

# e-Governance in Technical Education-”roadmap” to efficient management of Technical Education In India

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## Abstract

The governance of Technical Education in a developing country like India is a challenge, because during the recent past, there has been a phenomenal growth of technical Institutions, without proper rules and regulations. All those connected with Technical education are passing through the worst ever trauma as the Governors (policy decision makers) through statutory bodies viz AICTE,UGC ,Universities etc have miserably failed to protect the interest either of governors or governed. More so, in India, where the governments are formed through democratic means, the challenge of governance is much larger as the governors themselves are at times not very clear on various rules and procedures and sometimes because of the vested interest of a few unscrupulous, non professional, non-academic, semi literate and illiterate people having taken over the control of technical education with their money power/muscle power. Further, at times, the rules and procedures, though explicitly defined in the constitution, statutes or ordinances, by themselves become hindrances in the path of governance due to lack of transparency and procedural clarities. Moreover, governance is a dynamic process, that cannot be handled through static rules and procedures. Here is the necessity of E-governance or electronic governance - True e-Governance with focus on Transparency, Integrity, gender equity, women empowerment, Processes, Security, Accountability, protection of the interest of students and accessibility: E-governance uses modern information and technologies such as internet, mobile etc for effective, efficient and transparency in information and communication. E-governance is a mechanism that is quick, interactive and provides a clear repository of rules and regulations, which extend help in decision making for both the governors and the governed. The mechanism has the benefit of providing clear cut, transparent, interactive, easy to implement and just solutions (in dynamic mode) in the qui

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**Index terms**— e-governance, technical, education, professional, corruption, corporate, multi-disciplinary.

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interest of a few unscrupulous, non professional, non-academic, semi literate and illiterate people having taken over the control of technical education with their money power/muscle power. Further, at times, the rules and procedures, though explicitly defined in the constitution, statutes or ordinances, by themselves become hindrances in the path of governance due to lack of transparency and procedural clarities. Moreover, governance is a dynamic process, that cannot be handled through static rules and procedures. Here is the necessity of E-governance or electronic governance -True e-Governance with focus on Transparency, Integrity, gender equity, women empowerment, Processes, Security, Accountability, protection of the interest of students and accessibility: E-governance uses modern information and technologies such as internet, mobile etc for effective, efficient and transparency in information and communication. E-governance is a mechanism that is quick, interactive and provides a clear repository of rules and regulations, which extend help in decision making for both the governors and the governed. The mechanism has the benefit of providing clear cut, transparent, interactive, easy to implement and just solutions (in dynamic mode) in the quickest possible time frame. The technical education in India is passing through the most fluid stage requires this mechanism (across the board) ensuring "Cradle to grave" control of quality. The paper suggests the role of the statutory bodies i.e. Central Government through AICTE/NBA at National Level, the affiliating University at State Level and the Governing Council of the concerned College through Faculty ,Administrative Staff, Students, their parents/ Guardians, citizens and society as a whole at the Institution Level

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## 2 INTRODUCTION

he education being on the concurrent list, the Central ( National ) Government has all the powers to control and regulate technical Education in India ( right from establishment of Technical Institution to exit of Employable Professionals). They have got a very powerful arm i.e. a statutory body by the name and style of AICTE packed with the professionals of International Level, with teeth, fully aware of their responsibility and competent enough to implement the rules and regulations. The only lacking thing is "Political Backing" and "Will to Do" and above all prevailing corruption -a stark reality . The immediate problems to be addressed are shortage of talent, new kind of engineer with system thinking, and multidisciplinary, innovative approach to meet the challenges ahead. The paper lays the roadmap suggesting the ways and means to meet the challenge with effective management of technical institutions ; CHALLENGES-AHEAD a) Shortage of Talent All the private-public partnership projects are highly complex, are high-tech and impact a phenomenal number of Indians. As more such initiatives get under way, the effort will require an enormous increase in the engineering workforce. Because organizations and the environment in which they operate are changing fast, the chasm between the skills required and skills available is widening rapidly. In the power sector, for example, the total additional manpower required for the 11th plan period is of the order of one million. In 'Power Generation' related projects the requirement for entry level people is 7,308 but only 5,040 are available. The shortfall is about 31%. At senior levels the shortfall goes up to 34%. There is a demand for 8,000 to 10,000 engineers in the embedded software and chip design space, but the supply is just a third of that number. In telecom, the wireless segment, there is an annual shortfall of 8,000 engineers. How will we as a nation address this shortfall? b) Engineering Landscape in India (IIT Bombay Study)

