Significance of Digital Literacy in E-Governance

Dr. Anil Rajput* & K. Mani Kandhan Nair**

*Professor, Chandra Shekhar Azad Government PG Nodal College, Sehore, Madhya Pradesh, INDIA. E-Mail: dranilrajp@hotmail.com
**Assistant Professor, Makhanlal Chaturvedi National University of Journalism & Communication, Bhopal, Madhya Pradesh, INDIA. E-Mail: maninair2007@gmail.com

Abstract—The implementation and success of E-Governance depended on Digital Literacy. E-Governance & Digital Literacy is related closely with each other. To use the E-Technologies of E-Governance, Digital Literacy is imminent. Projects like E-District should be started for the Digital Literacy campaign. E-District Project is the prime Mission Mode Project of Govt. of India by Ministry of Comm. & IT under NEGP. This project was initialised to give various services offered by the State Government through E-Governance Programme, which may be extended for E-Training also benefiting the common man. Madhya Pradesh also introduced various schemes like Gyandoot project, Gramsamprk, MP Online etc. Significance of Digital Literacy in E-Governance and various issues related to E-Governance are discussed. To make the people Digital Literate, the citizens should make aware of the benefits of Digital Literacy and how Digital Literacy helps. They must be taught how can they contact and understand the working of Government without depending on the middlemen or agencies. The facilities like advantage of real time, online working etc. must be explained them well. While explaining the project, they must be made aware of how they can involve the projects of Government directly.

Keywords—Computer Literacy; Digital Divide; Digital Literacy; E-Governance; Literacy Rate.

Abbreviations—Digital Technologies (DT); Information and Communication Technology (ICT); Information Technology (IT); Mission Mode Project (MMP); National E Governance Programme (NEGP).

I. INTRODUCTION

INFORMATION and Communication Technologies (ICTs) including telephony, computing and broadcasting, can contribute to sustainable human development and poverty eradication through making social communication easier and more affordable and by enabling speedy and secure economic transactions. ICTs are powerful as accelerator, driver, multiplier and innovator, in the 21st century. ICTs in the context of governance may also play a critical role in speeding up the flows of information and knowledge between government, citizens and business. Governments in many parts of the world have made huge ICT investments aimed at improving governance processes.

E-Governance is regarded as the application of ICT to governance processes and decision-making, in ways that provide opportunities for citizens and communities to regularly receive information about government activities. E-governance will increase the efficiency of government operations between government institutions, strengthen democracy through citizen participation in decision-making, enhancing transparency by publishing government information, and through direct interaction will provide better services to citizens and businesses.

The use and implementation of Information Technology (IT) and Digital Technologies (DT) has improved people’s day-to-day in all over the world. The Communication Technology also had a great influence on the socio-economic factors and geographic factors and living styles of the people across the world. India has been one of the emerging super powers in IT. The country has achieved impressive progress in the field of science and technology and proved as one of the fast developing country in the world. Various technologies have brought significant changes in the development of the Indian Society. The social life of Indians improved in all walks of life like living conditions, transportation, Science & Technology, Information & Communication Technologies, their level of education etc. The government of India has declared IT as one of the thrust areas for the country’s development and has recognised it as an “essential service.”

II. E-GOVERNANCE

It is become common that ‘E’ is added as a prefix in many terms in the 21st century like eCommerce, eServices, eGovernment, eVoting, eVillages, eLearning, etc. In all these ‘E’, we find many similarities and it denotes Digital or
Digitalisation. One common factor among these ‘E’ are, they all contain the digital environments to execute or perform the task. Hence, the implementation and promotion of all ‘E’ events are, through digital environments only.

E-Governance is defined in different ways by many experts. Though the words varies from each other, the contents same like; “E-Governance is a process which function automatically and provide interaction with the Government and Citizen through Information Communication Technology (ICT)”.

For this the citizens of that Government should be Digital Literate irrespective of the knowledge and education background they posses.

