demand for better quality of governance. While the developed world and some Asian countries have moved very quickly, India continues to lag behind in meeting the increasing levels of citizen expectations. The massive population growth, diversity of cultures, acute poverty and high illiteracy create numerous difficulties in delivery mechanisms of government services. The existing processes of service delivery and governance need to be improved. E-Governance has been recognised as a vital force for transformational improvement in quality, efficiency and effectiveness of governance. A governance strategy driven by information and communication technology has to be developed and applied with the objective of bringing in more transparency and increased accountability. Successful leveraging of e-governance opportunities, however, involves many factors which include human capital, financial resources, well-directed initiatives, leadership intent, administrative structural changes and citizen awareness.

INTRODUCTION

ELECTRONIC GOVERNANCE, popularly known as e-governance, is a distinct dimension of New Public Management (NPM) which has gained considerable momentum since the early 1990s. The term ‘e-Governance’ is often used to describe the networking paradigm and its decentralising and communicatory implications. There is the overlap between e-government and e-governance as competing paradigms that intersect at times during their development.¹ Some suggest that government makes use

¹D. Calista and J. Melitski, “E-government reform: Negative Consequences of Reivisting the Politics – Administration Dichotomy”, Paper Presented at the International Association of Schools and Institutes of Administration Conference (Lake Como, Italy, 2005).
of e-governance strategy to improve the quality of governance. e-Governance is the process of enabling governance experts using Information and Communication Technology (ICT) to make governance effective for citizens in terms of efficiency, transparency, and cost-effectiveness.

The term ‘e-Government’ has been used too broadly to define initiatives and programmes that should rightly be deemed e-governance. Over the past few years, “governments have hurriedly adopted e-government technologies and ideas from simple, online communication of government information to real time, secure transactions for various processes and payments. Demands generated from political leadership, other associated governments, capacity building needs and perceived citizen expectations all contribute” to adoption of e-government methods for good governance.2 At a broader level, apart from delivering government services, e-governance includes integration of several stand-alone systems and services between Government-to-Citizens (G2C), Government-to-Business (G2B), Government-to-Government (G2G) as well as back office processes and interactions within entire government framework. The overall objective of such a catalogue is to enable the administration to provide services with affordable cost and optimum time to the end user (citizen). In a broader sense, ‘e-governance’ is all about reform in governance facilitated by the creative use of ICT.

India’s e-Governance Transformation Initiatives

India’s e-governance transformation initiatives started in the 1990s. Since then the country has made considerable progress in the information and communication technology sector. To improve IT performance and productivity, the Government of India approved the National e-Governance Plan (NeGP)3 on May 18, 2006 which seeks to improve delivery of government services to citizens and business establishments with the vision to “make all government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realise the basic needs of the common man”.4 e-Governance has become the basic

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3The NeGP, approved by the Government of India on May 18, 2006, initially comprised of 27 Mission Mode Projects and 10 Components. There are now over 7000 websites related to the Indian government offering informational and transactional services.
4National e-Governance Plan (NeGP) has been formulated by the Department of Electronics and Information Technology (DietY) and Department of Administrative Reforms and Public Grievances. (GoI).
requirement to any form of governance at the local, regional, national or international level. While the 1980s saw the development of computerisation in the government sector, the 1990s witnessed the importance of overall computerisation with a centralised model in India. With the cost of communication and IT infrastructure going downwards and demand going upwards, the e-governance initiatives took shape in the decade of 2000s. Thus the government sponsored e-governance projects with the corporate world took a big leap to provide the impetus for long-term growth of e-governance within the country. Demands generated from political leadership, capacity building needs, and perceived citizen expectations all have contributed to IT innovations. At the state level, many state governments started off their initiatives in the same period by taking up projects to serve their people through ICT. Today every state has a State Electronic Mission (SEM) to provide e-government services to the citizens.