To get a better handle on the problem, IIT Bombay undertook a study on the engineering landscape in India. The study aimed to answer questions such as:

The study shows that against the sanctioned seats of 6.57 lakh for Under Graduate Engineering education in India, only 2.37 Lac engineering degrees were awarded in 2007-08. This very clearly highlights the shortfall. In 2006, India awarded about 2.37 lakh engineering degrees, 20,000 engineering Masters degrees and 1000 engineering PhDs, which means a total of 2.58 lakh engineering degrees of all types. This is clearly not enough! The awarding of degrees is also not evenly distributed across India. Five states -Tamil Nadu, Andhra Pradesh, Maharashtra, Karnataka and Kerala are said to account for almost 69% of the country's engineers. It is estimated that about 30% of the fresh engineering graduates are unemployed even one year after graduation; and this is even as many sectors complain of lack of talent. This clearly points that there is definite scope to improve quality of engineering education. Let us also look at the gender factor. At IIT Bombay, the percentage of women graduates to the total is about 8% at the B.Tech. level, 9% at the M.Tech level and about 17% at the Doctoral level including Science, Humanities and among the faculty -only about 10% of the IIT Bombay faculty c) New Kind of Engineer Globalization has enabled a new place for India, the challenges facing our country are new, and the market is highly dynamic and complex. In this scenario, the industry demands a new kind of Engineer.

## 3 d) Systems Thinking

This complexity demands a new way of thinking -it requires a Systems Thinking approach to macro level challenges and requires Engineers to keep one eye on the big picture even as they tackle specific tasks. Systems thinking provides a conceptual framework that helps make full patterns clearer and helps one to see how to modify these patterns more effectively. e) Multi-Disciplinary Approach Today's Engineers must also be able to view management activities through different lenses and to provide, quantitatively and qualitatively, the engineers

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required for the growth of the Indian economy? ? Has it provided the research and development leadership required for our industry? ? In the context of globalization, is there a need to modify the higher engineering education system in India?

This type of thinking is tricky to most of us because As Peter Senge says, it is a "discipline for seeing the whole". We are taught to break problems apart, to fragment the world! This appears initially to make complex tasks more manageable; but we pay a hidden price: we can no longer see the consequences of our actions, and we lose our intrinsic sense of connection to a larger whole. When we want to see the big picture, we try to reassemble the fragments and organize all the pieces. The task is futile-similar to trying to reassemble the fragments of a broken mirror! comprises women. Gender disparity in the engineering stream exists around the world, not just in India, and special efforts are being made by institutions, Governments and professional organizations to rectify these. Some Indian states have provided incentives like free tuition for women studying engineering. Overall, the study rightly points out that India has the potential to be a leading research and design hub in the world. For this, we need to have a mechanism to identify important areas and develop policies and institutions accordingly. Situations and problems we confront today demand composite responses and solutions.

solutions. A multi-disciplinary approach involves absorbing from multiple disciplines to define and apply new ways of understanding complex situations. The great advances of recent times -nano devices, telecommunication engineering -affirm that these come about from people who understand engineering systems as a whole.

"INDIA OF TOMORROW". " Yesterday's collaborators are today's Competitors".

We have travelled a very long journey and our "Intellect" is second to none. What we need is to mould young professionals to the needs of our Industry. The eyes of the world are on us. We have the opportunity to become a superpower. We all owe it to ourselves to shoulder the responsibility. We will decide our role on the global stage

f) Innovation-Led Growth India's future growth will be driven not by cost but by innovation in terms of product offerings, process efficiency, value engineering and cost reduction. It is realized that India's rural population of almost over 700 million is "heavily under banked" . TCS has proved that banking can be conducted without a brick and mortar branch. Agents are provided with a handheld device to carryout the transactions in the field. Smart Cards were issued to unbanked customers and agents. Why can't we think of providing Smart Card to each and every person

i) Demographic details of the Members of various Governing bodies/Faculty/Staff etc connected with technical education i.e. from security Guard at the gate to "Technocrat/Professional" going out of the institution giving complete history of:

ii) Financial Accounts giving complete history of all the financial transactions from day one. iii) Fingerprints iv) Academic record. v) Default List. vi) Achievements. vii) Failures. viii) Punishments/Awards etc g) Developmental Challenges Even as we reach for the moon, there are millions here on earth for whom basic needs are elusive. No country can afford a skewed growth. If India has to achieve a 7% to 8% sustained growth, it needs not just "Corporate India" h) Corruption but the rural sector, the agricultural sector to grow as well. It is these areas that badly need engineering talent. The government, we and all of us together have to find ways to make it an attractive option for engineers to take up these challenges.

