Significance of E-Governance and Implementation Challenges in Developing Countries With Reference To India

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ABSTRACT

The aim of the present paper is a contribution to the appropriate mechanism for good governance of particularly in developing countries with reference to India with the involvement of Information technology in the system of the government and for the betterment of the society. It highlights the significance and implementation challenges of E-Governance while considering factual specialty growing impact of Information Technology and need of developing and developed country.

Keywords
Discrete Wavelet Transform, Image Compression, Haar Wavelet, Arithmetic Decoding

1. INTRODUCTION

India is a land of diversity. This diversity spans across culture, tradition, language, geography and the economic condition of the people. It is a nation that has a significant number of people who are below the minimal socio-economic benchmarks. This includes rural and urban poor, women in rural areas, street children, people belonging to historically disadvantaged castes and people living in less developed areas. The vulnerability of these sections of society has increased with globalization and this section is prone to become even more marginalized - economically and socially.

The initiatives of government agencies and departments to use ICT tools and applications, Internet and mobile devices to support good governance, strengthen existing relationships and build new partnerships within civil society, are known as e-Government initiatives. As with e-commerce, e-Government represents the introduction of a great wave of technological innovation as well as government reinvention. It represents a tremendous impetus to move forward in the 21st century with higher quality, cost effective government services and a better relationship between citizens and government. The concept of e-government started with the advent of government websites in the early 1990s. The system of government is fixed, static, hierarchical regulated, whereas web is dynamic, flat and unregulated. With the development of Information Technology and increased dependence on the internet as a transaction medium and the development of adequate infrastructure and regulations, government websites soon developed into a highly potential channel for supporting a frontend and back end applications [1]. Besides fast delivery of services, internet technology brings more transparency to the governance and many benefits to the e-governance community. With the advent of Internet and related technology, the government services can be extended to all geographical segments in the country round the clock, all days in a year. In addition to better and fast monitoring of government tasks, e-governance generates more revenue through online delivery of services [2]. India is ranked 30th with score 60.15 in Institute of e-Government released the 2011 World e-Government Ranking [3]. This indicates significant room for improvement.

This paper will be helpful to all people who are interested in developing E-governance project like civil servants in government agency, businesses houses developing e-governance projects, etc.

Defining E-Governance:

E-Government means different things for different people. Some simply define it as digital governmental information or a way of engaging in digital transactions with customers. For others e-Government simply consists of the creation of a web site where information about political and governmental issues are presented. These narrow ways of defining and conceptualizing e-Government restrict the range of opportunities it offers. One of the reasons why many e-Government initiatives fail is related to the narrow definition and poor understanding of the e-Government concept, processes and functions. E-Government is a multidimensional and complex concept, which requires a broad definition and understanding, in order to be able to design and implement a successful strategy. Several dimension and related factors influence the definition of e-Governance. The word “electronic” in the term e-Governance implies technology driven governance. E-Governance is the application of Information and communication Technology (ICT) for delivering government Services, exchange of information communication transactions, integration various stand-one 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 the entire government frame work.

According to the World Bank [4]: “E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption,
increased transparency, greater convenience, revenue growth, and/or cost reductions.”

Thus, the stress here is on use of information technologies in improving citizen-government interactions, cost-cutting and generation of revenue and transparency.

UNESCO defines e-Governance as [5]: “Governance refers to the exercise of political, economic and administrative authority in the management of a country’s affairs, including citizens articulation of their interests and exercise of their legal rights and obligations. E-Governance may be understood as the performance of this governance via the electronic medium in order to facilitate an efficient, speedy and transparent process of disseminating information to the public, and other agencies, and for performing government administration activities.” This definition visualizes the use of the electronic medium in the exercise of authority in the management of a country’s affairs along with articulation of citizens interests leading to greater transparency and efficiency.

Dr. APJ Abdul Kalam, former President of India, has visualized e-Governance [6] in the Indian context to mean: “A transparent smart e-Governance with seamless access, secure and authentic flow of information crossing the interdepartmental barrier and providing a fair and unbiased service to the citizen.”

UNPA & ASPA [7]: e-Governance is the public sector’s use of the most innovative information and communication technologies, like the Internet, to deliver to all citizens improved services, reliable information and greater knowledge in order to facilitate access to the governing process and encourage deeper citizen participation.

