

Do's and Don'ts For E-Tendering: A Quantity Surveying Perspective

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Speaker's Profile

Mr Eugene Seah is working as an Associate in Davis Langdon & Seah Singapore Pte Ltd. In his career, he was involved in setting up E-Tendering Procedures for a Construction Exchange Portal. He has a BSc in Quantity Surveying (1st Class Honors) and a BSc in Technology Management and Computing (1st Class Honors) and is currently undergoing a PHD in Information Management from the University of Reading. He is active in institution work and is a member of SISV, SI Arb, SIBL, AIQS, SCL and CIOB. In addition, he is also enrolled for an MSc in Construction Law and Arbitration at Kings College University. Mr Seah is interested in contemporary technologies and management paradigms that enhance the quality of the construction industry as a whole and is eager to learn and participate in Industry Work.

Synopsis

The process and legal principles of tendering are part of the everyday life of a Quantity Surveyor (QS). However, with the advancement of technologies, these processes may change. Such advancement has brought E-Tendering into the equation of procurement. E-Tendering, in its essence, does provide the QS with productivity-enhancing capabilities. However, if managed incorrectly, it will cause much grief to both the consultants and the tenderers. This paper looks at the approaches of E-Tendering, the inputs and considerations that Qs (both the consultant and contractor) should take note of and lastly, it discusses the use of Electronic Interchange Agreements that sets the protocols of handling information.

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General

With the heightened use of technologies, processes in any industry will change or will have changed. The construction industry of Singapore has been radically changed by the use of Information Technology (IT) in almost all aspects in the construction process. Examples to be cited are the usage of Web-based collaboration tools and E-Tendering.

The process of tendering is well understood by Quantity Surveyors (Qs). This process has been ingrained in QS training – the process has to be known by heart. However, with the coming of E-Tendering, the question is the following: Will the traditional QS process for tendering still be relevant? Would there be additional considerations both contractual and essential effectively to facilitate E-Tendering? This paper discusses the general considerations for E-Tendering and is only meant to focus on best practices and is therefore not exhaustive.

Before proceeding with the object of this paper, the author would like to highlight the concept of E-Tendering in general. In Singapore, the E-Tendering concept is part of the entire paradigm of CORENET, which stands for Construction and Real Estate Network. Aimed at improving overall productivity, efficiency and efficacy of the construction industry of Singapore, CORENET is a government initiative that encourages private and public participation by the various players in the construction industry. The object of E-Tendering is specifically to increase productivity during the tendering process by decreasing paper handling and speeding up communication and interaction.

The E-Tendering tools usually come in the form of web-based platforms, which are governed by construction exchange portals. Usually nicknamed Tender Engines, the tender process, which is originally performed manually, is transformed into E-processes and performed over the internet. Bills of Quantities and Work Package breakdowns are uploaded into the tender engine. In some portals which operate on the Construction Industry Trade Electrically (CITE¹) format, the tenderer can input the rates and/or quantities into the engine which easily processes the information into intelligent and useful data for the consultant QS to evaluate and report.

¹ CITE: Standard for interoperability between Bills of Quantities/ Sectional Breakdown QS software, tender editors for the tenderer's input for OH&P and allowances and package assemblers for the repacking of the BQ items for procurement with suppliers and specialist contractors.
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 This entire relationship can be illustrated in Figure 1 below.

