

## Standardizing the Technical Tender Process in the Construction Industry

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**ABSTRACT** At the time of writing this paper, 15 construction companies in South Africa were fined a total of R1.46bn for bid rigging. This underlines the need to change the way tenders are adjudicated. This study investigated the possibility of standardising the technical tender process in the South African construction industry. A standardised technical questionnaire submitted with the tender documentation, including the relevant scoring matrix would ensure consistency and transparency in tendering across the industry. The study found overwhelming evidence that a standardised technical tender process is possible. Clients are the key to making this system work because they need to give the consultants sufficient time to prepare tender documents. Clients must agree up front with the consultants on the scoring matrix weightings and consultants should participate in both the financial and technical adjudication. Over time, the standardization of the technical tender process will help bidders understand their shortfalls and take corrective action.

### INTRODUCTION

While tendering for work in the construction industry is a long-established practice, standard tender documents continue to be issued by clients. Many are confusing, poorly structured and do not include important information, such as which scoring adjudication matrix will be used, or what returnables are required. The client then has the task of adjudicating incomparable tenders (Limpopo Economic Development Agency 2014; Chung-Fun 2015; De Waal and Chipeta 2015). This research study investigated the possibility of standardising the technical tender process in the construction industry in South Africa. This would also allow for organisational learning through meaningful feedback sessions with bidders. For the purposes of this research, the technical tender process is the standardised questionnaire and as-

sociated scoring matrix in the tender documentation that focuses on the following aspects: approach, methodology, risk management, innovation, company experience, programs and resources, qualifications, training and experience of key personnel, quality management, health and safety, and environmental management (Lam et al. 2015). A standardised technical questionnaire submitted with the tender documentation, including the relevant scoring matrix, would ensure consistency and transparency in tendering across the industry. However, to close the loop, a feedback session with the relevant bidders needs to be held. This would set a suitable standard that would improve tendering outcomes for both bidders and clients. Feedback can be helpful not only for suppliers, but for the awarding authority; it will improve the quality of the submissions they have to evaluate, and could offer better value for money. It could also highlight any problems with the procurement process so that they can improve their procedures. Clients would be better able to adjudicate tenders, and bidders would submit better quality submissions. The study only focuses on the construction industry in Gauteng and the technical process, not the financial requirements. It fills a gap as there is a paucity of literature on the standardization of the technical tender process by including a questionnaire with an as-

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sociated scoring matrix. Many institutions in the United Kingdom (UK) use a questionnaire and associated scoring matrix when going out to tender. The South African Construction Industry Development Board (CIDB) only provides guidelines and not many tenders include technical quality. The study therefore investigated whether it is possible to include a standardised technical questionnaire and associated score matrix in the technical tender documentation to enable bidders to prepare a better response to the tender and allow the client to adjudicate all bidders on an equal footing, as well as facilitate open and transparent feedback sessions to bidders to promote organisational learning (Chauhan 2015). This could result in future projects being delivered on time, to cost and to the required quality, because the contractor and client understood upfront how the project will be constructed and managed and each party's roles and responsibility are defined. The contractor most suited for the project would be appointed if the client followed the correct method of scoring and adjudicating. A debriefing session with bidders would reduce the chances of bidders challenging the adjudication process, as they would understand why they were unsuccessful. It would also help them to address their shortcomings, so that they could submit a more competitive tender the next time. The study will provide guidance to clients on how to submit a technical tender, with a scoring matrix, which will allow for fair adjudication and a justification for how they scored the various bidders. It would also prevent the client from appointing the wrong bidder, who might be the cheapest but an understanding of how he/she plans to construct the work and the staff he/she proposes might reveal that an alternate bidder is better suited to the job. This could save the client time and money and result in better quality workmanship as well as improved health and safety and environmental sustainability (Masson 2015).