E-Governance through Digital Literacy enables good governance, smooth administration, the development of individual and Nation, to empower the awareness and welfare of Citizens and finally to prove the efficiency and transparency of the Government. Even though ICT is the backbone of the E-Governance, the Digital Literacy is required to use the ICT tools. The successful use of any ICT tool and the implementation of E-Governance is basically depended on the Digital Literate people. Hence, ICT and E-governance is the use of information technology to support government operations, engage citizens, and provide government services comprising the E-Services, E-Democracy, E-Administration, E-Commerce etc. which reflect the functions of government to the general public.

Through E-Governance, flow and integration of information can be improved, maintained to achieve better governance.

To make the people Digital Literate or to increase the percentage of Digital Literate, the citizens should make aware of that why Digital Literacy is required. They should be made aware of the benefits of Digital Literacy. How Digital Literacy is going to help in the E-Governance should be explained to them. They must be taught how they can contact and understand the working of Government without depending on the middlemen or agencies. The facilities like advantage of real time, online working etc. must be explained them well. While explaining the project, they must be made aware of how they can involve the projects of Government directly.

The goal of E-Government will be greater citizen participation. Through the internet, implementation of Information Technology, and using various Information Communication Technologies, people from all over the country can interact with politicians or public servants and make their voices heard. A government to operate effectively or for an E-Government, the infrastructure of E-Governance is required to establish a government-citizen-government relationship [Vineet Agrawal et al., 2012]. This will establish the flow of information between the government and citizens of a nation through the implementation of E-Governance.

When the citizens become informative about the activities of Government, the citizens can enjoy faster, effective and timely government services. This will help to sprout up the culture of self-service wherein citizens can help themselves wherever and whenever required in a intelligent or meaningful manner. This will lead the government to take decision on policy matters only in the benefit of the citizen but also in favour of the government itself. Hence the government could utilise its resources where they are needed the most.

Increased contact improves the flow of information between government and its citizens both ways. Once E-Government begins to develop and become more sophisticated, citizens may be forced to interact electronically with the government on a larger scale. Use of paper documents should be reduced which also saves the environment. E-Government allows citizens to interact with computers to achieve objectives at any time and any location, and eliminates the necessity for physical travel to government agents sitting behind desks and windows. Improved accounting and record keeping can be noted through computerization, and information and forms can be easily accessed, equaling quicker processing time. On the administrative side, access to find or retrieve files and linked information can now be stored in databases instead of hardcopies stored in various locations [Pathak et al., 2007]. By all means the E-Governance will be very much useful not only to any individual, but to the whole nation for the betterment of citizen and development of nation.

### III. Literacy in India

Digital Literacy plays a vital role in the mediation or bridging of common people and E-Government together. The ICT mediate as a tool to achieve better governance between these two. The technologies bridge each other and help to create a more transparent government. If required, it can be used for an opinion poll in implementing new policies, allowing voters to immediately evaluating their representation in the policy making, administerial decisions and ultimately the E-Governance. The transparency of Government will give direct involvement of the public to make decisions and hold elected officials or public servants accountable for their actions through E-Governance. The public could become a direct and prominent influence in government legislature if E-Governance is used appropriately. The Government can move towards a true democracy with the application of E-Government like Election, Opinion poll etc. E-Governance inevitably also embraces new models like policy formulation, new forms of citizenship, new patterns of relationship and power, new options for economic development etc.

Table-1 shows the Literacy Rate of India and other countries along with World Average.

