



International Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS)

(Open Access, Double Blind Peer-reviewed, Refereed and Indexed Journal)

www.iasir.net

DIGITAL TECHNOLOGY AND DYNAMIC GOVERNANCE

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Abstract: The concept of "Governance" is not new. It is as old as human civilization. Simply put "governance" means: the process of decision-making and the process by which decisions are implemented. Governance refers to how any organization, including a nation, is run. It includes all the processes, systems, and controls that are used as safeguard. Governance is the process – by which an authority is conferred on rulers, by which they make the rules, and by which those rules are enforced and modified. Good governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective & efficient, equitable & inclusive and follows the rule of law. It assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. Therefore India needs good governance to move forward progressively towards development and prosperity & also to minimize levels of corruption in all areas. New media technology can be used for good governance such as E-governance & Non E-governance which shall be instrumental in achieving good & quality governance. The full paper shall elaborate on the various new media vehicles available & suitable for a country like India...

I. INTRODUCTION

Technical advancement in India is at its peak. Imagine a paanwala having his website <http://www.paan.com>, which informs the visitor on the history of paan, types and varieties of paan. Not only that, the visitor also has the option of ordering the paan online. This in itself proves the Indian technical growth.

In early years, telephones, postal services, printed material and films were the most reliable sources of information. Today we are in the era of digital technology, where computer is the leading equipment to handle information. Information is considered as vital resources and needs to be distributed and disseminated among the people in order to increase the value of information.

II. TECHNOLOGIES FOR DYNAMIC GOVERNANCE

For e-governance to succeed in India 'e-readiness' must be built. This means strengthening infrastructural inadequacies, reducing the barriers to e-governance, and strengthening the drivers to E-Governance. The priority is therefore to build e-readiness in the seven key areas which are infrastructure, institutions, laws, leadership and commitment, human capacities, technology and data systems.

E-Government can enable anyone visiting a city website to communicate and interact with the city employees via the Internet with Graphical User Interfaces (GUI), Instant Messaging (IM), audio/video presentations and in any way more sophisticated than a simple email letter to the address provided at the site. So as to ensure the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees, the focus should be on:

- The use of Information and communication technologies, and particularly the Internet, as a tool to achieve better government.
- The use of information and communication technologies in all facets of the operations of a government organization.
- The continuous optimization of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media.

While e-Government has traditionally been understood as being centered on the operations of government, e-Governance is understood to extend the scope by including citizen engagement and participation in governance.

III. THE PRIMARY DELIVERY MODEL OF E-GOVERNANCE

Government-to-Citizen (G2C)

G2C will aim at connecting citizens to government by talking to citizens and supporting accountability, by listening to citizens and supporting democracy, and by improving public services. It will involve better services to the citizens through single point delivery mechanism and will involve areas like:

- E-Citizen: Under e-citizen integrated service centers should be created. The purpose of these centers will be to take over the various customer services in due course. It will offer services like issue of Certificates, Ration Cards, Passports, Payment of Bills and taxes etc. These centers will become one-stop Government Shops for delivery of all services.

- E-Transport: The transport aspects that can be easily e-governed include registration of motor vehicles, Issue of driving licenses, Issue of plying permissions (Permits), Tax and fee collection through Cash and Bank Challans and Control of Pollution.
- E-Medicine: It will involve linking of various hospitals in different parts of the country and provide better medical services to the citizen.
- E-Registration: E-Governing the registration and transfer of the properties and stamp duty to be paid thereon will bring substantial reduction of paper work and reduce the duplicating of entries. Further the transparency in work will increase and the overall time of process registration will reduce.

Government-to-Business (G2B)

Industry sectors – Government –to- Business shall include sectors such as primary farming, mining, secondary manufacturing, tertiary wholesale or distribution, quad retail, pent professional services and etc...

Within each of these interaction domains, four kinds of activities take place which are:

- Pushing information over the Internet, e.g.: regulatory services, general holidays, public hearing schedules, issue briefs, notifications, etc.
- Two-way communications between the agency and the citizen, a business, or another government agency. In this model, users can engage in dialogue with agencies and post problems, comments, or requests to the agency.
- Conducting transactions, e.g.: lodging tax returns, applying for services and grants.
- Governance, e.g.: online polling, voting, and campaigning.

IV. DIGITAL TECHNOLOGY – THE NEW MEDIA

Digital technology has revolutionized the world as never before. Rapid transformations have taken place in the global scenario. The contribution of Information and communication technology has been significant in terms of income and earnings, growth and employment generation. India too, has witnessed an unprecedented growth in the field of IT.

Digital technology is primarily used with new physical communications media, such as satellite and fiber optic transmission. A modem is used to convert the digital information in your computer to analog signals for your phone line and to convert analog phone signals to digital information for your computer. New media technology is any type of application meant to transfer information via digital techniques, computerized systems or data networks. First established in the 20th century, new media technology is most readily associated with information transfers meant to be manipulated in some way.