### **Purpose of the Study**

The South African construction industry has been in the news recently with regard to a number of irregularities including the cost of repairing defective RDP houses, which is estimated at R58 billion; 65 bid-rigging cases worth R29 billion, and on-going papers on corruption

in relation to government tenders. Although it is difficult to completely eliminate corruption and poor workmanship, if implemented and managed correctly, a standard technical tender process would go a long way in minimising these concerns (Limpopo Economic Development Agency 2014). One challenge confronting South Africa is the need to promote the advancement of previously disadvantaged individuals. Many Small, Micro and Medium-sized Enterprises are inexperienced but are given equal opportunity to tender and are sometimes awarded work that they are not qualified to perform. Fundamental reform is required to achieve the ideals of good governance and to address the changing environment (Zhong and Zhang 2015). Such reform should promote efficient and effective procurement systems and practices on the part of both the private and public sectors that will enable the bidder to submit the required information and thus promote meaningful adjudication. If a standard technical tendering process can be developed, workshops and training academies could be established to teach potential bidders how to fill out tenders. In the long run, this could improve the quality of the submissions and reduce the likelihood of incompetent contractors being appointed (He 2015). This study fills a gap in that there is a paucity of literature on standardising the technical tender process by including a questionnaire with the associated scoring matrix. Many institutions in the UK use a questionnaire and associated scoring matrix when going out to tender. The CIDB only offers guidelines and not many tenders include technical quality. The study therefore investigated whether it is possible to include a standardised technical questionnaire and associated score matrix in the technical tender documentation to help bidders prepare a better response to the tender, enable the client to adjudicate all bidders on an equal footing, and to allow open and transparent feedback sessions with bidders to promote organisational learning. The study could result in future projects being delivered on time, at cost and to the required quality, because the contractor and client understood upfront how the project will be constructed and managed and each party's roles and responsibilities (Garter and Schon 2016). The contractor most suited to the project would be appointed if the client followed the correct method of scoring and adjudicating. The study

will provide guidance to clients on how to submit a technical tender, with a scoring matrix, which will allow the client to adjudicate fairly and justify how they scored the various bidders. It will also prevent the client from appointing the wrong bidder, who might be the cheapest, but an understanding of how he/she plans to construct the work and the staff he/she proposes to use, reveals that an alternate bidder might be more appropriate. This could save the client time and money, and result in improved workmanship as well as improved health and safety and environmental sustainability (Gong et al. 2015; Zandler et al. 2015).

### Problem Investigated

Technical tender processes in the South African construction industry are seldom consistent and transparent. In responding to a tender, the bidder does not have a framework within which to work which would ensure that all the client's expectations are met. It is also not always clear what approach will be used for adjudication. This study therefore set out to investigate the possibility of developing a standardised technical tender process in the construction industry.

Arising from the above problem, this paper poses the following questions:

- ♦ Would it be possible to develop a standardised technical tender process?
- ♦ Why are debriefing sessions seldom held with bidders?

### Definition of Terms

**Technical Tender Process:** A standardised questionnaire and associated scoring matrix in the tender documentation that focuses on the following aspects: approach, methodology, risk management, innovation, company experience, programs and resources, qualifications, training and experience of key personnel, quality management, health and safety, and environmental management (Eric and Chong 2015).

**Standardised:** A list of the same technical questions that are submitted with a technical tender, including the associated scoring matrix.

**Fairly:** To appoint the contractor best suited to do the work.

**Transparency:** Everybody understands how the technical tenders will be marked due to the inclusion of a scoring matrix.

**Bidder:** The contractor that responds to the tender.

**Consultant:** The client's appointed representative (Zhong and Zhang 2015).

### Literature Review

South Africa has a number of tender processes for the construction industry, including the Construction Industry Development Board's guidelines on standardising the tender process (Best practice guideline # A4) and the South African Standards Board (SANS 294, Construction procurement processes, procedures and methods). These documents were drafted with the legislation that regulates procurement in South Africa in mind (see Table 1) (Limpopo Economic Development Agency 2014).

### Primary Legislation that Regulates Procurement

Table 1 sets out the relevant legislation that regulates procurement processes in South Africa. This guides anyone going out to tender.

Clients do not always follow all the guidelines spelt out in these documents. There is often no scoring matrix to show transparency. The literature review included the technical tendering processes used by some government institutions in the UK construction industry.