<table>
<thead>
<tr>
<th>Country</th>
<th>Adult Literacy Rate</th>
<th>Youth Literacy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>95.9% (2009)</td>
<td>99.4% (2009)</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>90.8 (2007)</td>
<td>98.0%</td>
</tr>
<tr>
<td>Burma</td>
<td>89.9% (2007)</td>
<td>94.4% (2004)</td>
</tr>
<tr>
<td>Iran</td>
<td>82.4% (2007)</td>
<td>95% (2002)</td>
</tr>
<tr>
<td>World Average</td>
<td>84% (1998)</td>
<td>88% (2001)</td>
</tr>
<tr>
<td>India</td>
<td>74.04% (2011)</td>
<td>82% (2001)</td>
</tr>
<tr>
<td>Nepal</td>
<td>56.5 (2007)</td>
<td>62.7%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>62.2 (2007)</td>
<td>83.9% (2010)</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>53.5 (2007)</td>
<td>74%</td>
</tr>
</tbody>
</table>
Literacy in India is a key for socio-economic progress, and the Indian literacy rate grew to 75.06% in 2011 from 12% at the end of British rule in 1947. The Wikipedia says “Although this was a greater than six fold improvement, the level is well below the world average literacy rate of 84%, and India currently has the largest illiterate population of any nation on earth.” The 2011 census, however, indicated a 2001-2011 decadal literacy growth of 9.2%, which is the slower than the growth seen during the previous decade [Rediff, 2007].

India’s literacy rate is around 75%; in this male literacy rate is 82% and female literacy rate is considerably very less [www.unfpa.org/swp/2009/en/pdf/EN_SO WP09_ICPD.pdf]. Rural development is a high national priority and central and state governments and NGOs are supporting many schemes that integrate education, training for employment or self employment, health and family welfare, agriculture and allied activities, women and child development etc.

IV. DIGITAL LITERACY & COMPUTER LITERACY

The definition of “Computer Literacy” also varies from group to group. A literate is one who can read any arbitrary book in their native language [s]. Similarly, a computer literate may consider the ability to use and meet the requirements of the Computer Programs. Hence, Computer Literacy is defined as a knowledge and ability to use computers and related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving. “Digital Literacy” is defined simply as the awareness, skills, understandings etc. to operate comfortably in Information Technology (IT) enabled environments. A person who wants to be a Digital Literate, must be able or prepare to face the above IT environments. Here it doesn’t mean the awareness of computer or computer literacy, but the knowledge of handling any instrument or media to access the information he wanted for him or others.

The people who want to gain the Digital Literacy may be a literate or illiterate person, irrespective of his age, sex or status factor. Only thing is, a literate person may learn to access the IT environment easily in comparison with an illiterate. But basically both literate and illiterate are deprived of the Digital Literacy.

Digital Literacy is considered to be a very important skill to use the E-technologies used for E-Governance. Another valuable component of computer literacy is, knowing how computers work and operate. Having basic computer skills is a significant asset in the developed countries. Digital Literacy is the backbone of E-Governance. Here the literate and the illiterate have the same significance for enabling the Information Technology. There must be enough ICT projects at State and Centre level spread Digital Literacy among the common. Even though various governments are trying to increase the Digital Literacy rate, it could not get the expected result through these projects. Because, it is not reaching to the right person or improper handling and misusing the projects.

To increase and make the people Digital Literate, at least the following steps are very much necessary.

- The citizens should make aware of that why Digital Literacy is required and its benefits.
- They should know how they are benefited with Digital Literacy.
- How Digital Literacy is going to help in E-Governance.
- How can they contact and understand the working of Government without depending on the middlemen or agencies.
- They should be aware of the advantage of real time, online facilities etc.

The implementation of any project for Digital Literacy must be from the grass root level. To reach the grass root level, the beginning should be from rural areas. For this, there must be computer centres at rural areas like E-District in Madhya Pradesh, Akshaya in Kerala etc. These centres can, not only bring computer facilities to rural areas, but also helps to provide e-education and training to the rural citizens, until they are able to use these facilities by themselves. These centres have to have train at least one person from every family in the rural area. The local bodies of that area may be taken the responsibilities of the funding for training. Various organisations may be involved in the implementation process, depending on local needs by these local bodies. The Digital Literate and trained persons may be employed to convert all records of village level or panchayat level government records to digital data. Many employment projects like MPNREGA etc., will certainly be useful to the Government, as well as the general people. Thus the opportunity of employment also opened to the citizens. This will encourage the people to spread the Digital Literacy program and will motivate others to become Digital Literate.

