



## Reforms through E-Governance in Distance Education in India

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### ABSTRACT:

Electronic Governance (E-governance) in Open and Distance Learning (ODL) System is the utilization of Information and Communication Technologies (ICT) for the governance and management of the ODL institutions. This includes planning, implementation, and monitoring of university programs, projects, and activities. Interest in e-governance is growing with the increasing use of information and communication technology (ICT) by government to improve the quality of governance and service delivery. ODL system, commonly known as distance education, has evolved as an effective medium to support the increasing demand for education of a variety of learners, in a developing country like India. In the 21st Century, most of the learners entering the ODL institutions are digital natives. This makes it more important that the e-governance is an integral part of the ODL system to deliver cost-effective education, with dedicated learner services, and improved processing of transactions within the institution, and between the government and other agencies. In this paper we discuss about e-governance in distance education context. We also highlight some of the important initiatives such as implementation of enterprise resource planning solution, online admission system, national open and distance learners' library and information network, taken by Indira Gandhi National Open University (IGNOU), a premier Open University in India, towards e-governance. The paper also discusses various issues and challenges related to the planning, development and implementation of e-governance projects and initiatives in an ODL institution.

Keywords: Distance education, e-governance, India, ODL, reforms

### 1. INTRODUCTION:

Interest in e-governance is growing with the increasing use of information and communication technology (ICT) by governments to improve the quality of governance and service delivery. Governments all over the world have been using ICTs to deliver effective services to the people (Sangita and Dash, 2005). ICT

facilitates efficient storage and retrieval of data, instant transmission, exchange and processing of information and data, thus speeding up governmental processes, expediting decision making, increasing transparency and enforcing accountability. Presently, ICT is being extensively used in the formal education system as well as the distance education system at all levels. The

education system of today faces many challenges. E-governance will make it capable of overcoming these challenges. The effective use of IT services in educational sector will help to enhance efficiency of the existing system, ushering in transparency and accountability, reduce costs and improving the quality of education and related services. ODL system in India has made a significant contribution to the educational sector by providing educational opportunities to a vast multitude of learners. E-governance will strengthen the ODL system by making the DE institutions more responsive and accountable towards increasing its outreach and accessibility. However, there are a number of issues that need to be addressed for proper implementation of e-governance in educational institutions in India. In this paper we discuss the various issues and challenges related to e-governance in distance education. The paper is conceptual in nature and is based on secondary data collected from various sources. The paper analyses the various aspects related to the planning, development and implementation of e-governance projects and initiatives in an ODL institution and offers suggestions on how reforms could be brought-in in ODL institutions.

## 2. E-GOVERNANCE

The term e-governance refers to 'electronic governance'. There is no standard definition of this term, different practitioners, researchers and academicians have defined it in numerous ways. It can be broadly defined as the application of electronic means in the interaction between government and citizens, and government and businesses, as well as internal government operations to simplify and improve democratic, government and business aspects of governance (Backus, 2001). E-governance is characterized by transparency, accountability, participation, social integration, and effectiveness. It refers to the use information and communication technologies (ICTs) at various levels of the government and the public sector and

beyond, for the purpose of enhancing governance (Okot-Uma, 2000). It is different from E-government which refers to the processes and structures pertinent to the electronic delivery of government services to the public (Saxena, 2005). E-government refers more narrowly to processes of national, local or regional government (Oakley, 2002). E-Governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organizing and delivering information and services (UNESCO, 2005).

According to UNESCO (2005), the areas of implementation of e-governance are:

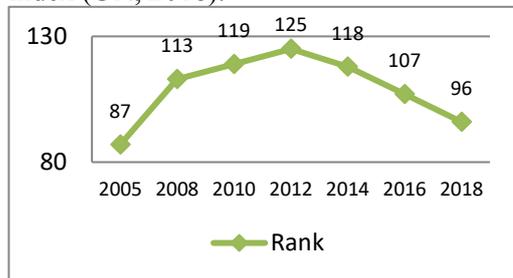
- e-administration- refers to improving of government processes and of the internal workings of the public sector with new ICT-executed information processes.
- e-services- refers to improved delivery of public services to citizens. Some examples of interactive services are: requests for public documents, requests for legal documents and certificates, issuing permits and licenses.
- e-democracy- implies greater and more active citizen participation and involvement enabled by ICTs in the decision-making process.

e-Governance facilitates different types of interactions between different stake holders in governance - citizen (G2C), citizen to government (C2G), government to government (G2G), government to business (G2B), and government to NGO (G2N).

