Indore Municipal Corporation e-Governance Project

Jitendra Singh

I) Project Overview

Municipality is mandated to maintain and provide civic services to its citizens. The development of city for its residents is one of the prime agenda for the top management. Municipality, being an autonomous body, has to largely manage the finances from its own revenue resources. e-Governance, besides rendering convenience to the citizens, also plays a pivotal role in fiscal reforms and financial management.

IMC had clear objectives for implementation of e-Governance:

(1) Prompt and effective service delivery to its citizens

(2) Transparent administration

(3) Economic self sustenance

(4) Capacity enhancement of the organisation

(5) Manpower rationalization

(6) Accurate and timely MIS.

Development & Economic Agenda

The first two points are citizen oriented and the last four points are for management and controlling of resources. This has been the key for economic growth of IMC which has remained concentrated on revenue growth and plugging of revenue leakages. For us e-Governance has two aspects; tangible (which are realized by the citizens) and intangible (which are not realized by citizens but are realized by administrators/senior management). The tangible results are

lower citizen complaints, improved service delivery, increase in revenue collection and so on, and intangible results are, focus on the areas where taxes are being evaded/paid lesser than they should have been, and areas where internal staff connivance is yielding lower collections.

We proudly aver, and justifiably as well, that implementation of IT (e-Governance) innovatively has brought us the continued and sustainable growth in revenue on (YoY) basis.
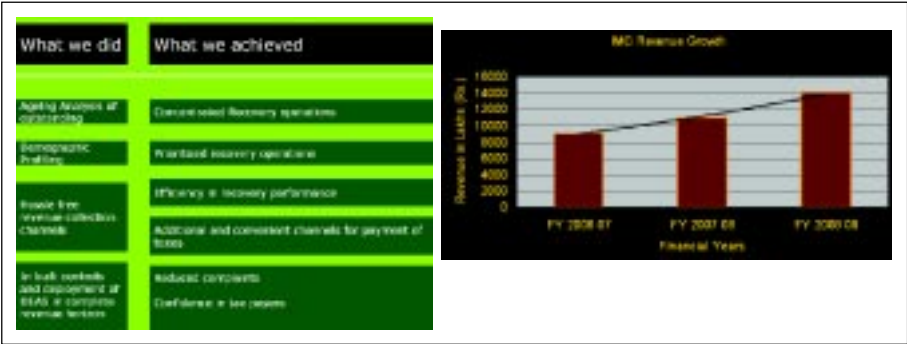
II) Result Indicators

1. Key Performance (Stakeholder-wise)

a. Stakeholder-wise Services and Benefits of ICT/e-Gov Initiatives

The performance of e-Governance at IMC can be measured on customer value and organisation value.

Table 1: Customer Value Parameters			
Module	Service (Stakeholder: Citizen)	Time Value (attribute: time)	
		Prior Implementation	After Implementation
Birth And Death	Issue of Birth Certificate	15 days	15 minutes
	Authentication of birth application	5 days	30 seconds
	Issue of Death Certificate	15 days	15 minutes
	Authentication of death application	5 days	1 minute
Social Security	Application Approval/ Disapproval Process	15 days	15 minutes
	Pension Generation And Payment	2 months	6 hours
	Money Order Preparation	1 month	6 hours
License	Process of License Issuing	15 days	2 days
	Renewal of license	7 days	1 minute
	Expiry Licensee Searching	2 days	1 minute
Ration Card	Process of Ration Card Preparation And Issuing	15 days	2 days
	Renewal of Ration Card	7 days	1 minute
Water Connection	Water Connection Process	15 days	3 days
Property Tax	New Property Registration	1 day	15 minutes
	Breakup of property	1 day	15 minutes
	Transfer of property	1 day	15 minutes
Building Permission	Authentication of application as per the MOS Rules	3 days	1 minute
	Authentication of application as per Bhumi Adhiniyam	3 days	1 minute
Complaint	Complaint Logging, Internal Department Processing	3 days	1 minute
	Complaint Status Inquiry	1 day	1 minute
Accounts	Copy of Ledger	1 day	1 minute
	Effect of payment in Ledger	1 day	1 minute