Fraga [8]: e-Government is the transformation of public sector internal and external relationships through net-enabled operations, IT and communications, in order to improve: Government service delivery; Constituency participation; Society.

2. TRANSFORMATION AREAS

The above definitions encompass three critical transformation areas of e-Government [9]:

**Internal** - which refers to the use of ICT to improve the efficiency and effectiveness of internal functions and processes of government by interrelating different departments and agencies. Thus, information can flow much faster and more easily among different governmental departments, reducing processing time, paperwork bottlenecks, and eliminating long, bureaucratic and inefficient approval procedures. Interconnecting among different governmental departments improves internal efficiency by enabling time reductions for using, storing and collecting data, reduction of labor costs and information handling costs, as well as the speed and accuracy of task processing.

**External** - ICT opens up new possibilities for governments to be more transparent to citizens and businesses, giving access to a greater range of information collected and generated by government. ICT creates also opportunities for partnership and collaboration among different governmental institutions [10]. Electronic government blurs the lines not only within government agencies, but also between government and those that touch it [11].

**Relational** - ICT adoption may enable fundamental changes in the relationships between the citizens and the state, and between nation states, with implications for the democratic process and structures of government. Vertical and horizontal integration of services can be realized, enabling the integration of information and services from various government agencies to help citizens and other stakeholders get seamless services. Fountain [12] uses the concept of the “virtual state” that is a governmental entity organized with “virtual agencies, cross agencies, public-private networks whose structures and capacity depend on the Internet and web”.

3. E-GOVERNMENT WEB OF INTERRELATIONSHIPS

The target of e-Government encompasses four main groups: citizens, businesses, governments (other governments and public agencies) and employees. The electronic transactions and interactions between government and each group constitute the e-Government web of relationships and the respective four main blocks of e-Government, that are:

1. Government to Citizens (G2C)
2. Government to Business (G2B)
3. Government to Government (G2G)
4. Government to Employees (G2E)

Most researchers and academics refer only to the first three blocks, without considering the fourth or simply including it as part of “government to government” block. The relationships, interactions and transactions between government and employees in fact constitute another large e-Government block, which requires a separate and very careful handling. Many people today refer to employees as internal customers and as a result, in order for an e-Government initiative to be customer oriented and centric, it has to take into account needs and requirements of this group as well. More specifically, these e-Government blocks can be characterized as follows:

1. **Government to Citizen**: deals with the relationship between government and citizens. E-Government allows government agencies to talk, listen, relate and continuously communicate with its citizens, supporting, in this way, accountability, democracy and improvements to public services. A broad array of interactions can be developed ranging from the delivery of services and the provision of welfare and health benefits to regulatory and compliance oriented licensing [13]. G2C allows customers to access government information and services instantly, conveniently, from everywhere, by use of multiple channels (PC, Web TV, mobile phone or wireless device). It also enables and reinforces their participation in local community life (send an email or contribute to an online discussion forum).

2. **Government to Business**: consists of the electronic interactions between government agencies and private businesses. It allows e-transaction initiatives such as e-procurement and the development of an electronic marketplace for government [14]. Companies everywhere are conducting business-to-business e-commerce in order to lower their costs and improve inventory
control. The opportunity to conduct online transactions with government reduces red tape and simplifies regulatory processes, therefore helping businesses to become more competitive. The delivery of integrated, single-source public services creates opportunities for businesses and government to partner together for establishing a web presence faster and cheaper.

3. **Government to Government**: refers to the relationship between governmental organizations, as for example national, regional and local governmental organizations, or with other foreign government organizations. Governments depend on other levels of government within the state to effectively deliver services and allocate responsibilities [13]. In order to realize a single access point, collaboration and cooperation among different governmental departments and agencies is compulsory. Online communication and cooperation allows government agencies and departments to share databases, resources, pool skills and capabilities, enhancing the efficiency and effectively of processes.