India’s e-governance transformation has been progressing rapidly. By 2013, over one billion e-government transactions have been logged and growth rate is rising exponentially.\(^5\) The government has taken several initiatives in the journey from e-governance vision to implementation. Some purposeful steps and initiatives from vision to implementation include:

1. Thirty one Mission Mode Projects (MMPs) across a wide range of public services such as passport seva, e-procurement digitisation of land records, national citizen database, etc.

2. Eight e-Government Support Components to help set up the required infrastructure (State Wide Area Network, State Data Centres, Common Service Centres, etc.) with technical and financial partnership with the private sector.

3. e-Government Management Structure comprising multiple committees to resolve bottlenecks and oversee programme execution.

Today with the launch of State Electronic Mission and under the State Data Centre guidelines, inclusion of ‘Citizen Services under Governance’ has become a necessity in every State/UT. The Mee Seva of Andhra Pradesh, Nimmadi of Karnataka, e-Sampark in Chandigarh, Friends in Kerala, Beti Vidhao in Gujarat, Haryana Land Records Information System, i-Bhu-Goal in Bihar, e-Payment Gateway (GOI), Online Monitoring of Nirmal Bharat Abhiyan (GOI), Electronic Bank Realization Certificates (GOI), Passport Seva Project (GOI) and similar projects have started bearing fruit in the form of acceptance by end-user citizens. With Mobile penetration at the grassroots level and under user’s acceptance to small applications,

\(^5\)Compendium of Select e-Governance Initiatives in India – Year 2013.
governments at all levels in India are moving towards e-governance on mobile as well. Mobile telephony is revolutionising the outreach of Corporate Social Responsibility programmes and that of the government in both remote areas and in populated parts of the country. It offers one of the most effective channels for information access and dissemination anytime, anywhere, and can help governments provide citizen-centric public service.

India’s base of nearly 125 million Internet users is currently the third-largest in the world. In the recent past, e-governance in India has successfully penetrated deeper and wider across various Central and state government departments than ever before. The journey of e-governance is guided and empowered by the 31 Mission Mode Projects (MMPs) under the National e-Governance Plan (NeGP) which acts as a powerful driving force for today’s presence of e-governance in all government ministries and departments. Some standard programmes and projects at the state and central levels which offer e-governance services to citizens include: certificates, licenses, land records, utility services and tax payments, (health, education and pension), RTI and grievance, public distribution system, election, police, agriculture, local government service, employment, industry and commerce, property registration, passport and visa and state specific services.

Before the era of e-governance, government delivery of services was manual and opaque which caused great difficulties to the citizens. Scenes of overcrowded government offices, long queues, employee absenteeism, arrogant and rent seeking attitudes and inefficiencies were a common sight. It appeared that the focus of employees was more on corrupt practices than on citizen’s service delivery. Government land and other registration records, birth and death registration, municipal permission, etc. which were essential aids in getting benefits under welfare programmes remained buried in files. Citizens faced hardships in having access to government services because of the tedious office procedure, and longer time lags.

E-Governance has now been widely recognised as an important means for transformational improvement in quality, efficiency and effectiveness of governance the world over. There is now a noticeable progress in the delivery of e-governance services in both developed and developing countries at the International level. However, the greatest impact of e-governance is felt in remote areas where citizens usually face immense challenges in getting any public service. In Nagaland which is cut off from

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advanced stage of development by mountainous terrains, for example citizens wanting to apply for the Nagaland Public Service Commission (NPSC) recruitment examinations used to traverse a difficult terrain for several hours to the NPSC office in the capital city just to collect the application form. Since the NPSC went online almost two years ago, applicants save considerable time and money while applying for the NPSC examination. The United Nations e-Governance Survey 2013 reported that many countries have put in place e-governance initiatives and information and communication technology applications for the people to further improve efficiency and effectiveness and also further streamline governance systems to create synergy for inclusive sustainable development.