The computer centers described in the above paragraphs are not only a centre of e-education and access to the internet but also act as an instrument in rural empowerment and economic development. They also support in the development of e-governance in the state, as they have been met with a transfer of state services online. It means that these centres act a media of Information Communication Technology (ICT) centre and also act like training centre for accessing Information Technologies. These two actions taken together mean that villagers need not to reach distant government offices to get relevant records, papers, information etc. It not only saves their time by not going to the distant government offices, but also saves their money spends for transportation as well as losing a day’s wage. This is the first stage of implementation of E-Government and the use of E-Governance. Through E-Governance and DIGITAL Literacy, the chances of corruption also reduce, which is another curse of the Nation. Apart from all, This Digital Literacy renders the Government more transparent and effective through E-Governance.
Another valuable component of computer literacy is, knowing how computers work and operate. Having basic computer skills is a significant asset in the developed countries [http://en.wikipedia.org/wiki/Developed_country]. Personal Computers are no more a luxury item. It becomes common and considered as an ‘essential’ house-hold electronic gadget for daily life. The reduction in the cost and the increase in income level have enhanced the option of purchasing of computer by all class of people. Slowly the fear and approach toward the computer is diminishing and the use of computer is increasing by all age group of people day by day. This also encourages computer literacy and Digital Literacy in common man.

Since illiterate people represent a large part population, disconcerting that a high proportion of older people in India do not use the Internet and therefore lack Digital Literacy skills. It would seem that there are a number of different reasons for this: lack of motivation, not interested in learning new skills, having a fear of technology, not having access to IT, not being able to afford going online, lacking infrastructure etc.

A Digital Literate person supports a government to operate effectively or for an E-Government, the infrastructure of E-Governance is required to establish a government-citizen-government relationship [Vineet Agrawal et al., 2012]. This will establish the flow of information between the government and citizens of a nation through the implementation of E-Governance. When the citizens become informative about the activities of Government, the citizens can enjoy faster, effective and timely government services. This will help to sprout up the culture of self-service wherein citizens can help themselves wherever and whenever required in a intelligent or meaningful manner. This will lead the government to take decision on policy matters only in the benefit of the citizen but also in favour of the government itself. Hence the government could focus its resources where they are needed the most.

Similarly, a Digital Literate person through e-Governance prevents or discourages corruption due to the direct involvement of citizen in the Government activities. Government Web sites provide customers with access to government information, allow transactions, and provide links to other relevant agencies. In this process the middle men who demand bribe has no chance due to the transperancy of the government, e-governance and online system. Increased contact improves the flow of information between government and its citizens both ways. Once E-Government begins to develop and become more sophisticated, citizens may be forced to interact electronically with the government on a larger scale. Use of paper documents should be reduced which also saves the environment.

Through E-Governance and Digital Literacy, the chances of corruption also reduce, which is another curse of the Nation. Apart from all, This Digital Literacy renders the Government more transparent and effective through E-Governance. Many employment projects like MPNREGA etc. will certainly be useful to the Government, as well as the general people. Thus the opportunity of employment also opened to the citizens. This will encourage the people to spread the Digital Literacy program and will motivate others to become Digital Literate.

V. Digital Literacy & Its Barriers

There are many barriers in Digital Literacy also. Implementation of Literacy, particularly the Digital Literacy, it is very difficult to train the people. It is a big task to Digital Literate the educated as well as uneducated. Both the literate as well as illiterates are equally afraid or avoid learning this technology due to the technical involvement. Literate as well as illiterate people are reluctant to learn anything new. They simply don’t want to learn anything. According to a brief study conducted with the literate and illiterate consisting different age group revealed that either they are not interested or they feel that it is irrelevant to them.

Many old people, even educated are not interested in Digital Literacy because they feel that they are too old to learn any new things. Hence, “Feeling too old” was also seen to be more of a barrier in the implementation of Digital Literacy. Being a citizen and active part in E-Governance, they should be made aware of the use of E-Governance and Digital Literacy.

