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## **COMBATING ORGANIZED CORRUPTION IN PUBLIC-PROCUREMENT THROUGH APPROPRIATELY DESIGNED E-PROCUREMENT SYSTEMS**

-- Jitendra Kohli

### **Abstract:**

Public-Procurement is one of the biggest areas of organized corruption in many countries as typically 10% to 20% of the GDP of a country is expended through this route. Depending upon the circumstances, organized corruption can vitiate the process at one or more stages of the typical manual or paper-based tendering process. Therefore, the move towards electronic-tendering, or e-procurement, or electronic-government-procurement (eGP) is a step in the right direction. However, it would be naïve to assume that merely by changing over from manual-tendering to e-procurement, all corruption related problems would be solved. Technology is a dual-edged sword. Unless design of the e-procurement software has taken special care to prevent technology-enabled malpractices, e-procurement could be worse than manual tendering. However, if proper measures are adopted, an appropriately designed e-procurement software can eliminate or mitigate most of the malpractices. The paper elucidates a few such issues and also proposes some remedial approaches.

### **Biographical Profile of the Author:**

Jitendra Kohli, alumnus of IIT-Delhi (India), founder of ElectronicTender, has been researching in the 'Electronic-Government-Procurement (eGP)' field for over 15-years. Based on his pioneering work, his company, ElectronicTender has developed an innovative e-procurement/ e-auction software with comprehensive security and transparency features which can be licensed for ready-deployment in any country. In public-interest, he shared important aspects of his ground-breaking research in public-domain through interaction with authorities in various countries (including India, EU) and multi-lateral agencies, presentation of papers at international conferences, et al, so that the concerned authorities could take appropriate measures to check malpractices under the garb of e-procurement.

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## **INTRODUCTION**

Organized corruption thrives where big money can be made. Public-procurement typically accounts for 10% to 20% of the GDP of a country. Given the large quantum of money involved, the incentive for indulging in corruption is high.

The advent of internet-based electronic-procurement or e-procurement or e-tendering has brought new challenges for anti-corruption bodies. It is a fact that 'technology is a dual-edged sword'. On the one hand, certain intrinsic benefits would accrue by switching over from manual-tendering to e-procurement. On the other hand, technology

could also be misused by vested interests for continuing the existing malpractices of manual-tendering in a modified manner, and/ or indulging in novel methods of technology-enabled corruption. While it is possible to eliminate/ mitigate such threats, it will not happen unless there is awareness in the anti-corruption bodies and the regulatory-authorities about – the possible malpractices at each step of the procurement process, as well as, remedial measures which could be adopted in the design and functionality of e-procurement systems for curbing such malpractices.

### **TYPICAL STEPS IN GOVERNMENT TENDERING**

To understand how a process could be compromised, it is important to first understand the process itself. Typical steps of the manual-tendering process are as broadly described below:

*(Buyer Perspective)*

- Requisition/ Indent Approval :

This process is generally internal to the purchasing-entity. Request is made for procuring specified goods or services with justification. If the request is approved, the process of tendering/ procurement follows.

- Advertisement of Bid-Invitation/ Tender-Notice/ NIT

The notice for a bidding-opportunity (unless it is supposed to be restricted) is typically advertised in a national-level newspaper with the objective of widely disseminating the information so that fair and equal opportunity is given to all concerned for participating in that tender.

- Advertisement of Corrigenda

Any change in the salient aspects of a tender-notice, such as extension in ‘last date/ time of bid-submission’ are again advertised in a national-level newspaper in a transparent manner as a ‘corrigendum’ to a tender-notice.

- Sale/ Distribution of Tender-Documents

The purchasing-entity delineates the technical-specifications and commercial-conditions in the tender-documents. Interested bidders (namely suppliers/ vendors) purchase a copy of such tender-documents.

- Distribution of Addenda

Any change in technical-specifications or commercial-conditions of the tender-documents is published as ‘addendum’ to the tender-documents, and is communicated to the prospective bidders who have procured tender-documents.

- Responding to Clarification to Tender-Documents/ Pre-Bid Meeting

On perusal of the tender-documents, prospective bidders may seek clarifications in writing from the purchasing-entity. The purchasing-entity responds to all such queries to all prospective bidders, without revealing the identity of the bidders.

