



INDIAN PUBLIC SECTOR E-PROCUREMENT SCENERIO

WITH CASE STUDIES

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1 OBJECTIVES

With the advent of the Internet in India in the late 1990s, individuals and organizations started identifying ways and means of automating their key processes. Over the years the Indian Public sector also felt a great need for wide-ranging reforms in the public procurement process in order to achieve,

- ease, efficiency and simplification of procedures,
- demand aggregation with greater transparency,
- consistent procurement procedures across departments with better quality of work,
- fair and equal opportunities to all suppliers with fair competition
- reduction in cost of procurement with reduced time.

E-procurement, a web-based IT project is a solution for all these problems. E-Procurement is the process wherein the physical tendering activity is carried out online using the Internet and associated technologies. It revolutionises the manner in which procurements are done in government departments. The government departments conduct their end-to-end procurement related transactions, right from invitation of tenders to issue of supply order remotely in a new environment facilitated by the emerging internet technology.

The E-procurement platform offers a superior level of security with secure socket layer (SSL) encryption, strong authentication with digital certificates, PKI encryption of data and speed to conduct real-time bidding over the internet.

2 EARLIER APPROACH

Prior to the introduction of an E-Procurement platform¹, procurement in Government departments was carried out through a manual tendering process. This process involved obtaining internal approval of the project, publishing a Notice Inviting Tenders (NIT) in several media outlets, bid submissions (voluminous sheaths of paper) by suppliers, bid evaluations by buyers, and finally, the awarding of the procurement order and signing of agreements. The complete process required a long chain of internal authorizations and scrutiny (at times involving several departments), several visits by suppliers to departments, and the generation of reams of paper-based statements and evaluations. The manual tender system was suffering from the following deficiencies¹:

- Discrimination and delay in issue of tender schedules to suppliers:.
- Cartel formation to suppress competition:
- Physical threats to bidders:
- Tender Boxes at Multiple locations:
- Tampering of tender files:
- Delays in finalization of tenders:
- Human interface at every stage:
- Lack of Transparency:

4 CORE FUNCTIONALITIES

Following are the core functionalities catering to the requirements of E-Procurement used across different departments in a governmental setup².

- Government officials (Users) registration and Right Allocation.
- Vendor registration & Pre-Qualification.
- Indent creation and approval.
- Estimated Cost Value (ECV).
- Tender Creation and approval.
- Publication of notice inviting tenders (NIT)/ Invitation for bids (IFB)
- Online / Offline Sale of Tender documents.
- Issue of Corrigendum
- Online bid Submission by vendors (Facility for 2 bid / multiple bid system).
- Encryption of bids submitted by the vendor (by the public key of the tender issuing authority).
- Opening of technical bids
- Online Automated Bid Comparatives (Technical and Commercial).
- Evaluation of tenderer compliance to the qualification criteria
- Opening of price bids of qualified tenderer
- Approval of tender
- Issue of purchase order
- Contract management
- Dynamic pricing engine (auction, reverse auctions).

6 CASE STUDIES

6.1 GOVERNMENT OF ANDHRA PRADESH

6.1.1 OBJECTIVE

Government of Andhra Pradesh has taken up E-Procurement as a major e-Governance initiative to maintain the transparency in procurement of works, goods & services etc.

The Government of Andhra Pradesh had felt a need for wide-ranging reforms in the public procurement process in order to achieve linking government of various government departments' simplification of procedures, greater transparency, better quality of work, fair competition etc.

The cabinet sub-committee set up for this purpose recommended E-procurement, a web-based government-to-business IT project in September 2001 as a solution for all these problems. The plan was to effectively implement and sustain public sector reforms and to bring in new channels like auctions and reverse auctions online for greater efficiency. It was envisaged to revolutionize the manner in which procurements are done in government.

The government departments would be conducting their end-to-end procurement related transactions, right from invitation of tenders to issue of supply order remotely in a new environment facilitated by the emerging internet technology.

