

# VTF 2006

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## Managing Large Scale E-Governance Applications: An Indian Experience

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*Embracing  
Digital Intelligence*

# Presentation Structure

- **E-governance in India: Size and Complexities**
- **Current Status of E-transition**
- **Technology issues**
- **Management issues**

# India: Understanding its size

- **Population: more than 1.1 billion (vs Taiwan's 22 million)**
- **Geographical area: 3 million sq. km. (vs Taiwan's 35 K Sq. Km.)**
- **Bigger by a factor of "50 to 100":**
  - What does that mean?
  - Does this have implication on implementing E-governance applications?

# Bullock Cart being used to carry VSAT Dish: Land where Hitech and Lo-tech have to co-exist



# Elephants carrying voting machine:



**JUMBO TASK AHEAD:** Securitymen escort election officials transporting EVMs to a poll station in Guwahati on Monday.

# India's Advantages

- **Large pool of “unemployed” educated manpower**
- **No legacy IT infrastructure to be carried forward: Leap frogging possible**
  - Reliance building country wide fibre optics network
  - VSNL/Reliance buying out Teleglobe/Flag
- **Companies like Infosys, Wipro, TCS making early entry in software development and establishing global India brand**
- **Software development “factories”:** Need only PCs as capital equipment and telecom infrastructure for transportation of goods produced!

# E-Transition Status in India

- **Railway reservation system**
- **Stock trading through BSE/NSE terminals**
- **HLL/TISCO/BPCL/AMUL/HDFC/SBI /...**
- **Small shops / hotels using PCs**
- **Student from a small town using Internet to track latest status of vacant seats during centralized admission in engineering colleges**
- **House wives queuing up at Internet Café to see exam results of their wards**

# E-Governance Projects in India

- **Large financial resources are being allocated by state and central governments**
- **Certain states have shown excellent progress and showcased some unique applications**
- **Huge emerging market for IT infrastructure because of the size of the applications (100 m USD and above)**

# Technology issues

What are the key  
technological advances  
in last 25 years (1975 – 2000)

# Fundamental break-throughs in Technology - 1

- **Tremendous Advances in micro-electronics leading to increased digital power and unimaginable miniaturization**
- **Ability to represent “anything” in bits (Digital Convergence / Multimedia)**

# Fundamental break-throughs in Technology - 2

- **Merging of computing technology with communication technology leading to “computer networking” technology**
  - Bits can be reliably transported at very high speed from any place to any other place as long as devices obey certain communication standards
  - Began in 1980s and saw fruits in 1990s
  - Open standards & Platform independence
  - Internet based applications: HTTP & SMTP

# Fundamental break-throughs in Technology - 3

- **Ease of use and wide-spread proliferation/penetration (GUI, open architecture of PCs)**
- **Progress in tool-set for software development, prepackaged solutions (eg. ERP, CRM)**

Are these developments leading  
to E-transition?

YES

but not without PAIN!

# Some Examples:

- **Multimedia case – CD not working on a PC**
  - Should we be asked to rebuild the entire house if “windows” have to be repaired!
- **What are end users doing with their PCs?**
  - IT infrastructure costs dominated by cost of PCs
- **PCs of 1994 and PCs of today**
- **Constrast today’s application architecture with the one that was accessible world-wide as early as in “1975”: Mainframe based airline reservation system**
- **Are we going back full circle!**
- **And with what gains: GUI terminal (browser), device independence, world-wide reach, digital convergence (for communication)**

# Technology issues

- **Costs are dropping**
- **Additional power being consumed by fatware**
- **PnP – Plug and pray**
- **Truckload of new features consuming hardware resources and lot of time to learn (before we develop craze for next version upgrade!)**

# Where technology needs to improve significantly

- **Reliability and stability**
- **Ease of deployment**
- **Too complex and full with nuisances**
  - Embedded devices will provide great relief
  - Tremendous potential for large scale E-Gov. applications in country like India
  - Should we think of UM-ED rather than UM-PC!
  - Display size is the key (will 5" win?)
- **Security**
- **Virus and spam control**

# Technology Costs for Developing World

- **Cost of ownership of PCs**
- **How does it compare with the developed world?**

## Technology Hazards which Implementors of E-Gov should be aware of

- **Having state of the art IT infrastructure leads you to believe that benefits will reach you automatically**
- **Market and environment pushes you to get caught in the race of being latest and even worse is “Making you busy all the time in being latest”**
- **Tempts you to buy ahead of time**
  - Never forget that first set of H/W is for learning

# Management Issues in E-Governance Applications

## Ingredients for Successful Execution of E-Governance Projects-1

- **Active involvement of the end user department, right from inception stage, is mandatory**
  - Building a “sense of ownership” in the department for which it is meant is a *must*
- **Champion for a Project is *must***
  - Can't be left alone to the staff and officers
  - Mini-champions if project affects large geographical area
  - Recognize the champion and give due credit
- **Putting in place appropriate change management strategy**

## Ingredients for Successful Execution of E-Governance Projects-2

- **View, Plan and execute it as a “*Project*”**
  - Must be undertaken as one time “Project”
  - Projectization skills necessary for the spearheading team
- **Plan in detail transfer of ownership once the project is complete**
- **Don’t get tempted just to build infrastructure: Applications and their actual use, which lead to impacting ground level functionality of govt. business, is more important**

# Ingredients for Successful Execution of E-Governance Projects-3

- **Perfect the art of mass deployment**
  - Prototype and build a model implementation
  - Design a replication plan and a detailed project documentation for the same
  - Test out a few replications and update the replication document as needed
  - Put in place a management team to execute statewide replication
- **Planning for smooth functioning “forever”**
- **Put in place monitoring and impact evaluation tools**

## Organizational Structure and Role of Senior of Management

- **Create a “Think Tank” at the apex level**
- **Integrate initiatives at all levels to create “Chorus” Impact**
- **Participate and supervise design of IT application architecture so as to ensure ability to integrate across districts and across other applications**
- **Participate in design of state wide IT infrastructure which will run the applications**
- **Enthuse and energize districts and other departments**
- **Arrange statewide training**

# Role of Think Tank

- **Identify key applications**
- **Choose the right mix of applications considering visibility, ease of deployment, department's competence to internalize and own the application**
- **IT Applications can have large gestation period. Therefore it is must to choose some "quick result" applications and some long-term big impact apps.**
- **Develop transparent, well defined, well understood procedures, policies, and standards to facilitate implementation of E-Gov. projects**

## Creating Environment for Success (Role of Top Leadership)

- **Prepare Government Mindset to march towards digital society**
- **Task size is large; therefore create marriage like environment to achieve the synergy**
- **Step-up the commitment and publicize the same**
- **Internally monitor on regular basis ground level achievements with focus on true social benefits**
- **Focus on advertising, news, media to create much needed impact and dissemination of information**

*Thank You!*

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