“e-Procurement: The Road Ahead from Computer Science Perspective”

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e-Procurement (electronic Procurement):

- **B2B** – automobile industry
- **B2C**
- **B2G**

Purchase and sale of supplies, work and services through the Internet as well as other information and networking systems.
Some of the earliest records of international trade stem from purchasing partnerships between Ancient Greece and China more than 3,000 years ago, which provide us with the earliest examples of procurement and supply chain strategies.
The concept of procurement has always been in existence. Maybe not in the same regulated way that it is now; but people and businesses have always had to purchase goods, material and labour to complete projects.
• A more strategic approach to supply chain management

Charles Babbage had the right idea for what was needed back in 1832, but supply chain management has become much more structured over the following years.

Now, a proper strategy is needed to keep supply chain risk to a minimum, particularly as the role that an organisation's supply chain plays in its day-to-day running has grown significantly.

This means supply chain visibility is now key, not just internally, but on a consumer-facing basis as well to prevent reputational damage - something that became especially evident following one of the most high-profile supply chain disasters of all time, the 2013 horse meat scandal.
• The development of technology

Of course, technology has played a major part in changing the face of procurement for good.

From providing new ways to manage supplier data to allowing buyers to find out all sorts of information about the contractors they work with through tools such as the *Achilles pre-qualification questionnaire*, there is no going back from the changes these solutions have brought about.

While digital technology may have only begun to play a part in procurement around 50 years ago, this is one of the most significant changes to have altered the practice since its conception.
What is e-Procurement? *

e-Procurement is the purchasing of goods and services using the internet. It covers full life cycle of purchasing (indent to receipt of goods)

- Connects buyers and suppliers through electronic exchange of Tenders, catalogs, contracts, POs, invoices etc

- Electronic Tendering is carrying out the traditional tendering process in an electronic form, using the internet.

Using E-Tendering The Departments of Andhra Pradesh can:

- Includes on-contract and off-contract buying

- Includes a variety of off techniques such as RFPs, quotes, auctions and reverse auctions.

* http://www.eprocurement.gov.in
• E-procurement in the public sector is emerging internationally.
• Initiatives have been implemented in Ukraine, India, Singapore, Estonia, United Kingdom, United States, Malaysia, Indonesia, Australia, European Union.
• An e-procurement system manages tenders through a web site.
• This can be accessed anywhere globally and has greatly improved the accessibility of tenders.
The GoAP has, for the first time published a tender on the new eProcurement platform under the Swiss Challenge PPP model.

Welcome to Andhra Pradesh E-Procurement Platform

Government of Andhra Pradesh has always been at the forefront of implementing e-Governance, having pioneered popular projects like CARID, eLeva, e-Procurement. To take the evolution of eProcurement to the next level, it is felt essential to have a comprehensive, elaborate new eProcurement solution for providing better services to citizens and businesses.

The new eProcurement platform is built using flexible workflow, user-friendly navigation, Interactive Dashboard for buyers & suppliers and cater to all types of Procurement processes like Double Cover, EPC, BOT, BOOT, World Bank requirements for tendering of works, products, services, etc. using a single solution.

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>No. of Tenders</th>
<th>Value in Crores(INR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 - 2015</td>
<td>21,422</td>
<td>4,181</td>
</tr>
<tr>
<td>2016 - 2015</td>
<td>40,355</td>
<td>17,247</td>
</tr>
<tr>
<td>2016 - 2017</td>
<td>51,497</td>
<td>18,174</td>
</tr>
<tr>
<td>Total</td>
<td>113,884</td>
<td>39,602</td>
</tr>
</tbody>
</table>

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How Secure is it?

• The security features incorporated in the application ensures that all activities are logged, no unauthorized person has access to data, all sensitive data is encrypted and system can be restoring in a minimal possible time in case of a disaster or system crash.
• Audit Trail the Solution has been so designed that all the activities, transactions and changes in configuration are logged and a log report is made available to the concerned people.

• Further, a log is also available of activities at the database level thereby ensuring that a robust audit trail is always available of all the activities either at the application level or the database level.
• Data Encryption: The solution supports 128-bit encryption and all the price bids received against a tender are encrypted at the database level.

• Further, the login passwords of all the users and the suppliers are also encrypted at the database level.
• Secure Administrator Access to prevent an administrator from misusing his access privileges, the TMS requires two level password verification before allowing an administrator access to the admin module. The first password is provided by the administrator himself and the second password is provided by some designated senior person within the buying organization. The administrator will be authenticated on advanced technologies using biometrics.
• Process Validation the Solution has been so architected that a user cannot view the commercial bid of a supplier till the technical evaluation of the tender is complete and the date & time specified for the opening of the commercial bid is due.
• SSL Certificate: The solution uses 128 bit SSL Certificate from Verisign for communication between the browser and the web server. This ensures that all the data is encrypted and cannot be hacked/misused by anyone.

• Unauthorized Access - The entire solution is behind a firewall and intrusion detection system that protects it against unauthorized access and hackers.
About SSL

• SSL (Secure Sockets Layer) is the standard security technology for establishing an encrypted link between a web server and a browser. This link ensures that all data passed between the web server and browsers remain private and integral. SSL is an industry standard and is used by millions of websites in the protection of their online transactions with their customers.
To be able to create an SSL connection a web server requires an SSL Certificate. When you choose to activate SSL on your web server you will be prompted to complete a number of questions about the identity of your website and your company. Your web server then creates two cryptographic keys - a Private Key and a Public Key.
• The Public Key does not need to be secret and is placed into a Certificate Signing Request (CSR) - a data file also containing your details. You should then submit the CSR. During the SSL Certificate application process, the Certification Authority will validate your details and issue an SSL Certificate containing your details and allowing you to use SSL. Your web server will match your issued SSL Certificate to your Private Key. Your web server will then be able to establish an encrypted link between the website and your customer's web browser.
• The complexities of the SSL protocol remain invisible to your customers. Instead their browsers provide them with a key indicator to let them know they are currently protected by an SSL encrypted session - the lock icon in the lower right-hand corner, clicking on the lock icon displays your SSL Certificate and the details about it. All SSL Certificates are issued to either companies or legally accountable individuals.
Typically an SSL Certificate will contain your domain name, your company name, your address, your city, your state and your country. It will also contain the expiration date of the Certificate and details of the Certification Authority responsible for the issuance of the Certificate. When a browser connects to a secure site it will retrieve the site's SSL Certificate and check that it has not expired, it has been issued by a Certification Authority the browser trusts, and that it is being used by the website for which it has been issued. If it fails on any one of these checks the browser will display a warning to the end user letting them know that the site is not secured by SSL.
Advantages of e-Procurement

• Reduced Costs
• Transparent Spending
• Increased Productivity
• Eliminates Paper Work
• Increased Transaction Speed
• Standardized buying
• Reduces Errors
Thank U & Questions?