4. **Government to Employees**: refers to the relationship between government and its employees. G2E is an effective way to provide e-learning, bring employees together and to promote knowledge sharing among them. It gives employees the possibility of accessing relevant information regarding: compensation and benefit policies, training and learning opportunities, civil rights laws, etc. G2E refers also to strategic and tactical mechanisms for encouraging the implementation of government goals and programs as well as human resource management, budgeting and accounting [13]. The full exploitation and implementation of these complex webs of inter-relationships requires three main application domains for e-Government [15]:

- **e-Administration** – for automation and computerization of administrative tasks and for realization of strategic connections among internal processes, departments and functions.
- **e-Citizens and e-Services** – to realize connections and interrelationships among governments and citizens and to deliver automated services.
- **e-Society** – to enable relationships and interactions beyond boundaries, among public agencies, private sector and civil community in general.

These three application domains should be considered as overlapping and e-Government can be found in the overlapping area of these three application domains, demonstrating the complexities and heterogeneities needed to be handled for assuring its success.

4. **SIGNIFICANCE OF EGOVERNANCE**

Benefits assured by use and application of e-Government in developing countries are the same as those in developed countries. The differences between these two groups could result from the act that many potential benefits of e-Government are not reaped by developing countries as consequence of their limited use of e-Government.

1. **Cost Reduction and Efficiency Gains**

Researchers [11, 16, 17] agree that ICT has considerable potential to contribute to efficiency gains and cost reductions for private organizations. Furthermore, these benefits constitute a major aspect of e-Government initiatives. Putting services on-line substantially decreases the processing costs of many activities compared with the manual way of handling operations. For example, it costs the US Inland Revenue Service $1.60 to process a paper tax form, but only $0.40 to process an electronic form [18]. The appropriate application of ICT may possibly reduce the number of inefficiencies in processes by allowing file and data sharing across government departments, thereby contributing to the elimination of mistakes from manual procedures, reducing the required time for transactions. Efficiency is also attained by streamlining internal processes, by enabling faster and more informed decision making, and by speeding up transaction processing.

2. **Quality of Service Delivery to Businesses and Customers**

In the traditional model of public service delivery, the procedures are long, time consuming and lack transparency. A business that wishes to obtain a license or a permit has to fill out a number of application forms, has to visit a number of different offices and spend a considerable amount of time. If a citizen wishes to be issued with a certificate or any other official document, he or she will have to travel to the central government office, go to different offices and spend a lot of time for a simple service. The consequences are high costs and citizen and business dissatisfaction. An e-Government initiative, on the other hand, which puts government services online, thereby reducing the bureaucracy, offers round the clock accessibility, fast and convenient transactions, and obviously enhances the quality of services, in terms of time, content and accessibility.

3. **Transparency, Anticorruption and Accountability**

E-Government helps to increase the transparency of decision-making processes. In many cases e-Government offers opportunities for citizens to directly participate in decision-making, by allowing them to provide their own ideas and suggestions in forums and on-line communities. If websites are designed carefully and openly, they can be valuable resources for transparency as citizens, businesses and other stakeholders should be able to see political and governmental information, rules and policies. Previously it was often necessary to go directly to governmental offices to obtain information, but now this information should be available on the web. The availability of a diversity of publications regarding the activities of the public administration, as well as economic and legislative aspects, increases the transparency too. Example: The Central Vigilance Commission (CVC) in India started an initiative to create a website with the objective of reducing corruption and increasing transparency by sharing a large amount of information related to corruption with citizens. The CVC website communicates directly with the public through messages and speeches to bolster confidence in the institution, informs the public about its efforts in fighting corruption, and makes public the names of officers from the elite administrative and revenue service against whom investigations have been ordered or penalties imposed for corruption. Members of the public are highly encouraged...
(mainly by rewards) to make their complaints and to provide information against a public servant about taking of bribes in order for the commission to undertake the necessary anticorruption actions to eliminate bribery and to increase the transparency of rules, procedures and service delivery [19].