For large tenders, the above process can be additionally carried out in an open forum called 'pre-bid meeting' where participants of the purchasing-entity and the prospective bidders interact.

- Receipt and Secure Storage of Sealed-Bids

Bidders prepare and submit their respective bids to the purchasing-entity as per the methodology prescribed in the tender-documents. For authenticity and security, each page of the bid is signed by the concerned bidder. For ensuring 'bid-confidentiality', each bidder secures the bid by taking great pains in sealing the bid in an elaborate manner before submission. It is obligatory for the purchasing-entity to ensure that no bids (including supplementary-bids, viz substitution, modification and withdrawal bids) are received beyond the prescribed deadline.

It is also obligatory for the purchasing-entity to ensure that the received bids are securely stored without any compromise in bid-confidentiality. Bids cannot be opened until the public tender-opening-event.

- Conducting a Transparent Public Tender-Opening-Event (TOE)

This step is the backbone of transparency of the public-procurement process. The event is conducted by the authorized officers of the purchasing-entity in a formal and transparent manner in the presence of representatives of the bidders. The sealed bids are opened publicly, salient points of each bid are read out aloud, and each page of each opened bid is counter-signed by one or more tender-opening officers of the procuring-entity. As per established principles of public-procurement, it is intended that in this event each bidder should know what the other bidders have quoted, so that no clandestine changes are made later due to any connivance between a bidder and the procuring-entity officers.

- Evaluation of Bids and seeking Technical-Conformance/ Clarifications, where relevant

Evaluation encompasses – technical, commercial, financial aspects and in stages as prescribed in the bidding methodology. The criteria applied during evaluation should be as transparently described in the tender-documents.

- Receipt and secure Storage of Sealed Revised-Bids, where relevant
- Follow-on Public-TOE(s) , where relevant

- Award of Contract and Transparent Disclosure of its Salient Aspects
- et al

Similarly, there are corresponding steps from the bidder perspective.

## **THE ADVENT OF E-PROCUREMENT**

Over the last decade and a half, e-procurement is emerging as the new methodology for conducting public-procurement. Essentially, e-procurement is conducting on the internet the equivalent of the manual-tendering process, with the ostensible objective of enhancing ‘transparency and efficiency’ of public-procurement. While this naturally involves some re-engineering, it is important to ensure that under the pretext of re-engineering and technology, there should be no compromise on the security/confidentiality, transparency, accountability and legal aspects of the well-established public-procurement process. The author has elucidated some such critical issues or ‘red flags’, with suggestions for remedial measures, in his prior writing (Kohli, 2012).

### **VITIATION OF THE MANUAL-TENDERING PROCESS AND ITS POSSIBLE CONTINUATION IN E-PROCUREMENT**

The process of manual-tendering with its noble objectives is quite elaborately defined by government organizations in various countries, as well as, multilateral agencies like the World Bank, the Asian Development Bank, et al. If implemented sincerely, the manual-processes can ensure integrity and transparency in public-procurement. However, reality on the ground is that the process is sometimes vitiated at various stages. The degree and nature of vitiation varies depending upon the country, organization and other situational aspects.

With the growing popularity of the internet, e-procurement started getting promoted as an alternative methodology for public-procurement circa 2000. It was assumed that by reducing manual interaction in the public-procurement process, corruption would be reduced automatically. This assumption was only partly correct. Since technology is a dual-edged sword, it has simultaneous potential for good use and misuse. This is where the regulatory and anti-corruption bodies have an important role to play. If proper measures are adopted, an appropriately designed e-procurement system can eliminate or mitigate most of the malpractices and maximize the benefits.

#### **Examples of Malpractices at Various Stages of the Manual-Tendering Process (with Comments on the Possibility of its Continuation in the Electronic-Process):**

##### Malpractice-1: Preventing Proper Advertisement of the Tender-Notice

*(Manual-Process)* This may be done in connivance with the purchasing-entity. The tender-notice is either not published in the appropriate newspapers or published in some remote corner of a newspaper.

*(Electronic-Process)* This malpractice can continue in the electronic-process unless proper measures are adopted. Merely posting an advertisement on the purchasing entity's website is not enough. Even on a website one can post the link for an advertisement in a manner that is like finding a pin in a hay stack. Furthermore, unlike the printed newspaper advertisement in a manual system, temporary distortions can be made in the electronic-posting to mislead vendors.