## 3. E-GOVERNANCE IN INDIA

India ranks 96 in the United Nations E-Government survey 2018 (Figure 1), making a massive leap from 107 in 2016 and 118 in 2014. The survey ranks 193 member countries based on E-Government Development Index (EGDI),

a measure of three dimensions namely: online service index, telecommunication infrastructure index, and human capital index (UN, 2018).



India's E-Government Development Ranking (2005 - 2018)  
(Source: UN, 2018)

In case of India, with the liberalization of the economy from the early 1990s onwards, there has been a convergence in the availability of cutting edge technologies and opportunities in the field of e-Governance (GOI, 2008). The emphasis of e-governance in the country has primarily been on automation and computerization with endeavors in networking and connectivity, setting up of systems for information processing and delivering services. The National Informatics centre (NIC), established in 1977; National Satellite Based Computer Network (NICNET), launched in 1987 by the Planning Commission, to provide a communications network between districts, state and central ministries at the national level; followed by the District Information Systems of the National Informatics Centre (DISNIC) to computerize all district offices in the country, proved to be major milestones in the move towards e-governance (Sushil, 2016). A National Task Force on Information Technology and Software Development, constituted in May 1998, focused on utilization of IT as an enabling tool for assimilating and processing all spheres of knowledge. It stressed on computer literacy and recommended spreading the use of computers and IT in education.

In 2000, a 12-point minimum agenda for e-Governance was identified by Government of India for implementation

in all the Union Government Ministries/Departments (UNPAN Document Management System website). The agenda included the action points comprising the provision for basic ICT infrastructure and LAN connectivity in all offices, adequate training of staff, automation of office procedures and functioning, automated payroll accounting, and web enabled redressal system. The departments were to prepare a 5-year IT vision or strategy, develop own Website, and provide all Rules, Acts, and Notifications and various downloadable forms on the website, and ensure electronic delivery of services. The focus of all these efforts towards e-governance was on computerization, automation and internet connectivity. A number of projects were taken up in the country, especially in Andhra Pradesh, Tamil Nadu and Chandigarh, however, these were isolated efforts and there was need for improvement in a holistic manner (Sekher, Parasuraman & Kattumuri, 2018; Kumar, 2016). In 2006 the National e-Governance Plan (NeGP) was formally launched by the Government of India, under the 11<sup>th</sup> Five year plan (2006-2011), to “make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man”. IT Act 2000, Right to Information Act 2005 and establishment of the second Administrative Reforms Commission in 2005 are some other policy initiatives. In the recent years, Government has laid greater emphasis on e-governance for general reform in public administration in the country at all levels viz, central, state, and institutional. A large number of initiatives have been taken up both at the national and state level. Some of the prominent initiatives are - *Bhoomi* Project (Karnataka) *eSeva* (Andhra Pradesh), *Khajane* (Karnataka), *Gyandoot* (Madhya Pradesh), *Lokvani* (Uttar Pradesh). Besides there are numerous

other such projects including the Project FRIENDS (in Kerala), e-Mitra Project (in Rajasthan), and e-Procurement Project (in Andhra Pradesh and Gujarat). NGeP has now been subsumed in the e-Kranti launched as part of the Digital India Programme (Kumar, 2016). Aadhar Programme of the Unique Identification Authority of India (UIDAI) and e-Panchayat Project of the Ministry of Panchayati Raj under Bharat Nirman II Programme are major e-governance related interventions by the Government.