But India does not show much progress on e-governance front when compared with countries such as Republic of Korea, Singapore, Japan, Israel, Malaysia, the USA, the UK, France and Canada. These countries rank high at the global level and have robust e-governance delivery mechanisms.\footnote{The United Nations e-Governance Surveys 2012 and 2013.} According to the 2012 United Nations Survey rankings based on e-Governance indices, the Republic of Korea is the world leader (0.9283) followed by the Netherlands (0.9125), the UK (0.8960) and Denmark (0.8889), with the US, Canada, France, Norway, Singapore and Sweden close behind. India lags at a lowly rank of 125 out of 190 countries surveyed with an index of 0.3829.\footnote{McKinsey and Company, “Online and Upcoming : The Internet’s Impact on India”, 2012, for a more detailed description.}

INSTITUTIONAL MECHANISM FOR E-GOVERNANCE

A large government machinery with its multiple agencies and bureaucratic legacies in place has been set up to address the needs of governing at the national and state levels.\footnote{Annexure – I.} The National e-Governance Plan (NeGP) which is funded by Planning Commission of the Government of India and the Union Ministry of Finance seeks to lay the foundation and provide the impetus for long-term growth of e-governance within the country.

*Institutional Network at National Level*

Structural mechanisms for the implementation of the e-Governance agenda at the national level comprise the following outlay.

(i) *Department of Electronics and Information Technology (DeitY):* The function and role of DeitY include national level strategy and policy-making, programme monitoring and project
implementation, managing NeGP, serving as a secretariat to the Apex Committee, assisting National e-Governance Advisory Group and Prime Minister’s Office and implementing infrastructure projects such as State Data Centre (SDC), State Wide Area Network (SWAN), National e-Governance Service Delivery Gateway (NSDG), e-District MMP, etc.

(ii) National Informatics Centre (NIC): The NIC which is attached to the DeitY acts as a frontrunner in the development of initial e-governance interface systems in a large number of departments both at the Centre and states.

(iii) Ministries and Departments: Departments are responsible for the implementation of the assigned Mission Mode Projects (MMPs) and other IT projects in the respective ministries and departments.

(iv) Department of Administrative Reforms and Public Grievances (DAR & PG): The DAR & PG in collaboration with the DietY plays vital roles including identification and prioritisation of e-governance projects, formulation of strategy for change management, human resource development and training, awareness building and defining organisational structures for public service delivery.

(v) Planning Commission (PC): The PC of the Government of India undertakes holistic strategic planning and along with Ministry of Finance allocates for NeGP through plan and non-plan budgetary provisions. Recently the Commission has set up an Empowered Sub-Committee for e-Governance Reforms as mandated by the National Development Council (NDC).

(vi) Centre for Development of Advanced Computing (CDAC): As an R & D institution, the CDAC is involved in the design, development and deployment of advanced Information Technology based solutions. It also assists the DeitY in taking major initiatives in the area of e-governance and offers solutions and services.

(vii) Directorate of Standardisation, Testing, Quality and Certification (STQC): The Directorate of the STQC has established itself as a premier organisation for quality assurance in the field of electronics and information technology providing testing, calibration, training and certification services through its network of test laboratories.
(viii) **Controller of Certifying Authorities (CCA):** The function of the CCA is to promote e-governance through the wide use of digital signatures.

(ix) **National Institute for Smart Government (NISG):** The NISG has been established to provide an institutional mechanism for bringing together competencies and resources from leading private sector players into e-governance projects. The NISG is also responsible for conceptualisation and development of core scoping of e-governance projects, HR development including capacity building and specialised training.

(x) **Media Lab Asia (MLAsia) and NeGD:** In collaboration with research institutions, industry, NGOs and government, the MLAsia aims to develop culturally appropriate and sustainable technologies for e-governance solutions. The NeGD which is an independent business division under the MLAsia not only provides technical assistance to the Deity, central line ministries and states but also undertakes appraisal of e-governance projects. It also functions as a central agency for implementation of the capacity building plan.

**Institutional Network at State / UT Level**

Institutional mechanisms for the implementation of the e-governance projects and programmes at the state and UT levels comprise the following outlay.

