Evolution and Impact of IT Systems in Civil Accounts Organization

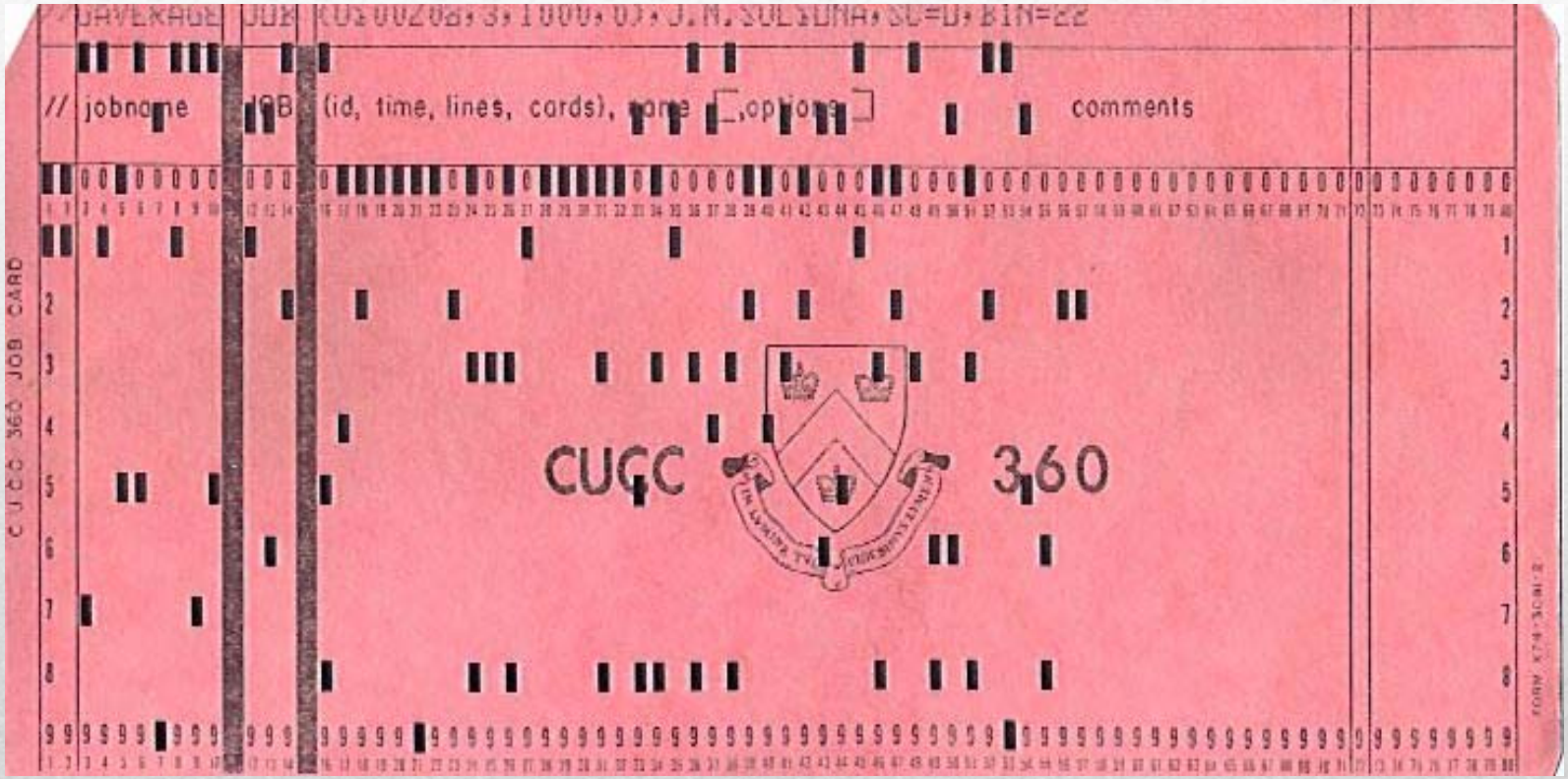
March 1st, 2011

Outline of Presentation

- Evolution of IT Systems
- Progress made since Departmentalization
- Ongoing Developments and future initiatives
- Impact of Introduction of IT Systems
- Way Forward

Evolution of IT Systems

What we started with…



And Used..