The initiative⁴ was taken up in an innovative Public Private Partnership model and the private partner was selected in July 2002 through a competitive tendering process. To start with, AP Government launched E-Procurement pilot project on 29th January 2003 covering 5 departments namely, APTS, Irrigation, R&B, APSRTC & APMHIDC. Over a period of 9 months, the pilot was used to create templates for various types of procurement practices prevalent in Government departments to set the stage for rollout across other departments. In order to effect a gradual transition from the conventional tender system to e-Procurement, the Government of Andhra Pradesh issued executive orders and made e-Procurement mandatory in the pilot departments for all procurements exceeding a value of \$0.25 million in the first instance. This threshold limit was subsequently lowered to \$0.13 million at the end of the Pilot phase. After the success of the pilot phase, e-Procurement was immediately rolled out in all the remaining departments in July 2004. Within 30 months, the platform was servicing 8 Government departments, 13 Public sector Units, 51 Municipalities and 5 Universities with a cumulative turnover crossing \$ 8.5 billion from 12,441 transactions⁴.

6.1.3 BENEFITS & SAVINGS

The initiative has transformed the procurement process in government departments. The automated processes and work flows have improved internal efficiency within the departments; shortened tender cycle times, eliminated subjectivity in the evaluation of tenders with system based auto bid evaluations, and have increased transparency⁵.

a) Reduction in tender cycle time:

In the pre e-Procurement era, the departments used to take 90-135 days for finalization of high value tenders. The tender cycle time has gradually come down to an average of 42 days over a period of one year and further reduced to 35 days at the end of the second year. There is greater accountability since the electronic records/ documents can be retrieved at any given time and all the activities of a system user are logged in the system. The works departments has been able to divert surplus resources from procurement wings to other needy wings like works execution⁵.

b) Transparent practices:

In terms of transparency, any supplier or an ordinary citizen can get information about tenders which are live on the platform through a search engine on the home page. The NIT, Corrigendum, bid documents, Bill of Quantities are available to a citizen for free downloads. A supplier participating in a tender knows the list of other participating suppliers, the documents furnished by his competitors, price quotations and the evaluation result, as soon as a stage is completed by the departments in the system. Short information on the status of tenders and award values will also be available to any citizen accessing the web site.

c) Cost Savings:

The project encourages bidders to participate in government tenders. Supplier participation has increased from an average of 3 per tender in conventional mode to 4.5 in e-Procurement mode. The cartels are eliminated and even small and medium suppliers are now able to bid, as the platform facilitates any-where any-time bidding. The departments have reaped significant cost savings of an average reduction of 20% in cost for the procurement transactions done through the exchange during the year 2003-04 and 12% in 2004-05 due to a competitive environment⁵.

6.1.4 IMPLEMENTATION COSTS

A lean project team consisting of a Project Manager and an Asst. Project Manager (both trained as CIOs by IIM-A) reporting directly to the Secretary of the IT&C Dept. has overseen the implementation. The IT&C Department spent \$0.11 million on training and \$0.14 million for purchase of Desktops, printers, UPS and Internet connections (ISDN connections, Modems) for the departments in which the project was piloted. The Government of Andhra Pradesh had engaged PwC to prepare an e-Governance road map and blue print for 50 major departments, identify 5 core projects, and implement these 5 core projects for a fee of \$ 0.32 million. About 15% of this expenditure can be apportioned for the e-procurement project⁵.

As per the agreed business model, the private partner has invested upfront in hardware and software for establishing an e-Procurement exchange for Government of Andhra Pradesh and there are no costs to the government on this project. It is estimated that the private partner has incurred a capital expenditure of \$1.12 million on software and hardware, and an operational expenditure of \$0.54 million per annum on the e-Procurement platform⁵. In order to incentivize the suppliers using the platform, no charges were collected from the bidders participating in tender related transactions on the e-Procurement platform⁵.

There is also a substantial reduction in the advertisement costs in the press media, as e-Procurement tender notices were shortened to contain only basic information on the name of work, estimated costs and the URL of the e-Procurement site. There has been a 25% saving in the column space used, resulting in savings of approximately \$0.56 million in a year. Transparency in the bidding process and in the system of automated tender evaluation through smart forms with parameterized qualification criteria has reduced subjectivity in the tender award process and reduced corruption. The MIS feature in the system reveals data on government procurements instantaneously to the bureaucrats and ministers. Besides, it has made a visible social impact, as the citizens are assured that government procurement is conducted in a transparent manner, saving taxpayers' money.