### A Standardised Technical Tender Process?

Procurement can be described as the process that creates, manages and fulfills contracts. As such, it is concerned with establishing and documenting what is required; soliciting offers from the private sector to provide supplies or services / construct or maintain infrastructure / undertake disposals; awarding contracts to successful bidders; monitoring that what was contracted for is indeed provided; and paying contractors for executing their contracts (Limpopo Economic Development Agency 2014; Chung-Fun 2015). Procurement can simply be understood as a method of buying goods and services (Eric and Chong 2015). It is in the best interests of all parties that the evaluation of tenders is conducted using predetermined criteria that form part of the tender conditions and are objectively applied. The ISO ac-

**Table 1: The relevant legislation that regulates procurement processes in South Africa**

<i>Act</i>	<i>Applicability</i>	<i>What it does in respect of procurement / supply chain management</i>
Constitution of the Republic of South Africa, 1996 (Act No 108 of 1996)	All organs of state	Sets procurement objectives and establishes government's policy for preferencing.
Public Finance Management Act, 1999 (Act 1 of 1999)	All organs of state, except in the local sphere of government	Establishes a broad framework within which accounting officers / authorities must establish their procurement and provisioning system (supply chain management).
Preferential Procurement Policy Framework Act, 2000 (Act No 5 of 2000)	All organs of state (state owned enterprises) at the discretion of Minister)	Establishes the manner in which preferential procurement policies are to be implemented.
Local Government: Municipal Finance Management Act, 2003 (Act No 56 of 2003)	Municipalities and municipal entities	Establishes a detailed regulatory framework for supply chain management.
Local Government Municipal Systems Act, 2000 (Act No 32 of 2000); and	Local sphere of government	Establishes a framework for the establishment of service delivery agreements involving competitive bidding processes.
Construction Industry Development Board Act, 2000 (Act 38 of 2000)	All organs of state involved in procurement relating to the construction industry.	Establishes a means by which the Board can promote and implement policies, programs and projects aimed at procurement reform, standardisation and uniformity in procurement documentation, practices and procedures within the framework of the government's procurement. Establishes a national register of contractors (and if required, consultants and suppliers) to manage public sector procurement risk.
Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).	Procurement provisions apply to all organs of state.	Establishes a code of good practice to inform the: Development of qualification criteria for the issuing of licenses or concessions, the sale of state owned enterprises and for entering into partnerships with the private sector. Development and implementation of a preferential procurement policy.
The Promotion of Equality and the Prevention of Unfair Discrimination Act, 2000 (Act 4 of 2000)	The state and all persons (natural or juristic)	Prohibits the state or any person from discriminating unfairly against any person on the grounds of race or gender through the denial of access to contractual opportunities for rendering services or by failing to take steps to reasonably accommodate the needs of such persons.
Prevention and Combating of Corrupt Activities Act, 2004. (Act No. 12 of 2004).	Public and private sectors	Makes corruption and related activities an offence. Establishes a Register in order to place certain restrictions on persons and enterprises convicted of corrupt activities relating to tenders and contracts; and Places a duty on certain persons holding a position of authority to report certain corrupt transactions.

cepted a proposal from the South African Bureau of Standards, supported by the Institution of Civil Engineers, the Institution of Structural Engineers, the South African Institution of Civil Engineering, the African Engineers Forum and the CIDB to develop a series of international

standards for construction procurement based on the South African National Standards and the Standard for Uniformity in Construction Procurement (He 2015). The CIDB noted that the objective was to develop a generic and standard set of processes, procedures and methods

for a procurement system that is fair, equitable, transparent, competitive and cost effective and which may be used to promote objectives additional to those associated with the immediate objective of the procurement itself. The CIDB also stated that an international standard on construction procurement could be especially relevant for developing countries that lack experience and instruments in this field and may be used to improve international trade (Lam et al. 2015). The literature (Masson 2015) notes that, while South African guidelines exist on how to submit tenders, there is no standard technical questionnaire and associated scoring matrix. This is left to the client to develop and implement. The literature does not inform us if a standardised technical tender process has been tested in the past. Tender documents submitted by some South African government organisations have a scoring matrix, but there is no consistency from one tender document to the next.

