

E-India: Keeping up with the changing times

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Abstract

In this era of doorstep delivery, the citizens want everything delivered to their doorstep. The Government needs to keep up with the changing times and growing technology and provide their citizens with easy access to their services. In simple terms, E-Governance refers to the online availability of the services of the Government. The importance of E-Governance is such that the growth of a country is judged by the implementation of E-Governance in the country. In India too, the government has been developing various services that can be availed from home, which includes online Tax filing, appointment for Passports and Driving Licenses. In this paper, we will discuss the areas in which E-Governance has been implemented by the Government of India and the areas in which it could be implemented in the future. We will also share our views on how can it be further implemented to enable ease of data sharing and collection.

Keywords: E-governance, cloud computing, governance, Digital India

INTRODUCTION

Today's is the world of change and revolution. Things which are not dynamic are considered as mortal. The rise of e-government has been one of the most striking developments of the web. Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web. The technology as well as e-governance initiatives have come a long way since then. Recognizing the increasing importance of electronics, the Government of India established the Department of Electronics.

E-GOVERNANCE

Government makes use of internet to provide its services at the door step of customers, business and other stakeholders. In E-Governance, government makes best possible

use of internet technology to communicate and provide information to common people and businessmen. Today, electricity, water, phone and all kinds of bills can be paid over the internet. All these are what government and citizens are using and doing. In today's time, everyone is dependent on the Government's E-Governance services.

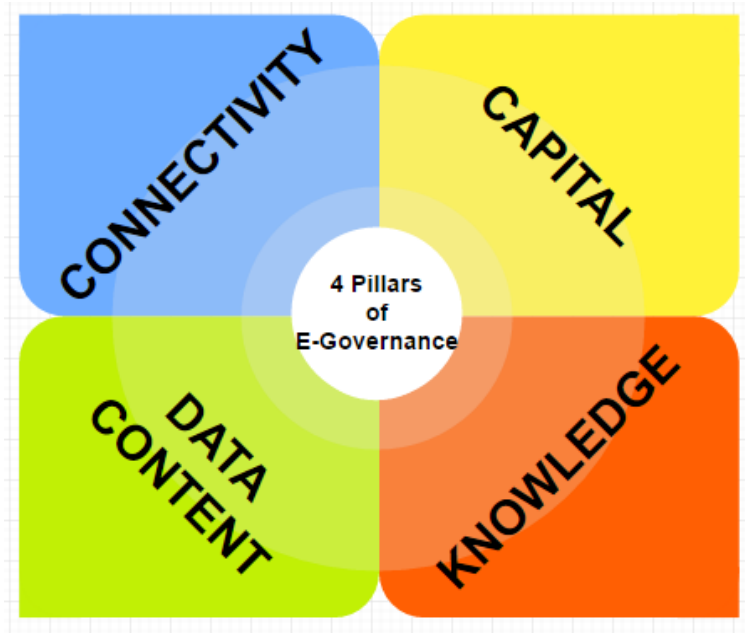


Fig. 1

There are four pillars of E-Governance: -

1. Connectivity: -Connectivity is required to connect the people to the services of the government. There should be a strong connectivity for an effective e-governance.

2. Knowledge: - Here knowledge refers to IT knowledge. Government should employ skillful engineers who can handle the e-governance system in an efficient way. These engineers also handle all kinds of faults that may occur during the working of E-Governance.

3. Data Content: - To share any kind of knowledge or information over the internet, there should be databases. These databases should have the data content which is related to government services.

4. Capital:- Capital can be on public or private partnership. It refers to money used by government to provide their services or to that sector of the economy based on its operation.

E-GOVERNANCE MODELS:

E-Governance services can be shared between citizens, businessmen, government and employees. These four models of e-governance are as follows: -

1. Government to Citizens (G2C):-

This model of e-governance refers to the government services which are shared by citizens. Here, citizens visit the link of services that they want to use. This creates a strong bond between government and its citizen. Type of services which are provided by this model includes:-

- Payment of online bills such as electricity, water, telephone bills etc.
- Online registration of applications.
- Copies of land-record.
- Online filling of complaints.
- Availability of any kind of online information.

2. Government to Government (G2G) :-

This model refers to the services which are shared between the governments. There are lots of information that need to be shared between various government agencies, department and organizations. These types of services or information are as follows: -

- Sharing of information between police department of various states.
- Government document exchange which includes preparation, approval, distribution, and storage of all governmental documents is also done through E-Governance.
- Most of the finance and budget work are also done through e-governance.

3. Government to Employees (G2E):-

This model increases the transparency between government and its employees. Here, employees can keep a check on the functioning and working of government and government can keep a check on its employees. Information that can be shared by this model are: -

- All kinds of data submission (attendance record, employee record etc.) from various government offices are done by this model.
- Employees can file all kinds of complaints and dissatisfaction by this model.
- All kinds of rules and regulations and information for employees can be shared by this.
- Employees can check their payment and working record.
- Employees can upload all kind of working forms online.

