

## Effective Implementation of E-Governance in Technical Institutions in India using ICT to Make them World Class

Jatinder Garg<sup>1</sup>, Sonu Bala Garg<sup>2</sup> and Navdeep Choudhary<sup>3</sup>

<sup>1</sup>Associate Professor, <sup>2&3</sup>Assistant Professor,

Baba Hira Singh Bhattal Institute of Engineering & Technology,

Lehragaga, Punjab (India)

**Abstract:** *E-governance or electronic governance is the delivery of government services and information to the public using electronic means for efficient, speedy and transparent process. Technical education as a sector has remained relatively untouched by e-governance. This is most distressing, considering that technical & vocational education is the cornerstone of our efforts to build up the technical manpower for rapid industrial & economic growth of the nation. E-governance can facilitate in improving transparency, providing speedy information, dissemination, improving administrative efficiency and public services in all the aspects of technical education & its effective implementation can act as one of the key ICT initiatives to help India become a provider of world-class technical education. The paper in hand discusses various aspects of implementation of E-governance in Technical & vocational education institutes in India,*

**Keywords:** *E-governance, technical institutes, integrated institute management expert systems*

### Introduction

E-Governance [1] or electronic governance is the use of information and communication technologies (ICT) to carry out government operations

such as delivering government information and services. E-government is generally recognized as a means of making government more efficient while allowing it to be more responsive to customer needs [2]. It involves improving government processes by cutting costs, by managing performance, by making strategic connections within government, and by creating empowerment. It requires networking all Government offices so as to produce synergy among them. It also involves application of electronic means in monitoring the performance of various scheme started by government from time to time. It is a technology-mediated process and aims to bring about fundamental transformation in society by making system more accountable, efficient, effective and responsive. It also helps the interaction between the government - citizens and government-business in a fast & effective manner. E-governance function is to simplifying processes of the government internal government operations to simplify and improve democratic, government & business aspects of governance. Social and economic progress of any country hinges largely on its people having access to the vast area of knowledge gained through modern channels of learning, it is important to ensure that education sector keeps up with the times, in other words, it is evolving. However education sector of our country, particularly technical education sector, is often accused of being overly regulated and under governed. With science and technology evolving at such a rapid rate, the conventional classroom education we offer can hardly be described as sufficient. [3]

### **E-Governance in Technical Education**

India has one of the largest higher education systems in the world [4]. Despite having the largest higher education system, the quality of education, in general, cannot be claimed to be the best. Technical Education in India has seen massive growth in recent years with a large increase in total number of institutes imparting technical education. On one hand, this growth promises to produce more technically skilled youth to fulfill needs of ever growing Indian industry and on the other hand it poses a huge challenge for the governing bodies like UGC, AICTE, NCVT and state technical education

boards to maintain & improve the quality of education being imparted through these new & existing technical institutes. But as has been reported by NASSCOM in its 2004 report, out of 3 million graduates and post-graduates added to the workforce in India every year only 25% of technical and 10-15% of non-technical graduates are employable by growing IT and ITES sector [5], points to is a very serious situation. This lack of knowledge, qualities & skills desired by the employers, from the youth, may lead to the problems like unemployment/underemployment, which intern will lead to their discontentment & hence their resentment that will be reflected in terms of an increase in crime and other antisocial activities.

As it stands today, our education system is chaotic, to say the least. It is characterised by substandard technical institution lagging good infrastructure and qualified teachers, teacher truancy, obsolete syllabi, inadequate infrastructure, unemployable graduates and a lot more other problems. The scenario has been further worsened due lack of some effective & real time monitoring mechanism & widespread corruption prevalent in Govt. regulatory bodies that help such substandard institute to start & remain functional without bothering to maintain any quality at all. Mushrooming of a large number of unrecognized & substandard fake technical universities/institutions distribution fake technical certificates, diplomas, degrees & PhDs, *fraudulently, without being caught, is also another outcome of such a chaotic system.*

If the quality of output from our technical education system has to be improved to make these institutes really word class, then there is no alternative to the introduction of e-governance in this sphere at the fastest possible pace. Implementation of e-governance in technical institutes will enable their effective & real time monitoring by Government/the regulatory bodied & other stakeholders their own managements, parents of the students & the society, thereby forcing them to maintain quality & become more responsible. E-governance process brings transparency in the system, so e-governance initiatives in the field of higher education will help reduce the corruption up to a large extent [6]