#### **Improve Transparency in the Awarding of Tenders by Holding Feedback Sessions**

The weighting that the client gives to each question informs the contractor what items are most important to the client; this enables the contractor to submit a tender document that focuses on these issues (Limpopo Economic Development Agency 2014; Chung-Fun 2015). When the adjudication process is complete, the client notifies the successful and unsuccessful bidders and holds a post tender interview with each bidder to discuss their bid. The client will have their score card and the notes relevant to each question and inform the contractor where they lost points. Research and work experience suggest that the client should change the scoring matrix as per the client's requirements for that specific project (Edwards 2015). This encourages bidders to focus their attention on the key items the client wants them to focus on, as they will lose points if they don't. However the client must make it known upfront so that there can be no manipulation of the weighting of the scores after the bids are received. In the United Kingdom, the Highways Agency and City Councils hold a debriefing session for unsuccessful bidders as they want the bidders to understand where they lost points and address any short-

comings. They also wanted to eradicate as much as possible any concerns about corruption and therefore ensure transparency through the debriefing process (Chauhan 2015; Zendler et al. 2015).

### **RESEARCH METHODOLOGY**

This study employed a qualitative methodology in order to gather the most appropriate data to answer the research questions. A qualitative methodology "allows" the researcher to 'get close to the data' thereby developing the analytical, conceptual and categorical components of explanation from the data itself (Edwards 2015). Due to the conceptual nature of the subject, this research method was best suited to gather the data required. The technique is "less structured", enabling the inquiry to evolve as data collection progresses (Hair et al. 2014). The data was gathered by means of a questionnaire followed by a series of in-depth interviews with clients, lasting 60 to 90 minutes. The interviews enabled the informants to relate their experiences and attitudes to the researcher in their own words (Lee 2014). Although open-ended questions were used, the interviews were structured in order to ensure that the necessary data was collected. It was assumed that the respondents would respond honestly and with candour (Eriksson 2013).

#### **Research Design**

The research design took the form of a simple interpretive study. This is the most efficient means of soliciting both factual information and perceptions. The advantages of this type of research design include the respondents' familiarity with an interview structure, the ability to discuss complex issues and its adaptive characteristics (Guercini 2014). The disadvantages are the researcher's impact on the process, respondents' concerns around confidentiality and the possibility of differing interpretations of questions.

#### **Population and Sampling**

The sampling population was nine of the approximately 50 clients of the construction industry in Gauteng Province. The clients are either consultants appointed as agents on behalf

of clients or client organisations themselves. The reason why only nine role players were selected was the difficulty of securing their input and buy in to the concept. The sample included a mix of clients in order to solicit various viewpoints. Representatives of government organisations as well as private organizations were interviewed. Any client organisation in Gauteng Province from the construction industry was approached (Oliver 2013).

### **Research Instrument**

The questionnaire developed from the literature review was submitted to the sample population. Following analysis of this information, in-depth interviews were held with the sample population. Interviews enable respondents to share information in a comfortable and familiar manner (Edwards 2015). In-depth interviews allow for adaption and the researcher is able to explore interesting insights should they arise. On the other hand, respondents may be concerned about confidentiality and thus reluctant to share sensitive information and opinions regarding corporate procedure.

### **Data Collection**

Following the analysis of the questionnaire, further information was gained from the clients by means of a pre-arranged interview at the respondent's work premises. This preserved the business environment and maintained the language of business. Interviews were recorded if necessary, but hand written notes were also taken (Parker 2014).

### **Data Analysis and Interpretation**

The data analysis procedure followed the data management system prescribed by Guercini (2014). This comprises of three linked sub-processes: data reduction, data display, and conclusion drawing/verification. During data reduction, the transcripts from the recorded interviews and hand written notes were condensed into data summaries for analysis. A code book and colour coding were used to identify key terms and themes across all the interviews (Montague et al. 2014). Differences and inconsistencies were highlighted at this stage. Descriptive content analysis was applied to ex-

tract themes and contradictions within the data. The reduced set of data was then displayed using text-based matrices to assist interpretation. Compare/contrast analysis was used to draw conclusions and meaning from the data and patterns and trends were noted. Results of the study indicate that a standardized technical tendering process is a necessity in the construction industry. The tendering process must also be open and transparent (Basu 2014).

