



TECHNO BRAIN

Empowering Lives

CASE STUDY

INTEGRATED FINANCIAL MANAGEMENT SYSTEM FOR UTTARAKHAND STATE GOVERNMENT IN INDIA



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CUSTOMER PROFILE

Uttarakhand was formed on 9th November 2000 as the 27th State of India, when it was carved out of northern Uttar Pradesh. Department of Finance (DoF) largely performs the function of advising the Government on all financial matters. DoF deals with all matters related to state finances, which includes Budgeting, Taxation, Registration, State Insurance schemes, State accounts, and coordination with Central Government etc. DoF is also entrusted with the responsibility of framing rules regulating pay, emoluments and other service conditions of all Government employees. It has administrative control over the departments like Commercial Tax Department, Department of Stamps & Registration, Accounts & Entitlement, Registrar Firm, Societies and Chits, National Savings and Treasury Department. Department of Finance acts as a guide to various departments in policy matters, framing of Rules, amendments in keeping with the changing times to bring about efficient Finance administration. DoF is headed by Principal Secretary, Finance who is supported by Secretary, Additional Secretaries, Joint Secretaries and other staff.

BUSINESS SITUATION

The project conceptualizes an Integrated Financial Management Information System (IFMS) for the Department of Finance, Govt. of Uttarakhand. The system aims to consolidate various reports and information that is provided by the line departments of the Finance department. Department of Finance, Government of Uttarakhand (GoU), which is the responsible body for primary level accounting of Government funds adapted a significant IT program in automation of its core processes.

Under this process a system was put in place which revolutionized operation with its features like:

- System based clearance of bills on clearance of budget availability
- Monthly generation of accounts;
- Elimination of systemic deficiencies overdraws of funds, fraudulent withdrawals, misclassification of expenses, non-reconciliation of accounts etc.
- Automated cash management & budget monitoring;
- Timely and accurate MIS for Government departments on the revenues and expenditure.

Current application pioneered the automation of finance operations from pre-existing manual system and is in operation for past years at DoF. It has definitely rendered its benefit to the department in several ways.

However, with the passage of time and increased usage of department functions the requirements and expectations of the user departments and the stakeholders grew beyond the services provided by current application. On the other hand the application has its own limitations like:

Customer:

The project conceptualizes an Integrated Financial Management Information System (IFMS) for the Department of Finance, Govt. of Uttarakhand. The system aims to consolidate various reports and information that is provided by the line departments of the Finance department. The system would also provide real time information on financial status of Uttarakhand.

Industry:

Treasury

DoF, Govt. of Uttarakhand implemented Techno Brain's integrated Financial Management System for their geographically dispersed state government.

Benefits:

- **Real time access** to information
- **Increased efficiency** through an integrated solution
- Quick and effective **decision-making**
- Efficient **fund management**
- Monitoring **wage and means position**
- **Monitoring & controlling** Government liabilities
- Design of **citizen-centric** and dependable service delivery mechanism
- **Faster turnaround** of treasury transactions

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- Restriction to internal functions only
- Lack of integration with stakeholders departments
- Latency in generation of account statements
- Outdated and irreparable hardware & system software in use
- High maintenance cost
- Security Gaps
- Lot of standalone systems, etc.

With these points of concern in view DoF has decided to implement an online and real-time Decision Support System. The system with optimum utilization of the advanced information technology will extend to maximum sphere of operation to evolve as a comprehensive System by integrating various internal and external departments under its purview.

DoF's target of a next generation Automation System in the form of

IFMS will conform to:

1. An integrated finance information system to provide efficient transfer, storage and retrieval of information.
2. Effective and efficient monitoring and control of state revenue and expenditure through:
 - a. Efficient fund management
 - b. Monitoring wage and means position
 - c. Monitoring and controlling Government liabilities
3. Real time financial position of state finances through integration with various departments and consolidation of Receipts and Payments.
4. Automated consolidation and aggregation of data, hence more time for value added analysis.
5. Design of citizen-centric and dependable service delivery mechanism.
6. Ensuring employee participation with well-designed change management process.
7. Faster turnaround of treasury transactions.
8. Automated accounts generation of the state through intradepartmental integration and interface with banks, AG office, State Planning department, Budget Department etc. for consistent view.
9. Efficient mechanism for department, DDO's to track targets, budget allotment, payments and receipts.
10. Workflow automation and real time MIS for decision making

Resource Deployed:

1. Project Manager
2. Business Analyst
3. Systems Architect
4. IFMS Functional Consultants
5. Technical Consultants
6. Civil Works Team
7. Hardware Technicians
8. Change Management Experts
9. Quality Testing & Assurance team

The Methodology used:

1. Systems study carried out
2. Gap Fit analysis done and software
3. Requirements specifications document developed
4. Design Document Developed
5. System customization plan prepared
6. Unit testing test cases prepared
7. Integration testing carried out
8. End User Testing and re-works
9. Data Migration
10. Go-Live

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SOLUTION

Proposed IFMS system attempts to address all the functional and non-functional limitations as explained above by classifying the complete solution as DDO and CTS.