## **E-Governance Implantation Strategy for Technical Education**

In technical education sector E-Governance is needed to be implemented broadly at following two levels

1. Central/National Level.
2. Institute Level.

### **1. Central/National Level**

This type of E-Governance initiative will have to be taken up by the Centre/ State Governments at their level. Govt. Departments/Agencies like MHRD, AICTE, State Technical Education Directorates Etc. who are responsible for planning & implementing Govt. policies in technical education, regulating the institute imparting technical education & ensuring quality in technical education, will have to come up with some ICT backed integrated software system to which all the technical institution will be connected in real time. This type of system will work as a central database to which all the stake holder of technical education like Government/Govt. bodies, Boards/ Universities, the technical institutes, the industry/corporate bodies, faculty & staff members, parents of the students & the students themselves, will have selective access. Some of the important issues need to be addresses during implementation of E-Governance at this level are:

- The participation of each and every institution imparting technical education will have to be made mandatory.
- The participating institutes & other stake holder will have to continuously contribute to this database so as to keep this database up-to-date & correct in all respects in real time.
- All the stake holders will have to contribute to the central database honestly & willingly. It will be the duty of government to insure its strict compliance in body and spirit & to punish the defaulters, if any.
- This software system will have to be backed up by a strong ICT backbone & will have to be made secure from cyber attackers & hackers.

In addition to the development of an integrated software system & a central data base of information, the other tools using which the Govt. can promote E-Governance in technical & education includes the promotion of EDUSAT programs, launching of dedicated TV channels, developing open

resource e-libraries, e-admission, e-counseling, virtual class rooms & even setting up of virtual institutions in remote areas.

## **2. Institute Level.**

In addition to Govt. initiative on E-Governance & its implementation on central level, the individual institutes or group of institution under the same/similar management can start their own e-governance initiatives at their own level. These initiatives have already being undertaken by some of the good private institution in the country. These type of initiates mostly have been undertaken in the form of Integrated Institute Management Expert Systems (IIMES) & have been applied with varying degree of integration of various aspects of functioning of a technical institute.

Such an integrated institute level e-governance system deployed will have to go beyond mere computerization of records or processes & should eventually lead to a paper free system in which each and every information will be available to all the stakeholders in a fraction of seconds that too without the wastage of time and energy. Add-on features such as online testing tools can help appraise the performance level of students and that of teachers. It can even send SMS or e-mail message to parents if their children are absent from the college, enhancing parents' involvement in their children's activities.

These integrated institute management expert system will have to be linked to the central e-governance in which case the possibilities are endless. Efforts will have to be made by the government to develop such Integrated Institute Management Expert Systems at its own level & promote their implementation in all the Govt./private technical institutes at a subsidized rates, in a step wise manner. All such systems may further be integrated at the national level to achieve a fully integrated country wide technical education expert system, in the near future.

### **Generalised Work Plan for Establishing an Effective E-Governance System in a Technical Institute**

The success of any e-governance system in any organization will depend upon how well it has been planned, developed and implemented. Therefore to achieve maximum output & to get better results an, E-governance system

for a technical institute must also be planned, implemented & operated in a systematic & planned manner. Given below are some of the steps that must be followed for establishing an effective E-governance system in an existing technical institute:-

**1. Management Commitment:** Commitment of the management of the institute, whether it is a Govt. run or a private institute, is the foremost requirement for establishing any E-governance program in it. The amount of total budget to be allocated & the level of integration of various functions to be achieved will have to be decided by the management before starting any such initiative. The decisions like whether to use some readymade software or to develop tailor made software in house for this purpose, will have to be taken by the management at this stage only.

**2. Formation of core committee:** Formation of a core committee for implementing E-governances will be the second most important step. This core committee should have representatives from each & every department that is supposed to be integrated under the E-governance program.

**3. Creating the awareness & environment for change:** For its effective implementation, the awareness about e-governance program will have to be created among all the stake holders like student, faculty & staff members, in advance. It can be achieved by organizing meetings, seminars, development programs and by distributing publicity materials like awareness booklets & pamphlets etc.