(i) State and UT Governments: The State and UT governments are responsible for implementation of State MMPs / Sector specific MMPs of NeGP under the line ministries. Most States/UTs have set up an institutional mechanism in line with the guidelines of DeityY comprising e-Governance Council headed by the Chief Minister, apex committee headed by the Chief Secretary and department-level committees headed by departmental heads.

(ii) **Department of IT/e-Governance:** The Department of IT/e-Governance is generally headed by the Principal Secretary/Secretary IT/e-Governance and is responsible for state-wide e-governance programme management, review of the progress of ongoing projects and programme and their review and appraisal.

(iii) **State NIC:** The State NIC is involved in application development and providing technical assistance to line departments and reports to the NIC at the Centre.
(iv) e-Governance Societies and Nodal Agencies: State level e-Governance Societies and Nodal Agencies provide consultancy, procurement services and implementation support to the state government departments for their e-Governance initiatives.

(v) State e-Governance Mission Teams (SeMTs): The SeMTs funded through the capacity building scheme of the Government of India have been put up in place for providing technical and programme level support to the States/UTs.

(vi) Project e-Mission Teams (PeMTs): The PeMTs are the project level teams to monitor and oversee the project execution.

It may be mentioned here that the institutional mechanism under the supervision of the apex committee, the State DIT with assistance from SeMT manages programmes while the departmental committee with support from PeMT manages e-governance projects at the state level.

Some state governments like Andhra Pradesh have set up District e-Governance Societies at the district level. Such societies are registered and empowered to function as nodal agencies for the implementation of e-governance projects such as Mee Seva in the districts of Andhra Pradesh.

NATIONAL E-GOVERNANCE: STRATEGY, APPROACH AND SERVICE DELIVERY

The NeGP, formulated by the Department of Electronics and Informations Technology (DeitY) and Department of Administrative Reforms and Public Grievances (DAR & PG), has been playing an important role in the identification and prioritisation of e-governance projects in the country.10 The NeGP seeks to lay the foundation and provide the impetus for long-term growth of e-governance within the country. It comprises 31 Mission Mode Projects (MMPs) which are further classified as state, Central or integrated projects. Implementation, strategy, approach and methodology of the NeGP have the following key elements:

(i) Public Private Partnerships: Service to citizens is based upon public private partnership under the e-governance plan. PPP is intended to pool in resources, expertise and experience.

(ii) Common Support Infrastructure: To carry out e-governance plan, common IT infrastructure such as State Wide Area Networks (SWANs), State Data Centres (SDCs), Common Services Centres (CSCs) and electronic service delivery gateways are set up.

(iii) Governance: Implementation strategy for the MMPs includes governance standards and policy guidelines, technical support, capacity building, R&D and strengthening DeitY, NIC, STQc Directorate, CDAC, NISG, etc.

(iv) Centralised Initiative, Decentralised Implementation: To ensure citizen-centric orientation, with interoperability of various e-governance applications ensuring optimal utilisation of ICT infrastructure and resources, NeGP envisions taking up centralised e-governance initiatives and a decentralised implementation.

(v) Integrative Approach: The NeGP envisions adopting programme approach at the national and state levels with well-defined roles and responsibilities of each agency involved through appropriate programme management structures. Further, the NeGP adopts unique identification codes for citizens, business and property to facilitate integration and avoid ambiguity. Manipur state in the North East, for example, has integrated the state portal with the Mobile Service Delivery Gateway (MSDG) of the Government of India for information exchange through text messages as well as with the National Payment Gateway for e-payment.

Here, it may be mentioned that the Department of Electronics and Information Technology (DeitY) at the national level is the principal institution for policy-making in e-governance and provides assistance in process re-engineering and change management. Ministries which spearheaded several MMPs may also align any ongoing projects to the states with provision of flexibility. Each state government can also define MMPs specific to its requirements. In brief, National e-Governance Plan aims at taking up e-governance initiatives across the country, integrating them into a collective vision and a shared cause at Central and state government levels to bring public services closer to citizens. State e-Governance Service Delivery Gateways (SSDG) provides standard-based message switching, seamless interoperability and exchange of data across independent and diverse entities of the states, and Department/Ministry/Domain specific Gateways (DSDG) facilitate the interoperability within a local administrative body.