#### 4. E-GOVERNANCE IN EDUCATION

In the field of education, Common Entrance Test (CET) for admission to Professional Colleges was implemented by Karnataka followed by other states. The *ERP Mission* project is one such project funded by NMEICT with the objective to provide an open Source ERP System for universities and other educational institutions. The *National Knowledge Network* is another one such state-of-the-art multi-gigabit (multiples of 10Gbps) project of Govt. of India for providing a unified high speed network to all the educational institutions in the country. SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) is an integrated portal for online courses in the form of MOOCs (Massive Online Open Courses) from high school till higher education level. Swayam Prabha is a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24x7 basis using the GSAT-15 satellite. The project aims to provide high quality educational content for all students across the country. Under Technology for education / e-education thrust area of e-Kranti all schools will be connected with broadband and free wifi will be provided. It also involves a digital literacy programme at the national level and emphasises leveraging of Massive Online Open Courses (MOOCs) for e-education (Digital India Website, n.d.).

#### 5. E-GOVERNANCE IN DISTANCE EDUCATION

Open and distance learning (ODL)

system, commonly known as Distance education, has evolved as an effective medium to support the increasing demand for education serving a variety of learners, in a developing country like India. The impact has been phenomenal and it can be seen in terms of increasing number of distance education institutions, student enrollment ratio and a wide variety of media being used to support learning. The GER in Higher Education in India is 24.5 percent (MHRD, 2016) and distance enrolment constitutes 11.05% of the total enrolment in higher education. The 11th Five year plan (2007-2012) followed by the 12 the Five year plan (2012-2017) propose to expand the gross enrolment ratio (GER) in higher education to 30% by 2020 from the current level. Distance education system can play a considerable role in achieving enhanced access, developing skills, capacity building, training, employability, life-long education and continuing education in the country. In the realm of distance education, India has one Central Open University and 17 State Open universities, and more than 400 distance education providers. ICT is increasingly being used in the educational institutions of today and has re-shaped the open universities especially in the four core areas of curriculum, role of teachers and students, organizational structure and, learning environment (Khan, Hasan, & Clement, 2012; Omotosho et al, 2015; Sife et al., 2007). Researches (Anderson, 2008; Bates, 2008; Garrison, 2009; Tait, 2010) have expanded the term ODL to include the online learning methodologies used to enable multiple forms of interaction and dialogue between teachers and learners. Technology can be used to enhance learning through integration into the pedagogic design and the context within which learning takes place (Kirkwood and Price, 2006). Gulati (2008) reviewed the integration of Technology Enhanced Learning (TEL) in different developing nations and emphasized the need for ICT infrastructure.

Apart from use of ICT in teaching and learning, IT has been used in areas of General Administration, Pay Roll and Financial Accounting, Administration of Student Data, Inventory Management, Personnel Records Maintenance and Library System (Sharma, 2018; Ben-Zion Barta et al. 1995). In this context, the use of e-governance in education becomes extremely important to improve the quality of education and also the overall enrollment. The effective use of the available technology and tools in distance education can help to enhance efficiency of the existing system, add value and transparency to the functioning of the institution while maintaining the costs and resources.

#### 6. E-GOVERNANCE INITIATIVES IN IGNOU

IGNOU is a premier Open University in India with international recognition and presence. It aims to provide seamless access to sustainable and learner-centric quality education, skill up gradation and training to all. IGNOU has contributed significantly to the development of higher education in the country through ODL mode. The University functions through its 21 Schools of Studies and a national network of 67 Regional Centres and more than 3000 study centres all over the country to provide easy access and support services to the learners (IGNOU, 2017). IGNOU has made a significant contribution to the areas of higher education, community education, extension activities and continual professional development. IGNOU offers 228 academic, professional, vocational, awareness generating and skill-oriented programmes of study at the level of Certificate, Diploma, Bachelor's Degree, Master's Degree and Doctoral Degree through its Schools of Studies. For last few years it has piloted to offer programmes through online mode also (Sharma, 2001). Right from its inception, IGNOU has been intensively using ICT both for improving education services including

the university administration.