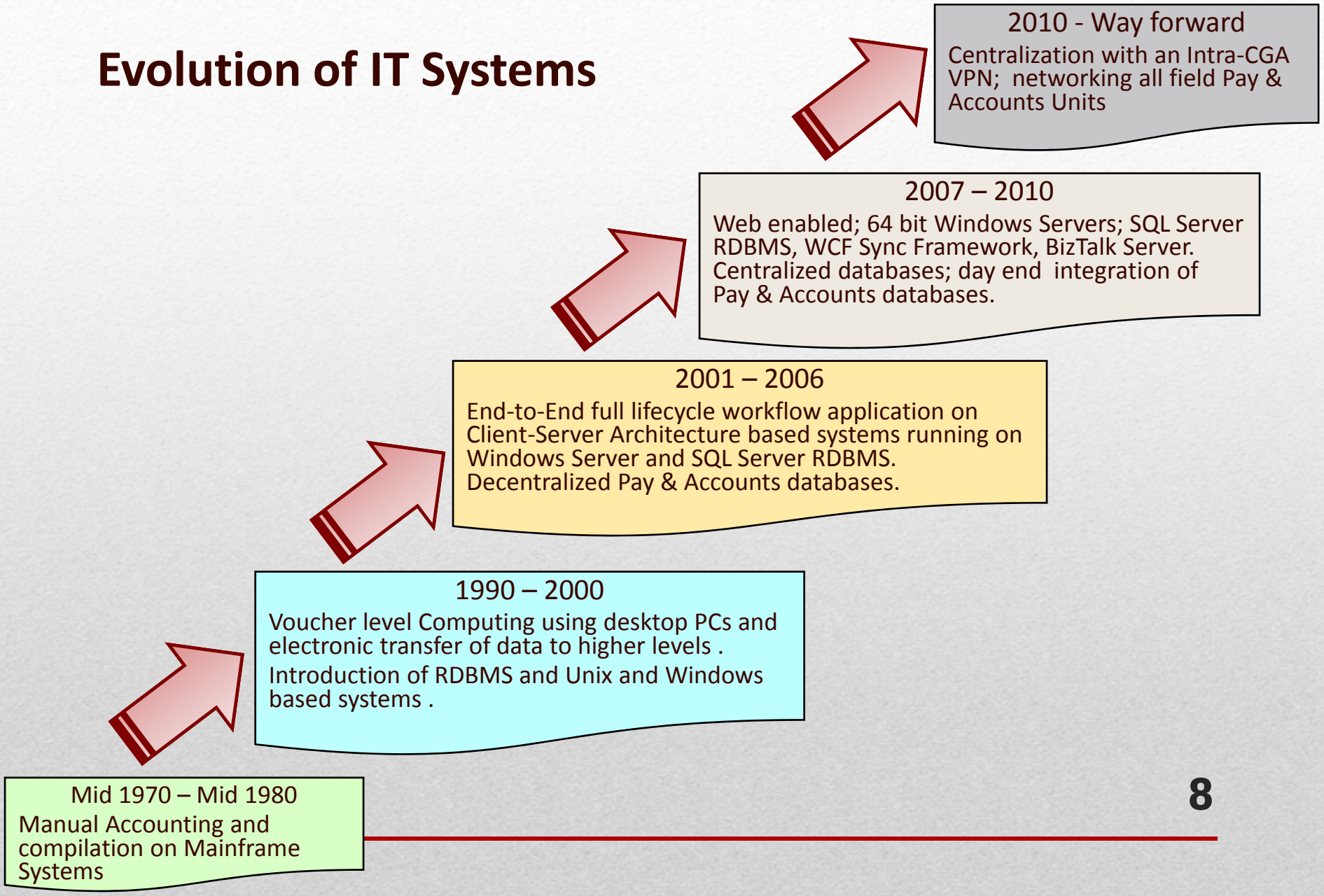
And now …

GOVERNMENT OF INDIA e- PAYMENT GATEWAY
AN INITIATIVE OF
CONTROLLER GENERAL OF ACCOUNTS, DEPARTMENT OF EXPENDITURE, MINISTRY OF FINANCE
LOGIN
Login Id:
Password:
Financial Year:
2010-2011
LOGIN
BENEFITS
Cheque less Electronic Payments
Inter-Bank Through RBI (NEFT/RTGS) & Intra-Bank Core Banking System
Efficient Payments and Public Account Transactions
Itemized Tracking of Payments
Interface with Core Banking Solutions
Interface with COMPACT at PAO
Convenience and privacy
Automated Banking Systems
The Government e-Payment Gateway (GePG) is envisaged to provide an accounting payment gateway for the Civil Accounts Organization with the specific objective of leveraging the existing IT capabilities of the Core Banking Systems and application software functionalities of the CGA's organisation towards the development of an integrated payment and accounting system for all levels of usage with seamless interface and data communication. This would result in the elimination of physical cheque processing system and traditional issues associated with it, which would ensure major cost savings for the department by greatly enhancing the overall payment processing efficiency; Online reverse file (payment scroll) giving MIS on unique e-Authorization ID for all e-payment fund transfers; Online auto-reconciliation to facilitate major savings in time and efforts and speed up the compilation of accounting processes; and Ensuring a secure single point data capture of transaction data thereby eliminating duplication of work and data inconsistency.
High Security Standards and System Logs of Transactions.
The PAO's applications would have the following security requirements in place for effecting e-payments
128 Bit PKI encryption.
Integrity of information: Hash Algorithm (SHA1): security standards are designed to ensure confidentiality of data, authenticity of data and integrity of data being conveyed on the internet by PAOs to the bank.
Non-repudiation – Key generation / Digital Signature based on 128 Bit PKI Infrastructure (as recommended by RBI)
Digitally Signed e-payment Authorisation along with Itemised tracking of each e-payment authorisation and automated reconcilation.
LATEST NEWS
NIC NATIONAL INFORMATIC CENTRE
© Accounts Informatics Division, O/o,Controller General of Accounts, National Informatics Centre.
ELECTRONIC PAYMENTS