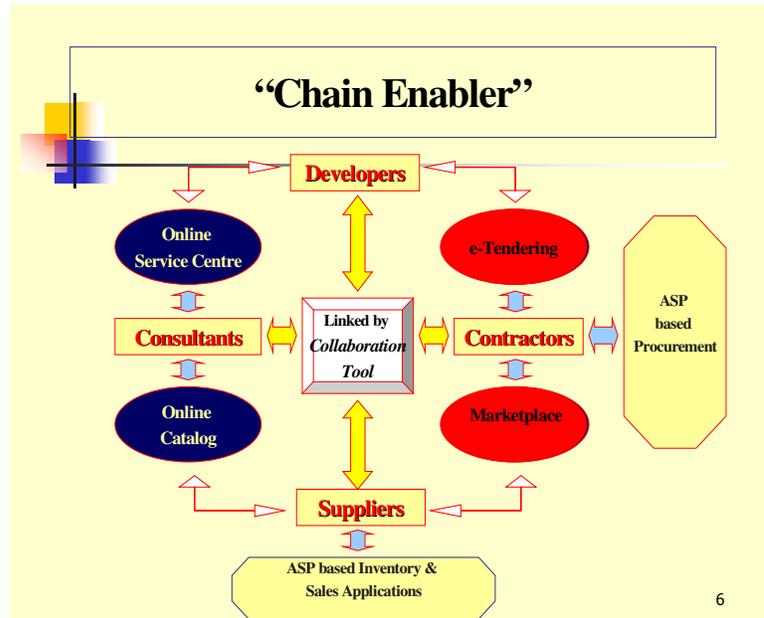


Figure 1 

It is usual for the tender engines to have the facility for the contractor to upload documents. This is usually in the case for Design and Build tenders whereby the tenderer can upload the Contractor's Proposal. Some advanced tender engines will even contain an E-market place whereby the Main Contractors may enter this e-domain to obtain quotations from other subcontractors, suppliers and specialist contractors sharing this domain.

Once the quotations are obtained, the main contractor may select the cost-effective quote to be compiled in the tender engine for submission. In addition, such tender engines will also have a security procedure and management system in place (e.g. private/ public key systems, key pair systems and firewalls) to ensure authenticity and security of the entire tendering process. (See Figure 2)

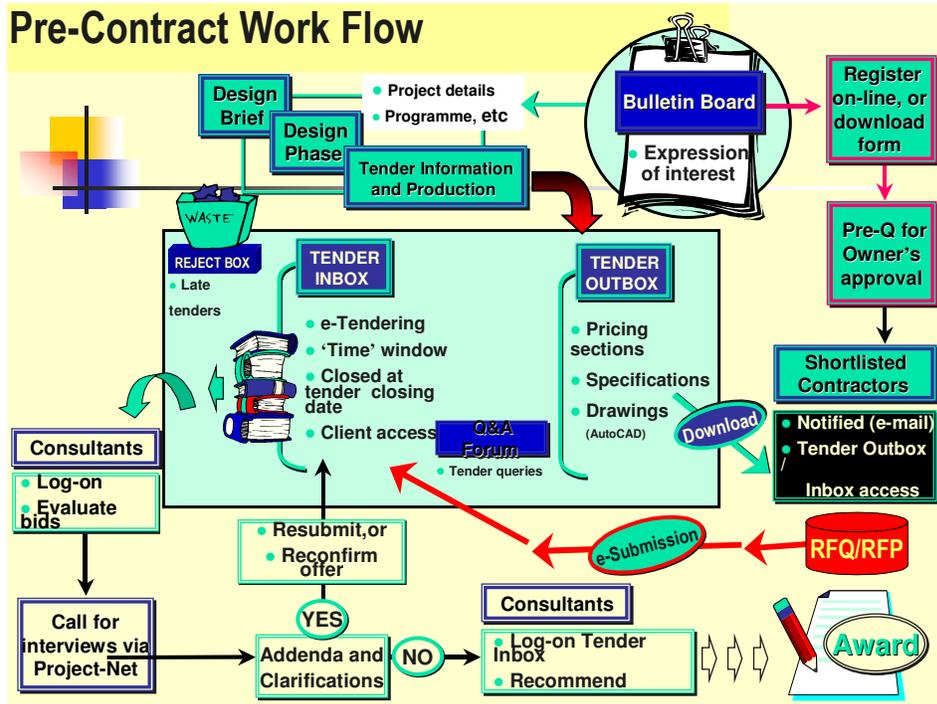


Figure 2

Contractual Issues

The author would like to cover four essential contractual issues to be considered by a Consultant QS. These four issues centre mainly on the conditions of tendering/ instructions to tenderers, the form of tender, tender submission input by consultants and considerations for the preliminaries.