The corruption a stark reality is cancerous that needs to be addressed. Various initiatives by the government viz RTI, SMART government, Integrity pacts, CVC, NHRC,AICTE,UGC etc have instead of solving the problem ,added to the corruption. All these bodies have miserably failed to address these problems. No half hearted approach can address this problem. Our hon'ble President Pratibha Patil in her address to the nation has dealt with the issue of corruption calling it a cancer. There cannot be just one panacea or remedy to deal with it but a system of transparency and accountability put in place at various

i) Fight for Survival This uncontrolled growth of technical Institutions and now Universities has put the promoters in a very precarious situation. They are fighting a pitched battle of survival because of non-availability of the students coupled with dropouts. To start an IIT, in the first phase , you require nearly 800 crores, whereas a private University does not require even 8 crores, to impart global education. In reality there is nothing of that sort. I will be failing in my duty, if I don't place on record the wonderful job done by some of the private Institutions.

j) Can't Be a Commercial Venture It may please be brought to the notice of everybody on this earth that opening of " Technical University/Institution" can't be a commercial venture. It is a task of philanthropists (Like the one done by the promoters of SRMGPC), who having achieved excellence in different fields are there to contribute to this noble cause. What matters is not how much you have taken out of these institutions, the important thing is how much , you have pumped in these institutions. This is what has been done by Thapars,Birlas and TATA's to name a few. Their contribution to the cause of education and to the society is unparalleled.

India is becoming professional, it is also eager to go global. The technologies ,We need today should address poverty, pollution, illiteracy, congestion in urban areas etc. It is the wholly Indian Company, TCS that designed and developed an internationally recognized "Adult Literacy Program" based upon cognitive and Linguistic principles, cutting edge software technologies and some standard hardware platforms. It is not low technology but cutting edge high technologies that are going in to making simple utilities that addresses needs of rural people. In India, due to its size, diversity and complexity, we do not have to go looking around for challenges, these are plenty. We do not have to look around and we will find something that needs improvement. We also have great minds, great thinkers. We just have to look for ways to bring them together. It is this fraternity of Engineers that will determine. levels and then enforced. It requires "Preventive" and "Punitive" measures, as well as adoption of rational approaches as we pursue our national agenda.

## 4 STATE'S RESPONSIBILITY

The concerned state government through the affiliating University has all the powers to control and regulate these technical institutions through this powerful tool of e-governance. It must be noted that the very existence of these technical institutions very well depends upon the "NOC" issued by the state Govt. The affiliating University has the following role to play in the conduct of these institutions to safeguard the interest of students, teachers, parents/guardians, society as a whole: a) Students i) To conduct entrance examination at the state level to ensure fair and smooth admission of students as per the statutes and ordinances of the University. This is being done meticulously by most of the Universities in the country. ii) To fix reasonable fees for each course per semester. This is not being done honestly. There are certain loopholes/loose ends that are yet to be plugged. The present fee structure hardly has any place for the poor student. This aberration needs to be corrected. iii) To safeguard the interest of the students so as to ensure that they are being provided with promised facilities/teaching infrastructure. iv) To conduct the fair/ smooth examination in time and as per the laid down rules and regulation of the University. v) Declaration of results in time. vi) Distribution of mark sheets . vii) Conduct of convocation to distribute degrees in time.

All the above activities are being done by most of the Universities in time except the fixation of fees. There is lack of transparency in this activity. It will not be wise to pass any judgment on this aspect except to suggest more transparency in this activity.

## 5 b) Faculty/Staff

They are worst sufferers. As per the commitment of these institutions, they are supposed to be managed as per the AICTE/UGC norms. But nothing is followed by any institution except a few. They are being hired/fired like casual Labors (Adda Labors). There is unbearable suffering through which these people are passing. In most of the institutions there are: i) No Leave rules. ii) No service rules of their own as the statutory norms of the AICTE/UGC are not followed. iii) No salary rules (All discretionary) iv) No security of service. v) No terminal benefits . vi) No norms of workload. vii) No dignity of teachers viii) Lack of proper seating arrangement for teachers.

After going through the working conditions, one wonders whether We are living in a free and democratic country, Father of the nation, Gandhi, Pt. J.L. Nehru, Netaji Subhash Chandra Bose, Shaheed Bhagat Singh ,had dreamt of ,or pre-independence era ruled by Britishers.