DDO- As DDO is an internet based application accessible by anyone, all front office activities will be handled by DDO. Role based login will be implemented with role based access to content and workflows. CTS System will be on Oracle ADF Framework 11g with Web Logic 11g Server. Oracle Application Express 11g will be used as the reporting module. Proposed system will continue with the current practice of implementing DDO and CTS as separate systems integrated with each other at the database level. This approach will ensure higher security for the CTS system by avoiding its exposure over the internet, and restricting its access to intranet thru a secure VPN. In addition, the two systems will be integrated at the application level with secure Web Services (SOAP or Restful over HTTPS) for data exchange in addition to existing database-level data exchange mechanism. Also the database-level database exchange will be improved to ensure quick turn-around of CTS transactions.

TECHNOLOGIES:

- Oracle 11g Database
- WebLogic 11g
- Oracle Application Express (APEX)
- JHeadStart
- Oracle ADF Framework
- Oracle Report Builder
- SMS Gateway
- Microsoft .Net Framework 4.0
- JBPM & Win. Workflow Engine
- DROOLS & Win. Workflow Rules Engine
- APACHE Lucene search Engine
- LUCENE.net Search Engine
- Google Translator
- Digital Signature Certificates

SCOPE OF WORK:

- **Detailed project plan**, Detailed Gap Analysis and Business Process Re-Engineering of the Department.
- **Submission of Infrastructure recommendations** with respect to Hardware, Supporting Software, Bandwidth, Networks as per Gap Analysis report and proposed system
- **Business Continuity** and Backup Plan
- **Preparation of Functional Requirements Specifications (FRS)** and Software Requirement Specifications (SRS) documents in discussion with Department.
- **Submission of HLD (High Level Design Document)** and LLD (Low Level Design Document).
- **Design & Development** /up-gradation/ customization of Software based on approved SRS.
- **Submission of Unit Testing** and System Testing test cases and test reports.
- **Preparation of user manuals** and training manual.
- **Deployment of Software Application** on the existing IT Infrastructure and platform provided by Department of Finance along with configuration of active Disaster Recovery (DR).

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- **Data entry, data migration** and porting as required and verification support for all such migrated data.
 - **Re-structuring of tables** if required and streamlining of database
 - **Aadhar Integration** for all employee information
 - **Outlining the methodology** that will be used for UAT.
 - **Defining various levels** or types of testing that will be performed.
 - **Resolve /rectify any mismatches** arising out of data entry problems and / or malfunction / defects of the software supplied.
- All levels of testing will be conducted at the installation sites.
- **Providing necessary checklist** / documentation/ input forms that will be required for testing.
 - Describing how the **testing Methodologies** will conform to requirements.
 - **Security audit by CERT-IN** empaneled agency, Performance and Quality Audit from STQC
 - **Imparting training** on the Application software to the departmental officials.
 - Support would include **complete support of software solution** implemented and maintaining all developed software applications/code/any third party products that are supplied as part of the solution.
 - Support deemed necessary to meet with the operational requirements of both **maintaining the IT solution** and providing support for data entry & verification, report generation, Software debugging, removal of software defects, website updating and such other coordination.
 - **Functionality modifications** in developed Software Modules / Change Requests, Development as per new requirements.
 - **Updating & upgrading of the software components** from time to time free of cost during contract period In the event of release of updates / patches, new releases & upgrades by the any third parties after
 - **Integration Requirements:** SMS, Email, Payment Gateway, Banks, PAN, Aadhar, Other Cross Departments, Legacy systems integration.