- **Conditions of Tendering/ Instructions to Tenderers**

The conditions of tendering will contain salient clauses that govern the rules of tendering prior to the formation of the contract between the Employer and Contractor. If this process is going to be incorporated into the E-tendering process, traditional clauses may not be applicable.

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The following is recommended to be included for consideration in the conditions of tendering.

- a) Highlight the main contents in the tender document in the tender engine.
- b) Inform the contractor to counter check the documents that have been uploaded into the tender engine.
- c) Stipulate the tender querying period that is to be carried out on-line and the cut-off date of such period.
- d) Instruct the tenderers to table the documents and drawings submitted where there are alternative designs or proposals made. This will enable the consultant QS to check if all documents have been uploaded successfully into the tender engine. There are instances where documents are not fully uploaded due to the lapse or time-out as a result of slow uploading speed. Information to consider will include but not limited to:

- i. Serial Number of File
- ii. File name
- iii. File description
- iv. Version number
- v. No of Pages in document
- vi. Approximate memory size of file

Apply to documents and drawings

- e) Instructions to assist tenderers to obtain the digital certificates (usually from government or privately designated third-party vendors) needed to clear the security for submission.
- f) Reminders to tenderers to top-up credit accounts for e-payment purposes (if a payment engine is used for clearing of on-line payment).

It is unwise to leave the conditions of tendering and the specific instructions to navigate within the tender engine and its submission process ambiguous. Generally, the level of IT adoption in the Construction Industry of Singapore is generally low since 1999; thus, it cannot be assumed that the e-tendering process is well understood by the participating contractors.

- **Form of Tender**

The form of tender is another important contractual document that warrants attention by both the consultant QS and the contractor QS. In Singapore, there are many forms of contract, ranging from the Singapore Institute of Architect's (SIA) form to the Public Sector Standard Conditions of Contract (PSSCOC). The latter, being a government standard contract, has a standard form pertaining to the form of tender, but the former leaves it to the consultant QS to draft its conditions. The consultant QS would have to consider how to amend the form so that the submitted e-form would still be contractually binding. And, the contractor QS would have to be extra prudent in its submission as certain private forms of tenders would have clauses to say that the figures (written) in the forms of tender would supersede that of the final summary if there is a discrepancy between the two. Some recommendations are:

- a) Instructions to the tenderers to fill in the form of tender in the tender engine
- b) Instruction and checks in filling the form of tender, including the endorsement of the form with the contractor's digital certificate.
- c) Clauses to indicate that in the event of discrepancies, the amount written in words will prevail.
- d) Clauses to include that until a formal contract is drawn up, the tender (with the contractor's written agreement in the form of a tender, including the contractor's digital certificate stamp) shall be binding.

- **Tender submission considerations - the consultant's input**

It is common that e-tender engineers work in conjunction with web-based collaboration tools. This celebrates the effectiveness of concurrent engineering with the productivity of tendering all as one. However, even though design information can be coordinated during the design development stage, design consultants can be carried away in the number of revisions in the drawings or not even recording the revisions. Thus, it is preferable that an E-Tender manager or coordinator is appointed for coordinating the uploading of the tender documents. This task usually falls in the laps of the consultant QS. The following are considerations in the field of best practices:

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- a) Elect a consultant to coordinate the input of the documents into the tender engine and monitor its revisions.
- b) All electronic documents are to be vetted by the PM's / Client's representative before uploading to ensure currency of the document
- c) Files to be uploaded should be compressed/ zipped to reduce the uploading time and storage space in the E-Tender engine.
- d) File names of documents and drawings should be named / renamed as a readable name for easy identification. This is opposed to coded names (e.g. 10022004PAQS_FOT_et.doc **VS** Form of Tender 10022004_Etender.doc).