Table 2: Organisational Value Parameters			
Module	Service: (Stakeholder IMC)	Value	
		Prior Implementation	After Implementation
HRM	Pay Bill Generation	7 days	1 hour
	Pay Slip Printing	N/A	1 minute
	Loan/Advance Payments	1 day	1 minute
	Employees GPF Ledger updation	1 month	1 minute
Social Security	Application Approval/Disapproval Process	15 days	15 minutes
	Pension Generation and Payment	2 months	6 hours
	Money Order Printing	1 month	6 hours
License	Process of License Issuing	15 days	15 minutes
	Renewal of License	7 days	1 minute
	Expiry Licensee Searching	2 days	1 minute
Ration Card	Process of Ration Card Issuing	7 days	15 minutes
	Renewal of Ration Card	7 days	1 minute
Water Connection	Water Connection Process	15 days	3 days
	Searching of connection and its arrea (including and excluding surcharge)	15 minutes	1 minute
	Surcharge calculation and posting	1 month	1 minute
	Bill generation and printing	2 months	6 hours
	Receipt entry and their ledger/DR updation	20 minutes	1 minute
	Daily/Monthly/Periodically Manual/Report Preparation for audit	2 hours	1 minute
Property Tax	New Property Registration	1 day	15 minutes
	Breakup of property	1 day	15 minutes
	Transfer of property	1 day	15 minutes
	Searching of connection and its area (including and excluding surcharge)	15 minutes	1 minute

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	Surcharge calculation and posting	1 month	1 minute
	Bill generation and printing	2 months	6 hours
	Receipt entry and their ledger/DR updation	20 minutes	1 minute
	Daily/Monthly/Periodically Manual/Report Preparation for audit	2 hours	1 minute
	Calculation of property tax, exemption on the basis of dimension and categories	15 minutes	1 minute
Rental Property	Searching of connection and its area (including and excluding surcharge)	15 minutes	1 minute
	Surcharge calculation and posting	1 month	1 minute
	Bill generation and printing	2 months	6 hours
	Receipt entry and their ledger/DR updation	20 minutes	1 minute
	Daily/Monthly/Periodically Manual/Report Preparation for audit	2 hours	1 minute
Building Permission	Authentication of application as per the MOS Rules	3 days	1 minute
	Authentication of application as Bhumi Adhiniyam	3 days	1 minute
	Searching and updating the status of application	15 minutes	1 minute
Complaint	Complaint Logging, Internal Department Processing	3 days	1 minute
	Complaint Status Inquiry	10 minutes	1 minute
	Complaint Status updation and feed back	1 day	1 minute
Finance	Cash Book Preparation	1 hour	1 minute
	Day Book Preparation	1 hour	1 minute
	Entry Posting in Ledger	1 hour	1 minute
	Purchase Voucher Prepration	15 minutes	1 minute
Material	Stock Details	1 hour	1 minute
Management	Purchase Order issue	1 day	3 hours

Contd...			
	Stock Ledger entry and updation	1 hour	1 minute
Legal Cell	Case details	1 hour	1 minute
Colony Cell	Detail of Colonizer	1 hour	1 minute
	Regularization of illegal colonies	1 hour	1 minute
Project Monitoring	Detail of engineering project/ work taken up by the ULB	1 day	2 minutes
	Tracking of earlier works/ repairs done	1 week	1 hour
	Detail of payments made to contractor on project	1 hour	1 minutes
Integrated Inward/Dispatch	No. of letters received or dispatched dept.-wise	1 hour	1 minute
Parishad/Mayor In Council	No. of propopals presented in meeting	1 hour	1 minute
	Details of action taken on proposal presented in meeting	1 hour	1 minute
Solid Waste Management and Health Services	Details of employee, vehicles, dumping ground etc.	1 day	1 minute
Schemes Monitoring	Details of project or sub project under scheme	1 day	1 minute

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

The geographical jurisdiction of Indore Municipal Corporation is total municipal area of Indore city.