6.1.5 KEY LESSONS

The support of political leadership and the formation of a high-powered steering committee (project implementation committee) with a mandate to take decisions on all issues were important factors for successful implementation of the e-Procurement project⁵.

Insistence on a single mode of bid submission through the e-Procurement platform was a decisive factor in the adoption of the system by suppliers.

A participative design process that involved workshops attended by department users, suppliers /contractors were used to draw user requirements. Subsequent training of users was a major factor in developing the application to the satisfaction of users.

The pool of CIO's from various government departments trained at IIM-A, acted as change agents in implementing e-Procurement. The pace of implementation accelerated with Chief Information Officers from different domains taking over as project champions.

Implementation needed enormous efforts in change management. The users were slow to adapt to the changes in initial period but the project ramped up once the users became comfortable with the new system.

The selected Application Service Provider (ASP) business model under Public Private Partnership was helpful in scaling up the transactions during roll out, as the private partner has resources to meet the challenge.

Committed project teams from the service provider and the Government, 24X7 help desk, strong security features, deployment architecture and MIS have contributed to the overall success of the e-Procurement platform in AP.

Table no 2 shows yearly details of Government of Andhra Pradesh Tenders through E-Procurement^{6,7}

Year	Tender Values \$ (USD)	Number of Tenders
2003-04	132 million	990
2004-05	2.5 billion	3614
2005-06	1.5 billion	6398
2006-07	6.0 billion	16084
2007-08	12.0 billion	22404
2008-2009	20.0 billion	32329

6.2.5 SAVINGS

Bruhat Bengaluru Mahanagar Palike (BBMP) has observed a negative premium of -6.51% which translates to a saving of around \$48 million on procurement of \$1.2 billion and effective savings in excess of \$ 60 million compared to 10% premium through manual procurement process⁹.

Bangalore Development Authority (BDA) has observed a negative premium of -11.70% after adoption of e-Procurement platform which translates to a saving of around \$60 million on procurement of \$1 billion and effective savings in excess of \$80 million, compared to 10-15% premium through manual procurement process⁹.

Public Works Department (PWD) has observed a premium of 11.75% after adoption of e-Procurement platform which translates to a saving of around \$120 million on procurement of Rs. \$1 billion considering 20-30% premium through manual procurement process⁹.

One of the key benefits to the government departments / agencies using e-Procurement platform is accessibility to instant customized MIS reports. The entire history of procurement viz., indent / estimate creation, date and time of publication, date and time of receipt of tenders, workflow and time duration for each stage of evaluation, details of successful bidder, date and time of issue of work order / purchase order, workflow and time duration during processing of bills / invoice, extent of execution of work / supply of goods, date and time of payments to suppliers / contractors etc., are logged and instantly accessed any time/any where. The e-Procurement platform is being used as an excellent Decision Support System to enhance the effectiveness, efficiency and quality of decision making process.

6.2.6 LEARNINGS

One of the key learnings during the implementation of the initiative is the pilot deployment of the solution in Public Works Department. This served as a motivating factor for other works related departments to adopt e-Procurement solution. The establishment of dedicated training centres and online module of the training portal ensured active involvement of government officials and suppliers / contractors on training. The extensive handholding support provided by the Private Partner proved very critical, especially to the new user-departments / agencies. The equitable sharing of risks and responsibilities between e-Procurement Cell and the Private Partner played an important role in system development.

The other key elements for success of the Unified End-to-End e-Procurement solution include adoption of pilot-based approach (rather than big bang approach), adhering to an integrated approach ensuring user-readiness, infrastructure readiness and department readiness (change management), re-engineering the government processes especially on supplier registration and online tender payments (transformation of processes), ensuring sufficient comfort level to users during initial stages of implementation (enhancing user involvement), incorporation of online workflows using digital signature certificates from the beginning of implementation (enhance accountability) and establishment of a firm institutional structure steered by senior government officials (institution-based decision making) processes.

6.3 GOVERNMENT OF GUJARAT

6.3.1 NEED

E-Procurement system was introduced for all the purchases and procurements in the government departments, corporations, nigrams and societies under the administrative control of the Gujarat Government and those funded by it. The project caters to all types of procurements like services, civil works, material procurement, rate contracts, maintenance contracts and auctions.