There are also other issues to be considered by the consultants, issues such as copyrights and Intellectual Property (IP) issues. The following should be considered and adhered:

- a) Ensure that all documents are submitted as portable data files (PDFs) to maintain minimum copyright.
- b) Ensure all drawings files, unless otherwise stated, are read-only or plot files.
- c) If there are setting controls in the tender engines, the tender coordinator may set the tools in the tender engine to enable the contractor to view the file instead of downloading and printing the files and drawings.

During tender submission, the contractor is required to adhere to the following considerations:

- a) The contractor is to submit the form of tender on-line together with all the priced sections
- b) There is no need for the contractor to resubmit the non-priceable documents e.g. specifications.
- c) Tracking of the originality of the documents can be traced by the origins of the properties of the document which would have been tracked by the tender coordinator.
- d) The contractor is to encrypt the submitted documents with the contractor's digital certificate (preferably corporate certificate)
- e) All documents submitted should be submitted on a common platform and version. For example, MS Office 2000 or AutoCad 2000.

- **Preliminaries**

To ensure the success of E-Tenders or any web-based applications, the contractor has to be primed and informed of what is needed for the tender. Consultant QSs will carry this out via the prelims.

There should be provisions for:

- a) Internet/ lease line connection on site (specified if wireless cabled)
- b) Number of Personal Computers/ Laptops
- c) Minimum requirements of the hardware (e.g. minimum Pentium III/ Processor speed and RAMs needed)
- d) Mention the type of software the hardware should have (e.g. MS Office 2000, including MS Words and Powerpoint, AutoCAD 2000 etc)
- e) Paramount to state who the hardware and software should belong to at the end of the project and in what condition the accessories are expected to be.
- f) There should not be any catch-all clauses as these would artificially increase the tender price.

- **Electronic Data Interchange Agreements**

It is uncommon for nations to have acts governing the use of electronic data. For example, there is the Electronic Transaction Act that briefly endorses the effectiveness of electronic information such as emails and attachments. However, this does not address the process and considerations that govern the standard of information that is being submitted nor does it address the way information can be authenticated (between the digital information and the actual information that was uploaded); hence, the formation of a Electronic Data Interchange Agreement (EDIA).

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There was an attempt to start a standard EDIA document in the construction industry of Singapore.

This was because all methods of communication require a set of minimum standards of discipline to be observed by the communicants so as to ensure that the information communicated is effective.

Thus the EDIA can be said to attempt to set out the minimum standard with respect to the exchange of data and information via electronic means. By agreeing to an EDIA, the parties cannot claim to be ignorant of the rules and conditions in the standard.

The EDIA sets out to complement the underlying commercial or contractual obligations of the parties involved and it does not set out to alter what the contracting parties have agreed to in the main contract. Thus, this EDIA is indeed a separate agreement with the need separately to sign the EDIA document. Here are some of the salient points that the EDIA must contain:

- a) A sender may request that the receipt of its message be acknowledged by the recipient
- b) A sender may request, in addition to the acknowledgement, confirmation from the recipient that the consent submitted meets the recipient's requirements.
- c) A proof of copy of work is to accompany the transmission i.e. to Cc to project folder or achieve.
- d) Agreement that pre-tender information to be burned and stored into a Read Only (RO) Compact Disc (CD). This is to protect the recipient when accused of modification or tampering with the original documents.
- e) This ROCD can be kept at a 3rd party's premise or stored in an off-shore account to be agreed to by the parties.

- **Conclusion**

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The era of E-Tendering and e-processes in the construction industry is here to stay. It is a positive move to globalisation with the breaking down of the national barriers with the use of the Internet. This paper celebrates the amalgamation of new economy thinking and processes with old economy values and traditions. E-Tendering does not bring along a total paradigm shift, rather, it yields many benefits to productivity and efficiency, promoting business efficacy with a minimal need for a business process re-engineer (BPR) to augment the current process. BPR may be needed on in-house QS software to cater for E-Tendering (e.g. conditioning the QS software to CITE compliance). Nevertheless, E-Tendering will bring much excitement to the construction industry of Singapore and to the world once it is fully embraced and implemented, creating a new breed of QSs to do the job.

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