Implementation coverage: Total urban (geographical) area of Indore

Implementation methodology: Module wise roll out (see table below)

Table 3			
S. No	Module	Stage-I	Stage-II
		Handholding & knowledge transfer	Operated by IMC staff
1.	Property Tax	□	
2.	Water Tax and Associated Processes		
3.	License		
4.	Rental		
5.	Birth & Death Certificate Management System		
6.	Double Entry Accounting System		
7.	Integrated Establishment		
8.	Ration Card System		
9.	Building Permission		
10.	Social Security Schemes		
11.	Citizen Complaints Management		
12.	Stores & Workshop		
13.	Central Purchase System		
14.	Legal Cell		
15.	Colony Cell		
16.	Project Monitoring		
17.	Integrated Inward/Dispatch		
18.	Schemes Monitoring		
19.	Property Survey/Scientific House Allotment		
20.	Online Payments and Transaction Processing – Payment Gateway, Citizen Facilitation Counters etc.		
21.	Parishad/Mayor In Council		
22.	Solid Waste Management and Health Services.		

% of branches/deptt covered: Head office/zonal offices/other counters 100% (See the table below)

Table 4			
S. No	Field Office	Stage-I	Stage-II
		Handholding and knowledge transfer	Operated by IMC staff
1	Zone – 1		
			Contd...

Contd...	
2	Zone – 2
3	Zone – 3
4	Zone – 4
5	Zone – 5
6	Zone – 6
7	Zone – 7
8	Zone – 8
9	Zone – 9
10	Zone – 10
11	Zone – 11
12	Zone – 12
13	Registrar Office
14	IMC Head Office Counters

% of department covered: 100% (See the table below)

Table 5		
S. No	**Department**	**Status**
1.	Revenue	
2.	License	
3.	Rental (Market)	
4.	Health	
5.	Accounts/Finance	
6.	Establishment	
7.	Ration Card	
8.	Building Permission	
9.	Social Security	
10.	Citizen Complaints	
11.	Stores & Workshop	
12.	Central Purchase	
13.	Legal Cell	
14.	Colony Cell	
15.	Project Monitoring	
16.	Parishad/Mayor In Council	
17.	Solid Waste Management and Health Services	

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the above Set of Services

Introduction of e-Governance at IMC has been instrumental in

Time efficiency: The resultant improvement is clearly reflected in Tables #1 and 2.

Cost efficiency: Cost of service delivery, i.e., operational cost is associated with cost of manpower, infrastructure and technology involved.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Table 6			
Stakeholder	Services	Time savings	Cost savings
Citizen	Birth/Death Certificate	15 days (approx)	In terms of opportunity cost of time saved on repeated visits for follow ups and repeated commuting expenses thereon
	Pension generation and payment	2 months (Approx)	
	New license issue	13 days	
	Renewal of license	7 days (Approx)	
	Issue of ration card	13 days	
	Renewal of ration card	7 days (Approx)	
	Water connection	12 days (Approx)	
	Registration of property (new)	8.5 hours	
	Transfer of property	8.5 hours	
	Breakup of property	8.5 hours	
	Complaint registration	1 day (Approx)	

Table 7			
Stakeholder	Services	Time savings	Cost savings
IMC as organisation	Money order preparation	1 month (Approx)	In terms of staff man hours involved and other overheads
	Search on expiry license	2 days (Approx)	
	Authentication of application of building approval as per MOS rules/Bhumi Adhiniyam	3 days (Approx)	
	Pay bill generation	7 days (Approx)	
	Loans/advance payments	1 day (Approx)	
	Employee GPF ledger updation	1 month	