**4. Planning Phase:** Exhaustive planning will have to be carried out by the core committee about the areas of functioning of the institute that are to be brought under the umbrella of E-governances. Every minute details of the function that has to be brought under E-governances is required to be studied to develop a system which is foolproof & effective. Representatives of various stake holders should also be invited participate in these decisions during the planning phase.

**5. Development Phase:** Planning should be followed by development. Development is especially important only if the E-Governance system/ software has to be developed in home. While developing such systems/

software care should be taken to make sure that the developed system should be able to be integrated with the national/ central framework, in future. Training of various stake holders can also be undertaken during this phase itself.

**6. Implementation Phase:** This phase will involve the implementation/ installation of both the hardware & software needed for the purpose. It will always be advisable to implement such program in phases. For example the system can first be introduced in one academic department & after its successful implementation it can be extended to other departments which can be followed by bringing other staff functions in its preview, till the full integration of all the functions is achieved.

**7. Maintenance & Continuous Improvement:** Even after full implementation the maintenance & continuous improvement of the established system is very important & must be taken care of.

**8. Integration of the system with the central/National Systems:** Depending upon the need & will of the management & the rules/regulations of the governing bodies, such E-governance systems must be integrated with the central/national E- governance system after their proper implantation to be able to draw maximum benefits.

#### **Possible Roadblocks/Challenges**

**The Implementation of E-Governance can be a significant step in improving the governance and service levels in technical education but there can be some roadblocks/challenges in the success of this concept:**

1. Poor ICT internal/national infrastructure in the technical & vocational institutes is one of the major roadblocks to an effective implementation of E-governance in technical education sector
2. Non willingness of the participants can be one of the other major roadblocks for the implementation of E-Governance concept. However it can be suitably addressed by training them properly & making them aware about the potential benefits of such a system.

3. Another possible concern area for Universities/Colleges that may make them unwilling to participate & connect to the central/national E-Governance system would be of losing control over the utilization of funds, innovation in teaching etc. This threat would require to be attended to by the governing bodies. Actually, it is not a threat but an opportunity to gear up for possible competition from foreign universities in the long run by being transparent and more efficient.
4. It has been seen that the implementation of E-governance systems is rather slow in Govt. institutions as compared with their private counterparts. There are several reasons for this. One is the monopolistic nature of public governance. It is the customer, in this case the “aam aadmi”, who has to like or lump whatever is offered by the public institution & he is more interested in admitting his wards to these institution because of their lesser fees & better reputation. Secondly important reason for the slow start off the block, particularly of e-governance in these institutes is that it enables transparency and cuts down avenues of corruption which further reduces the willingness of corrupt Govt. officials in undertaking such initiatives.
5. Then again, considering the paucity of funds in our state-aided educational institutions, an e-governance system which is inexpensive to install, simple to use, easy to maintain and can be conveniently expanded will be much more acceptable.

### **Conclusion**

E-governance can facilitate in improving transparency, providing speedy information, dissemination, improving administrative efficiency and public services in all the aspects of technical education. Implementing e-governance in technical education sector will help to monitor academic standards at central level & continuous monitoring, assessment and meaningful evaluation of the teacher and the students at the level of the individual institutes. It can even help to generate constant feedback to all the persons/stakeholders concerned - be it the Govt. regulatory agencies like AICTE, management of the institute, faculty members, parents and students themselves, that can



make the everyone in the system more accountable and appropriate timely control and corrective action can also be easily initiate for continuous improvement in the system. However there are some possible roadblocks that are needed to be suitable addressed to clear the path of success in this endeavor.

**References:**

- [1] Alison Radl, Yu-Che Chen, "Computer Security in Electronic Government: A State-Local Education Information System", International Journal of Electronic, Government Research, Jan-March 2005, 1(1), 79-99.
- [2]. Vaibhav Panwar, "Role of Data Warehousing & Data Mining in E-Governance", 2008.
- [3]. Shukla Rajesh "Chapter 1: E-governance in education, The Economic Times, June 06, 2011
- [4]. As published on <http://www.education.nic.in>.
- [5]. NASSCOM Report 2004.
- [6]. Bhandi P., Kaushal, U., Pandey, A. "E-Governance in Higher Education: Concept and Role of Data Warehousing Techniques", International Journal of Computer Applications, Volume 18– No. 1, March 2011.
- [7]. Sachitanand N.N., "Integrate e-governance in education sector" An article in Sindh Today, 16 September 2009.