4 Increase the Capacity of Government

The use of ICT for the reorganization of internal administration transactions, communications, inter-relationships and for easy information flow and transfer offers considerable opportunity to increase government capacity. Intranets allow different departments to share databases of common customers and to pool skills and capacities of their members for problem solving. These facilities in turn will pledge faster information flow and transfer, quicker and cheaper provision of goods and services, faster and better decision making processes, and unplugged paper bottlenecks. Knowledge based or expert systems help to create a more responsive and guideline based process. This approach assures benefits for businesses, which become both consumers of government services and providers of goods and services to the government. It also assures benefits to the government itself through reduced costs and spending which could require lower taxes to finance. Example: The Time Saver Centre in Sao Paulo, Brazil, brings together multiple services in a single location. Its objective is to deliver services more quickly and to increase the satisfaction level of its citizens. A person requiring a service, on reaching the appropriate agency, can register in the computerized tracking system and receive an electronic ticket, which indicates the services desired and the estimated waiting time. They can receive at the same time different services that traditionally were separated such as vehicle registration, driver’s license, identification card, unemployment insurance etc. A customer satisfaction survey conducted in 2000 for five centers reveals that 94% of respondents evaluate services as “excellent” or “good”. This case demonstrates the remarkable improvements that can be realized in service delivery [20].

5 Network and Community Creation

ICT creates both pressures and opportunities for network creation and community building. As argued before, an e-Government initiative requires a complex web of interrelationships among government, customers, businesses, employees and other governmental agencies. Moreover, the very nature and function of e-Government require a network approach to put together skills, technologies, information and knowledge that span the boundaries of different governmental agencies. It is generally impossible to find all of them in one single governmental agency. The need for learning and training, for example, requires a partnership between government agencies/departments and universities or research institutions. The provision of integrated services at one contact point requires the cooperation and collaboration of different departments and agencies, horizontal and vertical integration, and therefore the creation of a large and diversified network of relationships. The successful use and diffusion of ICTs in the public sector involves a collective, multidisciplinary and dynamic learning process [21]. Moreover, the realization of electronic transactions triggers network creation among private companies, financial institutions, telecommunication and ISPs. On the other hand, an e-Government initiative enables community creation, giving citizens and businesses the possibility to participate in forums, and in decision making processes, contributing actively to different political and governmental discussions. Example: Columbia’s government portal is the entry point to every government agency website in the country, allowing citizens to search for and consult government information and to e-mail government representatives either to complain about problems or to make suggestions. A specific unit, the Government online Network, composed of eight people trained in the technology of government portals, was created for realizing Columbia’s website and for advising, supporting, training and monitoring the remainder federal government. Financial support was provided by the UNDP, while the technology and experience were provided primarily by a partnership with two private companies: GovWorks Latin America/Taillon and Arthur Andersen [22].

6 Improve the Quality of Decision Making

Community creation, forums, continuous interaction and communication between government and its citizens contribute further to the decision making process. By means of active participation in political and government discussions, citizens can contribute their own ideas, and share their knowledge and information. This will in turn lead to building trust in government and improving the relationships between the government and the governed. The OECD argues that the strengthening relationship between government and citizens could improve the quality of services by allowing government to tap wider sources of information, perspectives and solutions to meet the challenges of policy making under conditions of increased complexity [23]. Considering citizens as governmental customers, listening and understanding to their needs and requirements, is essential for a better decision making process. The appropriate use of shared data and information by all governmental agencies and departments offers the possibility to make quick decisions thus to serve the community better. However improvements in the speed and quality of decision making depend greatly on the willingness of governments to be empowered with new information, the capability of staff to process the large amount of information, the prevailing cultural values as well as the motivation of governments to shift from a hierarchical public administration model to a flexible, less centralized model. Example: The CRISTAL initiative of Argentina’s government was launched in order to disseminate information regarding the use of public funds, including information about the amounts of money for different programs, financial and employment data, public debt account including terms, guarantees, interest costs, and the outstanding tax and customs obligations of private companies. Its primary goal is to inform customers/citizens, to disseminate content and information, empowering customers to exercise more control over their political representatives. In their web site they also provided a specific section where users can send their questions, comments and suggestions for further improvements. Their feedback allows the government to adjust the content and information, to customize the information and to reorganize itself around customers’ needs and requirements [24].