IGNOU has always been in the forefront of using IT enabled services for its stakeholders, viz. students, employees, ODL functionaries and general public. IGNOU has always actively initiated various activities of e-Governance for good governance (Sharma, 1999). To facilitate the various e-Governance activities IGNOU Headquarter has network of approximately one thousand computers having a backbone of fiber optics. IGNOU has CMS based website for providing the various updated information and services to the prospective students. Most of the Regional Centers have broadband connectivity with appropriate hardware and software infrastructure. Some of the e-Governance initiatives taken up by IGNOU are as follows (IGNOU, 2015; IGNOU, 2018):

- *Enterprise Resource Planning Solution:*

IGNOU is the first open (Central Government) University to implement ERP solution for Back office integrated automation for the University through the Open Distance Learning Software (OdIsoft). The main objective of OdIsoft is to introduce transparency and efficiencies in the BackOffice processes. ERP is fully operational with transactions related to finance and accounts, human resource, payroll, salary, general administration, workforce management, performance management, Supply Chain Management (SCM), Budgeting, leave accounting, medical and other payable.

- *Online Admission System:*

This is a part of university's on going efforts for offering learner-friendly services. This facility is available for more than 125 academic programmes at the Master, Bachelor, PG Diploma, Diploma and Certificate level currently on offer. The system has a student module

through which prospective learners can do the self-registration, make online payment of the fees, submit their application forms online and receive instant confirmation for successful submission of their application form through email as well as through SMS. The Regional Centre Module of Online Admission system provides facility to the Regional Centres to process the admission forms online.

- *National Open and Distance Learners' Library and Information Network*

NODLINET is a platform for libraries and information centres of the ODL system of the country provisioning information resources and digitized content to its stakeholders from anywhere at any time using advanced technologies to enhance the quality of education at par with the conventional education system. The Library and Documentation Division (L&DD) of IGNOU provided the infrastructure package for 12 Regional Centres (RCs) under the NODLINET Network. These are Nodal Libraries rendering e-services to their zones and co-ordinate with adjoining RC Libraries to promote effective utilization of library e-resources under their jurisdiction. The web OPAC (catalog) of central library has also been made searchable on web from anywhere at any time. Data of collection - 2.5 lakh of books RCs/SCs libraries has been input in Automation software in central library server.

*Digital Learning Resources:*

IGNOU has taken certain major initiatives towards development of digital learning resources. These initiatives include eGyanKosh, Education Broadcast, and YouTube Channel. eGyanKosh is a digital repository of learning resources developed by the ODL institutions in the country. It comprises of 2565 courses of IGNOU and 2389 video lectures. The video programmes are provided through a YouTube channel established for eGyanKosh. At present some of these

initiatives are on hold due to the ongoing formulation of IPR policy and related guidelines by the University for proper utilization of these initiatives. IGNOU is a nodal coordinator for SWAYAM project and is involved in development of MOOCs for Diploma and certificate programmes. IGNOU is also the national coordinator for five Swayam Prabha channels: Agriculture, Humanities & Liberal Arts, Culture, State Open Universities, and Teacher Education.

- *elearning platform:*

This involves development of a web-based e-learning platform with a software application such as a Learning Management System for the online administration, documentation, tracking, reporting and delivery of e-learning and ODL programmes.

- *GyanDhara:*

This is a web-based audio counseling service offered by IGNOU. The students can listen to the live discussions by the teachers and experts on the topic of the day and interact with them through telephone and through chat mode.

- *Webcasting:*

IGNOU has web-based TV (Gyandarshan channel) developed in-house available 24x7 for learners. Besides, all the major events of the university are webcast through the platform. The facility is also available through the mobile App.

- *Web-conferencing:*

IGNOU has live web conferencing facility through Adobe Connect, which is mainly used for interaction with the Regional Centres on various issues related to admissions, examination, and other administrative matters. The facility is also used to directly interact with the learners for counseling and mentoring.

- *eProcurement:*

IGNOU has joined the eProcurement

of the GOI. This is being implemented by NIC for providing a single point access to the information on procurements made across all the Central Government Organizations. It provides easy-to-use, web-based real-time bidding solutions for buyers and sellers and facilitates the departments to publish their Tender Enquiries and so on.

- *Regional Centre Management Information System (RCMIS):*

This is a web-based system that facilitates Regional Services Division (RSD) of IGNOU and the various Regional Centres (RCs) to obtain and update information on various activities being performed. The platform has provision for inputting data pertaining to Regional Centre staff (academic & non-academic), learner support centres, academic counselors, and monthly monitoring reports of regional centres.