All these sufferings are to be addressed by none other than the statutory bodies of the state Governments concerned without loss of time. It is practically not possible for the ill equipped state technical Universities. They hardly have any permanent machinery/staff to ensure implementation and monitoring the progress. The concerned state Governments who are supposed to provide the necessary infrastructure are hand in glove with the It is not that state governments have no power/facilities/capability to do this gigantic task, the fact is there is " NO WILL" to do this. They have developed vested interest to maintain "Status Quo" , keep the situation like this because there is hardly any politician who does not have one or group of Technical Institutions /Universities owned by him irrespective of political affiliation . As such nothing can be expected from the change of guard at state government level or change of political governors because no purpose will be served by changing the " bottle when the liquor is same".

The state Governments have very accurately controlled the system of revenue collection like Electric billing/water Tax/house Tax etc .There is absolutely no corruption in collection of revenues in this head.

The implementation of e-governance in revenue collection by the state machinery is almost total, then why not technical education. Ultimately every state government has to go for this. There is no substitute for this. It can be delayed but not avoided because management of such vast and important wing of our economy cannot be left at the mercy of destiny.

What We "NEED IS POLITICAL WILL AND SINCERITY OF PURPOSE"

## 6 III. INSTITUTIONAL RESPONSIBILITY

on the part of the state Government-Everything can't be controlled by egovernance only overnight but a set of measures. The task is gigantic and the state governments are engaged in various pitched battles to tackle with poverty, unemployment, corruption, Nepotism, favoritism and political compulsions. Added to this is the "uncontrollable growth of institutions" producing an army of Non-employable Technocrats year after year etc. The task is "Big" but not lacking solution. There is a hope in e-governance.

The total success of this e-governance depends upon ,apart from the positive attitude of one and all especially the Governing Councils of the Institutions , efficacy of the e-tools, the "across the board" whole hearted cooperation of one and all i.e. from "Peon to the Chairman of the all powerful Governing Council" at the institution level. The honest and the highly professional are worst hit by the "corruption". It has been rightly pointed by the President of India, corruption is affecting nation's political, economic, cultural and social life. It is like a cancer, There cannot be just one panacea or remedy to deal with it but a system of transparency and accountability put in place at various levels and then enforced. It requires "Preventive" and "Punitive" measures, as well as adoption of rational approaches as we pursue our agenda. Every politicians/ Bureaucrat/Management is not corrupt .It is result of their "Vision" that technical education has been groomed to this level.

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The role of private managements in the growth of technical education during the last decade is worth appreciating. Some of the institutions have done wonders in putting the "Fully Transparent" system in place. They have established an international brand. To name a few i) BITS ii)Thapars iii)SRMGPC iv)Galgotia's v) BBD group Within a span of 10 years, apart from meeting the requirement of world class technical manpower, they have developed an Infrastructure that can match any International standards.

They have rendered yeoman's service to the mankind. It is sheer their enterprise and acumen that the technical education is today. Nation is indebted to these entrepreneurs and salutes them for their contribution. Everything is fully transparent and accessible to each and every Student/Faculty/Staff. There is mechanism to address the grievances of Students/Faculty/Staff and to ensure that everything committed is fulfilled. Name the issue involving the above, it is e-governed. This institution is a role model for others to follow as far as e-governance of Student/Faculty/Staff is concerned. It is an institution that is "Customer Driven" where system has been put in place to address the various issues .I would like place on record the words of President of India, Hon'ble Pratiba Patil, "there should be no effort, consciously or otherwise, that will lead to the erosion of Institutional authority". Further I would like to remind you the words of our Prime Minister, where he has rightly said there is no magic wand that can solve these long drawn problems overnight. After all the mission of each technical Institution is to produce world class technocrats so as to fulfill our dream of IV. E-GOVERNANCE -SUCCESS S "From College to world class Employable Professionals" To address the above cited problems, we need a mechanism to identify important areas and develop policies and institutions accordingly. Such level of voluminous task cannot be accomplished accurately by any government that too manually, how so ever efficient it may be. In the present scenario, when various IT tools are available and they must be used under the umbrella of e-governance. The information and Communication Technology (ICT) and Innovation with sincerity of purpose are the real enablers to tackle this gigantic problem. The assistance of some software giant can be taken to develop dedicated software to put in place and monitor the implementation of various statutory ordinances, rules and regulations especially with respect to the following factors. It may be recalled that concept of smarter government has done wonders, SAHANA, an open source of disaster management system ,deployed by national and state governments has been a boon to citizens affected by natural disasters in the wake of Bhuj earthquake of 2001 and the pan-Asian tsunami in 2004. It has helped millions of people in rebuilding their lives after Bihar Floods of 2008.