7 Promote Use of ICT

Continuous interaction and communication between government and its stakeholders contributes to the creation of awareness about the potential contribution of ICT to local community activities. In this way, e-Government plays a vital role, not only in facilitating market-led initiatives but also in initiating the process of capability building and in coordinating the actions of a large number of interested stakeholders [21]. In fact, one of the main benefits of an e-
Government initiative consists of the promotion of ICT use in other sectors. In order for e-Government staff to interact, transact and communicate electronically with businesses, citizens and other stakeholders, it is necessary to mandate the use of ICT tools and applications. For a government-to-business electronic transaction to occur, the business itself needs to make use of electronic equipment. On the other hand, financial institutions have to create secure and reliable methods for electronic transactions. The development of new technological and management capacities required for e-Government functionality encourage the development in turn of new training courses and modules in schools and universities trying to supply the required skills and capabilities to the market. Example: In India, the Gyandoot project is a government-to-citizen intranet project which offers numerous benefits to the region, to citizens and to the community in general. The goal of the project has been to establish community owned technologically innovative and sustainable information kiosks in a poverty-stricken rural area of Madhya Pradesh. The benefits assured by this intranet system have increased the awareness of ICT importance and have sparked other IT initiatives and programs, such as: the creation of new private ICT training institutions; a high level of student enrolment – about 60%; parliament has allocated resources to set up other kiosks in schools and to develop new models for e-education; Indira Gandhi National Open University has opened a study center for undergraduate and postgraduate courses on computer applications; the government has instituted a cash award to motivate ICT projects [25].

5. CHALLENGES IMPLEMENTATION OF FOR E-GOVERNANCE

While it is evident that e-Government and ICT in general, are powerful drivers of wealth creation and growth, there remain many challenges which hamper the exploration and exploitation of its opportunities. The multidimensionality and complexity of e-Government initiatives implies the existence of a wide variety of challenges and barriers to its implementation and management. The main challenges, identified in the case study analysis for e-Government development and implementation in developing countries. In this section, we brieﬂy introduce each of these challenges and offer some policy implications for their management.

1. ICT Infrastructure

ICT infrastructure is recognized to be one of the main challenges for e-Government. Internetworking is required to enable appropriate sharing of information and open up new channels for communication and delivery of new services [11]. For a transition to electronic government, an architecture, that is, a guiding set of principles, models and standards, is needed. Many developing countries suffer from the digital divide, and they are not able to deploy the appropriate ICT infrastructure for e-Government deployment. The digital divide between richer countries and developing ones is large with high-income economies having 416 personal computers per 1,000 people and low-income economies only 6 per 1,000 [26]. The development of basic infrastructure to capture the advantages of new technologies and communications tools is essential for implementing e-Government. Different access methods, such as remote access by cellular phones, satellite receivers, kiosks, etc., need to be taken into consideration by governments in order that all members of society can be served irrespective of their physical and financial capabilities. However, an ICT infrastructure does not consist simply of telecommunications and computer equipment. E-readiness and ICT literacy are also necessary in order for people to be able to use and benefit from e-Government applications. Having the education, freedom and desire to access information is critical to e-Government efficacy. Presumably, the higher the level of human development, the more likely citizens will be inclined to accept and use e-Government services. Example: In the Gyandoot project, the poor infrastructure facilities constituted one of the major problems encountered in developing and implementing the project. Local rural telephones infrastructure did not operate with optical fiber cable, and in consequence there were initially significant reliability problems. This caused a decrease in the motivational level of kiosk managers to participate in the project. Substantial problems were encountered with literacy and skills to use new technological tools and applications. To ensure the success and the sustainability of the project, the Indian telecommunications department undertook actions to upgrade the level and quality of connections, as well as study alternative solutions (such as wireless applications) to cover those zones where telephones were not available. In addition some basic training was provided to people who were directly engaged in management and maintenance of kiosks [25].

2. Policy Issues

Processing of e-Government principles and functions requires a range of new rules, policies, laws and legislative changes to address electronic activities including electronic signatures, electronic archiving, freedom of information, data protection, computer crime, intellectual property rights and copyright issues. Dealing with e-Government means signing a contract or a digital agreement, which has to be protected and recognized by a formalized law, which protect and secure these kinds of activities or processes. In many developing countries, e-business and e-Government laws are not yet available. Establishing protections and legal reforms will be needed to ensure, among other things, the privacy, security and legal recognition of electronic interactions and electronic signatures. Hence, governments all over the world need to tackle the design and development of a public key infrastructure, which will guarantee secure transactions between organizations and individuals. Example: In the e-procurement system initiative in the Philippines, which aimed to streamline the purchase of goods and services for a large number of government departments and agencies, a number of actions were undertaken to change the legal framework and to issue new rules and policies that govern and regulate electronic commerce and interactions. An executive order was issued which provided legal guidelines about how to conduct electronic business, and how to advertise and post bids or notices in the new electronic system. In addition, an e-Commerce law was promulgated, in order to give legal protection to electronic documents [27].