*(Recommended Remedial-Measure in the Electronic-Process)*

- It should be mandatory for a procurement notice to be posted on the purchasing-entity's own website, as well as, a central website managed by or on behalf of the government
- From the perspective of a prospective bidder, the search facilities for locating an advertisement should be very user-friendly on both the above mentioned websites
- To prevent tampering and to ensure integrity of the electronic-record (ie tender-notice), it should be digitally-signed by an authorized officer of the purchasing-entity and facility provided to the prospective bidder to verify the digital-signature while viewing it

#### Malpractice-2: Preventing Proper Advertisement of Corrigenda

This malpractice of the manual-process can also continue in the electronic-process. Various aspects of this malpractice are similar to malpractice-1. Additional remedial measures should be to -- prominently display links for corrigenda to anyone viewing an advertisement of a tender-notice, sending automatic e-mail alerts to those who have officially procured tender-documents.

#### Malpractice-3: Having Restrictive Eligibility-Criteria and/ or Unfair Technical Specifications in the Tender-Documents

This malpractice is rampant in the manual-tendering process and there is nothing intrinsic in the electronic-process to prevent this. The misuse of biased and unjustified eligibility-criteria to restrict participation is especially serious. Unfair technical specifications could imply – sketchy specifications, biased specifications, etc. Such malpractices have to be checked both in the manual and electronic-process through proper and periodic audit procedures and prompt investigation in case of complaints.

#### Malpractice-4: Removing some Vital Page(s) from the Tender-Documents (ie Sale of Incomplete/ Tampered Tender-Documents)

The above mentioned malpractice in the manual-tendering process can continue in the electronic-process unless proper measures are adopted. To ensure integrity of the

electronic-record (ie the tender-documents), the tender-documents should be digitally-signed by an authorized officer of the purchasing-entity and facility provided to the prospective bidder to verify the digital signature before downloading the tender-documents.

#### Malpractice-5: Preventing Proper Communication of Addenda

This malpractice of the manual-process can also continue in the electronic-process. Various aspects of this malpractice and the additional remedial measures are similar to malpractice-2.

#### Malpractice-6: Preventing Competitor(s) from Submitting Bids

*(Manual-Process)* This may be done in connivance with the purchasing-entity or independently by tender mafias.

*(Electronic-Process)* This malpractice can continue in the electronic-process unless proper measures are adopted to prevent unauthorized blocking of accounts.

#### Malpractice-7: Submitting Fake-Bids (to complete the minimum requirement of Three Bids)

*(Manual-Process)* This may be done in connivance with the purchasing-entity or independently by some unscrupulous bidders.

*(Electronic-Process)* This malpractice can continue in the electronic-process unless proper measures are adopted to verify the identity of bidders.

#### Malpractice-8: Stealing information about Competitors' Bids (or tampering with submitted bids during their storage)

*(Manual-Process)* This may be done in connivance with the purchasing-entity or independently by some unscrupulous bidders.

*(Electronic-Process)* This malpractice can continue in the electronic-process in a more serious manner unless proper measures are adopted, including encrypting bids in a very secure manner with no access to the decryption-keys even to the officers of the purchasing-entity till the 'online public-TOE'. By use of special techniques, clandestine copies of bids can be made with mala fide intentions. The objective of the unscrupulous player here would not be to tamper with a competitor's bid but to see its contents and help a favourite bidder revise his bid to become the winning-bidder. Compromise of bid-confidentiality can be a very critical issue. [For details and remedial measures, please see: Kohli, 2012 ('Red Flag-1') and Section 6.7 of e-TEG, 2013; GoI, 2011; and Kohli, 2009]

#### Malpractice-9: Not Conducting a Public Tender-Opening-Event (TOE)

*(Manual-Process)* This can happen only with the involvement of officers of the purchasing-entity. Elaborate procedures to ensure transparency and fair play as briefly described earlier in this paper may not get followed. The public-TOE may either not be held or may be a sham. Even if the event is conducted, salient aspects of each bid may not be read out aloud, or not read out at all on some pretext or the other. Alternatively, incorrect details may be read out to mislead other bidders (in order to favour a specific bidder). For example, a favourite bidder may leave the price portion blank and fill it later. During the TOE the conniving officer may read his bid at the end with an imaginary low price which is actually filled later. Bid-pages of a favourite bidder may be changed post TOE. Such manipulation would be easier if details were not read out during TOE.