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	Water related	Bill generation	2 months	
		Daily MIS generation for audit	2 hours	
		Monthly MIS generation for audit	2 hours	
	Property related	New Property registration	1 day	
		Breakup of property	1 day	
		Transfer of property	1 day	
		Bill generation	2 months	
		Daily MIS generation for audit	2 hours	
		Monthly MIS generation for audit	2 hours	
	Rental properties (market)	Bill generation	2 months	
		Daily MIS generation for audit	2 hours	
		Monthly MIS generation for audit	2 hours	
	Complaint	Departmental processing	3 days	
		Status enquiry	1 day	
	Finance	Cash book preparation per day	1 hour	
		Posting in ledger per day	1 hour	
		Purchase voucher preparation per day	1 hour	
	Stores	Stock details per day	1 hour	
		Purchase order issue	1 day	
		Stock ledger entry/updation per day	1 hour	
		Legal cell case details/day	1 hour	
		Colony cell; details and regularization/day	1 hour	
	Project monitoring	Details of engineering and project works taken up	1 day	
		Tracking of running works	1 week	
		Details of payment to contractors/per day	1 hour	
	Solid waste management and health services	Information on workers/ vehicles and garbage disposal per day	6 hours	

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented, Initiatives Integrated with Other Departments

a. End to end integrated IT solution

b. Cross departmental process integration

c. Work flow automation, step-by-step computer process authorization

d. Implementation of DEAS and budget on NMAM/MPMAM platform, across the organisation, means every transaction of organisation is recorded as per the recommended NMAM standards

e. IT based budgetary control

f. Unique identification number of properties and also in other areas like water tax, licenses etc.

g. Online Real Time Payment Gateway on the website with full integration with the revenue module, providing real time update in the ledger of the citizen. The online payment facility is available for property tax, water tax and other services

h. Technology placements for the following

    i. Touch Screen Kiosk

    ii. Any Time Payment (ATP) machine

    iii. ATM Machine

    iv. Handheld integration for on spot tax collection

i. Citizen Service Centers

j. Collaboration on PPP model with

    i. Hospital (Birth Registration)

    ii. Cyber Café

k. Online License Renewal

l. Online Birth/Death approval

Integration with other departments

We have created technological placements for other departments to seamlessly integrate with IMC, crossing the departmental boundaries in the process and

thus enabling them to work on IMC's integrated platform. It includes partnership with:

- Collectorate

- MPOnline

- Other State Government's initiatives

- National e-Governance initiatives

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

IMC as a vector to realize the vision of the Government, transcending departmental boundaries to reach the citizens for all their needs, using e-Governance to serve citizenry in an effective, more transparent, friendly manner in an atmosphere of trust.

b. Objectives Defined

    a. To have web presence and disseminate public information on web

    b. To have interactive web presence

    c. To improve the service delivery, i.e., to reduce the time taken by the tax payer

    d. To simplify the departmental processes

    e. To increase the total revenue

    f. To reduce the number of complaints/grievances

c. Measurable Objectives

    g. To have integrated MIS in place in the first year of the project

    h. To have NMAM based accounting and budgetary system by second year of the project

    i. To increase the revenue every year @ 20%

    j. To implement all the mandatory reforms as mentioned under JNNURM programme

    k. To increase collection efficiency and coverage area ratio

d. Project Milestones

Table 8	
Activity	**Status**
Process reengineering	✓
Implement revenue related modules in the 1st year of implementation (like property tax, water tax, rent, licenses etc) and other modules in subsequent year	✓
Had web presence in the first year and to have interactive and real time transaction oriented website in second year	✓
Connected all the zonal offices through WAN in 1st year enabling citizen services	✓
Identification of key (internal) resources for capacity building	✓
Handholding and knowledge transfer in the first year and self operations from second year onward	✓
IT center in 1st Year and full fledged Disaster Recovery Center in 3rd year	DR development in process
PPP based services in 3rd year	In process (approved by Mayor in Council)
Touch screen, ATP, and ATM based services in 3rd year	In process (approved by Mayor in Council)
Collection of taxes at the door step of the citizen in 3rd year	In process (approved by Mayor in Council)
SMS based services and mobile payment in 3rd year	In process (approved by Mayor in Council)

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

- Payment of property tax at any zone irrespective of the location of property

- Introduction of single window services (earlier citizens had to visit various counters to avail different department services)

- Move from cash based to accrual based double entry accounting system

- Migration of old accounting structure to NMAN/MPMAM code of accounts

- Listing and valuation of fixed assets

- Adopted asset coding system

- Budgetary control process redefined across the departments

- Forecast billing methodology

- Mass billing system

- Introduction of Help desk for the citizens

- Process change for named transfer in case of property tax

b. Major Back-end Process Changes

- Automated account handling system (AAHS)

- Reference Management Tracking System (RMTS)

- Receipt generation methodology

- Collection management system for all branches and departments

- Local language support

- Incorporation of accountability in the transaction by introducing time, date, IP and log in stamping on all IT based transactions.