3. Human Capital Development and Life Long Learning

A major challenge of an e-Government initiative is the lack of ICT skills in the public sector. This is a particular problem in developing countries, where the chronic lack of qualified staff and inadequate human resources training has been a problem for years [7]. The availability of appropriate skills is central for successful e-Government implementation. E-Government requires hybrid human capacities:
technological, commercial and management. Technical skills for installation, maintenance, designing and implementation of ICT infrastructure, as well as skills for using and managing online processes, functions and customers, are necessary. To address human capital development issues, knowledge management initiatives are required focusing on staff training, seminars, workshops in order to create the basic skills for e-Government handling. Example: In Beijing's Business e-Park initiative, a key step in project implementation was the education program. Firstly government officers learnt to do their jobs more quickly and efficiently. It was also important to educate government leaders, as they were responsible to explain what e-Government is and what its benefits will be for the community. Ultimately, basic computer and Internet training were provided to government staff and public users of the e-Government system [28]. In general, in almost all cases the focus on training and education programs was a paramount phase for the assurance of project endurance. However, the human capability development doesn’t end up with the acquisition and achievement of basic initial skills. Instead, lifelong learning is an essential prerequisite as the rate of change increases and new technologies, practices and competitive models emerge. The full economic benefits of IT depend on a process of social experimentation and learning, which is still at an early stage [29].

4. Change Management

Change management issues must be addressed as new work practices, new ways of processing and performing tasks are introduced. E-Government correctly designed doesn’t simply save costs and improve service quality; instead it revolutionizes and reinvents the government processes and functions. Change management can be divided into two sub-concepts: Change Management Approach and Management of Resistance to Change. Change management approach refers to the change management procedures established within organizations. DeLisi [30] identifies culture as the primary driver of strategic organizational change. Being aware of an organization's culture is already a big step towards a higher capacity to change [31]. Hierarchy is the most traditional of cultural values of a government bureaucracy, in many ways its defining feature. In particular, intranets and the sharing of information throughout organizations can challenge hierarchies and can only really benefit an organization that develops a more networked approach; ICT is distinguished by its network character [32]. Employee resistance to change is still the biggest barrier to successful change. Employees fear changes in general and ICT applications in particular as they believe that ICT would replace them and so cause job losses. Moreover, it is very difficult in a short time to turn off traditional methods of working and learn new ones. Addressing resistance successfully means ensuring the existence of incentives for employees to learn and change and the establishment of well-structured plans that embrace employee participation throughout all stages of a change process. Example: It is relevant to mention here the experience in India of the Vijaywada Online Information Center (VOICE). The main objective of this initiative was to realize an electronic system which enables the delivery of municipal services such as building approvals, status certificates, and handles the collection of different types of taxes. Resistance to change from public staff was one of the major problems encountered in this endeavor. The revenue department staff were those who caused most problems as they stood to lose the income received from bribes. Some staff feared job losses, some others were reluctant to learn and use the new technology and new work practices. Several meetings and performance reviews were organized to persuade staff to become accountable and to motivate them for better performance [33].

5. Partnership and Collaboration

Collaboration and cooperation at local, regional and national levels, as well as between public and private organizations, are important elements in the e-Government development process. Nevertheless, collaboration and cooperation are not simple to realize. Governments often exhibit considerable resistance to open and transparent systems as they try to preserve their authority, power and hierarchical status. Citizens distrust their governments, especially where there has been a history of dictatorship, political instability or large-scale corruption. To ensure that the public and stakeholders will be partners in the e-Government effort, it is important to try to build trust in government. Collaboration between the private (assuming that there is a private sector) and public sectors is needed too, in order to provide resources, skills and capabilities that the government lacks. For example, the ICT private sector is able to support government with technical skills and infrastructure; meanwhile, universities will provide the required staff, learning and training courses for government staff and citizens, and other governmental departments and agencies can contribute in data and information flow and knowledge sharing for problem solving of similar tasks or processes and so on. A ‘new’ development model is emerging that focuses on partnership among stakeholders in the knowledge-based development program [34]. Example: The initiative of the State of Andhra Pradesh in India to computerize the 1,124 administrative units, called mandals, in order to realize online delivery of services, required strong coordination and collaboration between various departments. Different databases were handled and managed by different departments, one from the revenue department, one from the national informatics department, another from the social welfare department. These departments were geographically spread over an area of 275,000 sq. kms., but the timelessly delivery of services required the instant collaboration, communication and interaction between them [19].