Most forms of this technology are interactive and contain compressed data designed to be accessed in a variety of markets. The most prevalent examples of new media technologies include Internet-based concepts like websites or digital mediums such as CD-ROMs and DVDs. Anything that is considered old media, such as television, film or paper-based products, are not part of new media.

The introduction of digital technologies has replaced all technology dependent on physical analog, which were dominant before the 1970s. Digital technology has now changed global literacy, communication and the cultural development in societies.

According to an 18-month study by the Science and Technology Council of the Academy of Motion Picture, Arts and Sciences, the reliability and storage of digital information goes beyond lost spreadsheets and snapshots. Some of such technologies are elaborated in the following section:

- Cameras
Digital cameras functions in the same way as traditional cameras but in a digital camera, images captured are stored in the digital memory located in a removable memory card. The total number of captured images that can be stored in this card depends on the quality, type of the image, capacity of memory and quality of the camera. This camera not only allows one to view captured images that have been stored in its memory but also to delete any unwanted images. Digital cameras also save data in such a way that it can be downloaded to a computer, a hard drive or even a portable storage device.
- Computers
Computers have evolved over the past few decades from the size of a room to laptop computers that can fit in a bag and can perform various tasks. The first digital computer was made in the late 1940s and it was able to process both numeric and symbolic values. Digital computers encode information and store it. They can encode symbols based on information being processed. Digital computers can also store information for longer periods compared with analog computers.
- Televisions
Digital television sets have been coded digitally. They are made in different shapes, sizes and designs that produce quality images and clear sound through high-resolution picture display. They offer multiple channel programming with the possibility of interactive video and data services. There are three types of digital television sets; Standard Definition (SDTV), Enhanced Definition (EDTV) and High Definition

(HDTV). Analog television sets can also be made digital through the use of a converter box. A converter box is an electronic device that converts analog signals to digital, thus making it possible for one to view digital signals on the analog television set.

- **Digital Printing Equipment**

Digital printing is a direct printing application where the image is produced in a computer and sent directly to an output device. The ink delivery process is specific to each digital press, which makes it produce products of a high quality. They have the ability to produce low quantities at a reasonable price.

One of the most important features of the digital age is the use of new communications technologies to build digital citizenships. Cultures could be a source of conflict that affect the use of new media to make powerful collaborations among online communities across societies, and within the same society, however, there are still altercation between digital citizens, groups and nations. New media could help citizens in many directions such as appreciating their diversities; solving their problems, sharing experiences and voicing out their salient issues without worries and shame.

However, new media of India use the Internet, and fixed and mobile broadband whose penetration levels are insignificant due mainly to cost, coverage over a very large continent that lacks population density outside of major cities, and unequal access and resources setting. Effective and efficient use of information technology like internet can help in assimilating information about variety, range and quality of products, publicity and marketing of products and services.

V. SUITABILITY OF DIGITAL TECHNOLOGY FOR GOVERNING INDIA

In line with the definition of e-Government, e-Governance can be defined as the use of Information and Communication Technology (ICT)s as a tool to achieve better governance. Information and communications technology or information and communication technology usually called ICT, is often used as an extended synonym for Information Technology (IT) but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), intelligent building management systems and audio-visual systems in modern information technology. ICT consists of all technical means used to handle information and aid communication, including computer and network hardware, communication middleware as well as necessary software. In other words, ICT consists of IT as well as telephony, broadcast media, all types of audio and video processing and transmission and network based control and monitoring functions. Essentially, the term e-Government or also known as Digital Government refers to 'How government utilized IT, ICT and other telecommunication technologies, to enhance the efficiency and effectiveness in the public sector.

E-governance is the use of ICTs to promote more efficient and effective government, facilitate more accessible government services, allowing greater public access to information, and making government more accountable to citizens. This would involve delivering services to the public via the Internet, telephone, public access centers, wireless devices or other communications and information systems.

ICT provide a great development opportunity by contributing to information dissemination, providing an array of communication capabilities, increasing access to technology and knowledge, among others. However, access to and the costs of ICT continue to be a major development obstacle, particularly in the developing world.

Today, the world is full of problems that are interdependent and multifaceted, which makes the search for solutions requires a new type of governance based on citizen's participation through ICT. The aim is to provide a clear understanding of how ICT in India could help address issues of conflict, peace and security, and new media discourse that addresses these topics and put forward societal development, and enhance environmental quality.

Development involves informing and motivating a "mass of people with a low rate of literacy and income, and the socio-economic attributes that go with it. ICT could be a path towards peace, security through embracing participatory governance principles on the one hand, and is implemented through user friendly harmonized, effective and efficient management tools and mechanisms on the other. The latter and more specifically those responsive to the populations needs in harmony with the environment, will allow governments to better channel development actions in order to obtain a positive and sustainable impact and address the challenges faced by India.