- *Online Documents and reports:*

As part of this initiatives digitized documents and other information is being made available through a web-portal for public consumption. This includes minutes of the statutory bodies, Act & Status, Ordinance, programme profile of the University contact details of officials and staff, MOUs etc.

- *Student Zone:*

This is a dedicated space on the IGNOU website for providing information to the students through a single window. This space has links to all other student related services such as Admission announcement, online admission, programmes on offer, different forms, results, assignments, previous IGNOU question papers, virtual campus, e-resources for self-learning, student grievances redressal forum, alumni, queries, other important information and FAQs.

- *Grievance Redress and Management (iGRAM) portal:*

This is an online student grievance redressal system to address students' queries/grievances within the shortest possible time. The students can submit their queries and grievances online through iGRAM for immediate settlement and receive feedback in response to their queries/grievances.

Apart from these initiatives the university has embraced e-governance in other aspects of such as evaluation and examination, material distribution (through Material Distribution management system), finance, and student grievance redressal (Online Grievance Redressal Management System). In future the university aims to implement mobile based e-governance system.

## 7. RELATED ISSUES AND CHALLENGES

India ranks 96 in the United Nations E-Government survey 2018 of 193 member countries. The survey provides performance ratings based on E-Government Development Index (EGDI), a measure of three dimensions namely: online service index, telecommunication infrastructure index, and human capital index. There is an increase in the use of ICT and the latest available technologies for e-governance at national, state and institutional level with a focus on delivery of public services in a more efficient and effective manner. Examples of projects at the national level include Indian Railways Reservation System, Passport Seva Project, Income Tax services, banking services, insurance services, Unique Identification Number (Aadhaar), and National Land Records Modernization Programme (NLRMP) (Digital India Website, n.d.). The extensive developments in the use of ICT in education and the impetus provided by the government lays stress on the need to use e-governance not only in the distance education institutions but also in traditional universities. However, there are a number of issues involved with the planning, development and implementation of e-governance. Some of the impediments related to the use of

e-governance can be categorized as:

- Technical issues such as lack of adequate ICT infrastructure and resources, interoperability of applications, security and privacy, lack of IT skills and skilled personnel. (Ebrahim & Irani, 2005; Henningsson & Veenstra, 2010)
- Economic issues such as huge costs involved in development, costs related to maintenance and low investment in ICT, skilled human resources, and so on (Lenk & Traunmuller, 2000; Sebastian & Supriya, 2016; Ebrahim & Irani, 2005; Janssen & Cresswell, 2005).
- Social issues such as a lack of the skills needed to use technology, willingness of the stakeholders. This also includes access to technology, low literacy, awareness and acceptance of the service by the stakeholders, and its accessibility and usability. (Ebrahim&Irani, 2005; Lenk&Traunmuller, 2000; Sebastian &Supriya, 2016).
- Organizational issues such as lack of coordination, lack of implementation policy and guidelines in the institutions regarding use of ICT based services. (Ebrahim&Irani, 2005; Gil-Garcia et al., 2007; Henningsson&Veenstra, 2010; Sebastian &Supriya, 2016).

The real challenges are how to develop and sustain successful e-governance projects and deliver state of the art e-services to citizens (Kunungo, 2003). Non-availability of proper human resources and lack of appropriate strategy are some of the roadblocks in the path of using ICT for governance (Long, 1987).

Some of the key reform areas have been identified below which address various challenges related to the e-governance projects in distance education institution:

- 1) Strategic approach: The focus of current e-governance projects is mainly on computerization and not on modernization of the processes. The emphasis is more on IT enablement with minimal focus on the business

benefits to be accrued. There is a need to orient project designs according to the institutional requirements and perspective of the various stakeholders involved.