6. Strategy

One of the main challenges for an e-Government project is the establishment of an appropriate and context tailored strategy. Every project or initiative needs to be rooted in a very careful, analytical and dynamic strategy. This seems to be a very difficult task, requiring a focus on many aspects and processes, a holistic vision, long-term focus and objectives. Many public institutions limit their activities to a simple transfer of their information and services online without taking into consideration the re-engineering process needed to grasp the full benefits. The government must have a clear strategy to overcome the barriers to change. Part of the strategy is to engage in a rigorous assessment of the current situation, the reality on the ground and the inventory of projects, articulate costs, impacts and benefits of program as well as continuously monitor and evaluate the project upgrading. Borrowing a lesson from the private sector, e-Government must be customer-driven and service oriented, meeting the needs of citizens and improving the quality of life. This means that a vision of e-Government implies providing greater access to information as well as better, more equal services and procedures for public and businesses. Even when e-Government projects seek to improve internal
government processes, the end goal should be making government serve citizens better. This means recognizing the diverse roles that citizens can play as partners, taxpayers, constituents, employers, employees, students, investors and lobbyists. Example: A critical point for the initiative of the government of Colombia to realize an e-Government portal was the definition of strategy and actions to be pursued. Initially the government created a specific unit to develop the strategy, objectives, and plan for actions and afterwards to assist and monitor the work progress. A ‘Connectivity Agenda’ was formulated which specifies the key objectives of the initiative, the strategic framework for subsequent actions, and different projects to undertake. The Agenda established an action framework that guided any plan in Colombia related to ICT development and electronic applications, thus allowing a rational and coordinated investment effort [22].

7. Leadership Role

The public sector presents unique challenges for leadership. Changing and hazy visions confuse expectations for reforms and leaders [23]. Leadership is one of the main driving forces of every new and innovative project or initiative. Since e-Government is a complex process, accompanied by high costs, risks and challenges, public organizations are generally resistant to the initiation of change. A leading player (organization, institution), which is able to understand the real costs and benefits of the project, to motivate, influence, include and support other organizations and institutions, is required. Leadership is necessary before, during and after project implementation. Before the project is initiated, leadership is needed in order to explain the concept, the model and create awareness; during the project, leadership is needed to manage change and support the project; and after the project, it is needed to pledge the required flexibility and adaptability of the initiative. Top leadership involvement and clear lines of accountability for making management improvements are critical to overcoming organizations’ natural resistance to change, marshalling the resources needed to improve management, and building and maintaining the organization wide commitment to new ways of doing government [35]. Example: Chile’s government procurement e-System initiative was seen as a technocratic solution. As a consequence, the pledge of strong political support and top leadership was a critical issue. The political support through exposure in the press outlining the benefits of the initiative in terms of transparency, efficiency and e-commerce capacity was sought as vital by organizing staff. Further leadership and support was provided by lobbying political parties, interest groups, private sector advocates and information technology companies [36].

8. Clarity in Objective Setting

Project approval and funding of projects through multiple departmental budgets lead to wide variations in the approach to project objective setting, without a clear focus on outcomes or on building sustainable services. The service needs of citizens/ businesses and those of other departments are often either overlooked or accorded lower priority in relation to internal needs. Very often, objective setting is purely in ICT terms such as computers, networks and so on which are specified in great detail, while government business process outcomes are either not defined or are defined in vague terms that do not lend themselves to measurement post implementation.

9. Independent Impact Assessment

In the current system, there is no requirement or institutional mechanism for an independent assessment of projects post-implementation to determine whether they have achieved the set objectives, except in purely financial terms. Further, very few projects have formal performance metrics defined at the start of the project to measure outcomes.