The e-procurement solution was implemented under the state's Public Private Partnership (PPP) model. The service Provider has invested in developing the web-based electronic procurement software, hardware, security and hosting of the solution and is responsible for administration, operation and maintenance of the complete e-procurement marketplace.

6.3.2 SCOPE

E-procurement for Government of Gujarat covers purchases and procurement of

- goods, plants, equipments, machinery, medicines, medical and surgical suppliers and stores items,
- all type of store items, supplies and purchases, food and civil supplies stores items and purchases,
- printing and stationary items and purchase,
- all type of vehicles purchases, furniture an fixtures etc.
- All type of civil construction and related works etc.
- Outsourcing of required services etc.
- Auctioning of old plants, equipments, machinery, buildings, vehicles, furniture and fixtures, lands, properties etc.
- All other purchases and work orders.

6.3.3 IMPACT & STATISTICS

Table no 4 shows yearly details of Government of Gujarat Tenders through E-Procurement¹⁴

Year	Tender Values \$ (USD)	Number of Tenders
2006	82 million	461
2007	1.6 billion	5759
2008	4.0 billion	10995
2009	3.5 billion	10960
2010	5.0 billion	13337

The project has been a huge success in Gujarat. The project was initiated in the month of October 2004 and was made compulsory for all the government departments from January 2007. As on 1st December, 2010 over 168 departments/HOD's through their 898 offices are conducting online tendering and are prime stake holders of the project. More than 41505 electronic tenders worth \$18 billion have been handled so far. Current rate is about 1200 tenders a month¹⁴.

6.3.4 GUJARAT STATE PROFILE

Gujarat is a State situated in western India.

The state of Gujarat has a population of over 60 million with an area of 75705 sq. Miles¹². The state is divided into 26 Districts with capital city of Gandhinagar¹⁶. The total GDP of Gujarat state is \$90 billion¹³.

6.3.5 REFERENCES

14. <http://www.gujaratinformatics.com/eprocurement.html#>

15. http://www.inclusion.in/index.php?option=com_content&view=article&id=230

16. <http://en.wikipedia.org/wiki/Gujarat>

6.4 GOVERNMENT OF CHATTISGARH

6.4.1 OBJECTIVES

To increase the efficiency and transparency, Government of Chhattisgarh has implemented a comprehensive and end-to-end e-Procurement solution across all Government departments/ agencies/ boards across the State in a phased manner. The e-Procurement project has been implemented in five Departments of the State viz; Public Works Department (PWD), Water Resource Department (WRD), Public Health Engineering Department (PHED), Health Department and Chhattisgarh State Infrastructure Development Corporation (CSIDC).

The project is being implemented on a Public Private Partnership mode adopting a Build-Own-Operate (BOO) model with no upfront financial burden on the State. The implementation includes the deployment of various modules from proposal / requirement preparation till payment to the contractors/ suppliers.

6.4.2 MODULES

The various modules are¹³

- Indent management
- E tendering
- eAuctions
- Contract Management
- Catalogue Management
- Centralised Supplier Registration
- ePayments
- Accounting

6.4.3 STATUS

Table no 5 details status of e-tendering in various departments of Government of Chattisgarh¹⁷.

Department	No.of Tender processed	Total Value of tenders processed in \$ (USD)
Chhattisgarh State Minor Forest Produce (Trading & Development) Co - Operative Federation Ltd	1	2.4 million
Chhattisgarh Rural Engineering Service	77	14.8 million
Chhattisgarh State Warehousing Corporation	36	10 million
Department of Animal Husbandry and Dairy	15	10 million
Department of Panchayat and Social Welfare	1	1.0 million
Health Department	124	370 million
Department of Panchayat & Rural Development	1087	360 million
Public Health Engineering Department	403	100 million
Public Works Department	4814	3.0 billion
Urban Administration & Development Department.	1035	150 million
Water Resources Department	1849	1.3 billion
TOTAL	9222	5.0 billion

As on November 2011 over 20 departments are conducting online tendering. More than 9000 electronic tenders worth \$ 5 billion have been handled so far.¹⁷ Also More than 3800 Vendors have been registered.