At the end, we believe that not taking a serious action for reform will maintain the actual political decision-making process in the hands of ascertained individuals, who use the complexity of information to engage in manipulating the information process. However, it is rational that the use of ICT and the tele-centres to change the nature of communications in India. As electronic and digital communication enables citizens to directly and instantaneously convey their wishes to their representatives and to each other, political interaction is bound to be influenced.

VI. FUTURE PROSPETS FOR DIGITAL TECHNOLOGY

Many interesting projects could be developed and implemented for India at local regional or country levels with the invention of newly technology in the coming years. E-governance can also be easily promoted, starting with the Internet for improving the communication between the government and its citizens with the web access.

VII. CHALLENGES WHILE IMPLEMENTING DIGITAL TECHNOLOGIES

Just as in many other areas of development (e.g., agriculture, health, and education), Many people face enormous challenges to use ICT for their own economic empowerment. Using and benefiting from ICT requires learning, training, affordable access to the technology, information relevant to the user and a great amount of support (to create enabling environments).

The challenges are many and they fall in a few of the following categories.

- **Funding:** Funding is the foremost issue in e-Governance initiatives. The projects that are part of the e-governance initiatives need to be funded either through the Government sector or through the private sector. For the private sector to step into the funding activity their commercial interests needs to be ensured. The projects can be built either on Built Own Operate (BOO) or Built Own Operate Transfer (BOOT) basis. Also the Government interest of Value Addition in services also needs to be taken care of while transferring the services to private sector. Advertising, sharing of Government information etc could be a few revenue generators for the Government.
- **Privacy:** The privacy of the citizen also needs to be ensured while addressing the issues. Whenever a citizen gets into any transaction with a Government agency, he/she shells out lot of personal information, which can be misused by the private sector. Thus, the citizen should be ensured that the information flow would pass through reliable channels and seamless network.
- **Authentication:** Secured ways of transactions for the Government services are another issue of concern. The identity of citizens requesting services needs to be verified before they access or use the services. Here digital signature will play an important role in delivery of such services. But the infrastructure needed to support them is very expensive and requires constant maintenance. Hence a pertinent need still survives, compelling the authorities to ensure the authenticity in their transactions thereby gaining absolute trust and confidence of the citizen.
- **Infrastructure:** Infrastructure is limited in most developing countries and costs are exceedingly high. Whatever little infrastructure is available, it is concentrated in the larger urban areas and services provided are only affordable to a few. Bandwidth costs as well as transmission costs incurred by Internet Service Providers (ISP) are high and passed on to users. In rural areas, infrastructure is almost non-existing and services are generally too expensive to poor populations.
- **Interoperability:** A major design issue for integrated service delivery sites is, how to capture data in a Web-based form and transfer it to an agency's systems for processing and sharing that information in a common format. Further how the various islands of automation will be brought together and built into one is another key issue of e-Governance.
- **Delivery of services:** The ability of citizens to access these services is another major issue. Since the penetration of PCs and Internet is very low in the country, some framework needs to be worked out for delivery of the e-Services that would be accessible to the poorest of the poor. What will be the Government's network to deliver those services? Could we have something like a single stop shop of the Government? A proposed mechanism is delivery of the same through the Government Post Offices, for they already have the brick and mortar support and the most extensive network in the nation.
- **Standardization:** Defining the standards for the various Government services is another issue that needs to be addressed. The standards need to be worked out not only for the technologies involved but also for issues like naming of websites to creating E-Mail addresses.
- **Technology Issues:** A Commendable initiatives is needed to develop hardware and software platforms to address the challenges offered by e-Governance. The e-Governance initiative would have to address these Technology Issues/Objectives by identifying the appropriate hardware platforms and software application packages for cost-effective delivery of public services. This knowledge repository should be widely available through appropriate Demo-Mechanisms. Offering a basket of these models to the State departments, both in the Center and the State, could be suitably customized as per location and work specific requirements.
- **Use of local languages:** The access of information must be permitted in the language most comfortable to the public user, generally the local language. There do already exist technologies such as GIST and language software by which transliteration from English into other languages can be made.

VIII. CONCLUSION

Developing nations like India has to be competitive enough and transform in to a developed nation. The environmental factors have become very dynamic and turbulent at times, wading through which is a challenge

especially for developing and least developed nations. Technological advancement made by India, as well as that available from the rest of the world could be best utilized in driving the country based on a systematic approach. This could be achieved by adopting the best and most apt technologies to provide a certain solution or to perform a certain task. These technologies therefore enable a better and a dynamic governance.

ACKNOWLEDGEMENT

I thank the contribution of all authors, scientists and writers of all the published books, journals, research papers which was a base to this paper. I also than all those who have published their content on the websites which has also supported my study. Last but not the least I thank my institution and the academic mentors who have facilitated my study at various points and means.

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