APPROACH

- Detailed **Project Planning**
- Detailed **Gap Analysis and Business Process Re-Engineering** of the Department
- **Infrastructure Assessment** and perform Gap analysis on existing hardware, software and Network systems and provide report.
- **Prepare and update** Business continuity and backup plan
- **Requirement gathering** and update SRS and FRS documents
- **Design & Development** /up-gradation/ customization of Software based on approved SRS
- **System test cases** would be updated by DoF
- **Preparation of user manuals** and training manual for newly developed modules
- **Deployment of Software Application** on the existing IT Infrastructure and platform provided by Department of Finance along with configuration of active Disaster Recovery (DR)
- **Data would be migrated by TBL** and any data entry would be handled by DoF.
- **Conduct UAT sessions**, support Security audit by CERT-IN empaneled agency, Performance and Quality Audit from STQC, and fix any findings.
- **Conduct user training** using train the trainer approach and provide user manuals. audio and Visual manuals would be provided during ATS

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- **Verify all prerequisites** and complete deployment
- **Provide 1 year post go-live support** from the go-Live date. DBA would be deployed during this period

PROJECT MANAGEMENT:

A hybrid Project Management team was setup that comprised of Key Project Head who managed Project Leads for different components - Application, Hardware & Networking. A strong project management practice was put in place to ensure all activities are conducted on time with quality. The Project Management team was further advised by a team of IFMIS Advisors of Techno Brain who have an experience of over 20 years in implementing IFMIS processes across the world working with different donors and development partners. To monitor the progress of the implementation a Steering Committee was also setup which included team of experts from Client organization, Project Manager from client and suppliers. The Steering committee was held every month.

The project was managed jointly by the Consortium Project manager and the Client Project manager who were tasked with the following activities:

- Review SRS
- Conduct Site Visit
- Validate design
- Verify the application
- Manage the end user training
- Rollout Commissioning and hand over based on approved SRS

BENEFITS:

Since its successful implementation of the IFMIS system it has brought with it a number of benefits to the Government fiscal management process.

Among them are:

1. **Improved efficiency** in the Treasury processes Increased productivity of service providers arising from shortened process time for payments,
2. **Increased transparency** and accountability
3. **More accurate records** and improved financial reporting
4. **Improved decision making** due to easier availability of financial information
5. **Improved revenue collections** against budget.
6. **Improved compliance and discipline** in execution of PFM processes.

Role of Government:

1. Each of the members had distinct roles
2. Provide GOVT Project Manager and focal point of contact
3. Convene the Project Launch meeting and invite the other stakeholders
4. Convene the steering committee meetings
5. Convene the weekly project meetings
6. Facilitate the site visits
7. Validate and approve the site drawings
8. Provide documentation on GOVT processes
9. Provide clarification during development of the Software specifications document
10. Participate in end user testing
11. Convene and supervise the Training
12. Provide and validate master data before
13. Data migration
14. Commission and hand over the equipment
15. Go-live support
16. Post go live support

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7. Improved control on budgets and expenditures
8. Improved citizen service delivery across the state

CHANGE MANAGEMENT

Change Management is a continuous process and we managed it in the following ways.

1. Project Launch, during which we invited Select users from the various sites to brief them what IFMS was all about and
2. What to expect during the project implementation?
3. Training of the users and making them comfortable with the application
4. Change management session during commissioning and hand over of equipment
5. Post go-live change management session held in a central location

The following activities will be performed in change management process

1. Change initiation
2. Change request logging and classification
3. Change request analysis and prioritization
4. Change implementation planning
5. Change Approval
6. Change Implementation
7. Change Testing
8. Change Release
9. Change Closure

SUPPORT

Techno Brain Support team in India will handle support and maintenance of all types of software & hardware requirements of the Customer with local resident engineer based out of India and backup support from other Techno Brain Units.

- Certified and highly experienced Resources to support the needs of Customers
- Lower costs as all customizations are done locally by team
- A Certified team present at its office to support to the needs of client with minimum time delay
- Excellent track record of service delivery to large Public Sector Projects

ROLL OUT SKILLS

The Role out was carried out by Consultants who are certified in the application and the following activities were carried out

1. Data Migration
2. Configuration of secured environment both at Central Data Centre and Server rooms at each site
3. Sound project Management knowledge
4. Technical and Functional Consultants with knowledge on PFM processes
5. Understanding of PFM processes with business rules for Treasury Single Account, government payroll processing.
6. Setting up the workflows and approval hierarchies
7. Setting up Budget rules, allocations and approvals.

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TRAIN THE TRAINER APPROACH

The Training Approach used for the implementation was Modular wise whereby the application was broken down into modules and each module assigned to a user per location. The training was carried out in a centralized location and was practical. We simulated a typical location set-up user would log-in with their credentials and were taken through what they would do when they went back to their respective locations. We trained super-users who would be the first line of support.