The Controller General of Accounts is launching a full-fledged electronic delivery of payment services through the Internet. To enable this, an Government e-Payment Gateway is envisaged as a critical infrastructural component to ensure that such transactions occur without any hitches and in total security over electronic networks. This component has multiple benefits, with critical ones being multiple payment options, secure transmission, payment settlements and rapid processing. The e-Payment Gateway will provide an operational component of the e-Governance infrastructure and
Done
Internet | Protected Mode: On
100%

Key Milestones / Landmarks

- 1978 - Utilization of computers for monthly accounts, later appropriation accounts
- 1982 – Use of desktops for accounts processing
- 1987– Voucher level computerisation and Revenue Accounting for Indirect Taxes (REVACT)
- 1988 – RDBMS based accounts consolidation (GAINS)
- 1992 – Excel based spreadsheets for Finance Accounts - FINACT
- 2000 – Integration of payment and accounting functions (COMPACT)
- 2004 – Loan Accounting System for State Loans
- 2005 – Integration of PAO, PrAO and CGA accounting (e-Lekha)
- 2008 – Revenue Accounting for Direct Taxes (RAMS)
- 2008-09 – Central Plan Scheme Monitoring System (CPSMS)
- 2009 – Mandatory payment processing and cheque printing through IT systems, e-PAO in Central Excise and Service Tax
- 2009-10 – Piloting of digitally signed e-payment system

Evolution of IT Systems



IT Applications Developed

<table>
<tr><th></th><th>Mid 70s to mid 80s</th><th>Mid 80s to 2000</th><th>2001- 2005</th><th>2005 - 2010</th></tr>
<tr><td rowspan="3">CGA</td><td rowspan="3">GAINS for Monthly Accounts Compilation
COBOL based systems on mainframe Computer systems.</td><td colspan="2" rowspan="3">1990 : Monthly Accounts Compilation using GAINS
Based on Oracle 7.0 RDBMS based on Unixware OS</td><td>2007 : e-Lekha Union government accounts
Web enabled application</td></tr>
<tr><td>2008 : e-Samarth Employee Portal for GPF, Pay slips, etc.
Web enabled application</td></tr>
<tr><td>2009 : CPSMS Central Plan Scheme Monitoring System
Web enabled application</td></tr>
<tr><td>PrAO</td><td></td><td>CONTACT at Pr.AO for Ministry accounts
PC based</td><td>CONTACT (ORA) at Pr.AO
Based on Client server technology using ORACLE 8.0</td><td>2007 : e-Lekha Controller’s Accounting and various other MIS reports
Web enabled application</td></tr>
<tr><td>PAO</td><td></td><td>1984 : Voucher level Computing IMPROVE at PAO
PC based DOS / UNIX / XENIX systems with Dbase / Foxbase</td><td colspan="2">2001 : COMPACT end-to-end PAO functions of Payment & Accounting, GPF, Pension, Budget.
2008-09 : COMPACT (REVACT & RAMS Revenue Accounting at CBEC & CBDT
Client-Server Architecture based systems</td></tr>
<tr><td>DDO</td><td></td><td></td><td colspan="2">2003 : CompDDO End-to-End DDO Functions of Payroll, HR, GPF, Contingencies, etc
Client-Server Architecture</td></tr>
</table>

