Major E-Governance Projects in an Indian State (Rajasthan) 
(With Implementation and Experiences of a Progressive Division (Bikaner))

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Abstract: Rajasthan is a progressive state of India through a large number of planning projects and out of them major project is going through e-Governance. Due to some critical problems like incomplete awareness, limited resources, weak infrastructure, lack of ICT knowledge & etc, very difficult to deploy e-Governance projects successfully. Aim of this paper is to describe the major e-Governance implemented projects in Rajasthan state with a brief view of progress of a growth oriented region (Bikaner) regarding e-Governance implementation, public perception & experiences. This paper also gives some suggestions to make e-Governance projects effective and successful.

Keywords: Rajasthan, e-Governance, ICT, Bikaner

1. Introduction

The general term of Information Technology refers to activities and technologies associated with the use of computer and communication with techniques for processing large amount of information, storage, and retrieval of data, applications of statistical and mathematical methods of decision making problems. Now IT has moved into e-commerce, e-business and extends to government and ministries. E-governance [1] is application of ICT for interaction among government, citizens and businesses as well as in internal government operations to simply and improves the governance “Electronic Governance (e-Governance) incorporates all those processes and structures by means of which the new information and communication technologies (ICTs) can be deployed by government to enable the following:
• Administration of government and delivery of services to the public (eServices). This generically constitutes electronic government
• Informing, vote-enabling, representation-enabling, consulting and involving the citizenry in, among others, broad consensus making in society in matters pertinent
This constitutes Electronic Democracy (e-Democracy); Transacting business with its “supply chain”, namely, partners, clients and the markets. This constitutes Government Electronic Business (e-Business).” [2]

Basically, e-Governance is generally understood as the use of Information and Communications Technology (ICT) at all levels of the Government in order to provide services to the citizens, interaction with business enterprises and communication and exchange of information between different agencies of the Government in a speedy, convenient efficient and transparent manner. [Ref-3] Dr. APJ Abdul Kalam, former President of India, has visualized e-Governance in the Indian context to mean: “A transparent smart e-Governance with seamless access, secure and authentic flow of information crossing the interdepartmental barrier and providing a fair and unbiased service to the citizen.” [Ref-4]

Government of Rajasthan is also taking it very seriously and developing a numerous effective measures for major policy decisions and trying to follow various national e-Governance plans (NeGP) to provide better governance, according to various divisions of the state.

2. Major Initiatives in Rajasthan State

Rajasthan [3] is a vibrant, exotic state where tradition and royal glory meet in a riot of colors against the vast backdrop of sand and desert. It has an unusual diversity in its entire forms- people, customs, culture, costumes, music, manners, dialects, cuisine and
physiographic. The land is endowed with invincible forts, magnificent palace havelis, rich culture and heritage, beauty and natural resources. Rajasthan is an Indian state which is established on 1 November 1956. It has 33 districts and capital city is jaipur. Literacy ratio is 68% (20th) and total area is 342269 km².

The State Government’s primary concern is to deploy the benefits of Information Technology in such a manner as to facilitate the main objectives of e-Governance. The vision of the National e-Governance plan is to “make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man”. The three main pillars of the NeGP are: State Data Centre, State Wide Area Network and Common Services Centres. Rajasthan State is now engaged in aligning the e-Governance strategy to create synergy with NeGP. State Government is also undertaking a holistic approach to reengineer its business practices to facilitate a citizen-centric system of e-Governance that can overcome geographical, time and physical limitations and provide a 365x24x7, anywhere-anytime access to the common man, particularly to those people living in the rural areas. This will help achieve the broad goals of the NeGP and facilitate the common man in accessing public services through the power of technology in a transparent and hassle-free manner. [4].