The government at all levels in India has the aim to work to alleviate poverty (nearly 35% of the country’s total population of 1250 million live on less than $2 a day) improve education and health situation, stem corruption and implement economic and social reforms. Delivering public services effectively is essential to maintain confidence in democratic
government.\textsuperscript{11} Governments in business and performance generally control a broad array of decisions and information related to economy, polity and such areas as health, education, social welfare programmes, etc. As part of good governance, governments ought to provide high quality services to all segments of the society, especially when large or demographically diverse areas are involved. Government departments and public sector employees can improve service delivery by using e-governance mechanisms including geographic information system (GIS) with a view to optimise resource deployment.\textsuperscript{12} For example, health departments and emergency services could use geospatial services to pinpoint the best locations for dispatch facilities or hospitals based on projected ambulance transport time. Governments can also use GIS to determine which locations are most in need of specific services. In Chandigarh, for instance, citizens can report municipal problems, such as vandalised or damaged public property, through its Citizens Club/Connect Programmes. Users can identify issues through the Programme’s Website or call centre, or by using a mobile application.

The image of governance is created by the performance of land administration, which is facilitated by the state revenue department through maintenance of land records, registration of property transactions and updating of records through mutations and cadastral maps. To improve accessibility, to check frauds and increase efficiency of the land records system, the Government of India has launched National Land Record Modernization Programme (NLRMP) with a primary objective of end-to-end computerisation of land records, and subsequently migration from the existing presumptive titling system to a conclusive titling system. In Haryana, the workflow based property registration information system (HARIS) and land records information system (HALRIS) were standardised, stabilised and dynamically integrated to reflect the impact of registration of land on Jamabandi and to provide authenticated and secure a copy or Nakal of Record of Right (ROR) services to citizens.

CHALLENGES FACING E-GOVERNANCE

There has been an ongoing pursuit and effort on the part of the government to make governance effective for its citizens in terms of delivery

\textsuperscript{11}Government of India, Second Administrative Reforms Commission, Promoting e-Government: The Smart Way Forward, New Delhi, ARC, December 2008, 11\textsuperscript{th} Report.

of goods and services. In its aims and their realisation, of course, the government has to face several difficulties. The challenge faced by the supporters of IT initiatives in India is the limited scope of expansion of the Service Catalogue to cover a varied range of services. The underlying reason for this is the style of IT implementation by service provider agencies wherein individual processes are automated.\footnote{Oreste Signore, Franco Chesi and Maurizio, “E-Government : Challenges and Opportunities”, ACM Proceedings of 19th Annual Conference, 7-9 June 2005, Florence, Italy.} Further, the main link of interdepartmental information exchange is largely missing and is left to the end-user to bridge by manual means leading to rework at the customer end. There is an urgent need to work at the citizen solution level at each government agency in order to build an interface layer to facilitate the information flow.

Besides these issues, the country has several challenges and contextual factors which form the milieu in which improvements in good governance and now e–governance are sought to be brought about.\footnote{“National e-Governance Plan”, http://India.gov.in (Accessed on 10 January 2014).} The large population with diversity of cultures and demography brings up its own challenges. Furthermore, internal migrations to urban regions with relatively better facilities and employment opportunities create additional burden on delivery mechanisms of government services. The challenges are further accentuated due to large sections of the population being poor, the Indian economy being at different stages of growth in different sectors and the administrative structure being fragmented.

