Large IT Project Implementation - a Police application perspective

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Introduction

A comprehensive Police Information System has the paramount objective to computerize activities related to Crime control, administrative support functions and interactions with other co-functionary government departments such as Judiciary, Road Transport Authority, Prisons, Hospitals, immigration etc., apart from providing timely and accurate information to citizens.

Effective implementation of such system depends primarily on the environment, processes, infrastructure, and continuity measures. The implementation of such systems will bring in an Organizational Transformation bridging the digital divide in a department in particular and in the government in general.

Police Information Systems

Typical Police Information Systems are in the areas of

- Finger Print Identification
- Dial 100
- Messaging systems
- End-to-end systems for Case Management and Police Operations (Case Registration to Case Disposal)
- Surveillance (Wireless Cameras for monitoring traffic junctions, public places, custody cells)
- Field Reporting, Evidence Gathering and Analysis (Expert Analysis Reports such as Handwriting, Documents, Ballistic, Forensic, Cyber Crime etc.)
- GIS and GPS based information display and analysis
- Traffic Monitoring and Management
- Decision Support Systems
- Personnel scheduling, Force deployment and utilization monitoring
- Vehicle tracking and location systems
Typical Requirements

The Police Information Systems have very unique technical and functional requirements. A representative set of requirements are as below.

- Vastly narrative records, large audio/video footage for storage
- Huge historical data
- Extensive data capture of Incidents and Persons
- Workflow
- File Tracking
- Checklists and rules to build Organisational Knowledge repository
- Geographically spread units
- Vernacular language interfaces
- Access to data based on jurisdiction, hierarchy and role of user
- Security
- Extensive repeated references to data (both internal and external)
- Integrated Interfaces to Internal and external systems
- Data sharing between State, National and International Police Organisations
- Standard Codifications
- Standards for Schema, nomenclature, Middleware and Security
- Adhoc and Canned Report generation
- GIS and GPS interfaces
- Decision Support Systems
- Bio-metric authentication
- Usage of Mobile devices such as hand held computers, PDAs, Cell Phones by field officers on patrol

Envisaged Benefits

1. Productivity enhancement
2. Transparency in operations and better administration
3. Easy access to information and MIS
4. Better intelligence for policy making
5. Reduced paper work by way of automating the maintenance of registers, report generation, data analysis
6. Improved planning and coordination
7. Offers better police service to citizens
8. Creatively address issues in underserved communities by providing technology, resources, tools and solutions
9. Right utilization of manpower
Implementation experience – Critical Success Factors and Best Practices

The critical success factors and best practices from the implementation experience of a large IT application for a police organization can be broadly categorized as Environmental, Procedural, Infrastructural and Continuity oriented.

1. Environment

Police organizations are disciplined and very hierarchical, thus making it easier to orient the entire organization towards IT.
Police has time tested manual procedures that are core to the functioning. Hence any new method or change in procedures will bring in resistance to implementation unless directed appropriately by the hierarchies and change in laws, if required, to provide legal acceptance.

Applications exist in silos on limited scale, but a well integrated application suite is the need of the hour.

There is need to evolve performance bench marks for comparison of IT applications being developed.

Majority of the Police force is less initiated into computers and thus any organizational transformation achieved through implementation of IT in the department will contribute towards bridging the digital divide.

Development of a dedicated Organization structure for computer applications implementation and support will greatly ensure continuity of the systems being implemented.

2. Processes

A set of well laid-out and strictly adhered processes in the following areas will greatly benefit the implementation of long gestation IT applications in government departments such as Police.

a. Visionary Conceptualization of the projects
b. Cohesive inputs during requirements gathering will greatly help in streamlining MIS needs
c. Guiding Instructions to officers to improve utilization, to avoid rework and to reduce paper work. Existing processes to yield for new computerized processes.
d. Monitoring processes for timely implementation and continued or sustained usage of IT systems being developed and implemented. These can be in the form of Apex bodies, Steering committees.

3. Infrastructure

Infrastructure development and availability plays a significant role in the successful implementation of large IT applications in a government department. Areas to address revolve around the following.

1. Selection of appropriate technologies and system software. Be it connectivity dependent centralized data based architecture or availability based distributed, decentralized data based. Be it Open source based or Proprietary technologies.
2. Provide for appropriate network infrastructure for Connectivity. Be it dial-up or leased line or radio/VHF or VSAT or hybrid.
3. Creation and maintenance of Optimum computer resources in terms of sufficient computers, printers and optimum facilities such as separate enclosure, power availability etc., to promote and propagate usage of information systems

4. Continuity

It is highly recommended to create an internal organizational structure such as an IT wing

- to visualize, implement and nurture development of IT applications for the organization
- to train staff to promote usage and to promptly support the computer systems and applications.
- to assist the department and government in appropriate policy formulations
- to empower the IT system users appropriately and
- to receive funding on regular basis
The trained staff needs to be dedicated to the usage of IT applications for reaping sustained benefits and to create a culture and value system of IT enablers.

The continuity needs to be achieved through continuous awareness development and skill enhancement of officers in phased manner. It is recommended to explore Computer based training for detailed awareness and Classroom sessions for motivation and guidance in order to keep the training cost at optimum level.

Broadly ..... 

The organizations
- Have to be realistic in attempts to identify and differentiate among objectives of IT applications
- Have to think big, start small and scale fast
- Have to be visionary in linking its policies to the ongoing fundamental changes to the structure of department, economy and of society
- Have to Develop consistent, well-integrated set of projects and applications
- Have complete roadmap from concept to total institutionalization
- Realize that pilots are only one step forward in the long cycle of computerization
- Have sufficient and sustained budget support from government (as the police department may not be able to fund itself as it is neither a profit center nor a revenue earner)
Bibliography and Acknowledgements

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2. Project experience while implementing CMC’s product, VCOPS (Versatile Computerised Operations for Police Services) in Andhra Pradesh and Goa.
3. eGovernance Centre of excellence [http://www.egovcoe.com](http://www.egovcoe.com)

About the author

Mr Venkateswar Oruganti is IT Manager in System Integration department of CMC Limited. He is B.Tech in Electrical and Electronics Engineering from Sri Venkateswara University College of Engineering, Tirupati and holds M.S in Systems and Information from Birla Institute of Technology and Science, Pilani. He has over 15 years of experience in IT industry in designing, developing and implementing IT projects in applications like real-time SCADA systems for Power utilities, Online Trading for Stock Exchanges, Workflow based Office Automation and Police Operations Computerisation.
**Anecdotes on Governance**

"After attaining Swaraj (Self-rule) we need to have Su-raj (good governance)" - Mahatma Gandhi

"In a country well-governed, poverty is something to be ashamed of. In a country badly governed, wealth is something to be ashamed of." Confucius

"The thinking that we have has brought us to where we have already been. In order to go somewhere else, we must think in a different way." Albert Einstein

"In the happiness of his subjects lies the king's happiness; In their welfare, his welfare." Chanakya, Arthashastra

"The issue before us is not whether we [India] can achieve a significantly higher growth rate, rather it is whether we can afford not to." Atal Bihari Vajpayee

Governments must recognize that the so-called "structural agenda" of reforms, that WB consistently emphasizes is not an option, it is a must. World Bank

"The Government, like a good doctor, must apply its own knowledge and consult experts and then prescribe what is the best treatment." Goh Chok Tong

"Technology is the most non-linear tool that can effect the fundamental changes in the ground rules of economic competitiveness." A.P.J. Abdul Kalam