10. Localization

ICT solutions were mostly developed with an English Language interface. However, in India a vast majority of the citizens do not know English and use the local language. The fact is that India has 22 official languages; several hundred of dialects are spoken all over the country. Less than 5% of the population can speak English; for success of e-Governance, this reality needs to be reflected in the implementation strategy.

11. Cost

Cost is one of the most important prohibiting factor that comes in the path of e-governance implementation particularly in the developing countries like India where most of the people living below the poverty line. Elected officers and politician don‘t seem to be interested in implementing e-governance. Its return is not visible in the near future. In 2004, the United Kingdom and Singapore respectively spent 1 percent and 0.8 percent of their gross domestic product (GDP) on e-government. India is spending 3 percent of GDP [37].

12. Privacy and Security

There will be three basic levels of access exists for e-government stakeholders: no access to a Web service; limited access to a Web-service or full-access to a Web service, however when personal sensitive data exists the formation of the security access policy is a much more complex process with legal consideration [38]. With the implementation of e-government projects, effective measures must be taken to protect sensitive personal information. A lack of clear security standards and protocols can limit the development of projects that contain sensitive information such as income, medical history.

6. CONCLUSION

With the rapid explosion of internet technology in the world in the last few years there is need to think where we will be and want to be in the future. With the time grows new technology will come and develop at a rapid pace. The countries that are faster in adopting the technology have started reaping the benefits already. At the same time the government managers should quickly learn to use technology-fueled management tools for administrative efficiency and use them for a more value added service to the citizen. Despite the success of the project and the bright future, the e-governance initiative face several hindrances like delay in project implementation, spiraling cost, financial feasibility and financial sustainability along with technical bottlenecks and Integration with Government departments and states. Lack of education and trust add it to further difficulty. Some key points which should be follow for better implementation of e-Governance to make it success.

Start with an e-readiness assessment study which permits stakeholders to understand the current state of telecommunication networks infrastructure, legal and regulatory framework, current level of human resources and skills. Based on the outcomes of this assessment, it is possible
to produce strategies and action plans for building human resource capability, legislative frameworks, institutional infrastructures, technological infrastructures and accessibility for all in a tailored and effective way.

Raise awareness among public and private organizations - Organize workshops, events, seminars, conferences with the objective of raising awareness about real opportunities and benefits that the ICT revolution can bring. Prepare for long-term solutions to problems by ensuring the availability of appropriate training programs for future management of technological and business changes. Think small, be agile and fast - Begin with feasible pilot projects, tailored to specific contexts. Build up steadily the qualifications necessary for facing hindrances. Be prepared to make the required changes on the road. Agility and flexibility assure the success.

Stimulate collaboration and coordination among government departments and agencies to increase efficiency and effectively in process handling. Address challenges and opportunities in strong partnership with private organizations, major donors, research institutions and universities, and support cross fertilization of ideas, solutions and knowledge.

Invest in human development – the success of e-initiatives depends largely on human skills and capabilities. Accordingly, education and training initiatives must be considered as priority actions. Staff need to be trained to handle new processes and activities; they have to be given incentives (not necessarily monetary) to prevent the brain drain of skilled people; and they need to feel part of the organization by engaging in the decision making process. Some basic training needs necessary to be provided to community members, in general, in order for them to be able to use new facilities for accessing electronic information and services. Show sensitivity to local realities by assessing and evaluating different alternatives, ways and solutions for digital government development including mobile telephones, kiosks, and multi-channel access to services. Find viable solutions to ensure the effective participation of the community in the information economy.

Adopt a holistic and comprehensive approach, with clear vision and strategy to overcome the barriers and challenges for change. Integrate e-Government with other development strategies and policies to ensure a broad base diffusion. The active role of top leaders is crucial especially at the earliest stages, to raise awareness, make ICT development a national priority, build and maintain wide commitment and involvement at public and private levels. Prepare to manage knowledge and change - Establish knowledge management processes and tools to ensure storage, usage, easy retrieval of strategic information and knowledge for better and fast decision-making process, for further adaptation and development, for realizing the necessary improvements and always search for better and innovative value added services and solutions.

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