3. Project Sustainability

a. Financial Model (Funding Pattern, Business Model, PPP, etc)

Implementation through Zero Cost based Financial Model

A totally innovative 'zero cost based' financial model has been adopted at IMC with the clear intent of not stretching its already strained resources and also raising the required finance in a 'no pinch' fashion from the tax payers.

The implementation and operational cost for the e-Governance project thus could be internally funded. This is illustrated as follows:

	Number of tax payers (units)	Service charges (Rs.)	Annual receipt
Property tax	3.5 lakhs per annum	Rs.10 per unit	35 Lakhs
Water Tax	1.7 lakhs per quarter	Rs.5 per unit/quarter	34 Lakhs
Total			69 Lakhs

Annual cost towards technology maintenance (Software support/AMC/spare parts etc)	Rs.49 Lakhs
Annual savings	Rs.20 Lakhs
Initial cost towards software, hardware, networking and associated infrastructure	Rs.100 Lakhs
The above cost of Rs.100 lakhs will be recovered from annual savings of Rs.20 Lakhs in 5 years' period	

PPP model for reduced operational costs

Cyber café operators in the city shall be the business partners facilitating online payment of taxes. The operator will pay online through his current account (with State Bank of Indore; other banks being included) or through his Credit Card (Master/Visa) and in turn collect cash from the citizen. User charge of Rs.10.00 for facilitating the service has been proposed, which the tax payer (citizen) shall pay to the cyber café operator. It is pertinent to mention that participating bank and credit card payment gateway does not levy any charges to IMC on such electronic transactions.

b. Technology Maintenance

IMC has been very frugal in adoption of technology which has resulted in no annual cost on OS, annual licensing for anti virus (for all servers), no monthly cost in wide area networking. In addition, since the integrated municipal application is owned by IMC, there is no cost towards per user license.

The cost towards preventive maintenance/AMC is recovered from the service charges imposed on property and water tax payers.

c. Disaster Recovery Center

Indore Municipal Corporation is currently at initial stage of disaster recovery as it has only "server to server mirroring" as backup procedure.

It is in the process of creating tier 1 data center and hot disaster recovery center (approx 10 km).

d. Project Management Team (full time department officials/consultants)
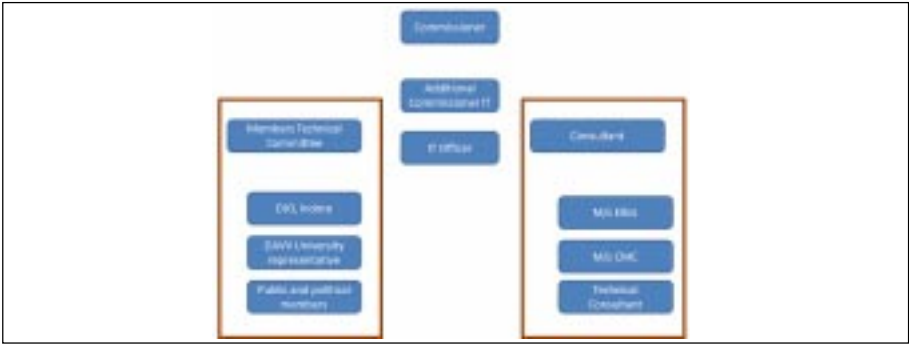
4. Change Management

a. Change Management Strategy

It is based on practical aspects of impact of technology implementation and the changes in the procedures and processes. The change management strategy adopted has been to ensure smooth inculcation of technology on gradual basis. A "three tier matrix" approach was adopted, keeping in view the skill set of available staff at various levels. It involved:

- Confidence building and mobilization of opinion
- Identification of internal champions and team formation
- Module wise implementation
- Training on technology and reformed processes
- Handholding and skill transfer
- Self reliance in operations.

b. Capacity Building Plan

Capacity building plan being the main pillar of our change management strategy had been carefully devised to encourage involvement of the existing staff by bringing an acceptance towards the technological change in their mindsets and gradually enhancing their level of skill sets in the above areas.