Current Status of Major IT Systems

- **Computerised Accounting System (COMPACT)**
  - ✓ Covers payment/receipts systems including GPF and pension processing
  - ✓ Certified by STQC
  - ✓ Operational in over 500 field offices (PAOs)
  - ✓ Used for accounting for monthly and annual financial reporting for the Government of India

- **e-Lekha System**
  - ✓ 718 registered users
  - ✓ Daily uploads by over 431 PAOs from COMPACT
  - ✓ Accounts consolidation by 73 controllers (*Ministries*) and CGA
  - ✓ MIS reporting for Central Government expenditures
  - ✓ Online availability of Detailed Demand for Grants
  - ✓ Effective control of common grants

- **Central Plan Scheme Monitoring System (CPSMS)**
  - ✓ Mandatory sanction capture and generation for all plan schemes
  - ✓ Over 40,000 agencies registered
  - ✓ Tracking of fund flow
  - ✓ Pilots in 4 states
  - ✓ Detailed Project Report under progress

Current Status…

- **IT System for Drawing & Disbursing Offices - Comprehensive DDO**
  - ✓ To automate the functions of the Drawing & Disbursing Officers (DDOs)
  - ✓ Facilitates processing of Salary, Salary Arrears, DA Arrears, Income Tax, Honorarium, OTA, GPF, Bonus, Tuition Fee, Contingency & Other Bills, Cheque processing for CDDOs and Pension case preparation
  - ✓ over 400 DDOs are using the CompDDO package

- **Provident Fund Account Management System**
  - ✓ A web based system – "e-samarth" – online GPF account info.
  - ✓ 82,626 subscribers currently registered.
  - ✓ Unique employee number
  - ✓ Integrated with COMPACT

- **Centralized Pension Processing at Central Pension Accounting Office**

(CPAO) - Nodal agency for maintaining pensioners' database

  - ✓ **P**ension **A**uthorization **R**etrieval **A**ccounting **S**ystem (**PARAS) -** Pension Payment Orders (PPOs) from COMPACT – Special Seal Authority for banks is generated.
  - ✓ e-PPO and e-scroll facility being developed

Recognitions so far..

- e-Lekha - winner in Systems Integration category in **"Government Technology Awards 2009"** conducted by FutureGov, Singapore.
- The Central Plan Scheme Monitoring System CPSMS winner of **e-INDIA 2009 e-Governance Jury Award** in the category Government to Government Initiative of the Year 2009.
- Winner of the Silver Icon Award for 2008 under *Exemplary Horizontal Transfer of ICT Best Practices* in the **National e-Governance Award**, for the project "*e-Lekha - Stride towards Core Accounting Solution*".
- e-Lekha - **Best IT Implementation of the year 2007** by PCQuest Magazine, Cybermedia Group of Publications.
- E-Lekha - **winner of e-INDIA 2009 Popular Choice e-Governance Award** in the category Government to Government Initiative of the Year 2009.
- CPSMS – winner of "Windows in Financial Services" Microsoft Developers award in 2009.

Ongoing Initiatives

- Digital signature based e-payment System –phased implementation planned from 1st April 2011
- Annual Accounts using e-Lekha system – parallel run planned for 2010-11 accounts
- Intra-CGA VPN – improved uploading of accounts, phased implementation from 2010
- CPSMS – Banking Interface for real-time bank balances of scheme accounts – under implementation in six banks
- Centralized GPF system – under development, phased implementation planned from 2011-12

Future Initiatives

- Modernizing COMPACT
- New Integrated Design
- Cash management capabilities
- Asset Tracking
- Business Intelligence & Data Forecasting
- Federated Single Sign on
- Bar Coding of Bills and Challans
- Commitment Capturing

Impact of IT Systems

Major Contributions

- **Payment Function** - effective exchequer control, decreased payment processing time, increased employee satisfaction.
- **Accounting** - Timely accounts consolidation and reports generation, Accuracy of accounts through validations
- **Revenue Collection and Accounting** – Accurate accounting and expeditious credit to Govt.
- **Pension Work -** Timely and accurate pension processing and authorization of final payments to all pensioners

Major Contributions (contd.)