Smarter Govt Smarter governments also provide up-to-theminute offering valuable and sometimes critical support to citizens. Today a real time Crime Centre System helps the New York city police analyze crime information to improve public safety with a 27% drop in crime since 2001. It has made New York, the safest large city in the U.S. Data analysis also helps find problems of daily life such as traffic grid locking. This has paved the way for traffic system of Singapore, . has also inspired one of the largest transport networks in the world-Indian Railways. The living example is railway reservation -the rampant corruption is thing of the past. Today more than 100,000 employees use the Crew Management System (CMS) that automates and regulates the day to day management of Staff on board the trains coupled with direct data access over mobile phones. CMS helps crew deployment more effectively and improves visibility of information to the right person at the right time, resulting in new efficiencies for the railway system.

## 7 TORIES b) Immediate Action

The statutory requirement is that educational Institutions can be run by "Charitable Societies" only and it is the responsibility of state government to ensure: c) Projected Benefits/Results

? Enhancement of access to quality education.

? Making available knowledge modules in cyber space.

## 8 ? Optimal utilization of available resources by using ICT

V.

## 9 CONCLSSIONS

There is hope in e-governance and egovernance only. This task of technical education can be very nicely handled by this tool of e-governance. It has already proved its application in various areas of economy.

The Central Government, State Government, Technical Institutions and Academia should take the lead and play a pivotal role in inspiring and influencing all those connected with technical education to implement e-governance to enhance the quality of technical education and to root out mismanagement. During last decade, the nation has made marvelous achievement in producing the best (second to none) and largest number of Technical manpower in the world. Our engineers have done wonders in various walks of life either as professional or entrepreneurs. In some cases they have established the standard, their footsteps have become milestones. The nation is proud of them. We salute them as achievers. The need of the hour is to consolidate our achievement. The process of consolidation has already started and we are going to be at the top. We have the opportunity to become "SUPERPOWER". I am quite confident of making it. i) Constitution of the Charitable Society to be strictly as per the statues. It should not be converted in to ii) Fulfillment of all the norms by the concerned society before granting letter of intent and finally permission to open a technical institute by the AICTE. If at

a later stage it is found that there was relaxation /violation of the set ordinances in granting clearances, private limited company of particular family.

iii) Exemplary punishment must be awarded to the guilty (The Culture of Briefcase to be discontinued).

iv) The interest of the Managements must be thoroughly protected v) The message must go to the managements they are the . Honest managements must not be subjected to third degree harassment by the custodians of law. Those following norms must be rewarded. "Custodians" and not the "Owners" Not institutionalize corruption.

or Masters. Any lapse on their part can lead them to loosing this status. Let us vi) Nothing to be left to the discretion of any body because vii) Application of 2 T formula which would ensure selection through transparent and fair process and also meet the TINA (There is no alternative) criteria which would impel the selection of the right person only.

"Power Corrupts a man and the absolute power absolutely corrupts a man" <sup>1</sup>



Figure 1:

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been done by these Private Institutions within a span of less than 10 years. Most of the Govt. institutions are affected by the following shortcoming. The government/ municipal/government aided schools are testimony to the callous attitude of authorities. There are no buildings for primary/high schools, what to talk of infrastructure. The classes are being run under a tree . It is a common scene one can have in a most prosperous states like Punjab/Haryana. These private Institutions have done yeoman's service to the nation/society. These government institutions are the victims of the following :

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managements /promoters of these technical institutions. Most of the Universities hardly have any staff of their own .They are depending upon casual/temporary staff working from camp /rented offices. Even the Vice Chancellor/Registrar is on deputation. They have no power to recruit even a peon. They are just helpless personalities entrusted with the task for which they have:

- I. All the "authority" but no resources.
- II. Ability but no machinery to act.