Fear is one of the major barriers in the Digital Learning process. The fear of an illiterate can be reasonable. But even the literate persons, even the highly literate people are afraid of using the computer. Educated as well as uneducated are not able to acquaintance with computer, because they simply feared of new technology. Some of them worry that they will break the computer by pressing the wrong button. In fact, the anxiety is turned to fear and this prevents them becoming an Digital Literate. However, the young generation shows interest in the use of a computer.

Many people simply do not know the advantages of Digital Literacy and e-Governance. They, therefore, need to be better informed. One way of doing this might be to implement a targeted marketing campaign by the Government. Strategy should be made to provide information and activities relevant to the Digital Literacy programme [Neena Singh, 2007]. The Government sector should initialise with this strategy. First the government has to implement this type of schemes within the government department and slowly compel the common people to become Digital Literate.

One of the main reasons for the failure of Digital Literacy is the non-availability of Computer and proper infrastructure to the common man. Even if both are made available, the Electricity problem in rural area was persisting. Government should take some initiative to solve this problem. Use of unused or old computer at various Government Departments or NGOs may be used to train Digital Literacy. These computers may be used as a Terminal in a Network System. Or the same may be updated re-cycled [Josienita Borlongan] at a cheaper cost to meet the requirements. To make the people Digital Literate, this old or
VI. **Digital Literacy & Digital Divide**

The digital divide is one major cause of the failure of the E-Governance in India. The digital divide refers to the gap between people who possess regular access to technology, (such as computers and their related functions like ability to get on the Internet), and those who do not have this access [Tricia Ellis-Christensen, 2013]. The digital divide also exists between the educated and the uneducated, between economic classes, and, globally, between the more and less industrially developed nations [Margaret Rouse, 2005].

Digital Literacy reduces the digital divide within the members of a society. When the members of a society become Digital Literate, it automatically upgrade their living conditions and the status of living. It leads the government to introduce more features or facilities of E-governance which will again favour the growth and updation of Society. Because, when the use of ICT is enhanced, the access and delivery of government services to benefit by the citizens of the Society. Naturally, the level of awareness also increased the individuals of that Society [Emmanuel C. Lallana & Margaret N. Uly, 2003]. E-governance not only promises more efficient and effective government to a society but it will be more responsible to the society due to the transparency they have adopted.

E-Governance project failed in India because of lack of proper IT education. More than 60% people live in rural areas who do not have Digital Literacy, and they cannot understand and operate E-Governance system.

VII. **Digital Literacy & ICT**

Digital Literacy through ICT reduces the digital divide within the members of that group or community. When people become Digital Literate they automatically upgrade their living conditions and the status of living. Among the Digital Literate people, government can introduce more features or facilities of E-Governance which will again favour the growth and updation of user. Because, when the use of ICT is enhanced, the access and delivery of government services to benefit by the citizens. Naturally, the level of awareness also increased the individuals of that Society [Pant, 2008]. E-governance not only promises more efficient and effective government to a society but it will be more responsible to the society due to the transparency they have adopted.

To make the people Digital Literate or to increase the Digital Literate percentage, the citizens should make aware of that why Digital Literacy is required. They should be made aware of the benefits of Digital Literacy. How Digital Literacy is going to help in the E-Governance should be explained to them. They must be taught how can they contact and understand the working of Government without depending on the middlemen or agencies. The facilities like advantage of real time, online working etc. must be explained them well. While explaining the project, they must be made aware of how they can involve the projects of Government directly.

VIII. **Digital Literacy & E-Government**

The Governments realised their needs to focus and initiated the efforts to reduce the cost of operating government information system and there by updating the data process. States like Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Madhya Pradesh, Gujarat, Rajasthan and West Bengal are playing a significant role in introducing IT for social and economic development. The increase in the tele-density will certainly bring the people informed about the activities of the Government. The basic requirement for reducing the digital divide is to give priority to the development of the telecommunication and IT infrastructure. This will provide universal and affordable access to information to people in all geographical areas including the rural areas. The IT infrastructure will not only improve the Digital Literacy and skills to use the information communication technology, but also provide the information about the government and its policies through the E-Governance.