- **Reporting and Public Disclosure**
  - ✓ Online consolidation and reporting on daily basis,
  - ✓ Analytical review of monthly fiscal operations, Flash Expenditure & Receipt Figures
  - ✓ Central Plan Scheme Monitoring Reports – ministry, scheme, state, agency wise
  - ✓ Statutory Reports to Parliament – Annual Union Finance Accounts & Appropriation Accounts (Civil)
  - ✓ Unaudited Annual Accounts within 2 months,
  - ✓ Accounts at a Glance

Data Survey

- Top Management –
  - CCAs – 15 respondents
  - 23 Questions
    - Perception
    - Strategy
    - Skills etc.
- Staff of PAOs –
  - 22 questions – processes, risks, environment, social issues, health etc.
  - 196 staff across 25 PAOs
- PAO Records / Profile
  - 30 PAOs
  - 10 indicators

Impact Quantified

(based on data from 30 PAOs)

- IT systems usage – 97% use computers, 73% staff use COMPACT / e-lekha
- Payment Processing – average bill pendency -2 days (CAM prescribed – 7 days)
- GPF – most issue GPF statements within 2 months of close of Financial Year (CAM prescribed – 3 months). Average 5 days for GPF final payment (CAM – 7 days)
- Pension – 33% cases final Pensionary benefits paid on retirement day, average 5 days after retirement.

Impact Quantified *(based on data from 30 PAOs)*

- Accounts consolidation – average by 7th of followjng month (average 15th of following month before 1990s)
- Suspense management – Balances under Cheques & Bills as % of total bookings – under 1%
- Revenue Collection Accounting Systems – reduced delay in remittances - CBEC – 3.88% (2009-10)

Key Dimensions of Impact Assessment

A) Organizational goals and objectives

B) Process Efficiency

C) Social Dimension

D) Work / physical environment

A) Organizational Goals and objectives

(management /CCA perception)

- Meeting organizational goals – strong agreement among CCAs (4.1/5)
- Image of organization /CCA's office – strong agreement among CCAs (4.3/5)
- Satisfaction level of employees – 3.6/5
- Satisfaction level of clients – expected to have improved

B) Process Efficiency

Improvements in Accounts consolidation & reporting	8.2/10
Improved monitoring mechanism	8.5/10
Efficiencies in Pension processing	8.2/10
GPF – processing, issuing statements, broadsheet maintenance	8.4/10
Archiving and records availability	7.6/10

Overall score of around 8.2/10 supporting the contention that IT has improved the efficiencies in our offices.

C) Social Aspects (staff perception)

Dependency on select employees / vendors	7.6/10 (40% agree very strongly that it has increased)
Dilution of knowledge of rules and regulations	majority agree with 40% very strongly
Risk of system failure on operations	Majority felt problem in accounts preparation (35% very strongly agree that this is a risk)
Medical issues attributable to use of computers	27% staff very strongly agree that there has been a rise due to IT use

D) Work / Physical Aspects

Improvement in office environment	7.7/10
Better record keeping	7.6/10
Power availability /UPS	no longer an issue

Management Perception

Strong Agreement (out of 5)

- Expected role being met by organization – 4.1
- CCAs position has improved in Dept. in last 20 years – 4.3
- IT enabled accounts are much more accurate and comprehensive – 4.6
- CCA's skills are sufficient to meet new IT systems – 4.4
- IT level in AAOs examination must be increased – 4.3
- Transferable pool of IT trained staff be developed – 4.3
- IT systems also enable bill processing / calculation – 4.3
- Organization's future is Bright – 4.2

Management Perception –

On other important Issues

- There is decline in quality of staff on accounting matters and rules - 3.5/5
- CCAs are in full control of the accounting process since the introduction of IT system in organization – 3.5/5
- Concern regarding employees in office being able to manage daily operation of COMPACT with ease – 3.3/5
- CCAs are involved in IT systems planning and change process – 3.1/5
- Concern regarding PAOs and staff's preparedness on skills & confidence to adopt and implement e-payment systems - 3.3/5
- Satisfaction level with the COMPACT / e-Lekha system problem resolution mechanism – 4.1/5
- Monetary incentives should be given to IT staff – 3.5/5

Utilizing Survey Results for IT Planning

Summary Findings

1. IT has enabled organisation achieve expected roles and objectives to a large extent.
2. IT enabled accounts and processes are much more accurate, comprehensive and timely as compared to 20 years back.
3. CCAs / field offices are involved in IT systems planning and implementation.
4. Since IT has brought in high degree of automation there has been a decline of knowledge of rules and regulations.
5. Over dependency on IT poses a critical risk in case of failures.
6. Keeping in view the trends of computerisation, appropriate training and skill development of staff is required.

Utilizing Survey Results for IT Planning

Areas for Consideration

- Scoping of IT systems
- Design of IT systems
- Stakeholder needs and requirements
- IT systems operational management
- Human resources development
  - staff skill, training requirements
- IT Support mechanism
- Strategy for Change Management and processes
- Business continuity

And finally..

- IT only a tool – organization has to interpret its role for IT to deliver

- Core skill is not IT but Accounting and Auditing.

Thank You