Rajasthan would leverage Information & Communication Technology (ICT) as a tool for improving governance by facilitating the electronic delivery of public services. Rajasthan is divided into 33 districts and seven divisions such as Ajmer Division (Ajmer, Bhilwara, Nagaur, Tonk) Bharatpur Division(Bharatpur, Dholpur, Karauli, Sawai Madhopur), Bikaner Division(Bikaner, Churu, Ganganagar, Hanumangarh), Jaipur Division(Jaipur, Alwar, Jhunjhunu, Sikar, Dausa) Jodhpur Division(Barmer, Jaisalmer, Jalore, Jodhpur, Pali, Sirohi) Kota Division(Baran, Bundi, Jhalawar, Kota) Udaipur Division(Banswara, Chittorgarh, Pratapgarh, Dungarpur, Udaipur, Rajsamand) [5]

3. Key Projects Developed in Rajasthan State

Key projects which are developed toward e-governance implementation in Rajasthan state are fully integrated and categorized into four parts such as:

3.1 Key Projects for G2G (Government To Government)

a. Chief Minister’s Information System: (www.cmis.rajasthan.gov.in) facilitates monitoring of CM announcements, budget announcements, projects and various financially aided schemes, Chief Minister’s Schedule, issuing of various sanctions from CM Relief Fund/ BPL schemes etc.

b. Disaster Management System: (http://dmdr.rajasthan.gov.in):is a web enabled integrated system designed and developed to monitor and control various activities being carried out under relief works.

c. Right to Information Portal: (http://rti.rajasthan.gov.in): provides facility to file RTI application and check the status online.

d. Digitization and e-cataloguing: (http://ancientdocuments.rajasthan.gov.in), (http://ancientcoins.rajasthan.gov.in) Ancient documents, antiques, antique coins are being digitized and e-catalogued Departments include: [7]

   i. Rajasthan State Archives, Bikaner
   ii. Rajasthan Prachya Vidyapratishthan, Jodhpur
   iii. Language and Libraries Dept., Jaipur
   iv. Archeology and Museums Department.

e. Seconline: An Intranet portal for Secretariat Network for scheduling the meetings and with the facility of utilizing the common office application tools and softwares.

f. Video Conferencing: The facility has been provided to the 33 districts of the State and a VideoConfencing calendar for all the Departments has been issued. All major departments are utilizing the services as per their requirements.

g. Mobile Video Conferencing: The objective is to establish the two-way instant high capacity communication link between State Head quarter and the remote site and utilized to facilitate instant voice links between administration and disaster effected place to mobilize and to provide the adequate support. These links are also being utilized to have voice / video conferencing between State administration and District / Village administration for the grievance removal of the affected people. Two mobile Video Vans have been made operational for G-to-C interactions and for onsite monitoring of field projects. This facility has been extensively used in Swasthaya Chetana
Yatra and Gram Sampark Abhiyan by Medical and Health Department.

h. SI & PF: The State Insurance and the General Provident Fund details of all the State Government employees has been computerized benefitting all the employees. The updated information of the policies, New Pension Index details, Mediclaim Insurance Policy details etc are also available at http://sipf.rajasthan.gov.in.

i. LITES: (http://lites.rajasthan.gov.in): A Web based Litigation Information, Tracking & Evaluation System (LITES) implemented on the exemplary Initiative taken by Justice Department. It is being used by most of the Departments for effective monitoring of legal cases. More than 1.00 Lac cases being monitored by 200+ Departmental litigation officers with around 1400 cases monitored on daily basis. LITES 2008 -Upgraded Version launched with exhaustive Query Reporting and At A Glance reporting features for the Top level Administration enabling online monitoring of litigation.

j. Vikas Darpan: A GIS tool for decentralized planning - A GIS based tool for decentralized planning – Vikas Darpan – has been made operational. This system provides complete maps of the State, 32 Districts, 241 Tehsils and 41,000 villages linking socio-economic profiles and demographic data of Census 2001. Vikas Darpan provides access to the public as well as to State Government departments in a closed user group (CUG) mode. Web based GIS application http://gis.rajasthan.gov.in has also been developed.