Today, governments worldwide are making use of ICT including e-governance methods to deliver end-to-end services right at the citizen’s doorstep with efficiency, transparency and cost effectiveness. e-Governance is increasingly seen as one of the most important mechanisms to improve governance. With e-governance applications there has been a noticeable progress in the delivery of outline services in most countries around the world. The United Nations e-Governance Survey 2013 reported that nearly all countries have put in place e-governance initiatives for the people to further enhance public sector efficiencies and streamline governance systems to support sustainable development. The overall conclusion that stems from the United Nations e-Governance Survey is that governments need to place greater emphasis on ‘institutional linkages’ between and among tiered government structures in a bid to create synergy for inclusive sustainable development. e-Governance services, indeed, have empowered ordinary citizens.
However, it is noticed from the UN e-Governance Development Database for 2012, India does not even rank among the top 10 Asian countries.\textsuperscript{15} In the current scenario, most of the e-governance applications are not being developed to meet the growing needs of the Indian citizens. While ICT gives channels for government to reach citizens, much more has to be done by opening up ways and means for citizens to reach out to administration. As we go ahead towards maturity of e-governance, there is the need of opening of government data which has a direct bearing on the life of a citizen. The portability of data across departments is important for good governance.

HR CHALLENGES IN E-GOVERNANCE

It has been recognised that human capital and enabling structural mechanisms are among the most critical of factors for the effective implementation of the e-governance in India. The key HR challenges are briefed here.

1. \textit{Limited Human Capital Pool}: It is pointed out that there are only around 5000 personnel in government in the IT space of which roughly 50 per cent are in the NIC. The availability of human resources with the required competencies falls considerably short of requirements. Presently, this human resource gap is met through hiring resources from the NISG or IT consulting firms directly on short-term contracts. This is indeed a sub-optimal arrangement and difficult to scale up to meet growing expansion of NeGP with additional MMPs and ambitious targets under the plan which requires augmentation of human resources within a short time.\textsuperscript{16}

2. \textit{Lack of Institutional Structures}: Several countries have successfully improved their capacity to manage an e-governance transformation through the office of a Chief Information Officer (CIO).\textsuperscript{17} It is pointed out that the institutional framework with SeMTs under the Capacity Building Scheme is not supported by well-defined organisational structures with clear roles and authority, responsibilities and accountability. Consequently, there is

\textsuperscript{15}According to the 2012 United Nations E-Government Survey rankings based on e-Governance indices, the Republic of Korea is the world leader (0.9283). India lags at a lowly rank of 125 out of 190 countries surveyed with an index of 0.3829.

\textsuperscript{16}With the passage of the Electronic Delivery of Services (EDS) Bill, all government services have to be delivered electronically within next five years.

\textsuperscript{17}The United Nations Survey, 2012 recommended the establishment of a coordinating authority in the form of a Chief Information Officer (CIO) or equivalent at the national level for overseeing implementation of the e-Governance strategy. In the current Survey 60 Member States were found to have an e-government CIO or equivalent.
found to be inadequate ownership, control and coordination of e-governance projects. The institutional structures with rigid rules, lack of recognition for e-governance domain experience, poor linkages to career path, promotions and opportunities and lack of incentive mechanism to attract, leverage and retain the scarce talent to work on IT and e-governance projects do not enable seamless deployment and movement of personnel. Challenges at NIC include its inability to attract, leverage and retain the scarce talent due to limitations of the government salary structure, government procedures regarding employee recruitment and training, contractual engagement, non-availability of professional programmes and lack of project management systems in the country, resulting in inadequate number and quality of personnel.

3. Inadequate Capacity Building: The key challenges with regard to capacity building include absence of institutionalised training and learning framework for e-governance, assessment of training needs, developing training strategies, and lack of trained personnel for training. Training in e-governance should be repositioned as an in-service mandate linked to career progression at all levels in the government. There has to be the HR interventions for NIC to include identifying human capital gaps, enhancing number of permanent posts and recruitment capacity building.

PREREQUISITES FOR E-GOVERNANCE SERVICES

Implementation of the e-governance services requires the focus on three prerequisites: (i) human capital and capacity building structures; (ii) well defined institutional structures with clear roles, responsibilities and accountability; (iii) widespread access to technology platforms with focus on initiatives of (a) internet adoption, (b) cloud enablement, (c) open data initiatives, and (d) cyber security.