*(Electronic-Process)* Some of the above malpractices can continue in the electronic-process also. In fact, many e-procurement systems do not have a transparent online public-TOE functionality, and instead have only a rudimentary online bid-opening functionality where either the tender opening results are not displayed at all, or some results are subsequently displayed. The bids are not opened in the simultaneous, online, interactive presence of bidders. Such malpractices make a mockery of the word 'Transparency'. [For details and remedial measures, please see: Kohli, 2012 (Red Flag-2), and Section 7 of e-TEG, 2013; GoI, 2011; and Kohli, 2009].

#### Malpractice-10: Unfair and Arbitrary Loading of Bids during Evaluation

This is a common malpractice adopted in the manual-tendering process to suit a specific bidder, and can continue in the electronic-process unless proper features are provided to prevent it. Remedial measures would include a proper 'Online Evaluation' functionality in the e-procurement system with structured data, as well as, supporting unstructured data. The online evaluation forms (structured data) should be in line with evaluation criteria transparently declared in the tender-documents.

The malpractices discussed above are not an exhaustive list of various possible malpractices in public-procurement, whether done manually or electronically. There are some additional malpractices which are peculiar to the electronic-process. The objective of this paper is to generate awareness about the challenges which have to be addressed by anti-corruption bodies while switching over from manual-tendering to e-tendering/ e-procurement.

### **REINFORCING THE EVIDENCE-BASED ANTI-CORRUPTION POLICY APPROACH**

Evidence in e-procurement systems would be available by having comprehensive 'audit-trails' of all important activities performed on the system by all categories of users, viz authorized officers of the purchasing-entities, bidder-organizations and administrators. This has to be supplemented with copies of all important electronic records preserved for a specified period, within the system and/ or outside with one or more stakeholders.

It is important to note that some clandestine activities may not even be recorded in audit-trails. Also, audit-trails are essentially electronic-records and electronic-records can normally be fudged/ tampered unless special measures are adopted. Furthermore, how and when will such evidence be studied and analyzed and by whom? Till all such aspects are thoroughly documented and made practicable on the ground, all the evidence will only be a 'hypothetical source of assurance'.

Evidence based anti-corruption approach is sound but not sufficient. Evidence is required to investigate a crime which has been committed and/ or has been reported. But why let the crime be committed if it can be prevented? Take the case of bid-encryption, which in the electronic-process is the equivalent of bid-sealing in the manual-process. Bid-encryption using 'bidder-generated-symmetric-key' assures 'full-confidentiality', while bid-encryption using 'asymmetric-key' has vulnerabilities. Some reduction in such vulnerabilities may take place with buttressing-techniques, dependence on supplementary-procedures and evidence (which may not even be fully available). So, some doubts may still linger. Then why not adopt the 'bidder-generated-symmetric-key' method of bid-encryption which assures full-confidentiality with negligible/ minimal evidence-requirements? Similarly, why not have a transparent 'online public-TOE' with minimal evidence-requirements rather than have a rudimentary bid-opening with heavy dependence on evidence to check corruption and still not achieve full transparency?

A 'Three Pronged Anti-Corruption Model' developed by the author for preventing corruption in such situations is summarized below:

1. **Identify Lacunae and Anticipate Pitfalls:** As many possible lacunae and pitfalls should be identified. This can be reviewed and improved from time to time.
2. **Develop Systems/ Processes to Plug the Lacunae/ Pitfalls:** To the extent feasible, the system/ process should prevent a corrupt act from taking place. Where this is not possible, it should reduce the possibility of such an act taking place. This can be reviewed and improved from time to time.
3. **Generate/ Preserve Evidence:** Develop a comprehensive and practicable system for generating, recording and accessing as much evidence as is feasible. For a scenario where a pitfall/ lacunae can neither be eliminated nor mitigated, this will be the only recourse left. This can be reviewed and improved from time to time.

Needless to state, the 'Three-Pronged Anti-Corruption Model' of the author as outlined above has to work against a backdrop of an effective legal/ deterrent system with concomitant human angle.

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