3.2 Key Projects for G2B (Government to Business)

a. Excise Department: (http://raijexcise.org/): i. Web-based system linking all the 33 District offices of Excise Department with its Headquarter for generation of various permits, bank challan deposits, wholesaler, contractor invoicing, distillery production and dispatches, license ledgers. ii. During the financial year 2009-2010, revenue to be generated through online transactions: i) Excise Department Rs. 2300 crore ii) Rajasthan State Breweries Corporation Rs. 1500 crores

b. VAT system automation: (www.rajtax.gov.in): implemented at all the 11 zonal headquarters & 56 regular circles for Registration of dealers, maintenance of revenue collection registers, Facility for e-payment and for filing e-returns. Currently, all returns are being filed electronically.

c. Mines & Geology Department : (www.dmg-raj.org): The Department has been completely IT enabled by implementing a comprehensive, all-encompassing web based application.

d. e-Procurement: (http://eproc.rajasthan.gov.in) Statewide E-Procurement System is being implemented in the state to bring about transparency and reduce time constraint in procurement procedures in Government Departments. Successful pilots have been done in Rajasthan Urban Infrastructure Project (RUIDP) and the Department of IT &C (DoIT&C). e-Procurement has been made mandatory for five Departments PWD, PHED, Irrigation, Medical & Health and Forest.

3.3 Key Projects for G2C (Government TO Citizen)

a. eMitra: (http://emitra.gov.in) e-Mitra has been implemented in all the Districts across the State. The project is similar to CSC project implemented in Urban areas under which various services are being provided through Kiosks. Government of Rajasthan launched two-citizen centric service delivery projects namely Lok Mitra and Jan Mitra in Bikaner (2006). Lok Mitra was basically an urban centric project with more thrust on utility payments, Jan Mitra was an integrated e-platform to deliver desired information and services related to various Government Departments at kiosks in villages. Government integrated both Lok Mitra and Jan Mitra under new title e-Mitra which started operating in 2007. The Primary objective of the e-Mitra was to provide integrated services pertaining to Government Departments to the public in an efficient, transparent, convenient and friendly manner using IT to maximise speed, accountability, objectivity, affordability and accessibility from the perspective of the citizens. Under the e-Mitra project, citizens were supposed to avail three types of services from any e-Mitra kiosks across the State viz.

On-line monitoring tool available at http://urban.emitra.gov.in

b. ‘Anytime, Anywhere Registry’: (http://www.rajstamps.gov.in): for registration of property irrespective of the jurisdiction of sub-registrar office. The project had been implemented in 11 SR Offices in Jaipur on pilot basis. Besides this all the SR Offices have been IT-enabled.
c. **Aarogya-Online**: Complete IT-enablement of SMS Hospital, Jaipur. Application includes computerization of Outdoor Patient Department, Indoor Patient Department, Billing, Enquiry, Investigation (Central Lab), Diet/Kitchen, Pharmacy & Drugs, OT etc.

d. **Transport Department**: The department had taken the initiative and has successfully computerized the Registration of Vehicles and Issue of Driving Licenses throughout the state of Rajasthan. In the current financial year, the Department is implementing VAHAN – Vehicle Registration System and SARTHI – Issue of Driving License in all the RTOs/DTOs of the State. (http://www.transport.rajasthan.gov.in)

e. **Revenue Department (Land Records)**: http://apnakhata.raj.nic.in : Database of Record of Rights (RoR) covering 6.8 million landowners has been completed in all the 241 tehsils. Copies of RoR (Nakal) are being provided to citizens through e-Mitra kiosks and other independent channels.

f. **Municipal Corporations**: E-Governance Project has been implemented in 6 municipal corporations at Divisional HQs under RUIDP viz, Jaipur(http://jaipurmc.org ), Jodhpur(http://jodhpurmc.org ), Udaipur(http://udaipurmc.org ), Kota (http://kotamc.org ), Bikaner (http://bikanermc.org ) and Ajmer (http://ajmermc.org ). The project covers complete automation of back offices and a Service delivery system for issue of birth & death certificates, public grievance redressal, Financial Accounting etc.