The growing population of India, the nature of multicultural, multi-language and multi-religion makes the country complex to improve socio-economic conditions. The system prevailing India like insufficient funds, and delay in the implementation of government policies and programmes etc. become the hindrance for the development in the society and nation. The government has initiated many encouraging steps to improve the lives of common people by introducing and implementing several IT–oriented Central-State Government projects. The advancement in the IT industry and its impact on Digital Learned society will bring significant social changes. Slowly, the reluctance in Digital Learning will change if all the communication between Government and the Citizen is made through various modes of e-communication. Many State Governments in India has started implementing this method for E-Governance. Hence, these governments are giving priority to boost Literacy in general and Digital Literacy in particular.

Apart from the above benefits, the following are also considered as the benefits of E-Governance through Digital Literacy.

- E-participation of citizen empowers to gather information and to get involved in the process of decision making.
- In E-Governance, IT and ICT are being recognized as an effective tool for digital economy.
- Use of E-Governance will help people to access information at any time from any where.
• Its goal is to identify and improve the strategies & services of Government which can reduce the costs ease administrative processes.

• Effective use of IT and ICT services in Government administration to reach the citizen easily and quickly. (G2C)

• Online work checks the unwanted traffic or movement of people from one place to another.

• To cut down communication costs rapidly.

• It ensures transparency in functioning of Government Departments.

• Since the information all activities of government are transparent and easily available to people, it would make the government more responsible towards the people.

• IT helps the Government to remove Red-Tapism and Avoids corruption.

A Successful implementation of E-Governance by any Government offers better management and delivery of services to its people, improved interactions everybody and give empowerment to them through the facilitation of access to information.

IX. Conclusion

Main reason for failure of E-Governance is lack of education among people. A variety of reasons exist for the failure of projects include lack of Proper IT Education, e-awareness, Time Frame, Training and support after the completion of the automation, No proper vigilance on the phase wise developments by the competent authorities. Indian Politics, lack of interest in taking training by the Government employees also a major reason for the failure of E-Governance project in India.

Madhya Pradesh also introduced various schemes and policies supporting E-Governance in the State from time to time. The Gyandoot project, Gramsampark, MP Online are some them. This paper gives light to the significance of Digital Literacy in E-Government and also discusses various issues related to E-Governance.

Projects like E-District should be started for the Digital Literacy campaign. As described earlier, E-District Project is the prime Mission Mode Project (MMP) of Govt. of India by Ministry of Comm. & IT under NEGP (National E Governance Programme). This project was initialised to give various services offered by the State Government through E-Governance Programme. The same may extended to given training to the people to make them E-literate. These centres can, not only bring computer facilities to rural areas, but also helps to provide e-education and training to the rural citizens, until they are able to use these facilities by themselves. These centres have to have train at least one person from every family in the rural area. The local bodies of that area may be taken the responsibilities of the funding for training. Various organisations may be involved in the implementation process, depending on local needs by these local bodies. The Digital Literate and trained persons may be employed to convert all records of village level or panchayat level government records to digital data. Many employment projects like MPNREGA etc. will certainly be useful to the Government, as well as the general people. Thus the opportunity of employment also opened to the citizens. This will encourage the people to spread the Digital Literacy program and will motivate others to become Digital Literate.

Similarly, the old and unused computers lying at various places like Government and Semi-Government organisation may be used for primary or initial education of computer with or without internet for Computer Literacy and Digital Literacy.

References


Dr. Anil Rajput has been a professor at Govt. PG College, Sehore, Barkatullah University, Bhopal, India since 2012. He is Editor/ co-Editor of three reputed journal. His contributions to organize various conferences/ seminars/ workshops. Professor Rajput has also made significant contributions to the research areas of Fixed Point Theory, Classification Learning and Pattern Discovery. He has published over 125 research papers. Twenty five research scholars have been awarded PhD degree under his guidance. His papers have received hundreds of citations.