4. Government to businessman (G2B):-

Through this model, the bond between private sector and government strengthens and businessmen use this to communicate with Government. They share information through this model in the following ways: -

- Collection of taxes.
- Rejection and approval of patent is also done by this model.
- Payment of all kind of bills and penalty.
- Complaints or any kind of dissatisfaction can be conveyed by this.

DIFFERENT AREAS OF E-GOVERNANCE:

Today area of E-governance is very wide. E-Governance is implemented by government in almost every field. From urban states to rural areas and from politics to teaching, Governance has spread its roots everywhere. Either its public or private sector, common man or businessman everyone is largely dependent on e-governance. Here we have presented different areas where e-governance is widely used. In the following section, we are describing the projects used in urban and rural areas of India.

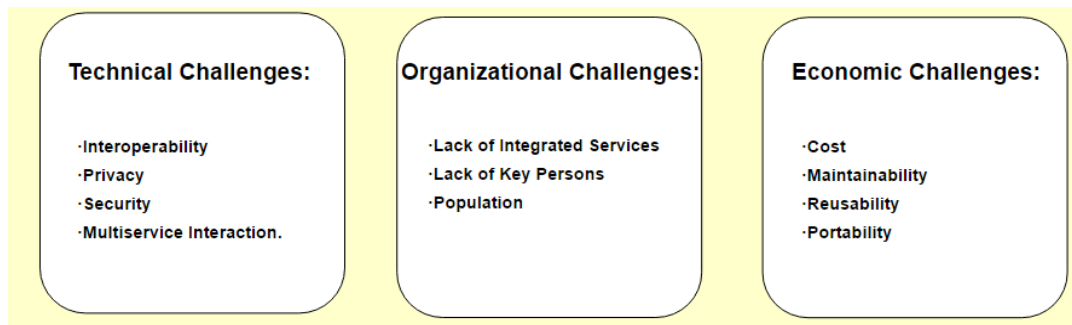
E-Governance projects in urban areas: -

Transportation: - Services provided by e-governance in this area are:-

- Issuance of Time Table of buses.
- Provision of booking facility for Interstate transport.
- Transportation Improvement Program.
- Regional Transportation Plans.

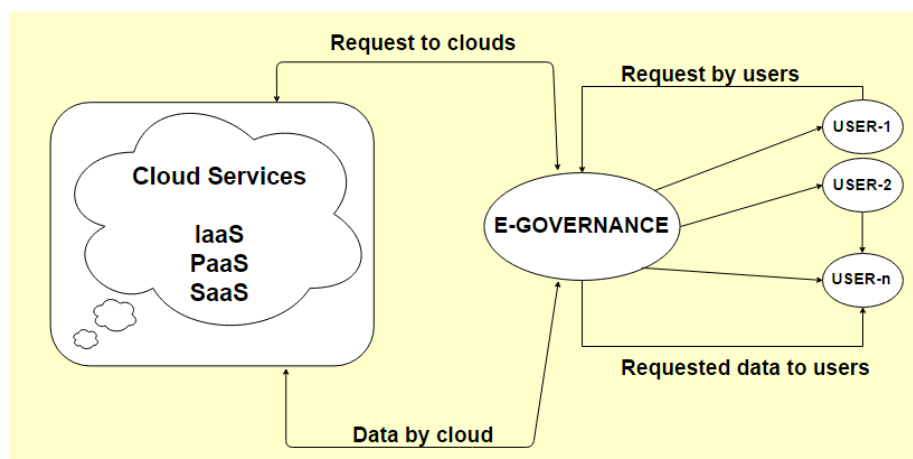
E-Governance in Education:-

- Providing basic education (elementary, primary, secondary) to children.
- Providing computer education to children.
- Results for 10th & 12th classes.
- Information on eligibility for “Distribution of books” scheme.

CHALLENGES IN E-GOVERNANCE:**Fig. 2****SCOPE OF E-GOVERNANCE:****E-Governance and cloud computing**

Today's e-governance is implemented with clouds as clouds provide number of benefits and make e-governance more efficient to use. Cloud computing allows computer e-governance users to conveniently gain access to fully featured applications. Cloud computing also provides software development and deployment environments, and computing infrastructure assets such as network-accessible data storage and processing model.

SANTA BARBARA, CA-Eucalyptus Systems, creators of the most widely deployed on premise cloud computing platform, revealed that open source Eucalyptus Infrastructure-as-a-Service (IaaS) software is the cornerstone of the e-governance cloud project in India that is delivering the power of modern information technology (IT) to remote districts and villages throughout the country. NIC has selected and deployed the open source Eucalyptus software as the foundation for its cloud project, which calls for the execution of cloud-based E-Governance projects on a broad scale. NIC is providing the network backbone and a wide range of ICT (Information and Communication Technologies) services to government organizations throughout India, including a nationwide communication network for decentralized planning, improvement in government services and wider transparency of national and local government institutions. Through the **Fig.3**, we propose for usages of cloud computing in E-Governance:

**Fig. 3****Need of clouds for E-Governance: -**

Implementing e-governance without clouds is an old technique and is not too much efficient. There are number of reason which makes cloud computing hottest Buzzword not in IT area but also in e-governance implementation.