g. **Mandi Online**: It is a dynamic software facility available on http://www.http://rajamb.com which provides the daily Agriculture Mandi prices for all important agricultural commodities traded in the Mandi throughout the State. The commodity profile lists all major commodities of Rajasthan and provides useful information about the agriculture scenario in the State.

i. **RSRTC**: (http://www.rsrtc.gov.in): Rajasthan State Roadways Corporation has online reservation & ticketing system across all districts in the State in collaboration with private sector in about 48 Bus stations. E-ticketing an online ticketing facility has been introduced which facilitates the passengers to book their forward and return tickets for the VOLVO, A/c and Deluxe buses plying between Jaipur-Delhi and Jaipur-Agra.

### 3.4. IT Infrastructure Projects

a. **State Data Center (SDC)**: It is the central repository of all the important data pertaining to the State Government domain and has been operational since August 2005. This data center would act as a core of the State level information infrastructure which in turn would integrate geographically distributed data repositories. This would enable the government to work better, yield higher revenue growth and reduce costs apart from servicing citizens’ needs as never before. Citizens would be able to freely interact with various government departments anytime, anywhere with minimal effort. This in turn would also help in effective implementation of Right to Information as all information would be available in electronic form for access to citizens. All the critical communication and computing equipments like Core switches, Routers, Firewalls, IDS, SAN, database and web servers procured under different flagship projects have been installed at SDC. The Data Center would work on 24 X 7 basis. In addition to the above, this Data Center would act as the Nerve center for the Networked Government infrastructure, Network Operations Center for Secretariat Network (SecLAN) and Jaipur City Metropolitan Area Network (M.A.N) and also as Network Operations Center for upcoming Rajasthan State Wide Area Network. Being extensively used for hosting 154 Web Sites, Several Applications and Data Bases like: Vikas Darpan, Registration & Stamps, VAT-IT Project, e-FIR, e-Procurement, e-Mitra, Transport, CSC, Mail Server, Internet Gateway for Sec-LAN & MAN. Eventually all Departmental Servers/Applications are to be hosted at SDC.

b. **Secretariat Networking Project Sec-LAN-MAN**: It is state-of-the-art Voice, Data & Video network connecting about 5000+ users through computers and IP phones. IP Phones to 32 District Collectors (excluding Pratapgarh) have been provided using NIC Network. Under Metropolitan Area Network (MAN) 40 Government buildings in Jaipur are inter-linked using different technologies.It is a part of e-governance initiative of the Government and would help decision makers in the government analyze the information/data with decision support applications for planning, executing and managing government programs.

### 4. Vision of E-Governance & Involved Agencies

E-governance is a way for governments to leverage the Information and Communication Technologies (ICT) to provide people with convenient access and better quality of government information and services and to provide greater opportunities to participate in democratic institutions and processes. A clearly
articulated vision statement motivates the stakeholders to work towards the achievement of common goals in a focused manner. The Government has therefore, articulated a comprehensive E-Governance vision for Rajasthan in the IT policy 2006-08, as below: [8] “The government of Rajasthan would leverage information Technology not only as a tool for improving governance and employment opportunities, but also more significantly as a means to enhance the quality of life and bridging the socio-economic divide in the state ensuring that skew in the development in society is minimized and the underprivileged sections of the society are brought at par with the more privileged sections.”

In line with the above vision, Government of Rajasthan has made ‘e-governance’ as one of its prime agendas since the past few years and designed proactive strategies for its effective implementation. The main goals that the government of Rajasthan wants to achieve through the above vision are:

- Enhanced participation of the people in decision making and program implementation
- Equal access to information and Administration for all people
- A credible government-public interface that becomes an interactive forum.
- An efficient service delivery system
- Transparency in operations.
- Community Linkages

The state of Rajasthan would benefit greatly from an overall enterprise IT strategy for achieving the collective business objectives of its departments. In order to fructify its vision, the Government of Rajasthan needs to focus on the following four elements:

- Customers
- Services
- Delivery Channels
- Performance measures

The State Government is taking all possible measures for spreading e-Governance throughout the state, covering all the sectors with a view to provide hassle free, transparent and efficient service to the common man (both in urban and rural areas). For achieving this goal, the government has taken a four pronged approach:

- Citizen Centric Service Delivery
- Back End Computerization
- IT Infrastructure Creation
- Human Resource Development

In line with the above approach, the following 2 specialized agencies have been established:

a. Department of Information Technology & Communications (DoIT & C) was established by the Government of Rajasthan in 1987 under the Planning Department with the key objectives of formulating IT policies, creating IT awareness and providing technical consultancy to the state government departments in their computerization activities. Presently, it functions as a Nodal agency in Government sector to provide well organised and project oriented approach to the computerization activity in the state Government Department. The department is headed by the Director.

b. B. Rajasthan State Agency for Computer Services (RajCOMP) was established as consultancy and project implementation agency in 1989, to cater to the increasing scope of application of IT in the Government Sector. RajCOMP’s day-to-day working is managed by the Managing Director. The Chief Secretary heads the governing Board of RajCOMP and the Secretary, IT & C chairs the executive body. The Government of Rajasthan appreciated the need to build capacities in various departments from an early stage and as a testimony; about 50 programmers and analysts from Do IT&C have been deputed in various departments to spearhead the computerization and e-Governance initiatives of the department. Therefore, most of the departments have been able to develop in house applications. Some other departments have undertaken computerization initiatives with the help of RajComp and NIC. Moreover, staff from every department has been provided training on computer awareness, general computer skills and internet by DoIT, NIC or private sector partners appointed by DoIT.

5. Suggestions for Effective and Successful Implementation

It is really challenging work to develop and sustain to successfully implementation of e-governance projects. Some requirements are there to implementing successful e-governance across the state. From the entire discussion and my experience it can be said although lots of efforts have been done in developing architecture and infrastructure with internal department handling by govt. rather the progress is slow here following suggestions and recommendations are given to successful implementation of e-governance projects with progressing manner.

- Through Improvement in IT knowledge and awareness about the e-governance projects their benefits.
- By participation of general citizens in the decision making process to make sure more transparency and simplicity.
• Make healthy environment in existing ICT infrastructure of e-governance projects.
• Change in traditionally attitude of servants of government departments and also make internal functions flexible to integrate with e-Governance projects in-order to fast development.
• By reducing distance between government departments and application developers’ better coordination can be created.
• To eatable and improve the connectivity for making the services reaches to rural areas of the state and development of alternative means of services such as e-governance kiosks in regional languages.
• E-governance and interoperability standards for the exchange of secure information with non-repudiation, across the state and central government departments seamlessly.
• A secure delivery framework by means of virtual private network connecting across the state and central government departments.
• Conducting Usability Surveys for assessment of existing e-governance projects
• Manage and Update content on govt. websites efficiently and regularly.
• The forms for various applications and grievances should be standardized and available in electronic format. Instead of collecting applications and grievances on paper from citizen, the same may be submitted online, to be forwarded to the concerned officer in the Department on the same day.
• The district Societies should inspect LSPs/Kiosks on regular basis to make sure that appropriate services are provided by the LSPs/Kiosks. Evaluation should be conducted by the State Government to assess the benefits accruing to the public and steps needed for effective use of Project in e-governance

6. Conclusion

E-governance is an application of ICTs to transform the efficiency, effectiveness, transparency and accountability of informational & transactional exchanges within government to government, government to citizen & government to businesses and to common citizens. Rajasthan is a progressive state launching major e-governance projects aiming to make better delivery of government Information and services with transparency participation of citizens. The state Governments should have clear objective and appropriate planning before choosing a specific e-Governance project. it is also need to make more awareness of common man for efficient and successful implementation of e-Governance projects. It will require basic change in work culture and goal orientation, and simultaneous change in the existing processes. Foremost of them is to create a culture of maintaining, processing and retrieving the information through an electronic system and use that information for decision making.

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