DDO APPLICATION



50,000

CONCURRENT USERS
(Peak Concurrency)



400,000

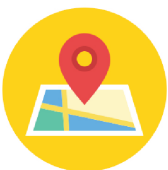
TOTAL USER BASE



INTERNET

ACCESS MEDIUM

CORE TREASURY APPLICATION



86

TOTAL SITES



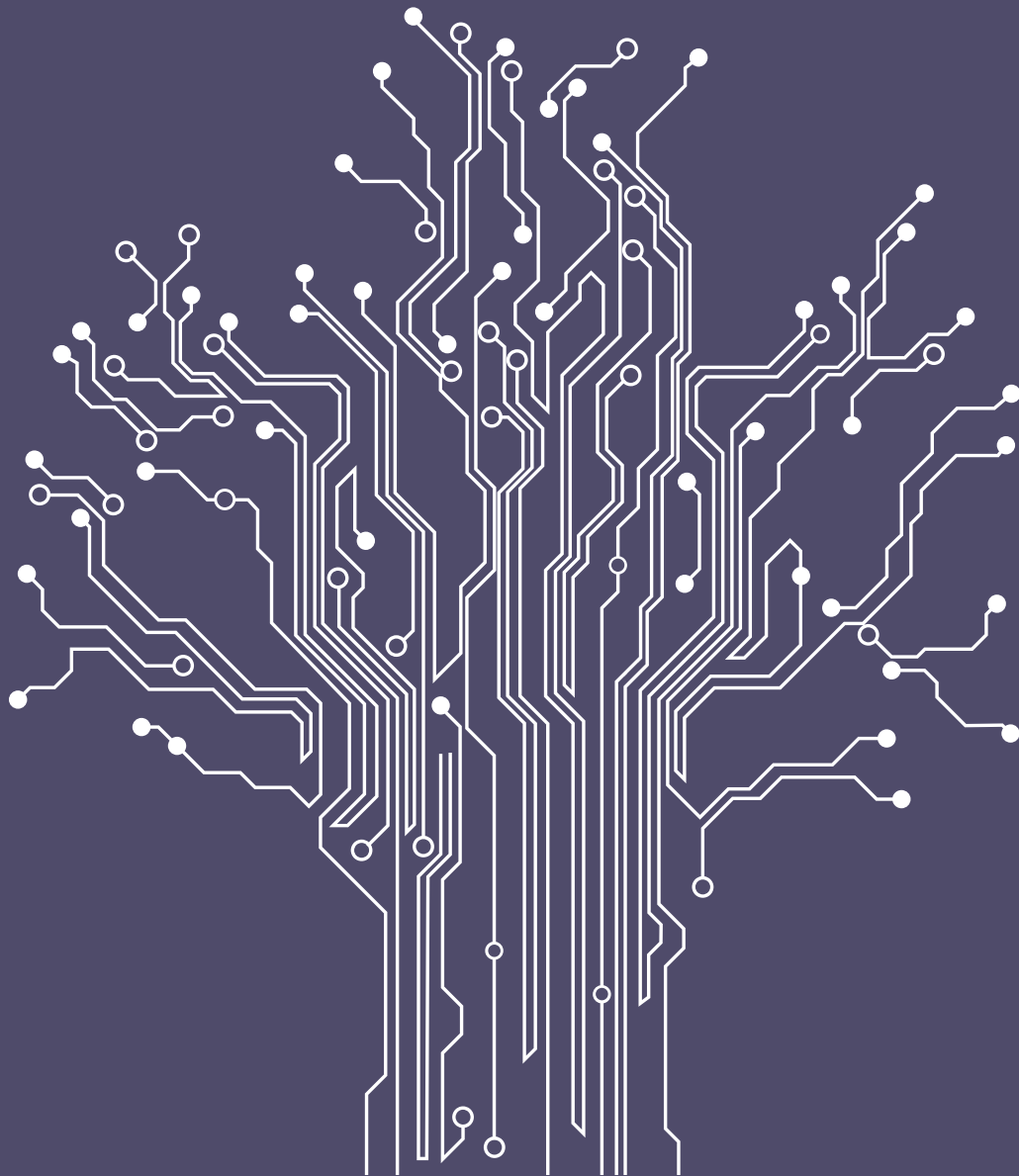
300

CONCURRENT USERS



INTRANET THROUGH VPN

ACCESS MEDIUM



GLOBAL PRESENCE

Botswana | Burundi | Ethiopia | Ghana | India | Kenya | Lesotho | Malawi | Mauritius | Mozambique |
Namibia | Nigeria | Rwanda | Saudi Arabia | South Africa | South Sudan | Swaziland | Tanzania | UAE |
Uganda | UK | USA | Zambia | Zimbabwe

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