India’s e-governance transformation has been progressing rapidly since 2006 when the Indian government launched a vision for stronger delivery of citizen services through the National e-Governance Plan (NeGP). While the country is grappling with host of human capital, structural and technological challenges, there are success stories to share. But India has a long way to reach standards of e-governance. The country must accelerate its e-governance movement from vision to broad-based and effective implementation.18 The way forward lies in increasing the demand for e-governance services, both by driving up internet adoption and through

creating more focused offerings. For this, India’s e-governance missions need to clearly identify their implementation functions, and create empowered, focused leaders with teams held accountable for their delivery.¹⁹

NEED FOR RAPID REPLICATION

Despite e-governance initiatives from a service management perspective in recent past, e-governance applications developed to meet the immediate requirements have not been satisfactory due to following reasons:

(i) Complex procurement processes of the government departments;
(ii) Lack of expertise and guidelines to handle complex procurement and development of application software; and
(iii) Lack of reusability of e-governance applications.

In order to address the complexity of issues, the Government of India envisages:

(i) speeding-up the development and deployment of e-governance applications;
(ii) replication of successful application across states to avoid duplication of effort and cost in development of similar applications; and
(iii) availability of certified applications at one place.

Department of Electronics and Information Technology (DietY) of the Government of India has in recent years embarked on setting up its own Cloud (Meghraj) to host an e-GovAppStore which could act as a common platform to host and run the applications at National Cloud.²⁰ Such application can be easily customised and configured for reuse by various other government organisations without investing efforts in developing afresh. If a project is already in operation in a similar environment somewhere in the country and is classified ‘good’, acceptance by all concerned is much faster and smoother. For an effective digital delivery of public service that is device-agnostic and low cost, governments will have to architect systems for interoperability and openness within a citizen-centric model.

Government at one level with extensive e-governance experience may have adequate information, skills and resources needed to implement new initiatives rapidly. Those with less experience may find it useful to proceed in phases, running pilots and developing detailed business cases before building capabilities at scales. This approach can allow governments at other levels to build robust databases and supporting systems before building large-scale projects. Governments may have different capability levels and objectives for e-governance programmes, but they can all benefit from three ways: sharing data across public organisations; pursuing partnership with the private sector; and promoting citizen co-creation.

**Disseminating and Sharing Information**

Most public sector organisations complain that it is difficult to exchange data with other organisations. This obstacle limits the value of e-governance analysis which requires multiple agencies to contribute to current valuable data, including information on demographics, health care and educational services, travel and transport terrain and other aspects of the economy. In many cases information sharing is difficult because government departments rely on different data sources and computer platforms. Getting all groups and institutions to agree on a uniform approach to data collection and management would facilitate development, but this may not be possible in decentralised systems where agencies operate autonomously. If governments tend to create uniform platforms for disseminating and information sharing, they also consider instituting safeguards in order to ensure that data are adequately protected. For example, data sets could be classified into levels based on sensitivity. The lower layers would be accessible to many other organisations, with progressive access restrictions for higher layers. With such protections in place, departments might be more willing to share relevant data. In such a information exchange environment governments not only reduce costs but also save time by establishing a centralised system that oversees joint projects between departments and helps all involved personnel find information more easily, “Mee Seva” (in Telugu literally translates to ‘At your service’) initiative of the Government of Andhra Pradesh, for example, aimed at service to citizens. It has been conceptualised and planned with the objective to provide universal and non-discriminatory delivery of all government services.

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21 Most governments in India have now launched the ‘Open Data Initiative’ to publish government data and the ‘Data Governmentt Websites’ to distribute the data which is not secret for security reasons.
services, using information and communication technology. *Mee Seva* provides faster, easier and transparent access to various G2C services through more than 7000 + Kiosks (run by self employed youth in the remote corners of the state). The project has been integrated with external and internal government ICT systems, such as: (i) Centralised Card for Registration Department, (ii) WEBLAND for Revenue Department, (iii) ISES certificates (for caste, income and nativity) and Universal Birth and Death certificate for Municipalities and Panchayats, (iv) Centralised CDMA (Commissioner and Director of Municipal Administration).