## **OBSERVATIONS AND DISCUSSION**

The following observations are made:

### **Is It Possible to Standardise the Technical Tender Process?**

The study found overwhelming evidence that it is possible to have a standardised technical tender process (Limpopo Economic Development Agency 2014; De Salas and Huxley 2014). The questionnaire can remain the same, but the scoring matrix weighting will need to be adjusted to ensure that bidders respond according to the client's requirements, led by the weighting associated with the questions. Clients are the key to making this work because, they need to give the consultants sufficient time to prepare their tender documents before advertising (Winnard et al. 2014). The clients must agree up front with the consultants on the scoring matrix weightings. The client should allow the consultant to participate in both financial and technical adjudication as they need to be read in unison (Muthusamy 2014).

### **By Ceating Opportunities for Open and Transparent Debriefing Sessions, Will a Standardised Tender Process Improve the Quality of Tenders Submitted by Bidders?**

The study found that the quality of the tenders submitted will improve if there is an open and transparent debriefing session (Choi and Nazareth 2014). The contractor will begin to understand the process better and the consultants will also understand what information they should include in the tender documents to ensure they receive the correct response from bidders (Muthusamy 2014). Over time, this would help the bidder understand their shortfalls and correct them, either through training or improv-

ing their internal processes. In the long term, this will reduce the client's costs, as there will be less room for financial risk in bidders' tenders and only the best fit contractor will be awarded the work (Montaque et al. 2014).

### CONCLUSION

A broader investigation into standardising the technical tender process in the South African construction industry is required in order to reach comprehensive conclusions relating to both private and government organisations in the civil and building construction industry. This study found overwhelming evidence that it is possible to have a standardised technical tender process. The questionnaire can stay the same but the scoring matrix weighting will need to be adjusted to ensure that bidders respond according to the client's requirements led by the weighting associated with the questions. Clients are the key to making this system work because, firstly, they need to give the consultants sufficient time to prepare the tender documents before advertising. Furthermore, it is imperative that the client agrees up front with the consultants on the scoring matrix weightings to be used to score the contractors and they should adhere to the outcome. The client must allow the consultant to participate in both the financial and technical adjudication as they need to be read in unison. For this proposal to work, the client also needs to hold debriefing sessions as the literature informs us that learning takes place by means of feedback. Rather than automatically accepting the lowest price, the tender evaluation process would apply weighting for approach, methodology, risk management, innovation, company experience, programs and resources, the training and experience of key personnel, quality management, health and safety, and environmental management in a manner that ensures value for money. All relevant information requested in the tender documents and provided by the bidder with the tender, is used in the tender evaluation process. The question and scoring matrix is used to assess the competence of the bidding organisations to achieve the required project outcome and is used to rate each of the bidders.

### RECOMMENDATIONS

Clients need to buy into the process of using a standardised questionnaire and associat-

ed scoring matrix. Clients should not manipulate the tender process by not allowing consultants to be part of the whole evaluation process. Clients must allow consultants sufficient time to put the tender documents together and conduct a fair and thorough evaluation of the bidder's response. The consultants need to ensure they submit a complete and comprehensive tender document to the bidders to ensure they receive the quality responses they require. Any ambiguities will result in either poor technical or financial responses or both as the contractor will have to allow for risk, which ultimately results in their bid costing more. Furthermore, clients should conduct a pre-selection process before they go to tender, as more than six bidders will be very time-consuming to adjudicate; it will also take more time to conduct a debriefing session with each bidder. A tender committee should evaluate the responses to guard against subjective manipulation of the award. It is recommended that a minimum of three committee members score the tender. This committee should also be involved in financial adjudication to ensure that the financial submission reflects the technical submission. The procuring organisation will only reap the rewards of including the technical questionnaire and the associated scoring matrix in the long term. The client must give feedback to bidders in order to promote organisational learning. This process would put an end to fly-by-night contractors and "tenderpreneurs" as it is time consuming for the contractor and requires an understanding of the construction industry and the necessary resources. Clients need to be educated that a debriefing session helps contractors to submit better bids, saving both time and money.

### LIMITATIONS OF THE STUDY

Time and financial constraints hampered a broader investigation with a bigger sample. The population could have been bigger. Furthermore, the study relied on the participation of both the public and private sectors and involved relatively sensitive information. While some individuals agreed to participate, there was always a chance that interviews would be cancelled. Every effort was made to ensure that respondents honoured their agreement. Finally, the study was limited to the technical tender process and mainly focused on the civil

engineering industry, excluding other construction sectors.

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