*[Note: © 2011 Global Journals Inc. (US)]*

Figure 2:

- xxii) Sponsoring the students to attend seminars, inter college competitions.
- xxiii) Arranging and involving students in International/National seminars.
- xxiv) Stores
- xxv) Purchase of items.
- c) Faculty/Staff
  - i) Appointment letter with terms and conditions.
  - ii) Leave rules ( Various types of Leaves).
  - iii) Duty hours.
  - iv) Attendance records.
  - v) Gratuity rules.
  - vi) Terminal benefits.
  - vii) Dress code.
  - viii) Salary Slip.
  - ix) Leave Record.
  - x) Leave Encashment.
  - xi) Student's feedback about the faculty.
  - xii) Alternative arrangement during leave.
  - xiii) Course Plan.
  - xiv) Lecture Schedule.
  - xv) Attendance record of Tutorials/Lectures/Labs/workshops.
  - xvi) Assessment record of students ( Quiz Tests,Surprize Quiz Test,Mid-sem. Exam)
  - xvii) Defaulters List giving details about the latest status of academic commitments.
  - xviii) Teaching plan and the performance report.
  - xix) Promotion rules
  - xi) Digital Library/ Library feed back using Libsys/web-opac software.
  - xii) Academic Calendar
  - xiii) Extra curricular activities
  - xiv) Facilities for Research & Development.
  - xv) Hobby Club like photography.
  - xvi) Sports
  - xvii) Awards for Academic Excellence
  - xviii) Scholarships for meritorious students
  - xix) Innovation awards.
  - xx) Various types of Leaves.
  - xxi) Financial support to encourage Innovative Projects.

Figure 3:



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293 [ E-Governance -A ] , E-Governance -A . (solution To solve this gigantic problem , the following actions are  
294 required to be taken)

295 [ National knowledge commission report] , *National knowledge commission report*

296 [Prof et al.] , D V Prof , Mahindru , Lucknow Srimgpc , Priyanka Mahendru . (Sr. Lecturer, "E-Governance)  
297 [Opportunities and In E-Governnce] , Challenges Opportunities , In E-Governnce . ISGIA, World Bank, Wash-  
298 ington DC. Subhash Bhatnagar Advisor eGovernment ; Adjunct Professor Indian Institute of Management,  
299 Ahmedabad) sbhatnagar@worldbank.org

300 [Address of President of India on 65 th Independence day on 15 th (2011)] *Address of President of India on 65*  
301 *th Independence day on 15 th, Aug'2011.*

302 [Address to the nation by the Prime Minister of India on 65 th Independence day 15 th (2011)] *Address to the*  
303 *nation by the Prime Minister of India on 65 th Independence day 15 th, Aug'2011.*

304 [Deloitte Research -Public Sector Institute At the Dawn of e-Government: The Citizen as Customer ( )]  
305 *Deloitte Research -Public Sector Institute At the Dawn of e-Government: The Citizen as Customer,*  
306 *2000.*

307 [Kaylor et al. ( )] 'Gauging e-government: A report on implementing services among American cities'. C Kaylor  
308 , R Deshazo , D Van Eck . *Government Information Quarterly* 2001. 18 p. .

309 [Gupta and Principal] *Girls Polytechnic, Allahabad. E -Governance: Application in Technical Education*  
310 *Department of, K N Gupta , Govt Principal . UP Government.*

311 [Global Journal of Computer Science and Technology Volume XI Issue XIX Version I 67 ( )] *Global Journal of*  
312 *Computer Science and Technology Volume XI Issue XIX Version I 67, 2011.*

313 [Ramadorai et al.] *ICT and Innovation : enablers for Economic Transformation; 30 th Sir Rajendra Nath*  
314 *Mookerjee Memorial Lecture delivered at 23 rd Indian Engineering Congress, S Ramadorai , Ceo & Md , Tcs*  
315 *.*

316 [in Technical Education-National, State and Institutional Perspective National Seminar at NITTTR] 'in Tech-  
317 nical Education-National, State and Institutional Perspective'. *National Seminar at NITTTR*

318 [Key Issues in E-Government Strategy and Management Research Notes, Key Issues (2000)] 'Key Issues in E-  
319 Government Strategy and Management'. *Research Notes, Key Issues* 23 May 2000. Gartner Group

320 [Public Affairs Division, Public Affairs and Communications Directorate Policy Brief ( )] 'Public Affairs Divi-  
321 sion, Public Affairs and Communications Directorate'. *Policy Brief* 2003. OECD. OECD (The e-government  
322 imperative: main findings)

323 [November] *Roadmap" to Efficient Management of Technical Education in India, E-Governance - November .*

324 [Smarter government for a smarter Planet by IBM.ibm.com/smartplanet/in/government] *Smarter government*  
325 *for a smarter Planet by IBM.ibm.com/smartplanet/in/government,*

326 [Koh and Prybutok ( )] 'The three-ring model and development of an instrument for measuring dimensions of  
327 e-government functions'. C E Koh , V R Prybutok . *Journal of Computer Information Systems* 2003. 33 (3)  
328 p. .