To further beef up the skills, external consultants were also roped in for successful implementation of the above processes.

The backbone of our capacity building plan has been our innovative and carefully designed Knowledge Transfer Program (KTP) percolating down to the lowest rungs. The levels of KTP had been:

Level 1: Induction and orientation trainings with an interactive approach

Level 2: Operational trainings with participative approach

Level 3: Operational handholding approach

Level 4: Handing over

IMC, thus, can proudly claim to have trained and built capacity of around 100 staff members at various levels and areas through intensive interactive and participative sessions of trainings.

c. Leadership Support & Visibility

The implementation of project roadmap, process reforms and change management requires strong leadership with a clear vision and commitment. IMC is fortunate to have a committed set of leadership, right from the Honorable Mayor, Municipal Commissioner, IT officer and technical partners, who have been actively involved in the monitoring, implementation and development of the above process.

The concept of leadership was extended to the various departments, wherein leaders were identified, their skill sets were improved and they became our change enablers.

5. Project Monitoring

a. Monitoring and Evaluation Process

Monitoring Approach & Methodology

IMC's eGov. approach is a pragmatic approach based on simple concept of management, which involves continuous interaction with all the departments of IMC. There is also a system of internal review by each department. Subsequent to the review, IMC takes upon the corrective measures so as to ensure that the project outcomes are as per the defined objectives and within preset timelines.

Collection of Monitoring Data/Monitoring Method

In the inception of the project itself, we had a process to collect the progress of the project. The process involved vendor presentation, interviews, and on-screen output reports. Functional heads of each module were responsible for signing off the output reports. In case the functional head did not find the output reports as per the desired outcome, the vendor were asked to configure and customize the module as per departmental requirements. Similarly the output was measured for networking, where the physical sites are connected with HO to ensure that the data communication is happening between the HO and the zonal office. In the cases, where the network connectivity could not be established, vendor presentation, interviews and further plan of action was discussed. Accordingly monitoring of hardware procurement was also carried out. The objectives of vendor interaction were to have amicable and close working and also to have close monitoring on the project. In order to institutionalize the monitoring mechanism, IMC had created a high level technical committee.

Evaluation of Performance

The output of each activity was evaluated with respect to the expected performance. For example, if a user logs in from a zonal office to collect the property tax, then he is able to do the same within a minute (in fact it takes less than a minute). The performance is monitored on continuous basis in order to ensure that citizen charter is complied.

b. User Feedback Project Assessment Mechanism

Timely interactions with HODs for collecting the feedback from various departments were carried out regularly on fortnightly basis. The meeting was chaired by the Commissioner of IMC. The commissioner and the IT officer took the responsibility of ensuring that corrective actions are taken up accordingly.

c. Third Party Overall Project Audit Mechanism

Third party audit is carried out in IMC by the following agencies

- Technical audit conducted by the vendor time to time for various activities
    - Pre Generation audit for property tax/water tax/rental bills/before demand generation
    - Post generation audit for property tax/water tax/rental bills/after demand posting
    - Sample audit on voluminous data where physical audit can not be possible
- Technical auditors of Auditor General Madhya Pradesh (AGMP)
- Resident Auditor of IMC by local fund audit department of GoMP
- System audit conducted by CISA (through technical consultants).

(Jitendra Singh, IT Officer, Department of Information Technology, Indore Municipal Corporation, Indore, Madhya Pradesh. The author can be reached at jitendranju@yahoo.com / imcit@rediffmail.com).