1. Data Integrity: -To deal with large data over the years for E-Governance applications, data should be integrals and scalable at higher level.

2. Security Auditing: - As corruption is increasing in government sector also, some mechanism is needed to keep track on e-governance worker so that no changes in personal data of individual which is on.

3. Data recovery: - clouds provides an excellent way of data restoring facility which might be lost due to floods, earthquake or from any other disaster.

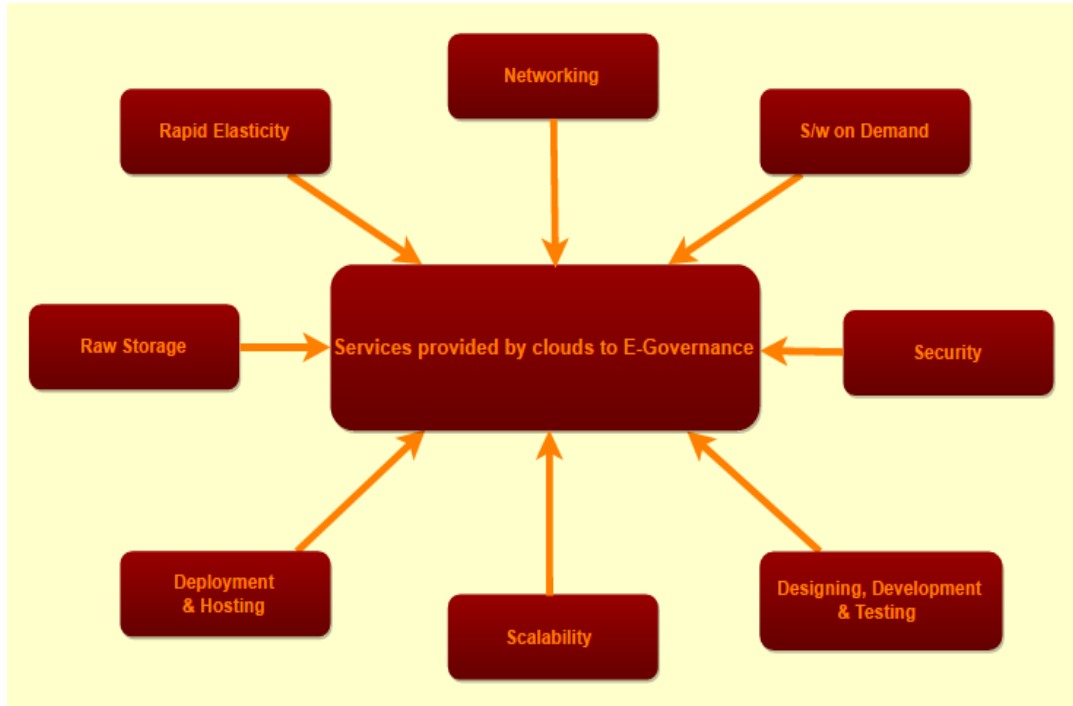


Fig. 4

4. Performance and Efficiency: - An efficient e-governance is that in which lakhs of access can be done easily without decreasing the performance.

5. Systems Integration and Legacy Software: -Not only are the applications that are already providing services to be moved to the cloud, but also integrate with applications deployed in the cloud. Cloud is built on SOA principles and can offer excellent solutions for integration of various applications.

Direct Cash transfer:

To facilitate disbursements of Government entitlements like NREGA, Social Security pension, Handicapped Old Age Pension etc. of any Central or State Government bodies, using Aadhaar and authentication thereof as supported by UIDAI.

Aadhaar Enabled Payment system (AEPS):

AEPS is a bank led model which allows online interoperable financial inclusion transaction through the Business correspondent of any bank using the Aadhaar authentication. This has helped in financial inclusion. The four Aadhaar enabled basic types of banking transactions are as follows: -

- Balance Enquiry
- Cash Withdrawal
- Cash Deposit
- Aadhaar to Aadhaar Funds Transfer

CONCLUSION

In this paper, we have given a framework and application of E-Governance. We have discussed how E-Governance can prove to be a boon to the Government as well as the citizens of the country. We have discussed the four pillars of E-Governance that include Connectivity, Knowledge, Data Content and Capital. We have also talked about the models of E-Governance shared between citizens, businessmen, government and employees. We have also proposed future technology for E-Governance with pictorial representation of working of E-Governance with new technology. Implementing E-Governance without cloud computing and open source is an old technology. E-Governance must be given importance and priority since it is a major step towards the development of the country and it directly reflects the vision of the country to be future ready. There are still a lot of areas that can be brought under the purview of E-Governance. This is a field that demands deeper research and more development.

In conclusion, we believe e-Governance is a budding field that is interesting both as a new research area for IS theories and methods and as a source for IS practitioner contribution and use.

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