- 2) Planning: It is found that institutions give less importance to proper planning and designing of e-governance projects. Often, there is a lack of clear and measurable project goals, objectives and anticipated benefits. It is very essential to plan after thorough analysis and prioritize the project goals in line with business and stakeholder needs. The project design should also be compatible with current readiness and environment with a heightened focus on business and stakeholder benefits.
- 3) Investment: There is low return on investments in e-governance projects in terms of saving of time, lesser administrative burden and improvement in quality of services. The e-governance projects involve huge investments, however, it is often found there is minimal impact/improvement in service delivery and administration. Lack of proper planning and design leads to IT enabled processes with no improvement in the service levels.
- 4) Quality: The quality of the product and services is quite poor. Most of the time the developed IT systems do not meet the business requirements. There is minimal focus on project and systems quality assurance. There is a need for clear security standards and protocols, in addition to effective measures to protect sensitive personal information.
- 5) Digital Leadership: The senior leadership in institutions gives less priority to e-governance initiatives as huge costs and efforts are involved. Without the leadership support it is not possible to implement such initiatives.
- 6) Human Capital: There is a lack of capacities to conceptualize and manage e-Governance projects. E-governance project involve huge

detailing and efforts. Lack of proper human resources including technical expertise and skilled man power is a major impediment for establishment of such projects.

- 7) Stakeholder Engagement: Often there is lack of proper attitudinal orientation on the part of officials and other users. There can be a lack of awareness and motivation to use the new system as there are no clearly perceivable benefits to the individuals involved. It is very important to identify and engage key stakeholders from the beginning to minimize the resistance to change and prevent the project from being derailed.
- 8) Change management: Implementation of any e-governance project involves procedural changes in the execution and delivery of services. There are changes in the processes, reporting structure, delegation of powers, administrative set-up, roles and responsibilities of the employees etc. (GOI, 2008). This necessitates change management for integrating change and to help employees transition through the change process.
- 9) Process re-engineering: In order to achieve breakthrough improvements in performance by the use of IT solutions, it is essential that the process redesign or re-engineering is undertaken. This involves a critical analysis and radical redesign of workflows and processes within and between various departments to improve measures of performance, such as cost, quality, service, and speed (Hammer and Champy, 1993; Mohapatra, 2013).
- 10) Capacity building: training of the personnel at all levels is extremely crucial for the successful implementation of an e-governance initiative. The identification of key skills required to drive and implement the change initiative must begin at the planning stage itself. Leadership training might also be required to equip the senior managers with the

necessary skills to drive the change.

## 8. CONCLUSION

Administrative reforms in institutions influence the state actors and promote structural changes through improvements in public expenditure management, delivery of services, and the promotion of accountability and transparency. A governance reform strategy entails a careful assessment of the potential risks (such as political support, resources and costs involved) and benefits, such as improved economic performance and outcomes (Robinson, 2007). Governance reforms are also characterized by strong leadership, political support, impetus towards wider participation in policy making, and effective monitoring mechanisms. E-governance is about more than streamlining processes and improving services (Kunungo, 2003). Distance Education in India caters to approximately 4 million learners. Innovation being the driving force behind implementation of ICT enabled services, e-governance has the potential to revolutionize the way distance education is designed and delivered. With the government laying increased emphasis on e-governance in the education sector also, the distance education system of the country has to gear up to provide accessible, cost-effective quality education and services to the heterogeneous learners with varied social and cultural background, hailing from different geographic regions, with different learning styles and preferences. Though IGNOU and other Open Universities have moved ahead in implementing e-governance in their day-to-day business process and learner oriented services they should have an e-governance policy. A successful implementation of e-Governance can be built only on a sound policy. The ministry of HRD, Govt. of India launched the National Mission on Education through Information and Communication Technologies (NMEICT) with the aim to cater the educational and learning needs

of all the stakeholders of the higher education sector. Funds to create ICT Infrastructure, deploy human resources may be availed as funded projects from NMEICT. Distance Education institutions should also have a vision paper on e-governance which will enable them to plan, develop and implement e-governance initiatives successfully. These institutions should develop and implement workable e-governance prototypes, which could be then scaled up in phased manner. With the fact that distance education in the present scenario is no more an option but a compulsion the distance education institutions should focus on developing human and infrastructure resources and capacities crucial for implementing E-governance strategically.

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