**Pursuing Partnerships with Private Sector**

Many public and private organisations are pursuing e-governance initiatives in several fields, and there may be some overlap between their efforts.\(^{22}\) Building partnerships across relevant organisations and sectors can allow different groups to pool their material, financial and personnel resources, thereby reducing redundancy and helping to catalyse better insights. In the sphere of health care, this is quite common. In some states, municipal governments have partnered with multiple external groups on e-governance services for public service delivery.

The successful partnerships typically involve two or more parties that are equally interested in the project. Rather than simply exchanging data, they are willing to meet and share ideas about questions to get at solutions. It also helps if both parties have compatible computer systems, or at least use the same data sets, since they will otherwise have difficulty in sharing information. Unique Identification Project (UID), for example, was initially conceived by the Planning Commission (GOI) as an initiative that UID aims to empower residents of India with a unique identity and a digital platform to authenticate anytime, anywhere. The core values of UID include “Integrity, commitment to inclusive nation building collaborative approach.” The mission of the UID was to “encourage innovation and provide a platform for public and private agencies to develop Aadhaar linked applications”. It was to “collaborate with partners and service providers in leveraging Aadhaar to serve residents effectively, efficiently and equitably”.

**Promoting Citizen Co-creation**

Compiling and analysing data is a tedious task. But governments can reduce some of the complications by promoting citizen involvement in many ways. The Deputy Commissioner in the District could call on citizens to report problems in their neighbourhoods, such as damaged public property. Although governments cannot mandate participation, they may find that public interest is high and that people want to be part of the

solution, especially for problems that concern their own neighbourhoods. Governments could also encourage citizen participation by offering them competitions or ‘hack-a-thons’ in which computer programmes develop geospatial applications based on public data. If governments choose to garner information from the public, it might be helpful to create a central database of all reports, which will provide officials of the departments with an integrated view of the issues that matter to constituents. A central database can also enhance efficiency by reducing response time and making it easier to analyse data. Call centres in the rural or urban areas will map requests and can see where calls of specific types are coming from and also makes this data available to the public. Citizens only need to know one phone number or Website to receive help from all city agencies. Governments would need to create trust-based relationships with citizens and businesses through greater transparency and accountability by setting up a foundational infrastructure for key digital services.

CONCLUSION

e-Governance has been recognised as a vital force for transformational improvement in quality, efficiency and effectiveness of governance. Nearly all governments of the world are now moving from the traditional way of handling administrative tasks to e-governance applications to meet the expectations of the growing populations. The importance of e-governance has been recognised and applied at the highest level in the country. The government departments are now offering information and transactions services through their websites on the internet. In this way these websites will be the primary touch points for the citizens. Although sets of organisations have been set up and several strategies, programmes and initiatives are currently at different stages of operationlisation, the country lags at a lowly rank of 19 out of 57 in terms of the range of e-governance offerings. This shows that India’s limited success with e-governance is not entirely due to a lack of offerings, but due to some fundamental barriers. These include the limited availability of internet infrastructure, high cost of access and usage, lack of awareness and low digital literacy, narrow range of applications and services and an unfavourable business environment. Successful leveraging of e-governance opportunity, therefore, involves building of institutional capabilities, adopting and implementing a sound e-governance policy, and deepening the use of technology platforms. There is the need to look at present e-governance initiatives from management perspective of ‘good governance’ wherein a citizen needs to have a channel of requesting a service, i.e. a service as per citizen demand.
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INSTITUTIONAL FRAMEWORK FOR E-GOVERNANCE IN INDIA

PM's Committee on NeGP

National e-Governance Advisory Group
(Chaired by MCIT)

Apex Committee
(Chaired by Cabinet Secretary)

DeitY

Line Ministries

NeGD

NISG

NIC

Industry

State Governments / UTs

(Institutional network at the national level, Report of the Expert Committee on HR Policy for e-Governance 2013, NeGP, DeitY)

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